

The Green Book

Volume 27

A Work of Reference

Your Guide to Environmental Best Practice by companies, countries, councils and communities

www.thegreenorganisation.info

Including CSR World Leaders

Volume 27

A selection of International CSR Excellence Award-winning papers, demonstrating corporate social responsibility programmes at their best.

www.csrawards.co.uk



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Setting the standard...

The Green Book is the world's only annual international work of reference on environmental best practice.

It is published by The Green Organisation in tribute to the environmental endeavours and generosity of our Green World Ambassadors.

These are the companies, councils and communities who have won Green Apple Awards for their environmental efforts, and who have taken their commitment to the next level by helping others to help the environment.

They are assisting us in publishing their award-winning papers in The Green Book, and we distribute this valuable work of reference free of charge to environment professionals all over the world.

By helping others to follow their environmental lead and learn from their experiences and successes, they fully deserve the title of Green World Ambassadors.

Not only do they allow us to publish their case histories, but they welcome any followup inquiries. Each Green World Ambassador has a contact name and number shown in the Index, and any of them will do all they can to help others help the environment.



Editor's Note

In the interests of accuracy, these Green Apple Award-winning papers are published here in their original form – basically as provided by the entrants.

As many of the papers are of a technical or specialist nature, it was decided that the experience and expert knowledge of the contenders should not be compromised by the grammatical priorities and

consistency of style that usually dominate the editing process.

Our priority is to communicate the aims, methods and achievements of our winners as they wish them to be presented. To this end, the contents have been only lightly edited and we ask for your tolerance of any grammatical shortcomings that might result.

INDEX

A

ABACUS FLOORING SOLUTIONS

Turning Plastic into Flooring

Page 45

Nick at Abacus Flooring chose to recycle problematic white plastics, not because they are easy, but because they are hard. His moonshot has created a strong and flexible flooring material which can be colour-matched and has the best green credentials on which to stand.

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ABM-UK

Victoria Leeds Environmental/Sustainability

Page 48

ABM and Victoria Gate in Leeds has visions beyond naked capitalism and sees its role in the heart of the community as a serious responsibility. They have combined environmental improvements with work opportunities for people struggling to gain employment and have created a win-win ecosystem locally.

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A

ADVANTE LTD

The EcoLogic SOLAR

Page 52

Mobile welfare units for the construction industry are a costly necessity using thousands of litres of diesel in their transport and use. Advante have developed a solar alternative that avoids diesel use for more than 95% of its in-use operation. This unit saves money, noise and CO2 as well as enhancing reliability.

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ARAX PROPERTIES

Johnson Gardens Internal

Page 57

Johnson Gardens offers a human-centric social space that encourages free thinking and bright ideas. While the building may have 20th Century heritage, it is truly the hallmark of innovation. Ideal for start-ups, established businesses, young learners and local traders, Johnson Gardens will continue to grow and thrive, securing its position as a future-classic building.

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A

ARDAGH GLASS

Laundering Gloves and Sleeves

Page 60

“Laundering gloves and sleeves” was designed to reduce waste produced at the Ardagh Glass Packaging plant in Barnsley, UK. The project has eliminated a major waste stream, reduced the need to purchase new PPE and saved money and CO₂

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ASEZ WAO

Mother’s Forest

Page 63

“Mothers Forest” is a global tree-planting project from a global organisation, with the end goal of planting one tree for every human on the planet. The “Mother” they refer to is planet Earth itself and the benefits of seven billion more trees are self-evident.

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B

BALFOUR BEATTY LIVING PLACES

Wildlife Ways

Page 68

Working with Solihull MBC, BB were commissioned to improve the cycle and footway network around the town and opted to enhance the green spaces adjacent as part of the programme. This has seen improvements to all tracks, and new ones added while also providing improved habitat and greater biodiversity to the region.

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BERKELEY NORTH EAST LONDON

Trent Park Biodiversity and Habitat Improvements

Page 72

Trent Park has had a mixed history, but its future is assured as part of this luxury countryside development. Alongside the 262 new eco-conscious houses and flats will be over 400 acres of nature-sensitive managed parkland and habitat given over to wildlife and education.

Victoria Chater-Lea

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B

BORUSAN CAT

Sustainable Transformation Solutions

Page 76

Borusan have added an R to Reduce, Reuse and Recycle, with Repair. Electronic components are costly to make and costlier to recycle. By repairing them at the component level they have saved 5000 tonnes and saved \$84 million.

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C

CAB'N GO

Page 80

The Cab n Go business model demonstrates caffeine-inspired genius. They take redundant London Taxis and convert them into electric coffee shops offering a choice of reuseable or compostable cups with tree seeds in the cup structure. They use plant based milk and have a net zero target of 2025.

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CAWARDEN

**Protecting and Restoring the Ecological Integrity
of Cecilly Brook**

Page 86

Cheadle was home to the JCB factory, but since its closure it has become a neglected blight. Cawarden were commissioned to renovate and restore the land prior to a housing development, and their works have brought the landscape and Cecilly Brook back to the stunning habitat it once was.

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C

CBRE THREE SNOWHILL

Three Snowhill

Page 91

Three Snowhill is the largest speculatively built office development outside London, with 420,000 sq ft of lettable space. Its delivery marks the completion of the Snowhill Estate. The estate has regenerated a redundant site, extending the Birmingham business district to the north, with Three Snowhill providing a landmark building at this new city gateway.

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CBRE - TOWER PLACE

Tower Place - Waste Management

Page 94

Tower Place is no stranger to efficiency, but their many gains are still not enough for them to rest on their laurels. They are now focussing on chemical-free cleaning, boosting already significant recycling initiatives and monitoring systems for their waste management.

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CHANG JUNG CHRISTIAN UNIVERSITY

Locally Engaged; Globally Connected

Page 98

The Chang Jung Christian University sees conservation as a primary purpose, and has been active in this role for decades. Among its many achievements it has enabled the nearby Erren River to recover from years of neglect, removing more than 80% of its ongoing pollution.

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**CHELMSLEYWOOD SHOPPING
CENTRE**

Waste and Recycling at Chelmsleywood

Page 102

Chelmsleywood have adopted the “Don’t Waste” system at their base and have maximised the available benefits by fully training their staff in its operation. This has given them massive savings as well as revenue from cardboard, as well as hitting the Zero to Landfill target.

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C

**CHURCHILL SQUARE SHOPPING
CENTRE**

Tackling Food Waste

Page 106

As the first shopping centre to work with the food-sharing scheme Olio, Churchill Square have not only avoided a major waste stream, but have fed over 1000 people, saved 3 tons of CO2 and had a positive impact on loneliness and food poverty.

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**COMMERCIAL CORPORATE SERVICES
LIMITED**

Sustainability at Commercial

Page 110

Having been inspired by Al Gores 2006 film - An Inconvenient Truth, Commercial have redesigned their entire operation and ethos to prioritise sustainability. Investment in green energy, reuse and recycling initiatives, and closed-loop customer relations have seen them save many thousands of tonnes of CO2

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D

DARK SKY ASSOCIATION

Dark Sky® Alqueva: Beyond Sustainability

Page 115

Pollution comes in many forms, and Dark Sky® Alqueva are doing what they can to deal with some of them. Alqueva is a region which covers an extensive area of almost 10.000 square kilometers around the Alqueva lake which is renowned for its stunning night time views of the cosmos. Dark Sky are not just ensuring light-pollution is kept to a minimum, but that any light is of the most efficient source.

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DEEP BLUE RESTAURANTS Ltd

Great British Fish & Chips, Sustainably Sourced

Page 118

This chain of chippies previously had no overall strategy for managing food waste, but partnering with Novati has given them the tools and drive to make a real difference. They now responsibly manage all waste streams and are currently at 99% landfill diversion, with more to come.

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ENGLOBE REGENERATION UK Ltd

Llangennech Train Derailment

Page 122

The 2020 derailment of a train hauling over 300,00 litres of diesel in Llangennech, Wales left more than 30,000 tons of contaminated soil in an environmentally sensitive area. The rapid and thorough decontamination and reinstatement works demonstrate exceptional disaster response and mitigation practices.

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**ENVIRONMENTAL CROP
MANAGEMENT Ltd**

Integrated Grassland Management

Page 126

With recent events having a huge effect on fertilisers, ECM decided to look at alternatives to boost grass yields for grazing and silage. Their soil conditioning methods have shown to boost yields just as effectively as nitrate fertilisers but at just a fraction of the cost and without harmful substances entering the watercourse.

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E

ETIHAD RAIL

Etihad Rail Project

Page 128

An efficient and effective transport system can have a huge beneficial impact on the economy of a country, and the UAE Etihad Rail Project is designed from the outset to be a benchmark of transport efficiency. Its impact on the environment is equally impressive, leading to a multi-million ton reduction in GHG emissions.

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ETIHAD RAIL

Sustainable Rail

Page 134

Modern technology has allowed the development of Qatar's rail network to offer a reliable transport solution that generates up to 80% less CO₂ than road-transport alternatives. Each train removes the need for up to 300 trucks, and the sustainable design has brought costs down significantly.

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E

EVRI

EVRI: Parcel Delivery that doesn't Cost the Earth

Page 141

Evri haven't just had a rebranding, they have also committed to a re-greening of their entire operation. While they already proudly claim the title of lowest emissions in the UK parcel delivery market, they continue to drive towards their net zero by 2035 target.

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THE FLOORBRITE GROUP

**Waste Management Innovation & Increasing
Sustainability Awareness at TIP Trailers UK
Locations**

Page 145

The Floorbrite Group has provided waste services at TIP Trailers' Head Office site since September 2016. Our tailored Waste & Environmental Management Service was implemented across 27 UK sites in January 2017, aligning with TIP Trailers' sustainability goals and increasing office recycling. We aimed to reduce costs, achieve zero landfill, and create a case study to inspire other logistics companies to reduce waste.

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F

FM CONWAY

**Thin Surface Course Trials Containing 85%
Reclaimed Asphalt**

Page 151

While recycled asphalt is often a product of new road surfaces, it is kept below 10%, until now. FM Conway have resurfaced Third Avenue, Westminster, with an 85% recycled asphalt blend that has been shown to deliver to specification at previously unseen environmental savings.

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FRESH-PAK CHILLED FOODS Ltd

Effective Use of Resources

Page 156

This foods producers cooks up to 3 million eggs per year, but they have also hatched plans to cook up a recycling revolution. Targetting whole life of their packaging, they now boast a recycled content often over 80% and still suitable for further recycling, while also making a huge impact on their landfill waste targets.

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F

FRESHNEY PLACE SHOPPING CENTRE

Freshney Place Shopping Centre

Page 160

Through various initiatives, the implementation plan achieved significant environmental improvements, including zero landfill waste, increased recycling (70.24% over 2018-2021), reduced electricity and paper usage since 2014 and 2015 respectively, and the installation of free electric vehicle charging points and cycle racks. The shopping centre also prioritized community education and awareness, offering informative workshops and recycling facilities for visitors.

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G

GOURMET BURGER KITCHEN UK Ltd

Tomorrow's Burger can Always be Better

Page 165

Before partnering with Novati, Gourmet Burger Kitchen recycled just 45% of the total waste arisings from restaurants with food waste being disposed of with general waste. Food waste is now sent to AD plants, and recycling has gone from 45% to 99.9%

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GREEN MOTION

Advocating for Sustainable Development

Page 169

The very name of Green Motion tells you all you need to know about this world-leading eco-car hire franchise. They have invested globally in the latest efficient and electric vehicles, as well as promote and support environmental endeavour in every country they serve.

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G

GREEN PARK, READING

Green Park, Reading

Page 172

Green Park was designed to create an appealing working environment with a focus on biodiversity, especially birds. The current Biodiversity Management Plan has expanded to include various species, exceeding the original goals. Efforts to protect habitats, build relationships with wildlife groups, and manage the park for user enjoyment have led to increased species diversity, reduction of invasive species, and eradication of floating pennywort.

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H

HOLBORN BARS (CBRE)

Holborn Bars

Page 176

This magnificent complex, from the quill of world renowned architect Albert Waterhouse, is a delightful fusion of Gothic and art deco styles. It has recently been thoroughly and thoughtfully restored and unintrusively modernised for CBRE, creating a unique and inspiring business location for generations to come.

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INSEE ECOCYCLE COMPANY Ltd

Food Waste Composting

Page 178

The INSEE Ecocycle, Food Waste Composting project promotes circular economy by offering an automated, odorless composting solution. Using innovative technology and microorganisms, it transforms food waste into bio-soil within 12 hours, reducing its impact.

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J

J BREHENY CIVIL ENGINEERING Ltd

Breheny Carbon Reduction

Page 181

The civil and construction industry has a significant carbon footprint, but with planning and intelligent investment it no longer needs to be the case. Breheny are leading the push to low CO2 by utilising low and no CO2 non-road equipment, and where connection to the grid is available they specify 100% renewable electricity.

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JEFF WAY GROUP

Retrofit of Office

Page 183

As part of their office refit, Jeff Way Group looked to add sustainability through LED lighting, insulations and renewable energy. Now installed, these adaptations are paying for themselves to the tune of thousands of pounds each year.

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J

JLL - COLLEGE BUSINESS PARK

Axis Park

Page 186

The green areas of College Business Park offered JLL the opportunity to bring a taste of British wildlife to office staff. rewilding and considerate planting has brought an abundance of bee's, butterflies and birds to the complex, much to the delight of employees of the site.

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JLL - HAMPTON LEISURE PARK

Hampton Leisure Park

Page 189

A recent biodiversity boosting project at Hampton Leisure Park has seen surprise benefits reaching beyond bugs and beasts. Visitors to the site have experienced an awakening of their connection to nature, and by association a new appreciation of the importance of a more sustainable lifestyle.

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JPC by SAMSIC

1 Finsbury Avenue

Page 192

JPC by Samsic are responsible for the care and maintenance of 1, Finsbury Avenue, but as well as caring for their clients assets they add environmental care at every step. They have moved away from chemical cleaning agents, diesel powered equipment and single use plastics, toward rechargeables, reuseables and renewables.

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K

KELTBRAY

**Keltbray use of Drones Instead of Helicopters for
Utilities Inspection**

Page 195

In recent times, drones have proved themselves to be much more than just toys. Keltbray are among the pioneers in using them instead of helicopters for ground survey work and fault-finding as a cheaper, quicker and more flexible environmental option.

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KNIGHT FRANK PROMISE

**60 Threadneedle Street- Environmental
Improvements**

Page 198

Although this building is less than 15 years old, managers and contractors have still found ways to make it even more sustainable. A raft of improvements and investments has seen its EPC rise from a D to a B rating.

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KOREA AIRPORTS CORPORATION

Net-Zero Airports by 2050

Page 201

The Korean government has set a stringent target of net-zero by 2050 for all its operations. Airports would seem to be one of the hardest challenges to hit this target, but KAC are already ahead of the curve, with another 41% reduction in GHG in the last year.

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KUANTAN CITY COUNCIL

Jalan Mahkota

Page 204

The buildings of Jalan Mahkota show a blend of traditional design and British architectural features. As the history and precious buildings are worth protecting, the City Council makes an effort to regenerate the area and rejuvenate activities as well as enhance social inclusion in this highly multicultural region of Malaysia.

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LAKESIDE SHOPPING CENTRE

Improving Sustainability Through Better Waste Management

Page 206

Savills sets each of its sites gold, silver and bronze waste management targets each year, and this competition is getting results. The Lakeside team have been aiming for their bronze award and already after 10 months they have zero to landfill and a robust waste system, as well as numerous innovative waste management ideas.

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LK&PROJEKT

Lewita House

Page 210

This project was completed in Poland in 2021. The high-tech build is based on balanced asymmetry. Cubism penetrates the artistic idea of the building, and its parts are woven into a single whole due to the original layout solution. The house provides a venue to work, relax, enjoy the views and play sports, forming an oasis that does not limit the occupant in the choice of activities.

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M

MILESTONE INFRASTRUCTURE

Benson Relief Road Carbon Management

Page 213

This highways project was also used by Milestone to test and tweak their carbon management software by seizing and logging every available CO2 reduction opportunity. The outcome was better than expected with thousands of tons of CO2 saved, as well as hundreds of thousands of pounds. Not bad for a £7k spend.

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MITIE

Bin the Bag

Page 216

Mitie's "Plan Zero" demonstrates a challenging commitment to be net-zero by 2025, and there is no aspect too small in their efforts to achieve this. The "Bin the Bag" system removes the need for single-use bin liners and is a key part of their overall waste strategy at all 12 key office buildings.

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MITIE

Lower Precinct Project

Page 219

Images often say so much more than words, so this collaboration project to create a sculpture from single-use plastic bottles presented at Lower Precinct, Romford, has highlighted to thousands of visitors the scale of the problem of plastic waste.

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MIVAN

Sustainability Strategy

Page 221

Mivan have historically produced a very large quantity of timber waste and paid for its disposal. A eureka moment saw them invest in a biomass boiler which takes this by-product and turns it into 70% of their heating needs.

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N

NHS FLEET SOLUTIONS

Promoting Electric Vehicles

Page 224

NHS Fleet Solutions is the UK's largest public sector salary sacrifice scheme, allowing the NHS, Police, Councils, Universities and Academy schools to benefit from an affordable and sustainable car lease. Its impact is huge, with 1 in every 20 zero emission cars registered in the UK last year provided through the NHS car scheme.

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NORTHUMBRIA HEALTHCARE TRUST

Delivering a Sustainable Future

Page 228

The NHS employs more people than any other organisation in the UK, and they take their responsibilities seriously. Northumbria NHS are focussed on tackling poverty, unemployment, education and the environment, and have proven strategies in place to make this targets achievable.

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P

PARC TROSTRE, LLANELLI

Wildlife Through Nature

Page 232

Parc Trostre, a sustainable retail park in Llanelli, South Wales, attracts 5 million customers annually. It fosters wildlife habitats and offers serene spaces near the scenic coastline. The park actively engages the community, promotes eco-friendly areas, and utilizes recycled materials to enhance sustainability efforts.

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PIPERS CORNER SCHOOL

Creating Tomorrow Today

Page 236

While there can be no doubt that future generations will take better care of the planet than previous ones, Pipers Corner School are taking no chances and ensuring their students are raised in an environment that strongly reinforces this mindset. The 42 stunning acres are managed in a way to not only support wildlife, but also gives students hands-on experience of how best to achieve these aims.

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QATAR MUSEUMS

National Museum of Qatar

Page 240

The National Museum of Qatar brings to life the unique story of Qatar and its people, its complex form is based on the desert rose, found in arid desert regions as conceived by French architect Jean Nouvel. It presents nation's rich heritage and culture and demonstrates the ties with other nations around the world. The museum has Green Building Status from the Green Building Council for its sustainable building design & construction procedures as well as its efficient & sustainable building operations and maintenance.

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S

SAVILLS

Bees, Bins and Bow Bells House

Page 242

When Bywaters took over Bow Bells House they found that although the building was designed to be highly sustainable, there was almost no sustainability procedures in place. A green roof and multi-stream recycling were put in place and staff have gained a new green attitude.

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SEOCHO-GU DISTRICT OFFICE

Promotion of Green Environmental Activities With Citizens

Page 245

This council-developed strategy aimed at promoting a reduced carbon approach among private sector organisations and individuals in the province. A variety of measures were disseminated, leading to a measured reduction of nearly 20 tons of CO2 so far with a lot more to come.

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S

SHAHI EXPORTS PRIVATE LIMITED

Carbon Emission Mitigation Through Energy Transition and Other Actions

Page 248

The textile industry is often in the spotlight with regard to social and environmental impact. Shahi Exports welcome this attention as India's largest apparel manufacturer as they support and contribute to India reduction targets to the tune of almost half a millions tonnes CO2 saved in 2 years and much more to come.

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SHAHI EXPORTS PRIVATE LIMITED

Water Conservation in Denim Production

Page 252

As India's largest clothing manufacturer, Shahi also want to be among the greenest. They have added sustainability to most aspects of the production system and this push to reduce water use is a prime example, using less than half the water typically consumed in the denim manufacturing process.

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SPINNING GATE SHOPPING CENTRE

Page 257

Spinning Gate Shopping Centre in Leigh Town Centre aims to reduce waste, energy consumption, and increase recycling. Key objectives include waste reduction, landfill diversion, energy conservation, recycling initiatives, and cost reduction. Progress includes a 53% waste reduction since 2017, 100% landfill diversion, and £13,622.48 cost savings. Recycling efforts encompass various items. The centre prioritizes education for waste reduction and energy conservation.

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SWAN SHOPPING CENTRE

Encourage the Bugs and Bees at the Swan Shopping Centre

Page 263

This council-developed strategy aimed at promoting a reduced carbon approach among private sector organisations and individuals in the province. A variety of measures were disseminated, leading to a measured reduction of nearly 20 tons of CO2 so far with a lot more to come.

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T

TAYLOR WOODROW

Ecopark South Project

Page 267

Concrete accounts for 8% of total global CO₂ production due to the energy required to create it, but there are alternatives. Taylor Woodrow and Cemex trialled Ecocem for a groundslab at a Bulky Waste facility and the results have spurred them on to recommend it for many future projects.

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TCS PROPERTY MANAGEMENT Ltd

Merrion Centre Retail Staff Re-Cycle Facility

Page 271

When centre management wanted to promote cycling to the 300 staff, they went to the next level and created a secure cycle store with lockers and showers built entirely from donated reused materials, using sustainability to promote sustainable travel.

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T

THOLOS ARCHITECTS

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Page 273

The renovation works of this 18th century house have been applied to achieve the tricky balance between minimal visual impact against maximum environmental benefit. The overall design is very essential and leads to an improved development in terms of energy efficiency, sustainability and reversibility where most additions can be recycled. A case study which leads to a useful knowledge base for further projects of this kind.

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TOUCHWOOD SOLIHULL

Greener Futures

Page 276

Touchwood Solihull have a long track record of community involvement, and this recent community sustainability initiative looks to future generations to inspire them environmentally. Through a series of workshops, competitions and teaching opportunities they are instilling a sense of importance of ecological issues to the young minds in the community.

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T

TOUREEN GROUP

Old War Office

Page 280

The overall achievement of the project was to sustainably bring back to life a building of significant heritage and history. Without funding or desire the building's future would have been uncertain, but with significant investment the Old War Office has been sensitively transformed into a hotel, whilst keeping its grand and historic stature.

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TRUSTMGT

Using Nature to Build Communities

Page 286

The habitat creation and biodiversity management project enhances urban communities across England and Wales. It focuses on safeguarding and improving native habitats to combat the biodiversity crisis. Achievements include resident updates, informative guides, events, wildflower seeds, wildlife trails, and habitat creation.

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TURKISH AEROSPACE

Water Efficiency in Aerospace Industry

Page 291

In an effort to reduce water use and related costs, Turkish Aerospace have installed more than 250 smart meters across their facility. This is allowing smarter boiler control, rapid leak detection and more targeted maintenance. These efforts have achieved usage reduction in excess of 50% in some applications.

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U

**UNITED DEVELOPMENT COMPANY-
QATAR**

The Pearl Island

Page 295

Having a 5 year plan of sustainable financial performance and mixed use development, the UDC project is building a sustainable island of apartments, villas, townhouses, penthouses, diverse entertainment facilities, in addition to an award-winning marina and beautiful serene beaches. UDC was focused on pursuing the development of Projects within The Pearl-Qatar and Gewan Island despite all obstacles and challenges related to the outbreak of the coronavirus pandemic.

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V

V12 FOOTWEAR

LYNX Carbon Neutral Range

Page 299

While researching the feasibility of producing a safety boot from recycled products, the team at V12 realised they could actually produce it with net zero carbon, a boot without a footprint. The new Lynx range of safety footwear is now leading them on a green journey that they could only imagine previously.

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VAYA SPACE

The Case for Vortex-Hybrid Green Engines

Page 304

Vaya Space revolutionizes space technology by using recycled thermoplastics as fuel, removing 20 tonnes of plastics per launch. Their vortex-hybrid engines emit only water vapor and CO₂, resulting in the lowest greenhouse gas emissions. Achievements include successful launches, NASA partnerships, launch contracts, and awarded patents.

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W

WATER PLUS

Actions For a Cleaner Climate

Page 308

Waterplus have a long standing ethos of doing their best for the environment, and use their considerable influence to help others do the same. From creating and maintaining habitats, to helping clients monitor and reduce water use, they continue to demonstrate effective sustainability.

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WHITE CITY PLACE

Green City Place

Page 312

White City Place have a policy of continuous environmental improvement, and a recent focus on waste has yielded benefits. System improvements have seen them achieve zero to landfill and take recycling up from 43 to 60%.

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W

WJ GROUP

Reducing Carbon through Life Cycle Assessment Models

Page 315

WJ Group have created a verified Cradle to Gate carbon footprint model for thermoplastic products, demonstrating an 81% reduction in carbon emissions by switching to a biogenic alternative. This change saved 22,000tCO₂e without extra costs, supporting the industry in delivering lower carbon highway schemes.

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Y

YEALANDS WINE GROUP

Yealands Biodiversity Plan

Page 319

Yealands have built a 30 year biodiversity plan for the company with the goal to create a vibrant and resilient farming operation. Work has already commenced, restoring waterways, wetlands, soil health and protecting sensitive natural areas. To take the benefits beyond the vineyard boundary they have established community and consumer initiatives to drive awareness and action on climate change.

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ABACUS FLOORING SOLUTIONS

TURNING PLASTIC INTO FLOORING

I designed a World First seamless resin flooring system that is made using recycled white plastic, from light switches to toilet seats. By using the recycled white plastic material saves the plastic from being sent to Landfill and it saves using aggregates that are quarried. We are now testing other products where we can reuse broken stadium seats and use them for flooring. We have carried out approximately 12 projects using this world first screed.

Researching and developing the use of this material will save around 6 tonnes of plastic from being sent to Landfill. It will also prevent the same quantity from being quarried. We can achieve any colour the customer requires, only recently we colour matched the Leicester City blue for 2 projects at their Seagrave Training Facility. We feel once we get the products out into the larger market we could be saving around 50 tonnes per annum.

When I started my business in July 2020 I knew I wanted to make a difference I researched which plastic products were difficult to reuse without extensive manufacturing. Once I found the white plastic materials I set about having the materials crushed and ground down to a powder. Once the materials was ready I commenced months of testing. My first project was the VIP stage for JCB in Uttoxeter, the client needed a 4mm thick floor screed and our system was selected due to its Green credentials. There is no other system like this in the world and no signs of anyone doing it. We have won projects in all Industries whereby we



have utilised our own flooring system. Companies want our flooring as it pleases them to think we are diverting plastic from being sent to Landfill and providing long term solutions for their factories. We have recently set up another business which will allow the time to fully take the systems to market. We are looking at utilising other plastic, especially the ones that currently create problems. I funded these works by selling my push bikes, Touring caravan and anything else that had value. I am incredibly fortunate to have a business partner who is my rock, and my wife. Without her dedication I would not have believed that we could have achieved so much. We have employed more staff and we hope to get the products to all flooring companies in the U.K. We have supplied samples to adhesive manufacturers as it could be used as a filler, again saving tonnes from being sent to Landfill. I feel immensely proud to have designed a World First flooring solution that can be used in all Industries throughout the World.

At Abacus Flooring Solutions, we take great pride in being an environmentally friendly resin flooring company, and have developed our own sustainable products to support these values.

RECOGNITION FOR OUR WORK AS AN ENVIRONMENTALLY FRIENDLY RESIN FLOORING COMPANY

Our work in this area was recognised recently with an Environmental Impact Award and we draw immense pride from the accolade.

We understand that a lot of our customers share these values and are increasingly striving to become environmentally friendly in the work they do, particularly in the manufacturing sector.

With this in mind, we've produced a guide for helping manufacturers become more eco-friendly in their operations.

CARRY OUT REGULAR ENERGY AUDITS

On a daily basis, the manufacturing industry consumes large amounts of energy to produce goods and to run operations.

This makes it especially important for manufacturers to take steps to reduce the amount of energy their businesses use, in order to reduce their carbon footprint, while maintaining productivity levels.

Often, businesses find they can make saving in use electricity, such as using lighting in daytime in well-lit spaces.

AWARD WINNING COMPANY



GOLD AWARD
INTERNATIONAL GREEN APPLE
ENVIRONMENT AWARDS 2022



WINNER
Small Industrial Award 2022
FeRFA
The Resin Flooring Association



HIGHLY COMMENDED
Small Commercial Award 2022
FeRFA
The Resin Flooring Association



FINALIST
Environmental Impact Award
Leicestershire Business Awards
2022

Conducting frequent energy audits will help reduce your carbon footprint and save your business money, and this is certainly a method we utilise as an environmentally friendly resin flooring company

Energy audits can monitor how much energy is being used in each workplace zone or even pieces of equipment. You can then use the information to create an action plan that will make your business eco-friendlier.

RENEWABLE ENERGY

Renewable energy is energy produced from resources that can be replenished in a natural way.

For example, energy created with wind, rain, sunlight and geothermal heat are all types of renewable energy.

Investing in renewable energy technology, such as solar panels, can be extremely beneficial for both your business and the environment, and they can significantly cut your energy costs.

RECYCLE WASTE MATERIALS

The screed produced by Abacus Flooring Solutions makes use of previously used white plastics, such as from toilet seats, and this is a huge part of what makes us an environmentally friendly resin flooring company. You might consider ways you can recycle waste that would otherwise go to landfill in order to produce something new.

Put together a system in which you are controlling the amount of waste your business outputs. Make use of leftover waste and dispose of waste correctly. If something can be recycled then make sure it's getting recycled!

Small things like reusing cardboard boxes and ensuring paper waste is recycled will make a larger impact than you may think. Your waste can also be repurposed by external businesses. Sawdust from spare wood can be sent to farms and animal shelters, as it can be used as animal bedding. Also, faulty products can be sold to scrap and parts companies instead of being thrown away.

For larger businesses, investing in a recycling machine may come in handy and keep your

recycling on track. They are relatively expensive, but they do significantly reduce the amount of waste your business produces.

CONSERVE WATER

You can both save money and be eco-friendly by implementing a water-efficiency system to conserve water. Get in touch with your local water company, as they can audit your water facilities and recommend ways in which you can conserve water in a more effective and eco-friendly way.

WORK WITH AN ENVIRONMENTALLY FRIENDLY RESIN FLOORING COMPANY

As an environmentally friendly resin flooring company, Abacus Flooring Solutions offers a range of solutions to suit all kinds of environments, including large scale commercial sites, and smaller workshops and factories.

We have more than 30 years of experience working in the resin flooring sector, and are a proud FerFA member, so you can count on our quality.



ABM-UK

VICTORIA LEEDS ENVIRONMENTAL/SUSTAINABILITY JOURNEY

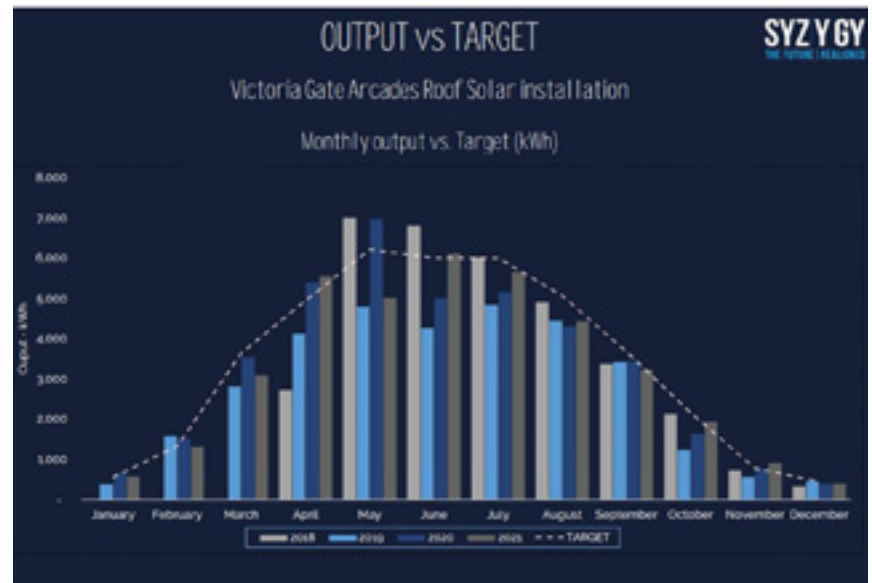
Before and since the pandemic, we have had a single goal, which is to make our centre as Sustainable and ESG centric as possible. We understand that there are no magic bullets, however if we combine all the little things that we have achieved and aim to do, then we can make this centre a centre of excellence in Sustainability

improved our biodiversity -
reduced carbon emissions
- supporting local businesses
- unskilled team to deliver in-house landscaping - lowering our operating costs - reducing water consumption
- multiple innovations - supporting charities -
supporting local kids with work experience weeks -
employing people that have struggled to find work -
increased our landscaping - successful waste Coffee initiative - solar panels

LET US SHARE OUR JOURNEY AT VICTORIA LEEDS

In 2018 we installed 2 large renewable energy installations on the roofs of Victoria Gate, and the Car park (Solar panels). Since commissioning we have now generated 210,493kwh since acquisition - generated electricity has offset same CO2 as planting 464 trees - and so far, saved 34.9 tonnes of CO2 eq emissions.

We then have our waste Coffee grounds initiative, that has now been running for 5 years - in this time we have diverted over 21 tonnes away from our waste streams by utilising the waste coffee across our external planting areas to be used as a soil



enricher - this has also now been adopted across the portfolio at other sites. this also over time increased our recycling figure by around 4% and lowered our waste costs due to less contamination.

We also removed our food digester 18 months ago as it was classed as recovered, not recycled - in favour of Re-Food bins.

We have over this period now saved just over £7000 on operating costs per annum taking out Maintenance/water and labour costs, in addition our food waste is now 100% recycled, with the savings going back to the service charge. Also, this year due to the cost-of-living crisis, we have adopted a new strategy to support local businesses wherever we can.

First, we have now partnered with Forge recycling, who have reviewed our last 12 months of collections, and implemented a new schedule that has lowered the amount of collections we have per week by around 15% - lowering our carbon footprint and



lowering costs at the same time. Our collections are also carbon neutral through several of Forge's Carbon Offsetting Schemes

We also have our waste champion, who for the last 5 years has had one task of checking each bin daily for contamination, and then correctly segregating the waste into the correct stream. He is also there to challenge and educate the retailers of how to identify the correct waste bins for each stream. This has had a very positive effect on less contamination, and again lowered our operating costs year on year. Landscaping – we historically handed this to a sub-contractor.

To lower our carbon footprint, save costs, and to further upskill our onsite teams, we have now brought this inhouse. A massive achievement and innovative approach were to first upskill the cleaning team to plant/maintain/source and continue to self-deliver our own landscaping. We committed new funds to this venture, an increase of 20% on existing budget so that we could enhance the centres offering, as it

was a 50/50 split on real and fake plants.

We have since transformed Victoria Quarter, which is now 100% real plants, and our next task is to do the same at Victoria Gate, which will be finished by the end of July. We also initially had a quote to revamp VQ, which came in at £7000 from a national supplier.

We looked at this and decided that we should be supporting local businesses, so we approached a flower stall in Leeds market (Brian's flowers) and together the ABM team alongside the Knight Frank management team designed

our own displays, installed them and also maintain them without using an external supplier, and the icing on the cake – we did all this for just under £700 a massive saving of 90%. And supporting the local economy at the same time.

After a recent visit by our new owners – Redical/Rivington Hark, who were all massively impressed with what we had achieved. We also have a pride of place Bespoke bug hotel that can be seen by all our visitors as they drive into our Car park.



This great piece of biodiversity is now a focal point for all to see. We also had an amazing piece of mutual collaboration that has further enhanced our offering at the bug hotel. We made contact with an award-winning flower designer (Sonja KalkSmidt). Who had heard about our bug hotel, and had asked if she could donate her Award-winning array of flowers to have a forever home for all to be enjoyed? We immediately said yes, and her only requirement was that she could take a photo of the finished result.

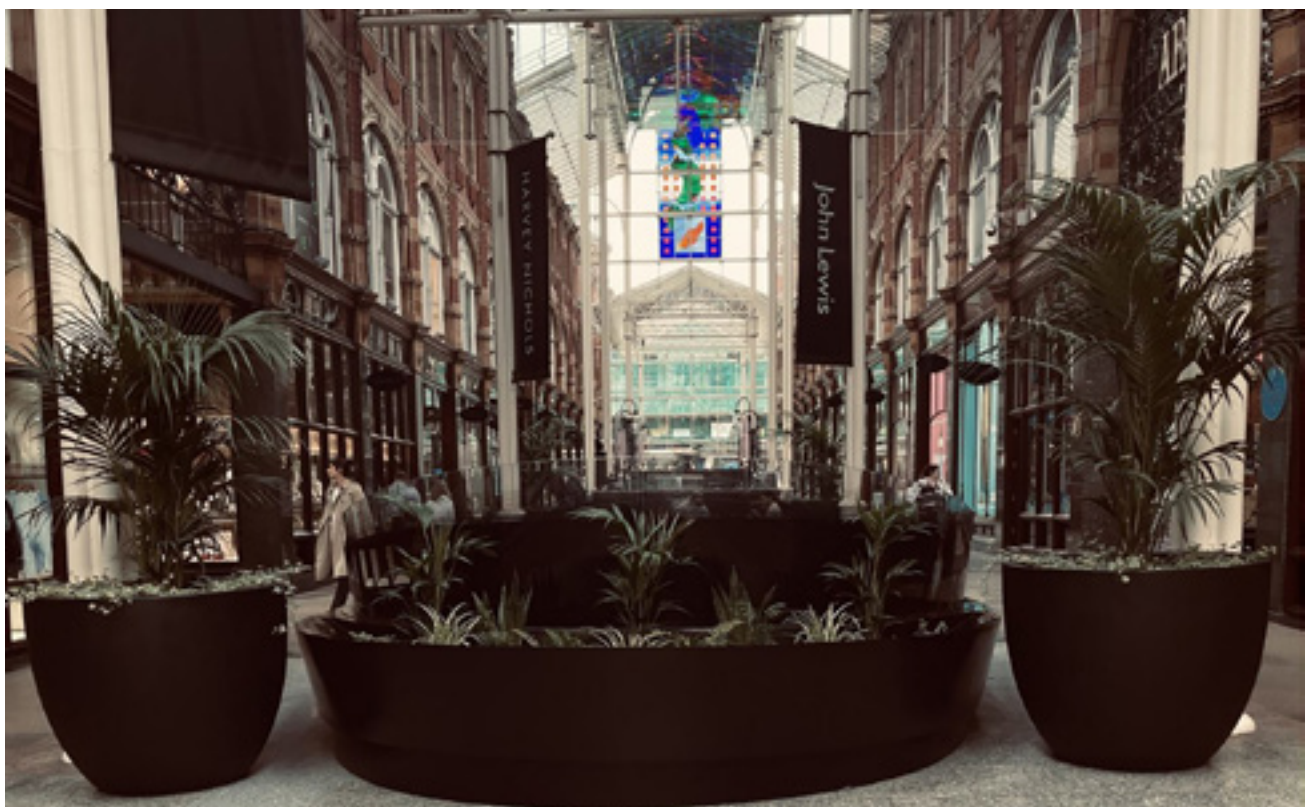
At zero cost to the site, she has now installed her 2021 Duchess of Rutland cup Best in Show flowers Belvoir Castle July 2021. We have also made her a brass plaque that now takes pride of place in-between the arrangement. A great collaboration to ensure that our Bug Hotel can attract all the local wildlife insects to visit and thrive.

In addition, we have also enhanced our offering of landscaping at no extra cost Our charity support work has also been amazing over the last 18

months, where we sponsored a guide dog trust £10,000. In July 2021 she was born, and officially now called Victoria at just over 1 years old she is nearly a fully fledged guide dog, that will make an amazing difference to someone's life We also partnered with a local employment charity to help people in the community. We took on a 42-year-old male in late 2019, who was homeless at the time, and had been unemployed for most of his adult life.

Nearly 3 years later he is now a valuable member of our team and had turned his life around. Just this week we have also partnered with one of our retailers, who had asked if would host her 15 year old son for work experience at site, where he spent a whole week with each department – Cleaning/technical/management team & security to better ready him for a career once he leaves school, a great example of helping young people

Like we said – lots of little environmental stories that together show that we are committed to change and improvement within our environment



Dedicated to driving sustainable long-term value

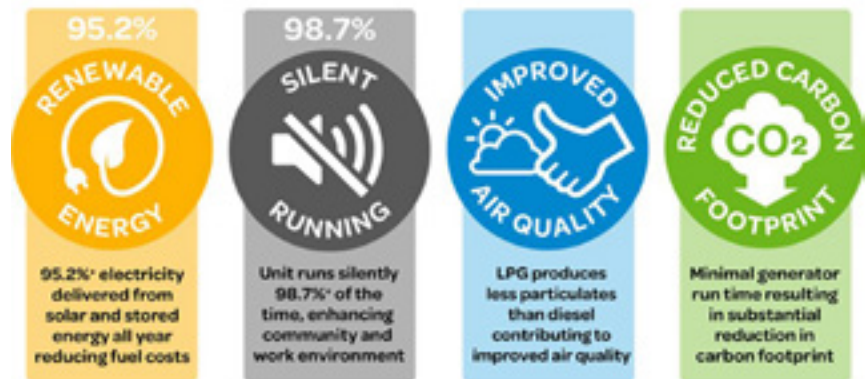
ABM prioritises sustainable activities to reduce our impact on the planet, and positively impact society, helping to create long term value for stakeholders and customers. Our initiatives lead to reduced emissions and reduced waste-to-landfill, whilst working with local businesses.

Working collaboratively, we can reduce our collective environmental impact. To learn about our commitment to a sustainable future, visit our website at abm.co.uk



ADVANTE LTD THE ECOLOGIC SOLAR

Advanté's innovation success has always been driven by the ever-changing welfare needs of the Construction Industry. We have supplied UK construction sites with low carbon welfare since 1998, using LPG as a greener alternative to diesel from day one. Further reduction of carbon has always been at the forefront of product development - we launched our first EcoLogic hybrid range in 2011.



* Data taken from Advanté telemetry across all solar units on hire 1/1/21 - 30/5/22. Renewable energy only for electrical use excludes heating.

In our mission to decarbonise instant start welfare even further, support our clients' ESG sustainability aims and their individual Net Zero Carbon targets, we decided to create our next generation of market-leading Oasis Welfare units – EcoLogic SOLAR.

Our aim was to develop a new hybrid solar welfare unit that could be largely powered by carbon-free, renewable energy and increasingly sophisticated telematics, to ensure optimum operational efficiencies.

EcoLogic SOLAR has become the next generation of innovative, market-leading Oasis Welfare units. They incorporate a new hybrid solar power system, large solar array and latest telematics to ensure optimum energy performance and significantly reduce carbon.

EcoLogic SOLAR's effective, low carbon, low noise technology solution to powering self-contained welfare units is having a positive impact, not only on the environment, but on staff wellbeing and local community as well.

Our EcoLogic SOLAR range has received industry recognition for its hybrid solar innovation and the potential these units can offer in terms of reducing

carbon, operating mainly silent running welfare and improving air quality.

The average carbon-free electricity gained from solar and stored energy across our fleet of EcoLogic SOLAR welfare units is 95.2%, from 1st January 2021 to 30th May 2022. This data, taken over 17 months includes every site, varying types of work, weather and numbers of staff. The data is taken directly from the telemetry installed in all our EcoLogic Solar welfare units across the UK. The data covers usage over the best part of two winters, proving they are capable of impressive solar gain and energy efficiency all year round.

THE PROJECT:

The EcoLogic SOLAR specification was drawn up and modelled on our existing EcoLogic welfare units. Solar gain research was carried out over 12-months by monitoring solar PV panels. The advanced telematics demonstrated impressive levels of solar energy gain, even during the darkest months.

Advanté developed a new EcoLogic SOLAR welfare unit with a new hybrid solar power system:

- Fully self-contained, 32ft instant-start-welfare unit
- Office, Canteen, Drying Room and 2 x Toilet facilities
- Large solar array fitted to roof
- NEW Solar Hybrid power system with LPG generator
- Surplus energy battery storage
- Next-generation telemetry system
- Improved insulation and air tightness

Our new telemetry system upgrade analyses energy performance. kWh of energy usage can be monitored, combined with energy origin, i.e. directly from solar, battery storage or generator.

We trialled the first EcoLogic SOLAR welfare units during months with low light, when we expected minimal solar gain, however, the units exceeded expectations and performed well.

In our mission to decarbonise instant start welfare even further, support clients' ESG sustainability aims and individual Net Zero Carbon targets, we created our next generation of market-leading Oasis Welfare units – EcoLogic Solar.

WHAT WE ACHIEVED

Our aim was to create a welfare unit that would run on solar for electricity provision up to 10 months of the year, to positively impact the environment, community and people's wellbeing. We developed a new hybrid solar welfare unit that could be largely powered by carbon-free, renewable energy with a sophisticated telemetry system, to ensure optimum operational efficiencies.

EcoLogic Solar welfare units have been hired on our clients' sites since January 2021. The telemetry



WHY WE DID IT

Advanté's innovation success has always been driven by the ever-changing needs of the Construction Industry. We have supplied UK construction sites with low carbon welfare since 1998, using LPG as a greener alternative to diesel from day one. Further carbon reduction has always been at the forefront of product development - our first EcoLogic hybrid range launched in 2011.

data for each unit allows us to remotely monitor operational and energy performance.

We achieved positive results from all our EcoLogic Solar sites from 01/01/2021 – 30/05/2022:

- **95.2% Renewable Energy:** The average carbon-free electricity gained from solar and stored energy across our fleet of EcoLogic SOLAR welfare units – at no fuel cost.
- **98.7% Silent Running:** The average time EcoLogic Solar welfare units run silently for,

enhancing community and work environments.

- **Improved Air Quality:** LPG produces less particulates than diesel contributing to cleaner air.
- **Low Carbon Footprint:** Minimal generator run time results in substantial carbon reduction.

From an ESG perspective, we are proud to have successfully achieved the following:

- **Positive environmental impact** with low carbon, hybrid solar site welfare provision.
- **Positive social impact** with high quality, mainly silent-running welfare facilities.
- **Positive economic impact** with reduced running costs.

WHO BENEFITED?

Advanté:

- Increased stakeholder engagement and investment
- Expanded fleet of solar welfare units – now including 24ft EcoLogic Solar and our unique self-contained EcoMax Solar range
- Increased hires from leading UK housebuilders and construction companies
- Reduced on-site support and operational costs through hybrid solar technology and telemetry.

Clients/Wider industry:

- Impressive reduction in carbon emissions
- Increased use of renewable energy = reduced running costs and noise
- Mainly silent-running office and welfare facilities
- 24/7 drying room with silent overnight heating
- Pleasant work environment = enhanced wellbeing and increased staff retention
- Reliable welfare with low user intervention
- Increased energy efficiency
- Energy overview data available to support ESG reporting

EcoLogic SOLAR Video:

<https://youtu.be/JEeTLHwOctg>

Client Case Studies:

- [Wates \(100% carbon-free electricity\)](#)
- [Kier](#)
- [Ballast Nedam](#)
- [Taylor Wimpey](#)
- [Willmott Dixon](#)

LONG-TERM BENEFITS

Carbon reduction:

- Through increased solar, particularly during summer months when heating is not required.

Positive community impact:

- Improved air quality
- Low noise pollution
- Respects neighbours
- Reflects positive image of construction

Staff wellbeing:

- High quality, low carbon, low noise welfare & office facilities
- Pleasant welfare environment enhances wellbeing & promotes staff retention
- Pleasant work environment attracts diverse workforce (addresses industry's skills shortage)

HAVE OTHERS BENEFITED?

HS2's first diesel-free construction site has been trialling EcoLogic Solar welfare with CAGE (Clean Air Gas Engine), in its bid to cut carbon and improve local air quality. The trial is funded through Innovate UK and Imperial College London are evaluating its carbon performance.

EcoLogic Solar welfare provides site operatives with office, canteen and drying room facilities with two toilets in one unit that is powered by solar panels and a backup hybrid bioLPG generator.

“The unit’s been here for just over a year now and it’s been hugely successful...”

We’ve been able to bring the technology to site, test it in an Advanté cabin, in a live construction site...”

– Andrea Davidson, Air Quality Manager, HS2

“The trial has been amazing.

We deployed this unit just over twelve months ago. We’ve never seen it since because it’s just worked. The company that has been servicing it have reported no faults.”

– Paul Andrews, Founder and CEO, OakTec and CAGE Technologies Ltd

You can watch the video from UKRI (Innovate UK) here - <https://youtu.be/zl8V0F2xzal>



HIGHLY COMMENDED

Advanté - EcoLogic Solar

Advanté has sought to cut the carbon footprint of welfare cabins by developing units that meet the bulk of their power needs through solar generation. The EcoLogic Solar welfare units it now produces feature a hybrid power system, with a large solar array backed up by a low-carbon, low-noise LPG generator. The package also includes telematics to monitor energy performance.



Publicity generated by HS2 has brought significant interest to our EcoLogic SOLAR welfare units (with our own LPG generators), which are now being hired by various major housebuilders and contractors.

LESSONS LEARNED:

- EcoLogic Solar technology offers construction sites a sustainable energy solution to powering self-contained welfare units, while effectively reducing carbon, noise and running costs.
- The large solar array and hybrid power system provides an effective carbon-free electrical power source to the unit, through solar and stored energy.

FURTHER DEVELOPMENTS/INNOVATION:

- Continued collaboration with the CAGE project on HS2’s first Diesel free construction site - <https://youtu.be/zl8V0F2xzal>

- Recently delivered solar and hydrogen powered cruise terminal building to the HIMET project in the Orkney Islands... Read more here - <https://www.advante.co.uk/advante-supply-new-solar-hydrogen-cruise-terminal-building/>
- Increased use of BioLPG, a non-fossil fuel renewable energy, when it becomes more widely available, for further carbon reduction in heating as well.

INDUSTRY RECOGNITION:

- **Highly Commended** – Innovation of the Year (Non-Contractor) – [CN Specialists Awards 2021](#)
- **Finalist** – Best Use of Technology – [CN Awards 2021](#)
- **Finalist** – Innovation – [Constructing Excellence SECBE Awards 2021](#)

Delivering Sustainability



- EcoLogic Solar range are completely self-contained static welfare for the construction industry.
- Our instant start welfare units are powered by solar/LPG hybrid technology that generates an impressive renewable electrical power supply all year round.
- Also, offering construction sites a reduction of their carbon footprint, operating mainly silent running, and improving air quality.
- Supporting clients' Net Zero targets, ESG and sustainability goals.



Advanté Oasis Welfare is proud to be named a Green World Ambassador by the Green Organisation



Industry



Construction



House Builders



Highways



Infrastructure



Utilities

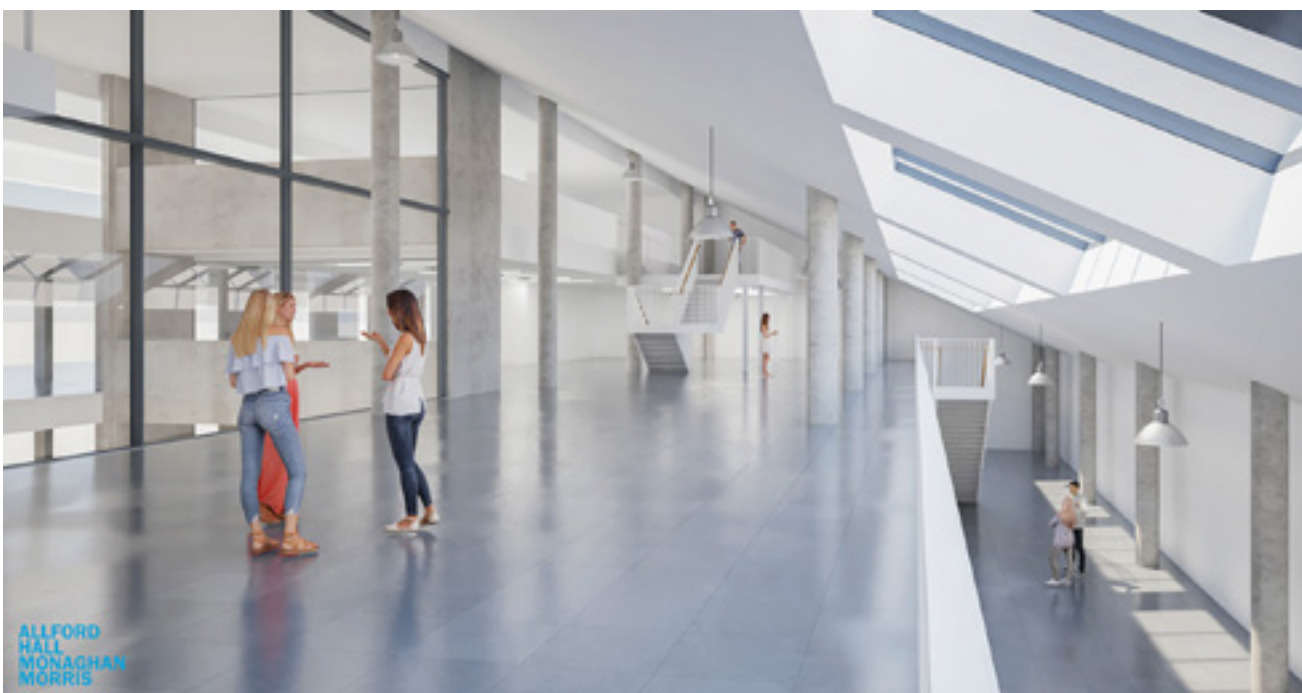
ARAX PROPERTIES JOHNSON GARDENS

More than just a place to work, Johnson Gardens offers a human-centric social space that encourages free thinking and bright ideas. With health and wellness at its heart, Johnson Gardens capitalises on the natural health benefits of light, air, and plant life.

The award-winning campus offers workspaces from 4,000 sqft to 95,000 sqft, each designed with a sensory focus. As part of our commitment to sustainability, we use natural materials throughout, and feature lush planting in our reception and exterior areas. We also encourage our visitors and occupiers to consider the environment. At present, our cycle store can accommodate 127 bikes, while we also have a cycle station and showers on-site.



We're even refreshing our commuter facilities in 2022 to have occupants looking and feeling their best from the moment they arrive. Our in-house occupants regularly interact with the local community, and offer incentives to other on-site businesses. New for 2022, our Occupier App will





allow users to keep in touch, find out about the latest updates, and take advantage of new offers.

Centred around community, the app will encourage building occupants to meet with other businesses and grow their network.

Internal workspaces have been designed to bolster productivity. We have chosen a natural colour scheme, mimicking the healing properties of an outdoor environment. Likewise, light is strategically placed to keep users alert, not overwhelmed. This also includes ample natural light, with floor to ceiling glazing to increase visibility. And with our central Courtyard area, the view is second-to-none – featuring a vast open space with lush greenery and social seating areas. Johnson Gardens also prioritises air quality by investing in pollution-reducing greenery and strong ventilation systems. Our HVAC systems exceed air flow requirements even at their minimum output, offering up to 5 x more than the minimum regulation requirements.



All supply air goes through a double filtration process before reaching the building, continuously removing pollutants and ensuring our spaces remain healthy. For 2022, Johnson Gardens is looking to invest in Indoor Air Quality equipment to optimise this even more. Our vast, forward-thinking development has been a mainstay of the local community since the 1930s, and the building underwent a significant refurbishment in 2006.

By 2008, Johnson Gardens had won a RIBA National Award for Architecture, and the development continues to grow. As London's first Fitwel community, Johnson Gardens is committed to innovation. The next stage of our incredible journey is to finalise The Townhouse, which will sit alongside The Johnson Building, The Courtyard Building and The Sweeps Building. With community activities, private terraces, co-working spaces and coffee shop, Johnson Gardens offers something for everyone.



Each amenity has been designed with people in mind, providing a wellness-first culture that protects the environment. While the building may have 20th Century heritage, it is truly the hallmark of innovation. Ideal for start-ups, established businesses, young learners and local traders, Johnson Gardens will continue to grow and thrive. When people and technology come together, we begin to see the true impact on individuals and the wider community.

ARDAGH GLASS

LAUNDERING GLOVES AND SLEEVES

Project “Laundering gloves and sleeves” was designed to reduce waste produced at the Ardagh Glass Packaging plant in Barnsley, UK, as well as reducing costs on-site and improving sustainability.

The project achieved the following: eliminating waste, reducing the need to purchase new PPE (protective gloves and sleeves), using a small, specialist laundry company, proactive environmental engagement and saving money. Having experienced supply issues during Covid 19, we have also secured a reliable supply of PPE.

The project also helped to train our workforce in waste management and recycling systems as well as engaging and inspiring conversations about potential further development opportunities.

Project “Laundering gloves and sleeves” was designed to reduce waste produced at the Ardagh Glass Packaging plant in Barnsley, UK, and to improve sustainability and circularity. Working with the Health and Safety Manager, we identified single-use gloves and sleeves as essential PPE equipment that could benefit from more sustainable disposal and a potential recycling process. Kevlar gloves and sleeves are worn by Ardagh’s engineers predominately in two departments: the ‘Hot End’ and Engineering, where protection is necessary.

Once used, all gloves and sleeves are covered in oil from the glass manufacturing process and are therefore classed as hazardous waste. They would normally be taken off-site for incineration. During Covid, we experienced a shortage of new gloves from our supply chain which highlighted the need for a more sustainable solution. Our plan was to

Ardagh Glass Barnsley - Total Weight Processed 2020-2022		
2020		
Weight In	Weight Returned	Weight Shredded
109 kg	101.5 kg	4.5 kg
2021		
Weight In	Weight Returned	Weight Shredded
1,846 kg	1,466.5 kg	170 kg
2022 so far		
Weight In	Weight Returned	Weight Shredded
755 kg	583.5 kg	99 kg

professionally wash the gloves and sleeves allowing us to re-use them.

We selected Staysafe PPE Limited- a small family run business who are passionate about sustainability and diversion from waste. Staysafe take our used gloves and sleeves, wash, quality check and return them to us in good condition – they can do this up to ten times before they need to be recycled. Used material is collected from our site when StaySafe does their collection route – they collect from different locations close by to make it more efficient. The project started in 2020 with an initial 109kg of gloves and sleeves; in 2021, this grew to 1,846kg and we are looking to double that in 2022.

All items are quality checked and any rejected items are recycled into insulation material (in 2021- this was just 170kg) so no waste is created. Our management team has been involved in ensuring quality is maintained at high level and are consequently very supportive of the reuse project which also helps to achieve our sustainability targets. This looked like a simple project to deliver but all parties using gloves had to be on board to make it work.

We have secured a constant supply of reusable gloves and sleeves, reducing end-of-life waste as well as reducing the need for raw materials. It has

delivered savings of £38k up to April 2022 with an expected £60k saving by the end of the year. As part of our sustainability strategy, we seek ways to reduce waste, while applying good business practice by reducing dependency on new supplies of PPE, reducing costs and futureproofing the business.

The initial cost of buying new recycle bins, signage, glove/sleeve stations and cages is estimated at £600, which has been funded by the Ardagh Barnsley plant. Environment: Each ton of washed gloves and sleeves saves 14.7 tons of carbon compared with manufacturing new gloves and sleeves. The expected carbon saving for 2022 is 58.8 tons and we expect this to continue annually. Although there is a carbon impact associated with the supply chain, by reusing the gloves and sleeves up to ten times, carbon emissions are significantly reduced.

Furthermore, carbon emissions associated with waste transport are also reduced. StaySafe has engaged with producers of Kevlar gloves and sleeves to improve sustainability by reusing yarn from discarded gloves – tests are being carried out, and so far, look very promising. This would close the loop on Kevlar gloves/sleeves, reusing material as long as we can than send it back to be blended back into new gloves, hopefully in a new factory in Europe.

The project has been shared with a further three Ardagh facilities in the UK who are in process of adopting it. It will also be shared at Group level so this reduction will have an even wider positive impact on sustainability within wider Ardagh Glass



plants. We are also working with other suppliers to help us close recycling loops on other materials where possible. By washing gloves and sleeves there is a cost saving: £4.80 per new pair of gloves and £2.49 per new sleeve.

The carbon saving plus the reduction in hazardous waste collection and disposal, a reduced need to manufacture new gloves and sleeves and a reduced supply chain impact has multiple benefits for the environment and helps Ardagh to achieve its sustainability targets. Ardagh also benefits from reduced costs. As gloves and sleeves can be re-washed up to ten times, the cost and carbon savings are ongoing. Even when gloves are no longer suitable for reuse (subject to quality control), they are recycled into insulation material for the construction industry, so no waste is created.

This project has led us to develop a system for other perishable materials (e.g. oil-absorbent pads), and we are working with the supply chain on takeback schemes. This simple idea has extended the life of the material we use every day in our plants. We are engaging a company that keeps their environmental footprint to a minimum by collecting from suppliers en route. Furthermore, it has led to talks with producers about developing innovative reusable solutions for other oily materials and spill kits. The biggest hurdle was colleague perception about re-using washed gloves.

We have engaged with staff, trialling the washed product on-site until they were happy with them; we explained the positive reasons behind the project and established a procedure to follow on site. We are now looking at all other perishable materials on site and the potential to clean and reuse to extend

their lifespan, as well as working with the supply chain on takeback schemes and closed loop recycling.

Washing of oily rags already takes place on site with ten stations provided by local supplier SafetyKleen. Single use ear protection has been replaced with reusable headsets which also improved communication on the manufacturing floor. Single use ear protection is still available on site but not used often, reducing waste going off site and improving working conditions on site.

We are now looking at spill kits and washable/reusable oil-absorbent material but currently very limited options on UK market, so we are engaging with producers to develop new solutions.



ASEZ WAO MOTHER'S FOREST

ASEZ WAO is carrying out Mother's Forest Project to respond to climate change and desertification which are currently threatening the earth. The goal of Mother's Forest Project is to achieve global greening by planting more than 7 billion trees all over the world through the 'Planting One Tree per Person' campaign.

Of the 7 billion world population, 3.4 billion, the half are workers. If workers take the lead and participate in planting trees with one more person, the entire people around the world can achieve planting one tree per person to prevent desertification and respond to climate change. Mother's Forest Project is also in line with the UN SDGs Goal 13 Climate Action, Goal 15 Life on Land, and Goal 17 Partnerships for the Goals.

- Period: 2018.02.07. ~ 2022.04.30.
- Location: 14 countries including the United States, Peru, Mexico, South Africa, Australia, etc.
- Activity Result: 2,254 participants, 6,044 trees planted and managed In recognition of

Mother's Forest Project conducted by ASEZ WAO members around the world, it has been introduced on the website of Plant for the Planet, an organization founded by German environmental activist Felix Finkbeiner.

In 2020, we have been awarded for this project with the Green Apple Award and the Green World Award, and delegated as Green World Ambassador along with the certificate of achievement from Green Organization for planting 100 trees. In addition, we draw the attention and participation of corporations by holding Mother's Forest campaigns and seminars, while also promoting collaboration activities with governments and public offices around the world by signing MOU.

The members in Auckland, New Zealand had a conference in the Auckland City Hall that led to an MOU signed by the official in 2020, and the members in Daya District, Taichung, Taiwan have received a certificate of appreciation from the head of Daya District Office.



Mother's Forest

Period 2018.02.07. ~ 2022.04.30.	Location 14 countries including the United States, Peru, Mexico, South Africa, Australia, etc.	Activity Result 2,254 participants, 6,044 trees planted and managed
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WHAT DID THE PROJECT INVOLVE DOING?

ASEZ WAO is carrying out Mother's Forest Project to respond to climate change which currently threatens the earth and to take the lead in preventing desertification by planting trees along with the goal of encouraging the entire people around the world to plant one tree per person. We organize conferences, panel exhibitions and seminars to raise awareness of climate change and desertification while informing the severity of climate change issues.

We also upload videos about Mother's Forest Project on ASEZ WAO YouTube channel to inform people around the world the importance of planting trees. In parallel to this, we are actively taking the lead in responding to climate change and preventing desertification by planting trees collaborating with international organizations, governments, municipalities, and corporations.

WHY DID YOU DO IT?

In 2011, UNCCD(United Nations Convention to Combat Desertification) stated that one-third of the earth's land area is undergoing desertification and that 60,000km² of the land all over the world is turning into desert every year. IPCC has warned that climate change will exacerbate desertification, and that desertification and climate change will threaten the entire ecosystem, including biodiversity, individually and in complex. If desertification continues, it will be difficult to produce food due

to land degradation, that leads to rapid increase of starvation and disappearing of livelihoods, resulting in the increase of climate refugees which causes political and economic problems.

According to the United Nations Environment Programme(UNEP), the natural occurrence of desertification is 13%, while the human-caused occurrence is 87%. Problems caused by human actions eventually come back to mankind as suffering. Therefore, ASEZ WAO aims to prevent further desertification and achieve global greening by planting trees all over the world through Mother's Forest Project.

WHAT DID IT COST AND WHERE DID THE MONEY COME FROM?

There was no budget for running the project. It is because we have planted trees provided by the governments and municipalities in various countries which support ASEZ WAO Mother's Forest Project.

IF QUANTIFIABLE, WHAT DID THE PROJECT ACHIEVE IN TERMS OF SUSTAINABLE DEVELOPMENT, ECONOMY, ENVIRONMENT AND/OR EQUITY?

Each tree absorbs 2.5 tonnes of carbon dioxide and releases 1.8 tonnes of oxygen annually. Consequently, the 6,044 trees ASEZ WAO members have planted worldwide will absorb about 15,110



tonnes of carbon dioxide and release about 10,879.2 tonnes of oxygen annually. If the annual oxygen requirement of 7 adults is 1.8 tonnes, the trees provide oxygen to more than 42,000 people annually. Also, considering that a tree lives on average for over 200 years, the amount of carbon dioxide absorption for the long term by trees planted through Mother's Forest Project would increase exponentially.

Additionally, this leads to economic benefits. According to the Global GHG Abatement Cost Curve developed by McKinsey to effectively reduce greenhouse gas emissions, if forest conservation method such as planting trees and preventing forest destruction are used, about 6.7 billion tonnes of greenhouse gas can be offset throughout the world by 2030, and McKinsey estimates an average cost of less than 40 euros per tonne. Accordingly, since the carbon dioxide absorption of the trees planted through Mother's Forest Project is about 15,110 tonnes per year, about 604,400 euros (15,110 tonnes x 40 euros) will be saved per year.

WHO AND WHAT BENEFITED?

1. ASEZ WAO members (young adult workers) Through ASEZ WAO 'Mother's Forest' Project, 2,254 young adult workers came to realize the importance of a single tree to respond to climate change and prevent desertification. Furthermore, they have grown into the next generation's tree planting leaders who put their knowledge into practice through the 'Planting One Tree per Person' Campaign.
2. Local communities and Corporations 2,254 workers from 14 countries have participated in Mother's Forest tree planting activities in the regions and workplaces they belong to, and carried out awareness-raising activities such as seminars and conferences. Through these activities, they have inspired a sense of responsibility in responding to climate change in the local communities, coworkers and bosses at work, leading them to participate

in responding to climate change through Mother's Forest Project.

3. Governments and Municipalities Each municipality has the target number of trees to be planted every year. On this, ASEZ WAO carrying out Mother's Forest Project in collaboration with governments and local governments has helped them reach the target number and reduce manpower budget by actively providing manpower to plant trees.

LONGER TERM BENEFITS?

We have contributed to achieve the SDGs which UN member states have pledged to achieve by 2030. Among the 17 goals of the UN SDGs, there are Goal 13 Climate Action, Goal 15 Life on Land, and Goal 17 Partnerships for the Goals.

One of the targets of SDGs Goal 15 is 'to ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains, and drylands, in line with obligations under international agreements.' The indicator that examines whether this goal is being implemented well is the 'ratio of forest area to the total land area'. ASEZ WAO is working for the long term benefits of mankind and the earth by achieving the sustainable goals of the UN SDGs in collaboration with international organizations, governments, municipalities and corporations around the world.

WAS THERE ANYTHING INNOVATIVE ABOUT THE PROJECT?

Most young adult workers living in this busy industrial society rarely pay attention to environmental protection or take action for it. Mother's Forest Project is innovative in that young adult workers who will lead the future generations take the lead in recognizing the climate crisis and global desertification issues and informing the severity of these problems.

Also, they do not stop with just recognizing, but they encourage themselves and those around them to practice planting a tree to respond to climate change, drawing the participation of everyone.

CAN OTHER ORGANISATIONS/ COMMUNITIES BENEFIT FROM IMPLEMENTING YOUR METHODS?

The UNCCD(United Nations Convention to Combat Desertification) has officially announced that ‘2.1 billion people in 160 countries are suffering from desertification, which leads to a continuous shortage of food and water, of which 300 million have become climate refugees.’ And predicted that ‘more than half of the earth population will suffer enormous damage from desertification caused by climate change in the future.’

Accordingly, the importance of the act of tree planting has grown in the global community. A model movement to prevent desertification is desert greening. In other words, planting trees in the areas where desertification is ongoing. If these desert greening activities are carried out together by many organizations, we can prevent the water loss of soil of the earth and make them habitable again. Additionally, considering that a forest of 1 hectare absorbs and adheres 168kg of air pollutants, the more trees are planted, the more help we put for air purification.

WHAT DID YOU LEARN FROM THE PROJECT AND ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

What we have learned while carrying out ASEZ WAO ‘Mother’s Forest’ Project was that governments and municipalities in various countries set up plans and put efforts into numbers of projects to plant trees and create forests every year, because forest conservation activities directly affect climate change response and greenhouse gas reduction.

However, there is great difficulty and burden for individuals to put into practice planting trees and creating forests. ASEZ WAO would like to take the Mother’s Forest Project further so that workers can participate in responding to climate change from their workplaces where they spend most of their day. They can improve others’ perceptions that planting trees is difficult by raising a pet plant at work and show that the climate crisis can be improved by small actions.

By transplanting well-grown pet plants to the outdoors, it is also possible to help create a forest as a virtuous cycle. We plan to actively promote and implement Mother’s Forest Project until the day when everyone in the global village participates in planting one tree per person. We would like to spread Mother’s Forest Project as a worldwide movement together with governments and international organizations around the world by estimating the number of trees to be planted by each country.



ASEZ WAO Takes Action for Sustainable Earth

Mankind is a family living together on the earth.
Based on the Church of God, which has 7,500 churches in 175 countries,
ASEZ WAO shares the love of a mother for the improvement and unity of the global village family,
and striving to make the earth, which is suffering from climate change
and environmental pollution, a healthy place to live in.



Save the Earth from A to Z as One Family

World Mission Society Church of God
Young Adult Worker Volunteer Group

ASEZWAO

Save the Earth from A to Z We Are One Family

ASEZ WAO holds the “Environmental Forum” around the world to put our heads together and extend our international cooperation. In 2022, the forum was held in the Republic of Korea, the United States, the Philippines, and the Republic of South Africa. It was consisted of various programs such as expert lectures from all walks of life and presentations by ASEZ WAO activists, and it was broadcast live through the YouTube. Sharing various viewpoints on coping with climate change, the participants realized worldwide workers’ role in it and the importance of solidarity.



Main Projects



Green Workplace

Saving water and electricity
at workplace



Blue Ocean

Cleaning up the streets, parks,
cities, and forests



Mother's Forest

Planting 7 billion trees



Green Earth

Cleaning up the streams, rivers,
beaches, and oceans



No More GPGP

Collecting 80,000 tonnes of
plastic wastes



Heart to Heart

Encouraging the safety and health of
communities



BALFOUR BEATTY LIVING PLACES WILDLIFE WAYS

Wildlife Ways is a programme of works commissioned by Solihull Metropolitan Borough Council to make Solihull greener by opening up and improving existing paths and cycle routes whilst allowing wildlife to blossom.

The project has enhanced 69 km of existing footpath and cycle networks, with an additional 23 km of new footways thus improving access for both cyclists and pedestrians. Enhancements along the routes have included significant lengths of widening, surfacing and heightened lighting as well as planting and landscaping improvements. This project has been a real success and has achieved significant outcomes for Solihull in terms of environment and sustainability, community investment and engagement allowing the project to add significant social and local economic value.

Wildlife Ways has made a positive contribution to improve cycle routes as well as helping to develop active, connected communities. The improvements support climate change and further develop accessibility to valuable community parks, whilst allowing wildlife to flourish. Additionally supporting Solihull Metropolitan Borough Council's commitment to cleaner air and move towards a better sustainable society, preserving the boroughs green settings and sharing its urban and fauna whilst encouraging positive health and well-being.

An essential outcome for Solihull Metropolitan Borough Council was the focus on sustainability; the 14 footways were designed in collaboration with Balfour Beatty Living Places to maximise value through constructability, quality, and in-use performance assessments. The quantity of planting is improving air quality whilst providing wildlife with the green corridors they need to move around.



A key project aim was to achieve a decorative, natural aggregate finish to the cycleway that would be hard wearing, comfortable underfoot, and resistant to the elements. The introduction of porous asphalt for the new footways, absorbing carbon dioxide emissions, controlling storm water quantity and the run-off to mitigate flooding whilst minimising the risk of pollution. In addition to the innovative material used, the project implemented a variety of techniques to minimise impact to existing trees and vegetation.



Sustainability targets were key to the project's success and were set out within pre-construction between BBLP and SMBC; over 95% of overall project waste was diverted from landfill and all carbon emission targets; a key area of focus was local labour, specifically ensuring supply chain partners were bought into the carbon reduction targets which ensured that 98% of overall construction spend was within 40mile radius of Solihull.

Wildlife Ways embraces improvements to woodlands, grasslands, wetlands, and Solihull's verges to make a greener network of ecological sites, whilst increasing paths for both walkers

and cyclists. The routes are landscaped with links, lengthening, and connect to present routes and pathways to green spaces. Part-funded by the European Regional Development Fund (ERDF), the project links North Solihull and East Birmingham communities, increasing accessibility.

The routes now connect with parks, local schools, colleges, urban centres, and employment sites, such as Jaguar Land Rover, through the creation of these green access corridors and giving 'people an alternative to joining the traffic. Walking and cycling provides vital transport options to local workers and others for their essential journeys, these routes now enable people to make those journeys or more importantly get out and exercise daily.

The existing 10-year Highways Term Maintenance Contract (TMC) between Balfour Beatty Living Places (BBLP) and

Solihull Metropolitan Borough Council (SMBC) was originally considered as the procurement and delivery mechanism for Wildlife Ways; however due to specific requirements related to the ERDF funding, the Scape framework was evaluated and selected as the preferred route. Utilising the Scape framework meant that the project could get off the ground quickly from feasibility into pre-construction and construction resulting in a saving of £780k procurement costs and time savings to allow the project to meet its programme and financial milestones.

Collaboration was fundamental to the project and has a real, long-lasting impact on the relationships

and working approach adopted between SMBC, BBLP, and supply chain partners (SCP). The introduction of collaborative planning and bi-weekly risk reduction meetings continued throughout the duration of the project, providing resilience around resource availability as well as programme and cost certainty.

Additionally, these meetings also helped to develop and grow relationships within the supply chain as well as with the BBLP team. Keeping the public disruption to a minimum was one of the key drivers, these were managed with integrated supply chain meetings ensuring a collaborative approach to warrant that the risks were realised. Schools and the community were consulted during the design to guarantee that health and safety concerns were addressed, and agreements reached.

The scheme was delivered to programme, despite significant additional works instructed by SMBC, this was only possible due to the agile and responsive nature of the early contractor involvement approach

and early supply chain involvement. As a result of the pandemic, the project was forced to quickly adapt to new protocols to meet the completion date. Resulting from the quieter network, a number of changes were implemented in accelerating programme and resequencing of works to maximise the opportunity offered by school closures.

The implementation of new methods and the ability for the project to continue realised significant savings and efficiencies, including a 38% reduction on programme and £18k of costs. The approach to COVID-19 improved the client satisfaction and saw an increase in Customer Satisfaction score from 9.13 to 9.43/10, an increase from 9.13.

Supporting climate change, the introduction of porous asphalt has ensured the pathways are water free and accessible all year round, allowing water to permeate through the surface and beyond. Geocell was implemented, where tree roots are prevalent to allow for a flexible pavement structure whilst the trees continue to flourish.



Additionally, the project had a replacement planting policy, trees that are removed are replaced with increased planting in other areas. The scheme had given a massive boost to wildlife and made the borough more colourful and pleasant for residents, with extensive restorative and management work on brooks, grasslands, and woodlands. In total there have been 73 hectares of habitat enhancements, including three million bulbs, millions of flowers, 1,000 semi-mature trees and one kilometre of hedgerow.

From inception the project focussed on community investment being critical to success, focus was placed on local spend and community engagement. The engagement approach utilised physical and digital mechanisms including working with resident action groups, creation of a dedicated project website, production and distribution of newsletters thus ensuring all stakeholders were well informed of the project aims and up-coming works. In addition, performance reports detailing programme progress forward plan of works, health and safety information and social value data were presented on a quarterly basis.

This engagement has achieved success in terms of cycleway use post implementation; the 'Elmdon Park Support Group' have actively promoted the project and the benefits of cycling to health and well-being. In turn, the BBLP team have attended organised events encouraging effective relationships throughout the works. The project ensured that local businesses were engaged early and achieved 98% of spend with local suppliers to Solihull, which 86% was with small and medium-sized enterprises.

Engaging with the community to ensure a positive legacy is left after project completion was important to the project. Wildlife Ways was focused on providing skills and employment to local people within the area and their current employees. The project's targets were set at the start of delivery and included supporting work experience placements, new graduates, apprentices, and trainees, training days and professional or NVQ qualifications – all set targets were exceeded at only 60% into the project duration.

The project achieved real added value, leaving a positive and lasting legacy. The total value achieved in social and local economic value was £4,064m, surpassing the original commitments of £3,336m, equating to 78.81% value added. A key area of focus is SMBC's commitment to cleaner air and a modal shift in travel; SMBC have confirmed that there are future projects which are targeted to radically alter the traffic patterns across the borough in coming years. BBLP are engaged on 3 further cycleway schemes which are likely to be delivered via both HMC and Scape procurement routes.

Councillor Ken Hawkins, Cabinet Member for Environment and Highways for SMBC also supported the project throughout.



BERKELEY NORTH EAST LONDON TRENT PARK BIODIVERSITY AND HABITAT IMPROVEMENTS

Set in 413 acres of green space in Enfield, London, Trent Park is a luxury countryside development created with sustainable design. The development itself is spread over 56 acres and will feature 262 new homes and flats. This land has had several landuse changes ranging from a historic estate, then used in World War II as a prisoner-of-war camp and more recently the former Middlesex University. Berkeley North East London has redeveloped Trent Park with the aim of increasing the habitat and diversity of the area.

Of note, Trent Park aims to create and deliver the opportunity for thriving biodiversity. Alongside this development, the project has aimed to improve education surrounding the importance of protecting wildlife. Berkeley NEL have collaboratively partnered with the Wildlife Rescue & Animal Service (WRAS) Enfield charity, sponsored multiple animals and delivered a new educational classroom in their grounds to bring about educational benefits.

The project has also aimed to restore the prestigious Mansion House and Stable Block heritage areas and will involve the development of a museum dedicated to the heritage of the area.

The Trent Park residential scheme has achieved the aim of increasing habitats and diversity of the area. This has been through careful landscaping design to implement Sustainable Urban

Drainage Systems which encourages biodiversity. With consultation from ecologists, numerous bird boxes and bat infrastructure has been located around site to increase habitats.

We have also created a maternity bat roost within the Stable Block which is now home to 40 bats! Hedgehog highways have been installed across the development. To promote the hedgehog highways, we have run a number of successful educational events with the Wildlife Rescue & Animal Service (WRAS) charity to raise awareness on protecting



Wildlife at TRENT PARK

The natural environment and wildlife is incredibly important to us at Trent Park. Our development isn't only home to people, but to a wide array of wildlife - and we can all play our part in keeping them safe and their populations thriving!



hedgehogs. This was done in collaboration with local primary schools and residents of Trent Park.

Berkeley North East London have also supported the WRAS through building a brand-new classroom and sponsoring various animals around the centre such as Daphne the Fallow Deer. From creating all the new habitats, we have seen a noticeable increase in the variety and amount of nature which resides at Trent Park.

Trent Park, situated inside the M25 in Enfield is a 56 acre residential scheme. Located within the 413 acres of the Trent Park country park, this development will deliver 262 properties comprised of apartments and houses. Trent Park itself was the former Middlesex University campus and additionally was used as a Prisoner of War camp. Berkeley North East London (BNEL) is an Operational Company of the Berkeley Group and since we begun building the estate in 2017, numerous habitat and diversity enhancing improvements have been created.

Prior to starting development, Trent Park was comprised of approximately 30% brownfield land and 70% greenfield land. The area lacked

biodiversity, consisting of hard standing, grassland and trees. The Trent Park house dates back to the fourteenth century when it was part of Enfield Chase, one of King Henry IV's hunting grounds. The house has changed ownership several times since and added the projecting wings, before subsequent use during World War II as a special Prisoner of War camp. In 1947 the estate became a Ministry of Education emergency training college and later part of the Middlesex University.

This college was eventually abandoned and the area became dilapidated and lacked a species richness. Since the inception of the project, we have added 0.5 acres of green space to the retained 12.5 acres of green areas. We have drawn on various specialisms from ecologists, to landscapers and water engineers to sustainability professionals. Together we have transformed a disused collage and turned it into a thriving biodiverse park.

Trent Park will leave a lasting impact on the local environment for everyone to enjoy. BNEL builds sustainably and considers the future without compromising the ability of younger generations to meet their needs. We are committed to the

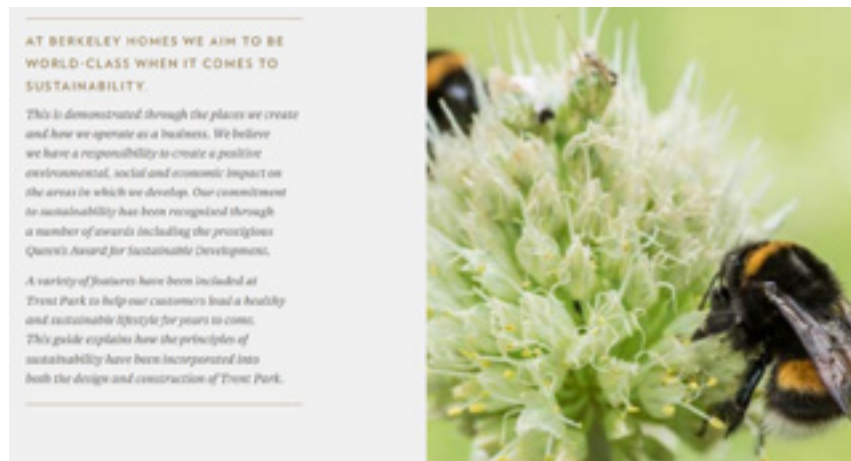
Sustainable Development Goals and of particular importance is SDG 15: Life On Land which protects, restores and promotes sustainable use of terrestrial ecosystems, sustainably manages forests, combats desertification and halts and reverses land degradation and halves biodiversity loss.

At Trent Park, we have achieved SDG 15 through creating biodiverse and lasting habitats as demonstrated below. We have worked closely with our ecology consultants AECOM to transform the wider environment and implement a variety of biodiversity increasing measures. Trent Park has implemented 60 bird boxes ranging from widespread bird species nest boxes, to house martin clusters, to tawny owl nest boxes, and a kestrel box.

We have encouraged 34 species of birds to call Trent Park their home, such as Song Thrushes,

estate costing £1.6m. The SUDS provide invaluable habitats for birds and animals to make their home. To the north west of the estate, we have integrated the SUDs into the landscaping through the delivery of a network of streams and ditches, reed beds and swales. Through selective planting, we have encouraged pollinators to improve the biodiversity at Trent Park.

We have created wildflower areas surrounding the Fish Pond. We have planted 150,000 daffodils on the Daffodil Lawn. The Wisteria Walk attracts several bees to the development each year. The Trent Park project team has donated to the Wildlife Rescue Ambulance Service Enfield (WRAS). We have spent ~£39,000 to build brand-new classroom for the WRAS which is used in educational events, located within the grounds of Trent Park.



Tawny Owls and Goldfinches. Trent Park is home to a maternity bat roost comprised of 40 bats, typically common pipistrelle. This is located in the roof of the Stable Block, along with several bat tiles and bat boxes. The maternity bat roost has been implemented by Berkeley under the Natural England licence and will be operational for many years.

To increase the range of biodiversity features, Sustainable Urban Drainage Systems (SUDS) have been comprehensively implemented throughout the

The project team throughout the course of the building works have sponsored Daphne the Fallow Deer and Zippy the Shetland Pony. Working closely with the WRAS has given Berkeley a real passion for habitat creation. A number of hedgehog highways have been put into residents' fences to promote access for hedgehogs around site. In collaboration with the WRAS, an educational day was held for the local Merryhills primary school during April 2022 in their

new classroom. Our Senior Sustainability Advisor taught the children on the importance of protecting hedgehogs in the wild and discussed how Berkeley are protecting hedgehogs.

We donated a hedgehog hut to the charity. Through the early engagement with the school children, we can help influence their lasting impact on the Trent Park environment and beyond. Subsequently an educational resident's community day was held on the importance of placing the hedgehog highways in

their fences. Through the redevelopment of the Trent Park campus, Berkeley has created a lasting legacy for many to enjoy. The landscaping will be carefully managed and preserved each year by Lee Baron our managing agents.

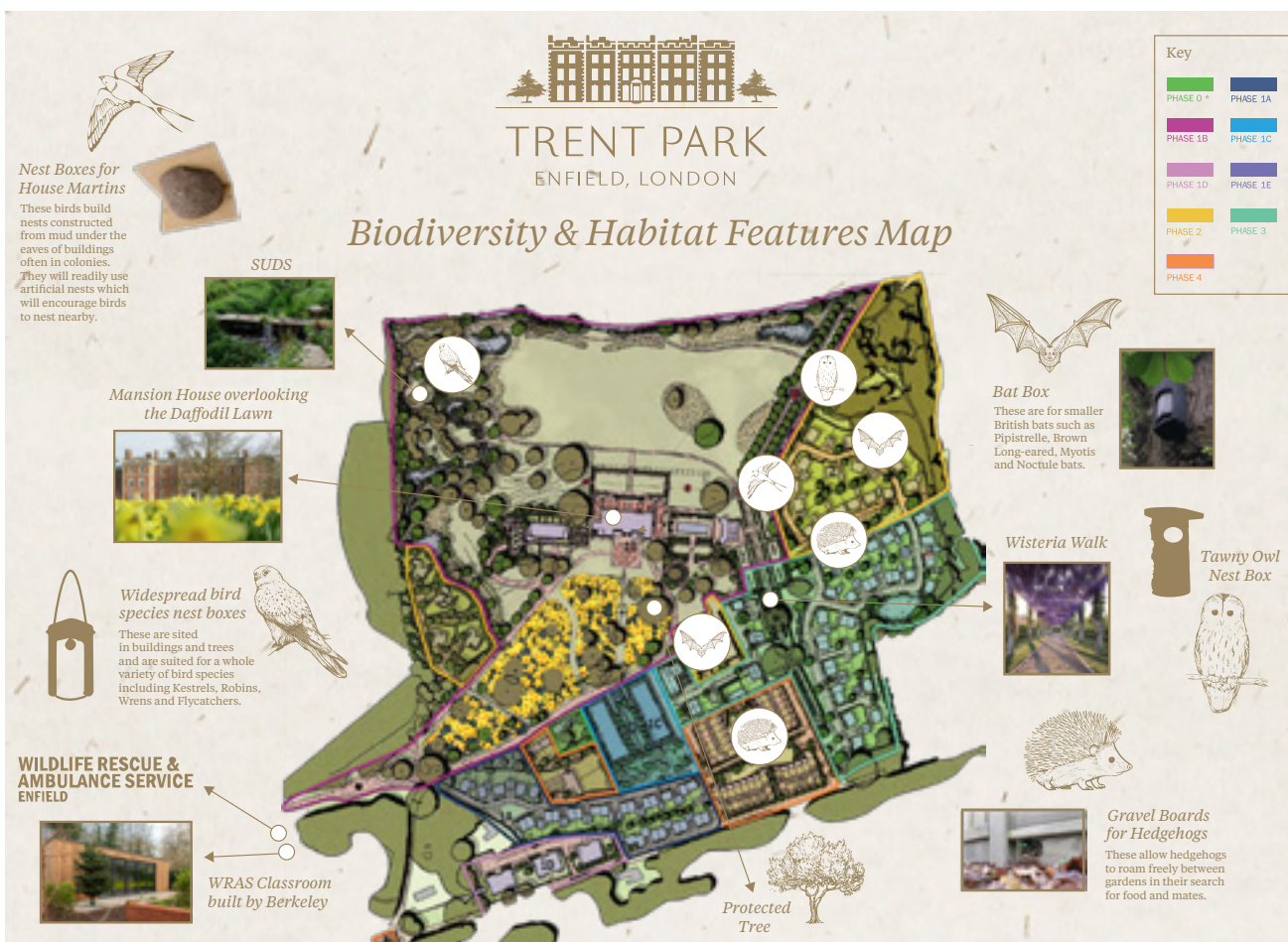
Currently occupants of Trent Park include the Trent Park Running Club and the Friends of Trent Country Park. During the build phase, we create the landscaping areas first so that the community and nature can enjoy this for longer. There are many trees round the site which Berkeley have retained and protected.

Through careful integration and collaboration between interested parties, we can all work together to deliver the maximum benefits for biodiversity. It is essential for ecologists to work together with arboriculturists, landscape designers, drainage

engineers, sustainability experts and other interested parties. We have carefully created advice booklets for the Management Agents to continue with the biodiversity improvements across the estate for years to come.

BNEL have taken a number of learnings from this project, for example we have dealt extensively with the European Protected Species Mitigation Licence for the first time. We witnessed first-hand the effects of integrated working across specialist teams. We have developed our understanding to increase habitats and diversity on the project and will use these core ideas in future projects.

This project was the first housing scheme that BHNEL delivered and has taught us how to integrate landscaping and biodiversity improvements successfully into a large residential area.



BORUSAN CAT

SUSTAINABLE TRANSFORMATION SOLUTIONS

With Component Rebuild Centers, the machine or component is revised and certified by Cat standards and another lifetime is given reducing the downtime of that machine. B'Daha Exchange is a business model that offers “new economic life”, in other words, “refurbished” component solution. In case malfunctions and overhaul needs, refurbished components are rapidly provided to the customers and old and reproducible ones bought out from them.

Customer Equipment Monitoring and Fault Estimation Development Project known as “Müneccim” aims to prevent the construction machinery from becoming unusable, minimize high repair and maintenance costs arising from this reason and prevent customer dissatisfaction due to machine failure. Artificial intelligence and IoT application, estimates any malfunction or failure that may occur in a part of the equipment with a proactive approach and creates economic, environmental, and social value for Borusan Cat, its customers and the planet. In order to solve these problems, it has been developed as a system that will enable the prediction of possible problems by evaluating the parameters such as the machines used by the customers, usage statistics in the customer portfolio, general usage statistics based on the machine model, and operating conditions before failure by that preventing construction site stoppage.

With 5000 tons of recycled weight, 2500 total revisions and 84 million dollars value generated in our Component Rebuild Centers in 2021, we play a role in raising awareness to ensure that natural resources remain in a cyclical economy by making them preferred by as many customers as possible. Model is successfully being implemented since remanufactured parts lower total owning and operating costs over the life of the product.

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B'DAHA

With B' Daha fewer raw materials are used to remanufacture parts, resulting in saving natural resources while putting significantly less waste into landfills, using less energy and water, and creating less air pollution during the manufacturing process. Up until now, B'Daha Exchange total sales volume increased to 3.04 million euros.

With proactive business model Müneccim, Borusan Cat reduces maintenance and repair costs of its customers while extending the service life of the machine since the model that predicts breakdowns 1 month in advance with 96% accuracy. Thanks to before failure detection, 2.4 million euros were generated while saving 5.6 million euros from

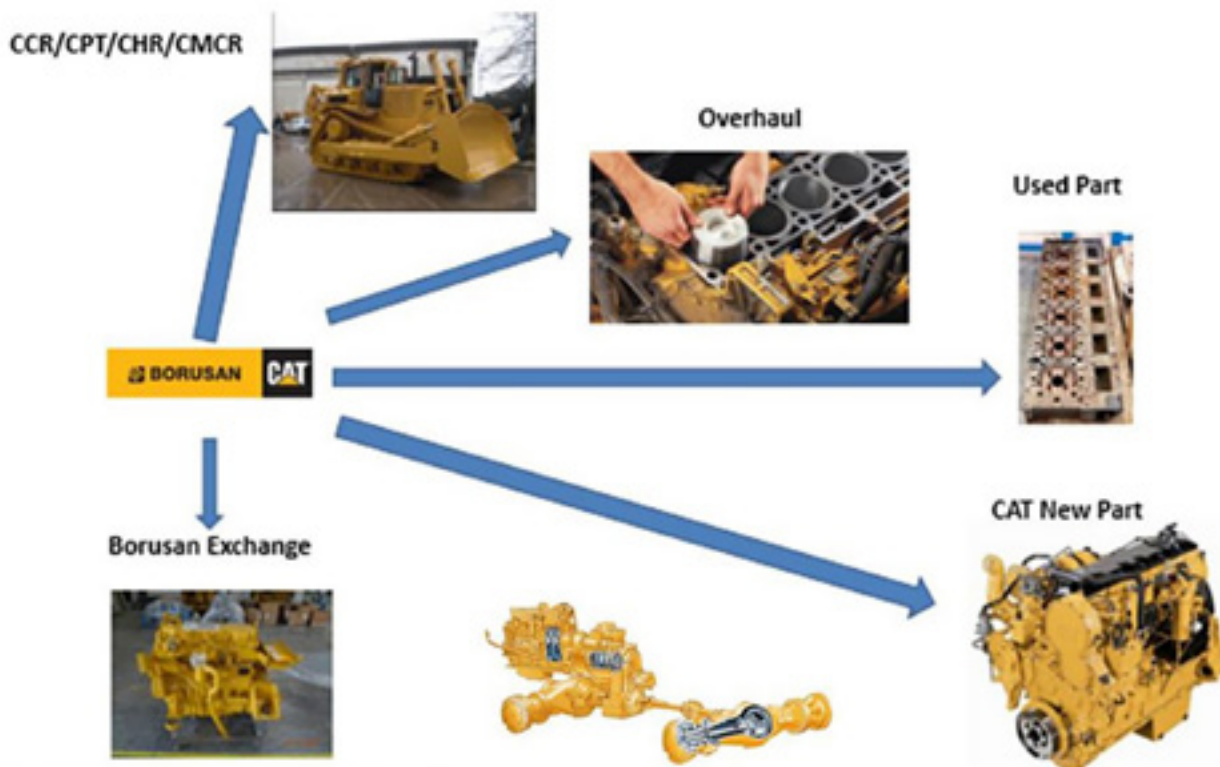
customers if it was after failure. Moreover, it prevented the production of any kind of waste more than 25 tons.

While reviewing sustainability as full-time ownership of strategy team, monthly CEO, quarterly trend and quarterly executive community reviews, 6 country deployment plans for each focus projects as a company, we are trying to develop this business together with Caterpillar, of which we are the main distributor, hence it is one of our sustainability goals to align with them.

Moreover, since this business gives us a competitive advantage, it forces other service providers in the ecosystem to develop business models that can make similar contributions, which also affects all players in the industry and the environment. Reducing or even eliminating the environmental impact of our activities and achieving this together with the entire value chain are among our main goals while reshaping our climate focus.

With this vision, important steps towards R&D, innovation, innovative ideas, and digitalization with the applications developed by using today's most advanced technologies end-to-end were taken and we have created Component Rebuild Centers, B'Daha Exchange program and Müneccim towards this vision. The journey of Component Rebuild Centers began in 2017 and we shifted to central of excellence model, with the opening of 2 more Component Rebuild Centers (CRC) in Turkey, first in Gebze then in Ankara, as we did in Karaganda-Kazakhstan.

The purposes of CRC's are to offer customers the option of revision prior to failure, to give customers the components that have been revised or brand-new when the time comes for customer components to be overhauled or if there is a malfunction and to add value to customers work by reducing their downtime by replacing their component with the component in our stocks. With the support of CAT, we undertake the revisions of our customer with the quality of Borusan Cat service under the warranty.





With reman and swap options, when the time comes for customer components to be overhauled or if there is a malfunction, we give customers the components that have been revised or zero by Borusan Cat. Thus, we aim to add value to customers work by reducing their downtime by replacing their component with the component in our stocks with the swap method, or they can rent it from the components in our stock. If customer wants, they can also consider the option to purchase new components from our stocks.

With 2,540 transactions, we play a role in raising awareness to ensure that natural resources remain in a cyclical economy by making them preferred by as many different customers as possible. B'Daha Exchange, which is a pun meaning "again" referred "re-use" in Turkish language, is a business model that offers a new economic life by quickly providing refurbished components to the customers and buying out old and reproducible ones from them in case malfunctions and overhaul needs with genuine Cat parts at our Rebuild Centers.

In this way, we provide the fastest solution with

the most economic prices for all our customers. In addition, by listening to our customers and analyzing their needs, we develop long-term component packages specifically designed for field operations and increase the uptime of machines, thereby preventing production losses. From 2018, with B'Daha Exchange we not only have time and money saved to customers but also fewer raw materials are used to remanufacture parts versus building new, resulting in saving natural resources while putting significantly less waste into landfills, using less energy and water, and creating less air pollution during the manufacturing process as a result reducing our carbon footprint.

Up until now, 589 transactions were invoiced to a total of 216 different customers as CAT Business, with increase from 2020. B'Daha Exchange total sales volume increased to €3.04m, with 35% increase compared to 2020. Started on January 2020, Muneccim, an application based on instantaneous data, detects, and warns in advance of a possible failure if the machine operates at the same pace and conditions. This allows necessary actions to be taken before major failures occur. With

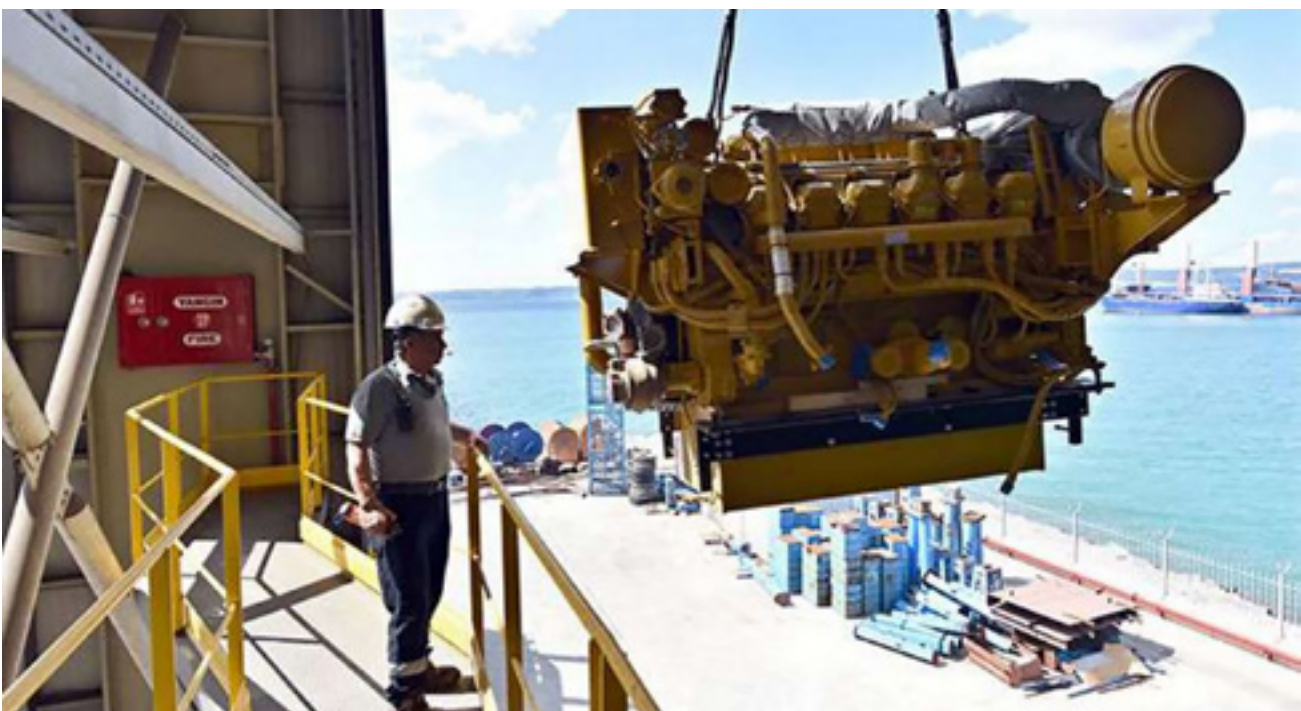
this proactive business model, Borusan Cat reduces maintenance and repair costs of its customers while extending the service life of the machine.

This transformation using technology as an enabler added value for both its operations and customers appreciated by being a successful global benchmark. In 2021, achieved a success rate on estimating the leads, while having 30 successful leads per month with 96% accuracy rate. Developed with a focus on digitalization, Muneccim won the “Quality Gold Award” at the SAP Innovation Awards in 2019; In 2021, Fast Company was awarded 12th place among 50 Innovative Companies in the Artificial Intelligence category, the Best R&D Project at RDCONF and the Digital Pioneer at the SAP Global Innovation Awards also in 2021, was published in Harvard Business School’s case study “Monetizing Prediction in the Age of AI” with the topics regarding Muneccim’s financial strategy and target market.

One of our future goals is to grow these business models and provide Exchange with more customers in all 6 territory, rather than the general sales

distributorship model that provides only machine utilization. Here, it is our long-term goal to switch to a version that we can use not only for single machine data, but also for more efficient management of the field with that data, because with the output here, we will be creating more efficient and sustainable working areas. On the digitalization side, our goal for Boom 360, which is designed to combine all the services we provide to the customers, from all the services we do to the sales of parts, in a single mobile application, is to increase awareness by reaching more customers and to ensure the survival of the model.

The long-term visionary goal of the company is that the sustainable and innovative business models we invest in, will create more of the company’s general resources, and our qualified customer support service business model will turn into innovative sustainable new business models, and our core business will consist of these models.



CAB'N GO

The coffee shop industry has grown strongly over the past five years, owing much of its success to the Kingdom's love for quality coffee. The UK coffee market is one of the biggest in the world and was valued at £17.7 billion dollars in 2017, we drink approximately 98 million cups of coffee per day with only 1 in 400 cups being recycled with the vast majority going straight to landfill. This indicates that the carbon footprint of coffee cups that wind up in landfills in the UK is comparable to about 152,000 tonnes of carbon dioxide annually, which is almost the same as the carbon footprint of 33,300 cars.

Cab'n Go is an innovative sustainable coffee shop providing specialty coffee and pastry items on the go in United Kingdom and Romania. We provide outdoor coffee shop catering as well as indoor coffee cart catering.

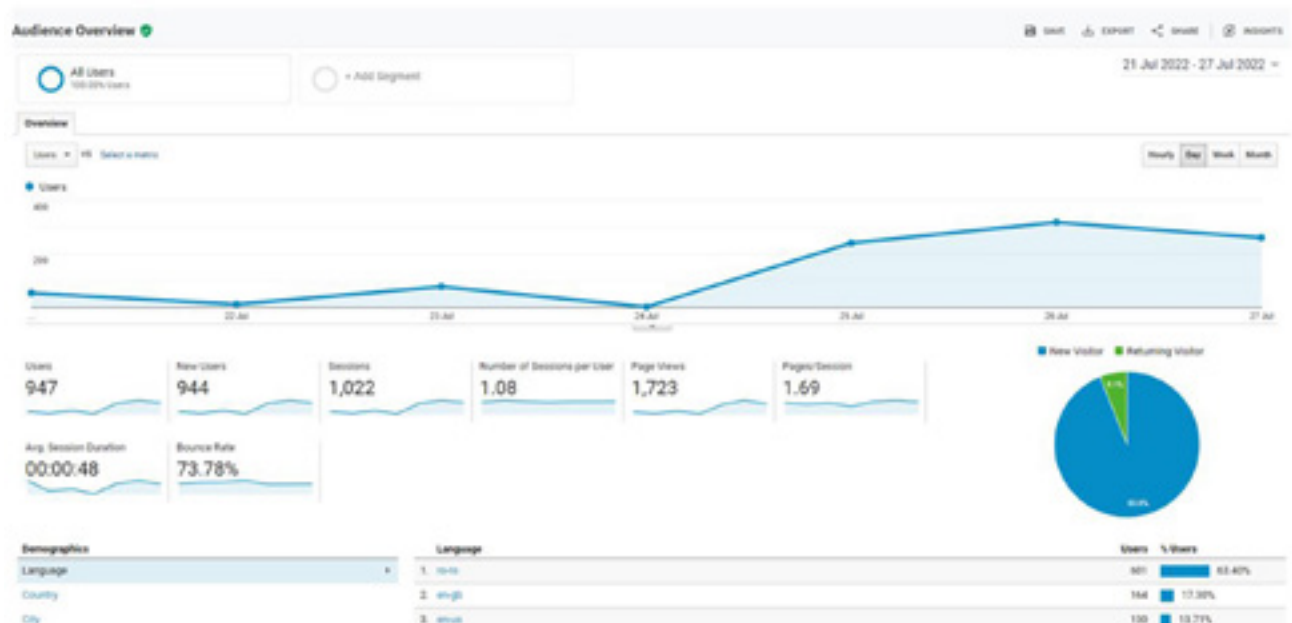
The success of the organization comes from a triffecta of focus: provide an unforgettable customer experience and environmental education, build

a circular concept (everything should be reused) and hold a strong employee education program. Furthermore, our coffee shop is based on converting London Taxi TX4s into electric coffee shops, giving them a second life while taking them off the road. There are currently 11,000 cabs still on the road which are responsible for approximately 50,000 tons of CO2 annually.

We are planning to help cut down on the carbon emissions generated by the industry (UK and Europe) with at least 20% in the next 3 years thanks to our efforts to educate the customer base while helping other business transition to a greener, more circular business model and expand quickly within UK and Europe.

WHAT DID THE PROJECT INVOLVE DOING?

The project involved the purchase of London Taxis TX4, recycling the engines and all the parts that are not needed, turning the seats into sofas, and





full conversions into self-sustained electric coffee shops. We provide reusable cups for our customers. However, we are aware that some people will still prefer the use of one-time cups and therefore we use fully biodegradable and compostable cups that have plant/tree seeds in their structure. As study suggest they will most likely end up in the landfill. However, because they will decompose within 60 days and plants/trees will come out of them this will help reduce their environmental impact.

As well as that we have developed a pro-bono service (The Zero Waste Program) where we help other companies implement sustainable strategies and make a transition towards a greener business model with the end goal of a fully circular business.

Furthermore, our expansion plan is set to help the local coffee community diminish their carbon footprint while still being able to enjoy high quality coffee. Our first stage of growth is to purchase on

demand resources as to sustain market demand within the region without having to stockpile and waste resources, keeping distribution local and with a low environmental impact. Second stage is to educate the public about their environmental impact when they drink coffee and suggest that they use the reusable cup option we provide. Third stage includes franchise opportunities at a national and European level.

WHY DID YOU DO IT?

As the pandemic proved to us that we do not need an office to work and we can work from home and reduce our environmental impact even further, we looked at the coffee business model and how we can improve it, from a productivity perspective and also from a carbon perspective, what is the best way to emit less carbon? A smaller location with multiple recyclable and environmental friendly

resources that can also be moved from location to location without having any issues, that's how Cab'n Go was born, the concept grew a lot more than we imagined as we love the idea of innovation team work and brainstorming, the fun part is that they work hand in hand amazingly well, and because of our wonderful team, we have created not only a coffee business, but a whole movement that is built around loving coffee growing together with people around the world connecting and also protecting the environment, we want to grow not only as entrepreneurs but also as people but for that we need a loving and nurturing environment so we have to help our planet as much as we can, and as soon as we can. Furthermore, we are fully paperless as a business, which means all our documents are signed online.

The problems were already there when we started so we decided to become the solution.

WHAT DID IT COST?

The stake is high; however, we try to keep the costs at minimum, it costs around £22,000 to open one Cab'n Go Coffee Shop and we have estimated it to produce at least 30% less carbon than any other coffee shop due to the emphasis on using plant-based milk instead of cow milk. As well as that we are investing around £2000 monthly in marketing to educate the customer base about the impact and implications of drinking coffee without considering the environment. We are also working with content creators and influencers to attract franchisors in a battle to help tackle the pollution from the industry

01/ The waste

Did you know that only 1 in 400 take-away coffee cups are actually recycled? The rest end up in landfills, or worse, in our oceans and natural environments, where they can take up to 500 years to break down.

Together we can do
much more



by expanding quickly. We have estimated an investment of over £600,000 going towards our cause by the end of 2023. As well as that our pro-bono campaign has already gained 20 companies interested and the free consulting we provide could be estimated at around £100,000. However, the potential is much higher.

IF QUANTIFIABLE, WHAT DID THE PROJECT ACHIEVE IN TERMS OF SUSTAINABLE DEVELOPMENT, ECONOMY, ENVIRONMENT AND/OR EQUITY?

In terms of sustainable development people will always need coffee and we will always need people to use our services in order to tackle the industry's carbon footprint. Our business has started to gain interest from abroad and we have requests in multiple countries to implement our franchise, (Romania, the Baltics, even Dubai).

Economy wise we consider that even in a time of crisis or war people will demand coffee, not only coffee but also opportunities for young people to learn and grow as workers or entrepreneurs in an international community that can exchange experiences, the impact on environment will be even more quantifiable in the future depending on how much we expand, as we wish to use only environmentally friendly tools and ingredients as much as possible as often as possible and to make donations to environmental friendly organisation while continuing our marketing campaigns, and our projects for young people to take initiative and help us and everyone who wants to save our planet. In numbers, we have impacted around 85,000 people in the past week alone through our social media. With over 2,000 connecting to our website and 20 companies reaching out for help as part of our pro-bono Zero Waste Program.

WHO AND WHAT BENEFITED?

We are just like a seed, maybe a seed of coffee even, we need water to grow and to achieve our

full potential, we do not need chances because we make our own just like a wild seedling we have fought the extreme weather conditions and have managed to bloom a little, our bloom has already been heard about around the world and it has been requested that our seeds will be delivered there, but we are still in the process of blooming, we have yet to bear more fruits and to develop faster and in a healthier way. Therefore, we need nourishment, water, love, support, and fertilizer.

Our customer's base has benefited as well as other entrepreneurs and their customers. For now, as we only have 20 companies that reached out, we don't have enough data, we can only estimate that by educating the 85,000 people that visited our website and helping the 20 companies from 7 different cities in Romania and 1 in UK our impact could be reducing the carbon footprint that would affect over 4 million people (estimated based on the cities' total population). Therefore, we can proudly say that we have a high impact on reducing the carbon footprint.

LONGER TERM BENEFITS?

Imagine buying a coffee without thinking about the environmental impact. That's our goal. To be carbon neutral and stress free for our customers and the people around the world. We aim to be carbon neutral by the end of 2025 and start focusing on tackling other industries emissions as soon as we achieve our target. When we achieve our carbon 0 goal we can then allocate resources to help others achieve the same goal. In long term we believe we can reduce the total carbon footprint from the industry by at least 30% in 8 years.

WAS THERE ANYTHING INNOVATIVE ABOUT THE PROJECT?

Well the concept itself is innovative in its nature, the fact that we want to build an international green team its again innovative, and the fact that we want to find ways to fund young people so that they can afford our franchise is again innovative, we are a

team of young individuals that want to save the planet, we are full of innovations and of ways to fight Carbon emission levels in order to help our international community, we want everyone, of any race, of any class, of any educational level, of any shape and size to be able to breathe clean air, to be able to grow and thrive in a healthy environment, we do not only target the planet's environment, but we target our franchisers mental and natural environment to help them be healthier overall (mindset, location and life).

Therefore, from being fully paperless when it comes to documents to having seeds in our coffee lids and cups, even giving a second life to a car instead of building something new, we believe our project is 100% innovative.

CAN OTHER ORGANISATIONS/ COMMUNITIES BENEFIT FROM IMPLEMENTING YOUR METHODS?

Yes, anyone can implement our whole vision even. We are willing to help any other business to do so as we don't care about the money, yes we need it to fulfil our mission and it is an intermediary but we don't essentially care for our own self profit, as there is a bigger stake, we care about helping people help themselves, helping the environment and creating a new international community that shares our ideals and values, that shares our love and passion for the environment and for helping out other humans, we even wish for other people to implement such an idea as they would help us achieve our goal and mission, as an international community, love and passion is not limited by brands, flags, or nationality, we are here to help, support, sustain and grow.

WHAT DID YOU LEARN FROM THE PROJECT AND ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

Furthermore, we are only starting to develop and expand the project, as stated before we are still a seed and we will become a fully-fledged out field, we learned to have a better understanding of different cultures, to create a powerful business plan, we learned how to plan a strategy for an angel investor pitch, we learned how to plan a scaling strategy, we learn how to plan an sustainable international infrastructure for a business and we learned how to connect people around the globe to achieve one goal: Save the Planet.



LOOKING FOR A COFFEE EXPERIENCE THAT'S BOTH PREMIUM AND ENVIRONMENTALLY RESPONSIBLE?

Look no further than Cab'n Go!



We're passionate about delivering the highest quality coffee, sustainably sourced and served in elegant compostable packaging made from biodegradable materials. Plus, we've taken sustainability to the next level by converting retired London Taxis into mobile coffee shops, making your coffee run an exciting and unforgettable experience.

But it's not just about the coffee - it's about making a positive impact on the planet. By choosing Cab'n Go, you're helping to reduce the carbon footprint created by discarded coffee cups, which in the UK is equivalent to 33,300 cars in a year. So why not treat yourself to a premium cup of coffee while also doing your part to create a more sustainable future?

Join us on our journey to create a more sustainable future, one cup of coffee at a time.
Visit www.cabngo.com TODAY!

CAWARDEN

PROTECTING AND RESTORING THE ECOLOGICAL INTEGRITY OF CECILLY BROOK

The project aimed to bring the former JCB factory site in Cheadle, Staffordshire, back into use for future housing whilst protecting and restoring the ecological integrity of Cecilly Brook.

- Restore the former JCB site for future housing development including the demolition of bridges, ground remediation and earthworks activities.
- Develop protection measures to ensure the watercourse, the existing wildlife and aquatic habitats do not suffer as a result of the works, some of which need to take place in close proximity to the brook.
- Restore the ecological integrity of the brook (approx 100m within the site boundary) so that the local wildlife and habitats can flourish and the local community can enjoy the area for years to come.

Cawarden has restored and delivered a beneficial after-use to the former brownfield site and the construction of the new housing development has forged ahead. The expertise provided by all consultees and the willingness of the client, supported and delivered by Cawarden ensured the project was delivered safely, and on time and caused no further impact on Cecilly Brook. But what makes this a stand-out project is the complex restoration of the waterway so local wildlife and habitats can flourish and the local community can enjoy it for years to come.



- The brook and habitat protection solutions were successfully implemented so the scope of works could be safely completed whilst managing flood risk
- All rubbish and contaminants have been removed
- On removal of the dam and flume, water flow was reinstated
- The brook has been beautifully restored with its banks re-shaped and invasive plants removed
- Wildflower meadows have been rehabilitated by planting seed mixes in consultation with experts to ensure the right habitats were created
- The area has been greatly improved for wildlife to continue to flourish in the future
- Increased availability of rich nectar sources for insects
- The local community will now be able to safely enjoy the area without concerns for health and safety.

The former home of British manufacturing giant JCB's Special Products and Landpower manufacturing facility had disappeared from the landscape back in 2017 after the factory closed in 2016. The 5-acre, L-shaped brownfield site sat in the heart of a residential area of Cheadle and was seen as prime development land for new homes.

One of the UK's largest housing developers acquired the derelict site following the demolition of the factory (completed by another contractor). Planning permission for a new residential scheme was granted in 2021. Cawarden was appointed to act as the specialist contractor to deliver the highly complex remediation and earthworks project between April 2020 and August 2021 to prepare the site for the construction of new homes. Whilst at 5 acres, the site isn't small but adding in the fact that both legs of the land are long and narrow made our task all the more complex - especially as we had an

ecological corridor running through part of the site as part of a 1.25km nature reserve. Known as Cecilly Brook, almost the entire length of the waterway had suffered the effects of environmental degradation caused by human activities such as pollution and contamination from land use over the years. Nature had also taken its course with almost the entire bank of the waterway covered in shrubbery and invasive plants including Himalayan Balsam and Japanese Knotweed.

All of this affected the water flow and quality which is particularly an issue for the aquatic habitats and the fact that it is one of the most important sites for water voles in Staffordshire. The challenge The brook needed to be protected to prevent demolition material from entering the waterway and further impacting the water quality, habitats and wildlife. Some of the works even required to take place on the banks of the brook itself. Certain activities to



Cawarden was tasked with removing all hard standings, slabs, foundations and soils across the former JCB site.

be undertaken were classified as a flood risk and needed to be expertly delivered under Environment Agency permits.

Due to the sensitive nature of the works, an appointed specialist consultant was on hand to carry out regular monitoring, ensure compliance with the permits and provide advice where needed. Overseen by Cawarden Directors, Oliver and Samuel Crooks, the phasing of the work meant that areas had to be completed and handed back to the client so that the construction contractors could move in behind. With Cawarden's technical ingenuity, expertise and experience, we were prepared to navigate the challenges and mitigate risk, in turn, delivering certainty for the client and the future housing development whilst securing the long-term future of Cecilly Brook.

Scope of works to restore and prepare the former JCB site for housing construction

- Removal of all hard standings, slabs, foundations and soils across the former JCB site
- Removal of all in-channel structures (retaining walls) and contaminated soils
- Design and installation of temporary scaffolding and storage in the flood plain to facilitate the removal of two bridges that cross the waterway
- Bank repairs to facilitate the new development and restoration works
- Importation of new soils and compact to specified levels across the site.
- Crush all hardcore to 6f2 and stockpile on-site Through the design and development of detailed Risk Assessments and Method Statements, Cawarden's solutions ensured the safe and successful delivery of the works. Protecting Cecilly Brook from the impact of the works and further degradation:

- Design and implementation of waterway protection including a flume to temporarily dewater the work area whilst maintaining water flow
- Temporary frame dam and a system to deflect material away from entering the bed
- Installation of silt barriers • Management of flood risk under Environment Agency permit
- Liaise with specialists and carry out regular monitoring of the dewatered area
- Temporary removal of fish to receptor area Restoring the ecological integrity of Cecilly Brook: Carry out and deliver a full restoration of Cecilly Brook so that the local wildlife and habitats could flourish and the local community could enjoy it for years to come.
- Deal with contaminants (including asbestos) and invasive plants
- Removal of all rubbish and fly-tipping
- Rehabilitation of wildflower meadows by planting seed mixes in consultation with experts to ensure the right habitats created
- Bank re-profiling and netting to provide stability
- Reinstate waterflow Waterway protection:

To prevent further contamination and impact on the local wildlife, we ensured the brook was suitably protected to ensure the watercourse and the existing wildlife did not suffer from any further developmental impact. A 5m wide temporary frame dam and 90m long PVC flume pipe were installed prior to the works commencing to dewater the work section.

The installation of the dam for an eight-week period helped the current watercourse to flow through a large pipe through the work area rather than along the current bed. Dewatering the bed in this way allowed the works to be safely carried out without debris falling into the watercourse. It also removed the risk of the water levels changing throughout.

The flow rates were calculated to ensure the dam installation was to the right capacity. As additional protection, an innovative dam protection system was designed and fabricated in-house to deflect demolition material from entering the water bed. We were then able to remove all in-channel structures (retaining walls) and re-profile the bank whilst using the flood plain for temporary storage.

The Environment Agency was satisfied that we could carry out our the activities under the permits, without increasing flood risk or harming land drainage or the environment. Keeping fish safe The existing population of fish within the brook were temporarily moved to allow the flumes to be installed. The process to remove the fish involved humane techniques to transfer the fish to a suitable receptor pond outside of the works area to prevent any harm from coming to them.

BRIDGE WORKS

A scaffolding structure was constructed and secured to the underside of each concrete and steel bridge deck, this ensured that materials could not drop into the brook during the mechanical demolition of the

bridges. The scaffolding arrangement supported itself so it did not have to sit on the bed of the brook.

Ladder beams also went under the bridge main deck to not interrupt the flow of the water. Monitoring Water and air quality were checked with background monitoring. This was important to ensure our methodology was being delivered as intended without causing contaminated water runoff or airborne fibres.

VALUE FOR MONEY

The cost to deliver the brook protection and restoration works was £185,000, funded by the developer. Cawarden's experience with similar projects and pulling together team members and specialists from a background in demolition, remediation and groundworks meant that the client only needed to deal with one delivery partner.

The alternative of multiple trades on-site would have been likely to increase costs and extend the programme of works for the client. The newly restored brook is accessible to the local population and new home occupants.





WE'RE COMMITTED TO BEING GREEN

From humble beginnings in 1986, Cawarden has always put reclamation, reuse, and recycling at the core of its operations, harvesting materials from demolition projects away from landfill and donating items to the community.

The commitment we have to being green continues to drive us to seek new opportunities to support the transition to a low-carbon economy and a more sustainable future.

It's an approach that has been recognised with a number of prestigious awards.

MORE INFO



cawarden.com



CBRE THREE SNOWHILL

THREE SNOWHILL

- A - Three Snowhill to be a member and ambassador for an organisation that supports and promotes green initiatives to help combat climate change.
- B - Three Snowhill to plant trees to help fight climate change and help the environment.
- C - Host events at Three Snowhill to create and promote awareness of climate change. To encourage tenants and users of the building to be more environmentally sustainable.
- D - Invest in innovation that will aid planning, support, and track sustainability initiatives.
- E - To sustainably procure utilities for Three Snowhill.
- F - Invest in innovation to monitor energy consumption and reduce the energy requirements for Three Snowhill.
- G - To engage with the local community to promote environmental and sustainable awareness.
- H - To achieve zero landfill waste disposal. To invest in innovation to help depose waste effectively and reduce carbon emissions.
- I - To use void roof space to grow plants and



vegetables. To offset carbon emissions and contribute to the local community.

- Green apple Environmental Award 2021 - Silver and Bronze winner for 2021
- Green apple Beautiful Building Award 2021 - Gold winner for regeneration projects - Silver for the Urban commercial category
- Regional Winners for the BCO awards
- BREEEAM Excellent

Three Snowhill is the largest speculatively built office development outside London, with 420,000 sq ft of lettable space. Its delivery marks the completion of the Snowhill Estate. 1m sq ft of office space has been delivered on the 4-acre estate, along with associated public realm and infrastructure, including the extension of the tram from Snowhill Station across the city, and direct pedestrian access to the Jewellery Quarter, Gun Quarter and Snowhill Station.

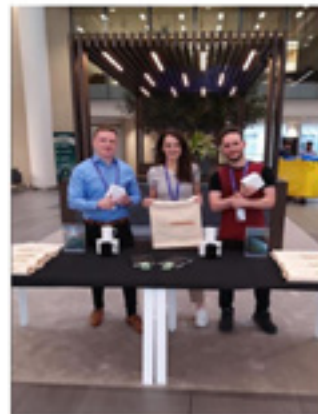
The estate has regenerated a redundant site, extending the city's business district to the north, with Three Snowhill providing a landmark building at this new city gateway. Three Snowhill is a building of exceptional quality, surpassing even One and Two Snowhill, both former BCO award winners.

Two-thirds of the building (283,000 sq ft) was let to BT in January 2020, on a 20-year lease. This is the largest ever letting in a single building on record for Birmingham.



Creating awareness – Reduce, Reuse and Recycle plastic Event

- We had a zero plastic day event at Three Snowhill in April 2022. We promoted the need to reduce, reuse and recycle plastic.
- We issued to visitors and tenants in the building Tote bags, instead of using plastic bags.



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[illegible]

CBRE - TOWER PLACE

TOWER PLACE - WASTE MANAGEMENT

Tower Place management team has been working with incumbent waste management and occupier's FM teams to bring about large increases in the site's recycling rate and overall sustainability. Tower Place started making further improvements in 2021, including completely phasing out the use of plastic products and black bin liners but there were still significant enhancements to be made,

Through our waste management meetings and audits, we've found efficient and more sustainable ways to repurpose food and clothes that enter our building. You can't predict the future, but over at Tower Place, we do everything possible to prepare for it. As we strive to build a more sustainable future, the circular economy may offer an important piece of the puzzle. 2022 has seen Tower Place's recycling

Tower Place houses 10 tenants in total, with 5 of these being restaurants. To improve the site's waste management, it was, therefore, necessary to focus on correctly streaming all waste. After further auditing and identifying the improvement area, it was decided to focus on adding extra waste stream to collect all textile waste produced by tenants, install the food digester to better manage the food waste and replace the all cleaning products used by the site cleaning team with the chemical free cleaning products. In a circular economy, resources are used and reused in a closed-loop, rather than being extracted, used, and then discarded.

This approach can help minimise waste, protect the environment, and ensure that resources are used efficiently. With Tower Place built off the principles of a circular economy, it was obvious to our team that these foundations would be essential in our constant pursuit of a more environmentally free structure.



rates rise by an impressive 14.9% compare to previous years.

With a pandemic and national lockdown separating over two years meaning managing less waste meant we had to be proactive in our preparation. New employees are joining the team, Bywaters re-trains all staff members ensuring all new hires get the same training as the more experienced staff. A circular economy is not restricted to physical resources.

At Tower Place, we've created a culture that can sustain itself, with staff confident in knowing there's always somebody next to them with enough training to answer the questions they have on waste management. Dealing with an unprecedented rise in people using our building, our impressive recycling rate of 72.5% in June 2022 indicates how successful our approach to educating Tower Place staff and FM teams has been.

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Local Reuse, Global Impacts

Every time someone passes on clothes in the UK to TRAIID, it funds work to end exploitation in the supply chains making our clothes. We support projects and partners every year to improve conditions in the fashion industry from garment factories in Bangladesh to cotton fields in Benin. TRAIID believes that child and bonded labour, dangerous working conditions and environmental catastrophe have no place in fashion.

Environmentally, joining up local and global problems, actions and solutions is also critical. The fashion industry is the fourth most polluting sector in the world and responsible for producing 10% of global carbon emissions, significantly contributing to the climate crisis.

The funds TRAIID raises by collecting, reusing and reselling clothes, is used to create positive change for the people and places growing, spinning, weaving, dyeing and sewing our clothes. For example our textile banks, home collections and charity shops have helped to:

- Train over 10,000 cotton farmers in Benin, Ethiopia and India to grow organic improving health, incomes and soil
- Increase organic cotton production in Benin and today, 83.5% of organic cotton in Benin is grown by TRAIID funded farmers
- Provide quality care, nutrition and education for over 1,000 very vulnerable children of garment working mothers in Dhaka, Bangladesh.
- Provide nearly 75,000 garment workers in Cambodia with free legal support to claim owed wages
- Raise awareness and implement legal proceedings against child and bonded labour practices in Southern India, particularly impacting girls



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More than 60% of households in the UK confess to having unwanted clothes stored at home, with over 336,000 tonnes of clothes ending up in residual waste rather than being recycled. To create a more efficient circular economy at Tower Place, we added TRAIID bins. With 10 number of businesses in our building and an average of 4000 employees, it was clear there was an opportunity for us to find a home for clothes that may have been wasted in other circumstances.

The recent addition of TRAIID, a charity that works to stop clothes from being thrown away by collecting and recycling them instead, accurately represents our approach to creating a circular economy through all possible means. As part of their broader circular economy initiatives, TRAIID sells recycled clothes to

raise money for other charities and initiatives. Over the last five years, we have enlisted the help of Bio Collectors to dispose of food waste.

Bio Collectors transform food waste into electricity that powers London's Grid. To reduce carbon emissions, Bio Collectors also power their cars with fuel made from waste. This process not only reduces Tower Place's carbon footprint but also provides a renewable energy source for London. In addition, by using food waste to power their cars, Bio Collectors are helping reduce the city's dependence on fossil fuels.

However, we at Tower Place have built a culture of never standing still. In line with our goal of reducing carbon emissions, we have recently taken steps to upgrade from Bio Collectors to ORCA, with a company-wide demonstration of the leading food waste machinery taking place during our recent Waste Awareness Day.

The machine imitates the process of human digestion, turning food waste into a liquid that can be disposed of without vehicle movement. With food turned into a sewage-suitable-slurry in ORCA

machines, no collection vehicles will have to be used to collect food waste from Tower Place sites again, solidifying our status as a building governed by a circular economy.

At Tower Place, we are committed to reducing vehicle movement and emissions, to minimise our environmental impact. As part of this goal, we have changed our waste collection schedule from weekly to fortnightly. We have also increased the ram pressure of our pods to ensure that more waste is consumed before the need for any vehicle collection.

In addition, we have installed telematics to send notifications when waste is filled so that it is only picked up when needed. By taking these steps, we are confident that we can achieve our goal of reducing vehicle movements and making our operations more sustainable. Tower Place has carried out a complete overhaul of its onsite sustainability practices.

This has yielded impressive results since May 2021 across a variety of key areas and shows recycling rate increase by 14.9%. Tower Place management team constantly working with occupiers to improve onsite sustainability practices. This has helped them achieve positive results since October 2018 across a variety of key areas.

To achieve these results, we carried out in-depth audits and one to one meetings with occupiers to ensure that bins were correctly dispersed throughout the building, all bins are labelled with correct signs, office staff are depositing the waste into the correct bins and cleaning teams are segregating the waste properly in the loading bay area.

From 2016 to 2018, Tower Place's waste was being sorted into 3 streams. The percentage of waste being recycled was 25% during this period. From 2018 the number of waste streams being collected rose to 7, with Food, Cardboard, Coffee, and WEEE being added.

The percentage of waste being recycled between 2018 and 2022 rose to 80.1% representing a 55.1% recycling rate increase, in addition to streaming site' waste for more efficient recycling. In addition to this, all cutlery, disposable plates, and vending machine coffee cups are now made from Vegware meaning they are disposed of in separate waste bins and sent for anaerobic respiration.

By implementing biodegradable Vegware for all single-use cutlery, we have been able to eliminate 250,000 plastic items from the site's waste, and our campaigns to reduce plastic straws and plastic cups onsite have already had a clear impact, with further improvements planned for the years ahead.



CHANG JUNG CHRISTIAN UNIVERSITY LOCALLY ENGAGED; GLOBALLY CONNECTED

CJCU is situated near the Erren River, and ecological conservation and environmental protection are major components of CJCU's education. To realize its social responsibility goals, CJCU adopted the four development principle of ecological justice, care for the disadvantaged, common good with the community, and communication with stakeholders. To become a model of "International GREEN and Sustainable University," CJCU expanded its ecological justice principle and redefined the concept of "GREEN" to encompass "Globally connection," "social responsibility," "locally Engagement," "Ecological conservation," and "Natural education."

These concepts are incorporated into CJCU's administration, teaching, curricula, and research in line with the Sustainable Development Goals of

the United Nations. Establishing these universal values presents great strides toward CJCU's goal of becoming an Exemplary University with Sustainability Development.

CJCU has extensive experience working on environmental protection projects, many of which have earned it numerous accolades. In 2002, the River Conservation Center was established with assistance from surrounding communities and external organizations, under the aim of improving the ecological environment around the Erren River, which result in its river pollution length being reduced from 100% to 17.1%. To implement energy-saving, carbon-reducing, and environment-friendly practices, we are actively engaged in green procurement; so, CJCU is a fourth-time Green Purchasing Awards recipient (2018~2021). In 2021.



The unit electricity consumption of EUI in 2021 is 6.26 EUI less than the previous year; the unit water consumption in 2021 is 43.899 metric tons less than the previous year. CJCU's contribution to energy conservation has also been recognized by external organizations. For example, On the 2021 UI GreenMetric World University rankings, CJCU ranked 96rd among universities worldwide. Besides, CJCU received the Green Leadership Category for the 2021 Asia Responsible Enterprise Awards, organized by BMI Business Intelligence Pte Ltd.

We also received the Silver Awards and the Green Action Award for the Second National Corporate Environmental Protection Awards, organized by Environmental Protection Administration Executive Yuan, R.O.C. (Taiwan).

CJCU is a Christian university established in the name of Jesus Christ. Regarding the school's governance, CJCU upholds the core values of

“worshipping God, loving human beings, cherishing things, and giving full devotion” and is committed to the mission of “holistic education and sustainable Chang Jung.” Our objectives are to “locally engaged; globally connected, an exemplary university with sustainability development.”

To achieve sustainable development of environment, society, and governance. CJCU's sustainable development goals are the establishment of a green sustainable campus and the fulfillment of its university social responsibility and the university's overall goal for university development is the creation of a socially safe, healthy, and sustainable Christian university; these goals contribute to the realization of CJCU's mission of achieving “Chang Jung sustainability.”

The university is focused on creating an environmentally-friendly green campus with natural and low-carbon building materials and, thereby,

Highlights of the Year Performance Summary



facilitating the sustainable development of a low-pollution learning environment. CJCUC's societal sub-goal is to create social enterprise clusters and add value to social responsibility characteristics. CJCUC teaches not only academic subjects but also how cultivates in its students' an awareness of social issues and a sense of responsibility.

The university is guided by the core value of developing sustainable social enterprises and seeks to promote projects centered on innovative thinking, entrepreneurship incubation, and enterprise guidance and local creativity. CJCUC incorporates the three-cycle innovation concept into curricula, programs, teaching, and activities, to share social enterprise development-related knowledge with students, faculties, and staff; promote interdisciplinary collaboration; and further the sustainable development of social enterprises in the future. CJCUC has extensive experience working on environmental protection projects, many of which have earned it numerous accolades.

In 2016, the International College of Practice and Education for the Environment was established in cooperation with the International Jane Institute, to propagate the spirit of Roots & Shoots. In 2017, CJCUC established the Yunus Social Business Center, which is the first of its kind to be established in southern Taiwan, and it founded the first social enterprise corporation, the Ark Company. Ark Café promotes the concept of sustainable economy, plastic and carbon reduction, and refuses to use disposable cups in the store, and has saved 30,421 disposable cups by 2021. Since the adoption of the electronic document signature system in May 2017, the use of paper documents has been significantly reduced, with the number of paper documents in



2021 (1,659) decreasing by 18,647 compared to the number of paper documents in 2017 (20,306), representing a 90.9% reduction in the use of paper documents.

In September 2020, CJCUC complete the construction of Sunlight Tubular System in the gymnasium. To incorporate with the government's energy efficiency and emission reduction program, CJCUC introduced the "Sunlight Tubular System" (STS), to replace the original 48 metal halide lamps and made the gymnasium the first one in Taiwan that meets international standard. Each year, 20,832kWh of electricity consumption will be saved with an overall energy saving up to 65.96%, and has been approved by the energy conservation performance guarantee project subsidy of the Ministry of Economic Affairs in 2020.

In addition to, CJCUC cooperates with the Environmental Protection Administration of the Executive Yuan to promote the "Indoor Air Quality Autonomy Labeling", which requires testing every two years for carbon dioxide, formaldehyde, bacteria and PM10. As a result of our efforts to promote environmental protection and energy conservation,

Mid-and Long Term Development Plan for the Eight Goals of University Development



we will reduce our greenhouse gas emissions by 556.98 metric tons in 2021 compared to the previous year, with an annual reduction rate of -6.46%. In 2015, CJCUC received the Tainan City Award of Excellence in Environmental Education Promotion; in 2016, it was honored with the Award of Excellence of the National Environmental Education Award (School Category); in 2018, it received the Golden Award of the Taiwan Corporate Sustainability Awards (Non-Profit Organization Category), and the National Sustainable Development Award (Education Category). In 2020, CJCUC won Silver and Green Action Awards at the 2nd National Enterprise Environmental Protection Award and first prize in the Ecological Co-prosperity Category at the Global Views Monthly USR Awards. CJCUC is a fourth-time Green Purchasing Awards recipients

(2018~2021). Also in 2020, it won the Best Dynamic Practice Award of USR EXPO by the Ministry of Education.

On the 2021 UI GreenMetric World University rankings, CJCUC advanced 37 places rank 96rd among universities worldwide. In 2021, CJCUC received the Green Leadership Category for 2021Asia Responsible Enterprise Awards; also, we won the Silver Awards and the Green Action Award for The Second National Corporate

Environmental Protection Awards, organized by Environmental Protection Administration Executive Yuan, R.O.C. (Taiwan).

CJCUC has also actively encouraged participation in international events, such as the 2019 UN World Environment Day, during which the university won the World Environment Day Hero Certificate for its contributions to activities relating to the theme of "Defeating Air Pollution."

In addition, CJCUC publishes annual Campus Sustainability Reports, and has won the Taiwan Corporate Sustainability Award from 2016 to 2021, these achievements represent the recognition that CJCUC has earned for its commitment to management and social responsibility.



The Commencement Ceremony for International Certification of Safe Campus

CHELMSLEYWOOD SHOPPING CENTRE

WASTE AND RECYCLING AT CHELMSLEYWOOD

The aim of Chelmsley Wood was to improve and develop innovative ways to manage waste and ensure the most cost effective and efficient solutions are implemented. The centre's priorities were;

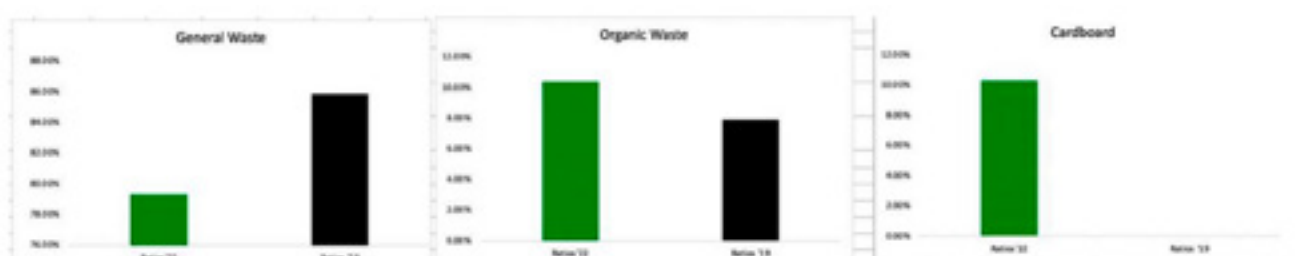
1. To ensure that zero waste was going into landfill by segregating as much waste in-house as possible and choosing environmentally friendly treatment options for all grades
2. To improve recycling at the site which would automatically reduce the costs in association with segregating waste at the source as well as cost of disposal by diverting these grades from general waste and energy recovery treatment.
3. Increase revenue by introducing a cardboard grade and engaging in dialogue with a reliable and reputable Service Provider regarding rebate rates
4. To continuously improve recycling rates in line with realistic medium and long term targets

In order to achieve our project aims, We aimed to firstly examine our own existing culture as well as that of the tenants and employees. Full stakeholder engagement in the planning and implementation was imperative to the project's success.

Since commencing the project we have the following achievements;

1. Ongoing use of the Don't Waste system to achieve a position of accurate and transparent data, track every load leaving site from compliance perspective and improve reporting to site and owner.
2. Zero waste to Landfill - Since project commencement no waste has been sent to Landfill.
3. 64 tonnes reduction in waste leaving site annually when comparing the 2019 to 2022
4. 11.92 Tons of Organic was segregated, diverted from general waste and waste to energy treatment and sent to anaerobic digestion.
5. Implementation of in Cardboard grade which has improved recycling rates as well as provided an income in rebates
6. Lifts of the general waste compactor have been reduced by 6 lifts per year achieving and annual saving of over £2,000 in addition to the reduction in emissions.
7. Environmental waste benefits achieved only through the changes implemented as quantified through the Don't Waste Management system

The project involved Implementing waste management practices, systems and initiatives that





would make substantial improvements to the centres environmental footprint in a cost effective and sustainable manner. We did this by:

1. Appointing an Waste Champion to drive the initiative.

The manager would be responsible for project implementation and for ensuring continuous improvements for the future.

2. Analysing current waste streams in order to establish the following:
 - 2.1. We analysed whether the best waste hierarchy options were being followed in terms of treatment choices and destinations and if improvements could be made which would lead to more favourable environmental outcomes.

THE ANALYSIS

This analysis revealed that improvements to two areas would lead to major environmental improvements:

- General Waste – The largest category in terms of waste volume, general waste was going straight to incineration for energy recovery. With the exception of cardboard, which was extracted, a large volume of other grades were not efficiently recovered and simply incinerated, resulting in the loss of raw materials, natural resources, energy and other embodied carbon offsets. There has been an emphasis to drive the separation of food to ensure the general waste is drier and able to be separated at the Mixed Recycling facility.
- A mixed recycling facility with excellent recycling outputs was chosen to support the strategy of achieving a higher recycling rate.

THE RESULTS

The successful implementation of the key strategies yielded massively impressive results with recycling improving from 11.89% to over 70%.

3. Proactively working waste management partners to facilitate the strategy

The centre took a more proactive approach in working with our management, staff, tenants and supplier partners to implement this totally new waste management strategy on site.

- The appropriate colour coded waste receptacles to separate the existing and new waste streams correctly per identified strategy were provided.
 - New grade destinations and treatment protocols were actioned.
4. We implemented an ongoing education to employees and tenants who will be handling waste on a daily basis, by introducing the following:
- Training programmes with clear and easy to follow instructions on how waste segregation is to be conducted were implemented. Engagement and education on the new waste strategy was and still is critical to project success.
 - Posters and signage were developed
5. Ongoing use of the Don't Waste management system.

We implemented the Don't Waste System as part of our sustainability campaign. The system provides independent, integrated and optimized waste management control systems and services. This system is designed and established to check, record, regulate, supervise, authenticate, report and (if necessary) restrict on-site waste activities.

THE RESULTS

- All waste transactions are now generated and confirmed via the system so that all control requirements can be met.
- All waste duty of care aspects are now controlled via the system for every load leaving site. Alert functionality warns for any imminent

document expiry and audit screens prompt for all paperwork outstanding to close of data on all transactions.

- Data is tracked and recorded to actual treatment destinations and classified per the outputs.
- Dashboards allow for monitoring of real data and facilitate the management of and focus on areas targeted for improvement.
- Environmental benefits of the data (per grade class and treatment options) are quantified and displayed as an incentive and to align efforts to maximum environmental benefit. The environmental and cost savings to date have been significant.

WHY DID YOU DO IT?

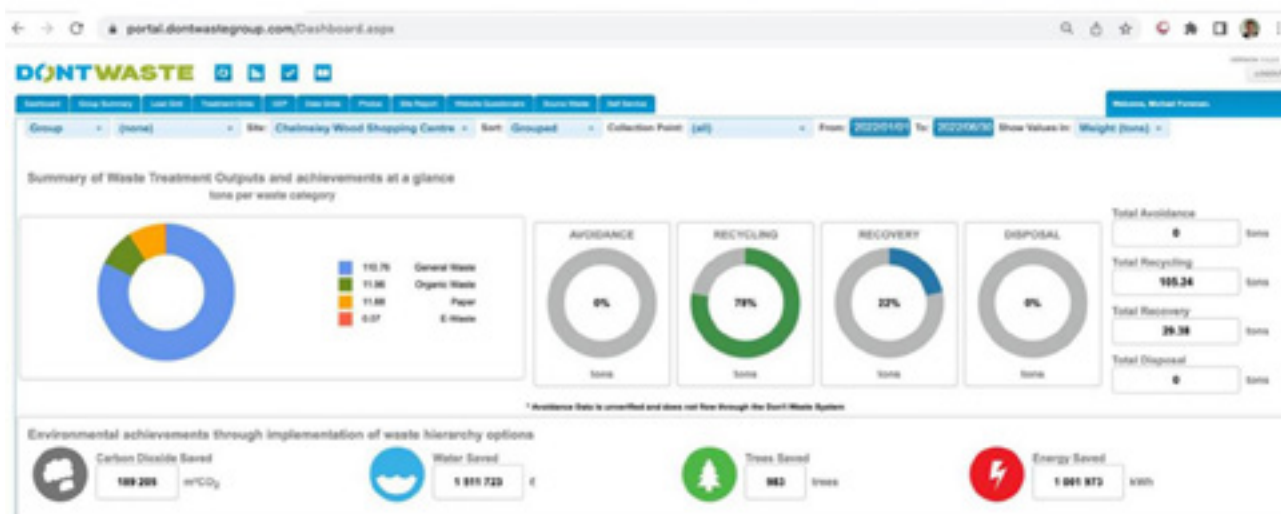
The Centre felt that our previous waste management strategy was not proactive in delivering or implementing the centre's sustainability and environmental visions. Chelmsley Wood took a proactive decision to empower the waste management team and invest in a system, toolkit and infrastructure to fulfil our vision of continual and sustainable improvement.

WHAT DID IT COST AND WHERE DID THE MONEY COME FROM?

The project has not had any costs. In fact there has been a significant reduction in cost in addition to rebates for cardboard improving.

IF QUANTIFIABLE, WHAT DID THE PROJECT ACHIEVE IN TERMS OF SUSTAINABLE DEVELOPMENT, ECONOMY, ENVIRONMENT AND/OR EQUITY?

The costs have been negligible due to substantial savings and cardboard rebates.



WHO AND WHAT BENEFITED?

The Centre Management Team, Owners and the environment

LONGER TERM BENEFITS?

With net zero targets being set by the Centre Owners and Managers and ESG being on the top of most stakeholders agenda's, all the initiatives contribute to these longer term goals. Much effort has been made in the recovery post COVID to return to normalised levels and it is now our intention to push our innovation in this area to the next level.

WAS THERE ANYTHING INNOVATIVE ABOUT THE PROJECT?

The use of our unique systems, data intelligence and technology to make informed decisions based on fact

CAN OTHER ORGANISATIONS/ COMMUNITIES BENEFIT FROM IMPLEMENTING YOUR METHODS?

Yes

WHAT DID YOU LEARN FROM THE PROJECT AND ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

Positive feedback from the staff and tenants shopping centre has been received as the centre is not only achieving its own environmental goals, but also helping the individual organisations to adhere to and achieve their own environmental objectives and policies.

Additional initiatives are being addressed as we speak, the culture developed is one of continuous improvement. The Don't Waste system and service provides continuous information and reports to keep goals on track and to highlight additional areas of improvement.

Current ongoing additional improvement projects

All treatment outputs off site are monitored to ensure we are aware where all waste is going. We are also striving to generate a new culture for positive environmental impact and are excited and dedicated to make this a reality and become a flagship for other shopping centres.

CHURCHILL SQUARE SHOPPING CENTRE TACKLING FOOD WASTE

As part of our strategy to further reduce our waste output, Churchill Square became the first UK shopping centre to partner with OLIO the food sharing scheme. Working closely with our food outlets and those retailers who sell food which can no longer be retailed, we make it available to the local community for free via the food sharing app.

This collaboration allows us to tackle food waste, which as highlighted at COP26; the food sector is responsible for more than 30% of total climate emissions. Every day a Food Waste Hero collects and lists items from Churchill Square's food outlets, and stores which stock perishable items, making them available to people in the local area for free.



Following the pandemic, and most recently the cost-of-living crisis, OLIO has seen app usage grow fivefold with half of all food added to the app requested within half an hour of posting. Our core project aim was to reduce our waste output whilst continuing to support the community, bringing our tenants and community together, working towards one sustainable goal.





Launched only this year (2022) in January, Churchill Square started with five tenants Costa, Top Dog, Churros, Millie's Cookies and Auntie Anne's and we continue to work with our tenants and their head offices to have the appropriate agreements in place. Most recently we have expanded beyond our F&B outlets to target retailers who also sell food items, with our most recent agreement with Flying Tiger. In the first 6 months we have redistributed over 1,602 meals feeding 905 families, ensuring over 685kg of food went to the community.

This in turn has saved 500,000 litres of water, avoided 3,000kgs of CO2 emissions and saved the equivalent of 136 trees. Each month we receive impact statements from OLIO measuring the food we donate and look forward to seeing these numbers continue to grow. In the wake of the pandemic and cost of living crisis there is a reported rise in loneliness and food poverty. This partnership allows Churchill Square to connect directly with our local community, redistributing surplus food whilst facilitating real world doorstep interactions.

A survey conducted by Brighton & Hove Food Partnership in late 2020 found that 76% of respondents either reduced or skipped meals

because they cannot afford to buy food. 22% of those struggling to afford food are in full time employment, and households with children had an average weekly food budget of just £8.53 per person. In early 2020 before the pandemic gripped the world, Churchill Square had begun discussions with OLIO in an effort to become a zero-food waste business, redistributing the surplus food from our retailers to the local community.

Our goal was to further reduce Churchill Square's waste output in a sustainable way that would encourage and support our own and our retailer brand's ESG objectives. Due to the nature of the pandemic and subsequent lockdowns discussions with retailers and their head offices were placed on pause until stores could reopen. In Mid 2021 discussions were picked up once again in order to engage with our brand partners. Following discussions with abrdn, Churchill Square's landlord, it was agreed the cost of £10 a day (£3,650 a year) which would cover at least ten tenants (£1 per tenant thereafter) would come from the Centre's waste management budget.

The £10 OLIO cost covers the Food Waste Heroes (FWH) training, account management and monthly

impact reports we received following our collections. In order to launch the partnership, we had to achieve the following;

- An contract in place between Churchill Square and OLIO to secure the partnership and monthly impact reports for the centre
- Individual donor agreements between OLIO and participating retailers
- At least four signed donor agreements to launch the 4-week pilot scheme.

We faced some initial challenges with retail brands claiming they had zero waste, or were already committed to a food sharing scheme (i.e Too Good to Go).

Through consistent retailer liaison meetings both in person and online we assured brands that OLIO can work alongside any and all initiatives and doesn't require a retailer to have surplus food every day, however on a day they do, OLIO is there to ensure the food can be redistributed and not go to waste.

Operationally, there is very little disruption to a tenant. Every day 30 mins before the Centre closes

a Food Waste Hero (FWH) will visit our participating stores to ask if they have any additional food to collect. The FWH will collect all food items, take them home and list on the OLIO app for the community to select. Following the pandemic, and most recently the cost-of-living crisis, OLIO has seen app usage grow fivefold with half of all food added to the app requested within half an hour of posting

We launched our 4 week pilot scheme on Monday 17th January 2022, with Costa, Top Dog, Churros, Millie's Cookies and Auntie Anne's. In those first two weeks, 229 meals were provided to 103 families, saving 96kg of food. 415kg of CO2 emissions were avoided, 1,400 car miles taken off the road, and 71.9k litres of water saved. Additionally, following the announcement of our partnership OLIO saw app usage grow with an additional 527 sign ups in the first two weeks.

As of 30 June 2022, just over five and a half months into our partnership, we have;

- Saved 500,000 litres of water
- Removed 10,000 car miles from the road
- Avoided 3,000kgs of CO2 emissions

RETAILER FEEDBACK

"Operationally this has been so easy for us, the Food Waste Hero comes the same time every day and we simply hand over any surplus food we have remaining, and it feels great to know it is going to the community instead of to waste."

MILLIE'S COOKIES

"For us it was a no brainer, we might not have left over food/ ingredients every day, but when we do it is great to know that it isn't going to waste"

BOOST JUICE

CHURCHILL SQUARE

OLIO THE FOOD SHARING APP

- Saved the equivalent of 136 trees
- Distributed 1,602 meals to the local community
- 905 families fed
- 685kg food redistributed

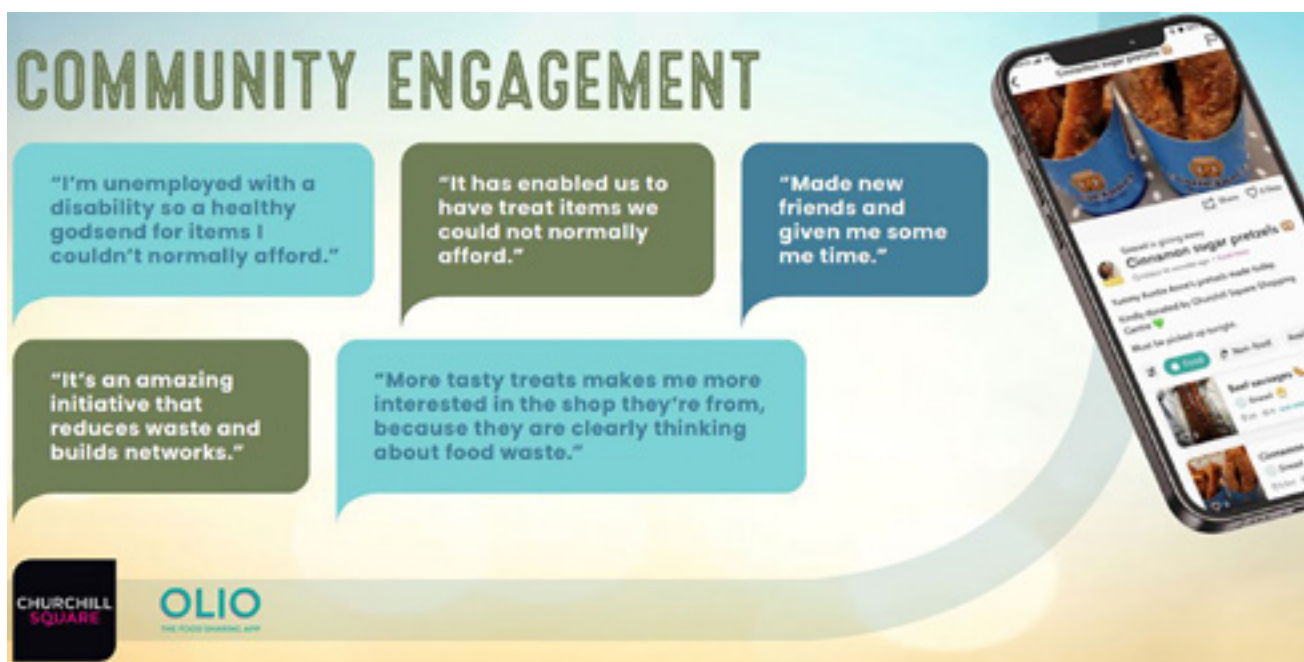
BBC Sussex covered the launch of our Partnership with OLIO, as did local paper The Argus. In addition to this, Tessa Clarke, Co-Founder and CEO of OLIO shared a post announcing our launch on LinkedIn. We look forward to signing on more of our tenants into this partnership, to give back to our wider community in their time of need.

Our plans to develop and grow the partnership include preparing case studies with existing brands

and their head office teams to share just how easy the partnership can be. In addition to this sharing the impact reports so that head office property teams can see the additional reports received and how this can aid in their own ESG objectives.

If all Shopping Centres and retailers signed up to this initiative and to OLIO we could save so much unnecessary waste, and redistribute to those who need it most. OLIO originally launched as a food sharing app and has since expanded into a wider marketplace for unused goods.

Whilst our focus currently is on growing our tenants engaged with the surplus food, Churchill Square is only just getting started and is excited about the future this partnership could bring.



COMMERCIAL CORPORATE SERVICES LIMITED SUSTAINABILITY AT COMMERCIAL

Sustainability has been at the core of Commercial since 2006, when Simone Hindmarch, our co-founder and managing director, attended a presentation by Al Gore of his film An Inconvenient Truth. After, Simone convinced the board that Commercial needed to take the threat of climate change seriously and do everything possible to minimise the impact of our business on the planet.

We believe we must drive transformative change, both within our organisation, and externally to our extensive customer base.

At present, on a global scale, we are consuming resources at a rate that far exceeds the capacity of the planet to replenish them. Our aim was to reduce pressure on Earth's resources by challenging

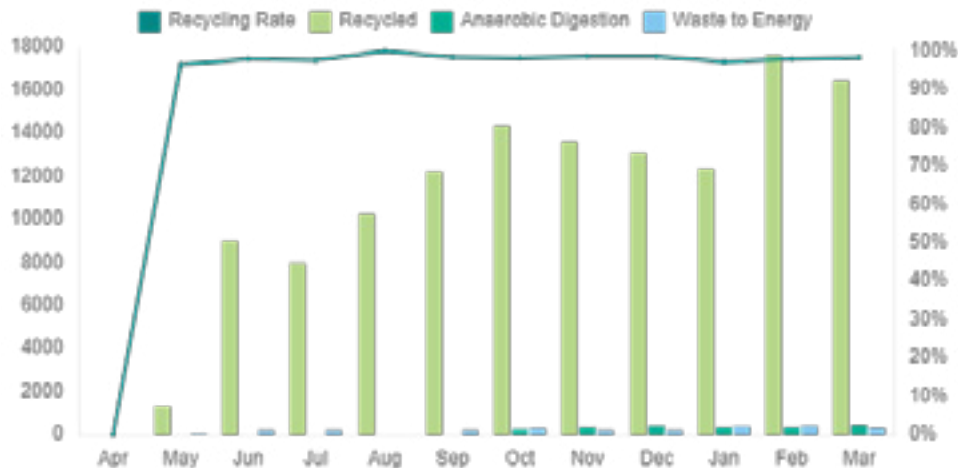
OUR AFFILIATIONS



SCIENCE
BASED
TARGETS



Material collected (kgs) FROM APRIL 2021 TO MARCH 2022



Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
0	1,325	9,000	7,975	10,275	12,200	14,350	13,625	13,075	12,350	17,625	16,475	128,275
0	0	0	0	0	0	240	320	400	320	320	445	2,045
0	50	200	200	0	200	275	200	200	375	400	300	2,400
0%	96%	98%	98%	100%	98%	98%	99%	99%	97%	98%	98%	98%

Material recycled

FROM APRIL 2021 TO MARCH 2022

CARDBOARD

75 kg

COFFEE
GROUNDS

0 kg

FOOD
RECYCLING

2,045 kg

GENERAL WASTE

225 kg

GLASS

0 kg

JUNK
REMOVAL

16,875 kg

MIXED
RECYCLING

17,550 kg

PAPER

95,650 kg

STATIONERY AND
TEXTILES

0 kg

WEEE AND
TONER

300 kg

Key statistics

	THIS MONTH	PAST 12 MONTHS
TREES SAVED:	217	1,826
CO2 TONNES SAVED:	20	170
KWH ENERGY PRODUCED:	323	1,930
RECYCLING RATE:	98%	98%

For methodology on calculating savings please see www.thefirstmile.co.uk

contemporary buying culture, driven by impulse and with little consideration for environmental impact. We also wanted to combat the 'throwaway' culture, which perhaps characterises our society and significantly increases the burden placed on finite resources.

So, we committed to reduce the amount of waste, first in our own operations and then for our customers too. We are also determined to accelerate a move away from using finite resources to produce energy and towards a sustainable system that prioritises the use of renewable energy.

Since we started actively promoting existing items as Products with Purpose in 2020, we have seen an increase in their sales of 54%, leading to revenues of £9.46million.

Each sale delivers a direct and positive social, ethical, or environmental impact: For example,

sales of Cool Earth Coffee help protect 150,000 acres of Amazonian Rainforest. Currently, 44 of our customers are using our First Mile service and these partnerships have had significant environmental benefits.

Between April 2021-March 2022, more than 128 tonnes of material were collected from our customers, preventing 170 tonnes of carbon dioxide from entering the atmosphere. It has also meant that 1,826 trees have been saved, due to 956 tonnes of paper being recycled, and 1930kWh of electricity were produced from First Mile's waste to electricity generation programme.

Commercial has long been a champion of renewable energy. In 2012, we installed 180 solar panels at our Cheltenham head office, with a capacity of 48kWp, complemented by 264 solar panels at our London office, capable of producing 80kWp of electricity.

Products with Purpose Information Pie

- ✓ **Environmental**
These products have adopted environmentally-responsible practices
- ✓ **Social**
These products either directly support the Commercial Foundation or are sourced from social enterprises.
- ✓ **Ethical**
These products demonstrate a manufacturer or supplier is meeting international standards for workers' rights.
- ✓ **Recycled**
These products are comprised either fully or in part of material from recycled sources.



Over their lifetime, both systems have produced a combined 759,580kWh. This has saved an estimated 161 tonnes of carbon from being released into the atmosphere.

Sustainability has been at the core of Commercial since 2006, when Simone Hindmarch, our co-founder and managing director, attended a presentation by Al Gore of his film *An Inconvenient Truth*. After, Simone convinced the board that Commercial needed to take the threat of climate change seriously and do everything possible to minimise the impact of our business on the planet.

This was the start of our sustainability journey. We believe we must drive transformative change, both within our organisation, and externally to our extensive customer base. At present, on a global scale, we are consuming resources at a rate that far exceeds the capacity of the planet to replenish them. Our aim was to reduce pressure on Earth's resources by challenging contemporary buying culture, driven by impulse and with little consideration for environmental impact.

We also wanted to combat the 'throwaway' culture, which perhaps characterises our society and significantly increases the burden placed on finite resources. So, we committed to reduce the amount of waste, first in our own operations and then for our customers too. We are also determined to accelerate a move away from using finite resources to produce energy and towards a sustainable system that prioritises the use of renewable energy.

PRODUCTS WITH PURPOSE

We wanted to create a strong argument for change by first providing our customers with a choice and then encouraging more responsible purchasing decisions. We wanted to highlight the range of sustainably sourced, every-day items we stocked without any compromise on price or quality.

So, in 2020, we launched Products with Purpose, a

range that now extends more than 2,800 items, with more being added all the time. Each item within the range creates a positive ethical, environmental or social impact, or is manufactured from recycled materials.

This information is displayed for each item in the range on our purchasing platform, Sprint and highlights how a simple change can help create a significant change, allowing our customers to make an informed choice at the point of sale. Since we started actively promoting existing items as Products with Purpose in 2020, we have seen an increase in their sales of 54%, leading to revenues of £9.46million.

Each sale delivers a direct and positive social, ethical, or environmental impact: For example, sales of Cool Earth Coffee help protect 150,000 acres of Amazonian Rainforest.

We have the ambitious target to achieve 100 % of all sales from the Products with Purpose range by 2028.

WASTE AT COMMERCIAL

We are proud to have been a zero-waste-to-landfill company since 2013. We have processes in place to segregate waste streams so that re-processors can reuse and recycle as much of the waste material as possible:

- In 2018 Commercial HQ produced 50 tonnes of waste and achieved a 90% recycling rate.
- In 2019 Commercial HQ produced 63 tonnes of waste and achieved an 85% recycling rate.

WASTE PARTNERSHIPS

We have partnered with several innovative waste companies to allow our customers to dispose of their waste more responsibly. Terracycle offer a unique closed-loop recycling service for all our customers' stationery waste and pride themselves

on recycling materials that are typically hard to do so, such as crisp packets and cigarette butts.

We supply our customers with our unique 'Zero Waste' boxes which they fill with their used or broken office supplies. These boxes are collected by Terracycle, free of charge, and recycled into items such as garden furniture, ensuring they don't end up in landfill. We also partner with First Mile, which has a zero-to-landfill policy on its waste management.

First Mile will collect waste from our customer sites, sort and recycle as many as 11 standard business waste streams, with anything they are unable to recycle being used to generate energy through incineration. Currently, 44 of our customers are using our First Mile service and these partnerships have had significant environmental benefits.

Between April 2021-March 2022, more than 128 tonnes of material were collected from our customers, preventing 170 tonnes of carbon dioxide from entering the atmosphere. It has also meant that 1,826 trees have been saved, due to 956 tonnes of paper being recycled, and 1930kWh of electricity were produced from First Mile's waste to electricity generation programme.

We also partner with a charity called IT Schools Africa. Used IT equipment is wiped of personal data and donated directly to the charity and sent to schools in either Zambia, Zimbabwe, or Malawi. This ensures that our IT waste is not only re-used, but also directly improves educational outcomes in Africa.

Since 2007, this partnership has meant that more than 2,500 pieces of IT equipment have been donated, benefitting an estimated 38,340 pupils.

GREEN TECHNOLOGY AT COMMERCIAL

Commercial has long been a champion of renewable energy. In 2012, we installed 180 solar panels at our Cheltenham head office, with a capacity of 48kWp, complemented by 264 solar panels at our London office, capable of producing 80kWp of electricity.

Over their lifetime, both systems have produced a combined 759,580kWh. This has saved an estimated 161 tonnes of carbon from being released into the atmosphere.

SUSTAINABILITY CONSULTANCY

We are also keen to look beyond our four walls and support as many of our customers as possible to adopt renewable energy, accelerate their own net zero targets and support the wider societal transition.

While this is a relatively new endeavour for Commercial, coinciding with the recent creation of our Smart Technologies division, we offer a range of products such as solar panels, small wind turbines, infrared heating solutions, greywater recycling solutions, and EV chargers.

We also offer innovative products, such as solar flooring, to ensure our technologies can fit all contexts. All these technologies will support the transition to a more sustainable way of doing business.

DARK SKY ASSOCIATION

DARK SKY® ALQUEVA: BEYOND SUSTAINABILITY



Dark Sky® Alqueva is a stargazing destination with a clear mission, and which incorporates a short, medium and long term sustainable strategy. Dark Sky® Alqueva is a region which covers an extensive area of almost 10.000 square kilometers around the Alqueva Lake. The destination was created in 2007 and, owing to the quality of its night sky, this area has been certified as a Starlight Tourism Destination since 2011. The Dark Sky® route offers a wide range of night-time activities for astronomical observation, with the naked eye or using telescopes. In addition to these activities, complementary experiences can be enjoyed both at night and daytime.

Astrotourism can be a great adventure, and under a protected night sky, many activities can be organized such as stargazing sessions, blind wine tasting, night canoeing, yoga sessions, walks, bird watching, wildlife watching, Dark Sky® Parties, astrophotography workshops and much more. The creation of a tourism offer around a beautiful and protected night sky allows us to extol the feelings that many of us had when we were young and dreamed of being astronauts.

This is very important and our goal is not only to bring back that connection between people and the night sky, but also to reconnect people with the night itself in order to respect it. Dark Sky® is not

only a product, it is above all a concept and a brand destination with two missions: to protect the night sky which means to reach almost zero light pollution and to develop destinations under an integrated sustainable model of development. To move forward with our mission and vision, one of our most recent project is the Dark Sky® Patrol, a group of Dark Sky® Guardians, that are part of the Dark Sky® Alqueva family and visit schools, municipalities and other organizations to spread awareness of our concepts, mission and vision.

To be more effective with the important work of protecting the night sky, Dark Sky® Association created the Dark Sky® Patrol, a group of Dark Sky® Guardians from different backgrounds (geology, astrophotography, cosmology, tourism, history, astrophysicist, etc) responsible to spread our concept, mission and vision. This group visit schools, organizations, municipalities with the objective of raise awareness.

This allow us to reach more people, different audiences and opinion leaders. In these times to be more effective with our communication we need to find new forms to raise awareness, to be heard, and be followed. Our main mission should be easy to achieve but indeed turned to be very difficult to implement. The field work showed us the obstacles

and to move forward we needed to be very innovative and find a new approach. The creation of the Dark Sky® Patrol turned to be a very good option with a wide range of benefits and with the capacity to embrace all what we are as Dark Sky® Association and what we are as dark Sky® Alqueva, a sustainable destination in Portugal. The mission of protecting the night sky promotes the objective of reaching almost zero light pollution. Light pollution has negative impacts on human health, on the environment and ecosystems as well as at an economic level. Portugal, like the European Union, has opted for energy efficiency policies instead of policies to combat light pollution, forgetting the transversal nature of this form of pollution.

There is not a lot of national data to support the daily waste of light but one of the latests scientific studies indicates that Portugal uses four times the intensity of what would be needed. However, the adequacy of the luminaires and the reduction of energy consumption is not very welcomed in areas where part of the population still remembers what it was like to live without electricity. What we considered an improvement in the quality of life at many levels, may

not be accepted as such by the local community. In addition to this, we should add the lack of interest of local public policies in making changes in sectors that may cause loss of votes. Combining all of this and summarizing it, the problem of light pollution by its nature could be a type of pollution more easily solved, but due a combination of issues, it has turned out to be one of the most challenging obstacles. And because of it, we needed to use alternative ways to change mentalities, create empathy with the night sky and show how important is to preserve the night sky as a humankind heritage.

The Dark Sky® Alqueva uses the night sky not only as the main touristic resource but also as a way to encourage the implementation of an integrated

sustainable strategy. Another way to support the protection of the night sky is the use of landscape astrophotography to create empathy towards our effort by understanding what a sky full of stars means and represents. People who have never saw the Milky Way at naked eye will hardly understand what they are missing and how important it is to bring back the night.

The pandemic situation delayed or restrained some actions, but



we didn't stop to work to fulfill our mission. We can inform you that our Network of Destinations in Portugal is being consolidated and that helped us to reach more attention about our work and our way of seeing sustainability. Nowadays, more than 14% of the national territory working under the concept and destination brand Dark Sky® and the concept ATT-Astrotourism®. To be more effective it is important to be a part of the national public strategy for tourism and as a result of our work from the last years, the Network of Dark Sky Destinations in Portugal is included in the National Plan for a More Sustainable Tourism, launched by Tourism of Portugal last month (June 2021). And this has specific actions that are related with the objective of reaching almost zero light pollution but not only as it considers the whole strategy and mission of Dark Sky®.

Since 2018 we have a Light Pollution Plan in place with actions involving different target audiences as the best way to raise awareness of the problem of light pollution. The actions held last year helped us to receive more attention from the authorities who have responsibilities at a territorial management level, and our organization, the Dark Sky® Association, is actively involved in the strategies that refer to our mission: the protection of the night sky. In 2021, we will organize a conference dedicated to the Astrotourism and Sustainability where we will discuss the Night Sky and Heritage, the Night Sky and Astronomy, the Night Sky and Light Pollution

and the Night Sky and Destinations. This event is based in the work we are doing since the last 13 years in this theme, but counts with our 22 years of experience is the development of sustainable strategies in destinations. And while many destinations are facing so many problems and low demand, our territory is going through an increase in demand, showing that the best strategy is the one that leads us to the way of sustainability.

Sustainability is no longer a vague and remote concept with no added value, but something that creates better destinations, that are more adaptable and resilient to rapid and drastic changes, just like the ones we are currently facing. Our Dark Sky® Alqueva, created in 2007, followed since the beginning a clear long term sustainable strategy. And because of that, with the increased importance of sustainability due to this pandemic situation, we notice a more easy perception of what are our objectives and benefits for the region and for the country.

With this new international approach where sustainability got finally its place, we will move forward with the third phase of the Light Pollution Plan where a more broader strategy and tackling more sectors and activities. The consolidation of the 14% of the national territory working under the concept and destination brand Dark Sky®, will be our main priority for our association this and next year.



DEEP BLUE RESTAURANTS Ltd

GREAT BRITISH FISH & CHIPS, SUSTAINABLY SOURCED

REDUCING AND REUSING

Our business strategy started with the most important focus, Reducing or Reusing surplus food. The packaging we give our customers is supplied via sustainable sources; and where possible, is recyclable. Our boxes use 70% recycled content; reducing the need for virgin material in our supply chain. Surplus potatoes are donated to local charities, community kitchens, schools, and care homes.

RECYCLING

Improve recycling from circa 38% to 55%+ to match our Harry Ramsden sites. We needed to implement food waste recycling at all takeaway restaurants (space allowing), and we also needed to address issues with source segregation.

RECOVERY VERSUS LANDFILL

We committed to identifying and mobilising a supply chain capable of delivering zero landfill. Our previous supplier didn't provide information in relation to

landfill diversion, so we had to assume that all general waste was being sent to landfill.

CARBON REDUCTION

Implement a service specification that reduces our carbon footprint rather than relying on carbon offset schemes to support our Net-Zero journey.

CSR COMMITMENTS

As part of our commitment to the creation of social value, one of the added objectives for this project was to work with Small and Medium sized Enterprises (SMEs) wherever possible.

REDUCING AND REUSING

In addition to donating surplus stock to local charities we use food waste collection data to identify best practise. For sites generating excessive amounts of food waste, we're engaging our teams of fryers and retraining them. On the flipside, where food waste weights appear excessively low,

Quality ingredients, sustainably sourced, cooked with care and served locally

In 2003, our founding mission was to build a network of local restaurants and takeaways serving the very best quality Fish & Chips throughout Britain.

Since then, we have surpassed our goals and are the nation's largest community of Fish & Chip restaurants and takeaways. We are proud to be cooking Britain's favourite meal in iconic British locations, loved by locals and visitors alike.

We think everyone should get a chance to try our Fish & Chips, so we're working to spread the joy as widely as we can. As we move to new towns and cities, our hardworking teams will ensure we remember what makes us who we are; enthusiasts of quality, sustainable and deliciously traditional Fish & Chips.

We're Britain's favourite because we stick to what we do best: Great British Fish & Chips, served with care.





we're visiting restaurants to look at segregation procedures and offering insight into improvements.

RECYCLING

24 of 31 restaurants now recycle food waste. Of the remaining 7, 4 don't have enough external space to allow for the bins. Overall, recycling has increased from 38% to 58%.

RECOVERY

We've diverted 99.1% of all waste from landfill.

CARBON REDUCTION

From Oct21 until Jun22 our Scope 3 footprint for 'Waste Disposal' has been 7.75 tonnes. If we had carried on using pre-project specifications the footprint would have been 103.23 tonnes. That's a massive 92.5% carbon reduction.

CSR COMMITMENTS

One of the objectives for this project was to work with SME businesses wherever possible. By weight, here's how we're doing: Local Authorities = 2.8% MicroSMEs = 2.4% Small = 54% Mid-Sized = 40.9% We're proud of the fact that our commitment to being an active member of our local community extends to working with local businesses.

Fish Sustainability

We want future generations to enjoy Fish & Chips for years to come, which is why, at Deep Blue, we serve fish from sustainable and well managed sources.

Why is fish sustainability so important? Quite simply, because sustainable seafood is only ever caught or farmed in a way that secures the long-term vitality of fish, and the well-being of the oceans, as well as the livelihoods of our valued fishing communities.

We are supporters of Sealayers UK, a charity that has been helping people in the maritime community for over 100 years, by providing vital support to sealayers in need and their families.

OUR BUSINESS & PROJECT BACKGROUND

We're the nation's largest community of Fish & Chip restaurants and takeaways serving up quality ingredients, sustainably sourced and cooked with care. We cook Britain's favourite meal in 31 Fish and Chip shops across the UK and in October 2021 we partnered with Novati to create and deliver a new, sustainable waste management solution that supports our Corporate Social Responsibility strategy.

With our previous contractor, we were given zero visibility of our environmental performance data; but here's what we do know. Only 4 restaurants were segregating food waste 69% of our waste was being treated as general waste With no information available for landfill diversion, we have to assume the worst-case scenario; based on this information, our Scope 3 'Waste Disposal' carbon footprint was 11.47 tonnes CO2e per month.

This project doesn't include our Harry Ramsden's restaurants; this is because we already partnered with Novati to ensure 99.85% of our waste is diverted from landfill with an average of 58% being segregated and recycled.

ECONOMIC BENEFITS

It's not possible to say exactly what impact this project has had on our budgets; because the needs



of the restaurants are constantly changing. However, we anticipate that our annual spend on waste management has decreased by 5-10%.

ENVIRONMENTAL BENEFITS

Based upon historic trend data and our environmental performance data since this project commenced, here's how we're getting on:

FOOD WASTE (Recycling) Pre-Project 5.2 tonnes (47kg CO₂e) Post-Project 9.9 tonnes (89kg CO₂e)

GLASS BOTTLES (Recycling) Pre-Project 0.9 tonnes (19kg CO₂e) Post-Project 0.3 tonnes (6kg CO₂e)

MIXED PACKAGING (Recycling) Pre-Project 8.6 tonnes (182kg CO₂e) Post-Project 11.1 tonnes (235kg CO₂e)

GENERAL WASTE (Landfill) Pre-Project 24.1 tonnes (11,222kg CO₂e) Post-Project 0.4 tonnes (167kg CO₂e)

GENERAL WASTE (Recovery) Post-Project 17.1 tonnes (803kg CO₂e) Recycling has increased from

Health & Environment

Fish & Chips is a much healthier meal than you might think. An average portion of Fish & Chips has about 990 calories. That's considerably less than you might find in many of your other takeaway options like pizzas, burgers and curries.

Fish is also high in nutrients such as protein, vitamin C, vitamins B6 & B12, iron, zinc, calcium and iodine. Fish is also great brain food, containing omega 3 fatty acids.

We want to play our part in the active protection of the environment by supporting marine conservation charities and contributing to safeguarding the future of our marine wildlife.

In addition, it is a key challenge to minimise the amount of consumer packaging we use while continuing to preserve the quality of our Fish & Chips. So, we aim, wherever possible, to use recyclable materials in our packaging.

We also donate unused potatoes to local charities, community kitchens, care homes and schools so we can minimise waste and help our community.

38% to 55% and our carbon footprint for waste disposal has reduced from 11.47 tonnes pcm to 0.86 tonnes pcm.

****Note**** Data provided is average monthly weights and associated carbon calculations.

LONG TERM VIEW

We know we've got more to do. For example, we're working closely with the last 3 restaurants where we've identified the opportunity to segregate food waste. Each month Novati produces MI tracking recycling performance, tonnage by site and waste stream, creating league tables of recycling performance. During regular review meetings, we discuss project opportunities, environmental and financial impacts and agree a delivery roadmap.

Stakeholders can track progress and success along the way. This strategic approach assists us to look even further into the future to create long-term sustainable solutions rather than focusing solely on short-term gains. Our ultimate goal is to increase recycling rates to 70%+. In order to achieve this, we're working with takeaway restaurants who are underperforming at the moment.

Through the sustainability plan and project roadmap we have in place with Novati we're looking at the best practice in place at the restaurant and seeing what we can learn and how we can replicate this success throughout the rest of the estate. If we can improve performance at these sites this year, we'll be a lot closer to our ultimate goal.

SOCIAL BENEFITS

As a small business ourselves, we're proud of the fact that almost all of our waste collections are being carried out by Micro, Small or Medium enterprises. 2.8% of the weight of material is being collected via Local Authorities but no work has been placed with large national suppliers. This is inline with our CSR commitments to positive impact our local communities.

INNOVATIVE STRATEGY

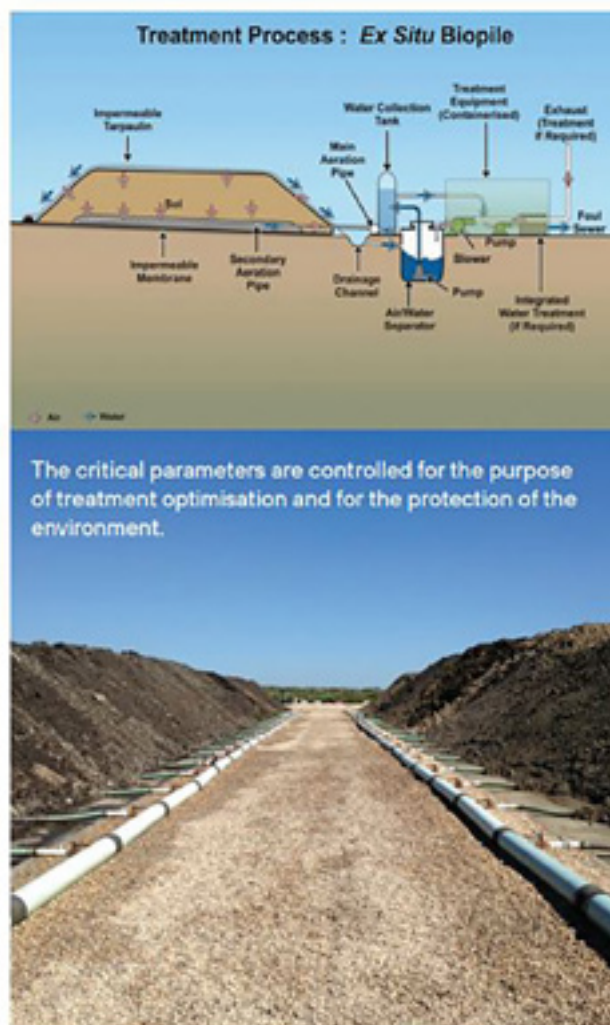
Major carbon reduction projects, Connections to local charities and community projects, Focusing on the recycled content and recyclability of materials These are all elements of a sustainability strategy that you'd associate with large Environmental teams working at blue chip multinational organisations.

What makes this project innovative is that we've proven that implementing the best sustainable solutions that help us on our journey to net-zero can be done by smaller organisations such as ourselves.

ENGLOBE REGENERATION UK Ltd LLANGENNECH TRAIN DERAILMENT

The Method of Treatment

The treatment process of bioremediation provides optimal conditions to the bacteria naturally present in the soil, this promotes their development and increases their capacity to degrade organic pollutants.



The emergency response & remediation of large volumes of hazardous diesel impacted soils at our Englobe Trecatti soil treatment facility in Merthyr Tydfil, South Wales. A major incident was declared following a fuel freight train derailment, spillage & subsequent fire at Llangennech, South Wales on the evening of 26th August 2020. The incident was national news due to the severity of the crash & subsequent release of fuel at the crash site.

Approximately 330,000 litres of diesel spilt on the crash site encompassing a site of International importance containing a Site of Special Scientific Interest, Bury Inlet Special Area of Conservation, Ramser conservation site and on the edge of The Coal Authority's Morlais Minewater Treatment Works. The emergency clean up works which included excavation of fuel impacted soils generated approximately 30,000 tonnes of hazardous soils requiring removal from the site. This project details the management, treatment & beneficial re-use of contaminated soils post-treatment by Englobe.

Waste assessment - following extensive site investigation work & Englobe site visits, the impacted soils were assessed by our waste team & classified as hazardous by virtue of elevated hydrocarbons & acceptable for treatment at our permitted treatment facility at Trecatti, Merthyr Tydfil. Time critical delivery – due to the emergency situation required to decontaminate the site, reinstate the rail line & to deliver for our customer Gavin Griffiths Group, Englobe had to provide certainty we could accept the large volume of soil inputs estimated to be ~30,000 tonnes across 10 weeks in winter, including weekends and Christmas bank holidays.

FACILITY LOGISTICS / TREATMENT IN WINTER

- Haul road improvements to handle ~50 lorries/day during wet wintry conditions
- New exit to the facility to manage increased traffic
- Management of difficult high moisture content soils
- Safely managing inputs of 1,000 tonnes per day
- Real time on-site testing of hydrocarbons to optimise treatment
- Extended opening including weekends and bank holidays 100% landfill diversion & recovery – in total 30,829tonnes (1728 tipper loads) were delivered into our facility in 10 weeks across the winter of December 2020 - February 2021.

The contaminated soils were treated via bioremediation & 100% of the material was beneficially re-used in the site landfill restoration scheme post treatment.

The Event - a train en-route from Milford Haven refinery to Theale carrying 25 diesel tank wagons each carrying 100,000 litres of fuel suffered brake malfunction which derailed 10 wagons. Whilst the locomotive was able to travel several hundred metres up the tracks to safety the subsequent fire and explosion of the fuel wagons created a major emergency with a large volume of

fuel spilled into the environment.

Following the news of the incident, the Englobe commercial team tracked the progress of the response & commenced discussions with the many parties involved. These included Natural Resources Wales (NRW), Network Rail, environmental, spill response, civils contractors & consultants.



Adler & Allan were subsequently named environmental & spill response contractor, our client for the project was Gavin Griffiths Group providing civils, groundwork, machinery, materials, transport & disposal services. Englobe held discussions & meetings to provide our expertise in contaminated land remediation & soil treatment facilities & subsequently agreements were reached regarding acceptance of the contaminated materials for treatment into our soil treatment facility (STF).

The project & exceptional response was critical to the local environment due to the large volume of fuel released into a site of international importance & this was reflected by the entire Englobe team in mobilising our technical, operational & commercial teams to manage this project into our facility. To deliver for our customer we needed to provide certainty we could accept the large volumes of soil quickly in midwinter, estimated to be ~30,000 tonnes in ~10 weeks, including weekends and Christmas bank holidays.

WORKS AT THE FACILITY INCLUDED;

- Detailed planning and logistics management during Covid 19
- haul road improvements to handle the expected 50 lorries per day during wet wintry conditions
- a new exit to the STF to manage increased traffic
- safely managing inputs of over 1,000 tonnes per day
- real time on-site testing of hydrocarbons to optimise treatment
- promptly validating and moving treated soils and most importantly...
- exceptional team effort

We implemented a 6-day working pattern which started on site at 06:30 am with 15 lorries arriving

by 7am. The time critical logistics were often compounded by extreme weather which impacted the client's site as well as the STF. (At around 360m (>1,000ft) elevation some would argue that the Trecatti facility is on a mountain, although officially it needs to be >2,000ft, either way when it is -11 degrees in the wind and snow it feels like a mountainside and outdoor working is tough).

Despite the hard conditions exceptional work by our STF site manager James Lambe and the entire team meant we delivered for the client and in total the STF received 1,728 loads and 30,892 tonnes in just 10 weeks, across 2020 & 2021, allowing our customer to complete on programme.

Englobes treatment method to remediate hazardous hydrocarbon impacted soils is via bioremediation. Once accepted at the weighbridge this involves contaminated soils being assigned to a bioremediation treatment biopile. Each biopile has pipework underneath that draws clean air from the atmosphere through the material aiding the microbiological breakdown of contaminants. From here, the air is drawn through a blower unit and is released through a Biofilter.

The Biofilter biologically treats the extracted vapour removing hydrocarbons and odours before the air is released back into the atmosphere. Whilst in treatment, the soils are mixed with amendments if required (also improving structure and aiding aeration) which help to increase and encourage bacteria to remain active, helping to optimise the breakdown of hydrocarbons & vastly reducing the hydrocarbon concentrations.

Samples are then collected to determine the progress of treatment and how long the soil will need to spend in treatment. Once sample results show hydrocarbon levels are reduced to a non-hazardous level and below the criteria for re-use: the material is 'validated' and is acceptable for beneficial reuse. Once validated and approved, by the restoration scheme technical manager, the material

is beneficially re-used onto our partner Biffa's landfill restoration scheme which is the final, above capping 300 mm of the landfill.

This final restoration layer is generally planted as a nature reserve once the landfill site is completely capped.

KEY BENEFITS OF THE ENGLOBE BIOREMEDIATION PROCESS ARE:

- Material diverted from landfill void
- 100% of soils are beneficially reused/recycled in the restoration scheme
- Fully permitted by NRW
- Complete sustainability & environmental best practice techniques utilised
- No landfill tax applicable

In terms of economic benefit, hazardous soils into landfill void attract landfill tax to HMRC at the standard rate which is currently £98.60/tonne & at the time of the project £94.15/tonne. In landfill tax alone the 30,829 tonnes of contaminated soil would have tax implications of £2,902,550. Factoring gate fees & tax the total disposal costs into landfill would be £4,289,855.

Our treatment costs to generate a restoration soil are a fraction of this at <20% providing project cost savings well in excess of £3m.

In summary this is one of the largest and most challenging projects that Englobe UK have been involved with in our near

20 years operating soil treatment facilities and we are proud to have supported our customer in these critical emergency clean up works.

The environmental & social impact could have been catastrophic, the overall response from all parties was exemplary & we feel Englobes contribution hugely benefitted the remediation operation & reduced the environmental impact with added economic benefits.



ENVIRONMENTAL CROP MANAGEMENT LTD INTEGRATED GRASSLAND MANAGEMENT.

The aim of the project is to improve the yield of grass whilst minimising the amount of Nitrogen fertiliser used to achieve this high yield. This has a direct effect on reducing greenhouse gas emissions and huge benefits to reducing global warming. Nitrogen fertiliser is implicated in the production of Nitrous oxide which is 265 times more potent than carbon dioxide as a green house gas.(ROME Thomson Reuters Foundation.)

Clearly a reduction in nitrous oxide is not only beneficial to climate but also to the farmer who loses fertiliser to the environment and not to crop production , the reason he uses the nitrogen fertiliser. The project aims to optimise the use of the nitrogen with minimal loss to the environment and atmosphere.

ECM has managed to use 25 % less Ammonium nitrate fertiliser and achieve well above average yields of high quality grass which was used to produce both silage and grazing for livestock. Higher yields also trap more carbon than poorer yielding crops another benefit of this innovative integrated approach.

Farmers have saved money by reducing fertiliser purchases , this is particularly important in 2022 as fertiliser prices have tripled following the events in the Ukraine . Ammonium nitrate is £1000 per ton compared to £350 in 2021. In a 'normal' year the farmer would save at least £250/hectare on nitrogen fertiliser and achieve better grass yields. .

ECM decided to look at all the reasons how grass yields are less than optimal. Firstly ECM samples the soil and corrects any other nutrient deficiencies such as Potash, Sulphur or Phosphate which lead to poor nitrogen uptake by the crop, which leads to both leaching of nitrate and denitrification leading to nitrous oxide production. Acid soils lead to extensive



Peter Clare is an advocate for producing a profitable crop without harming the environment.

losses of nitrogen as the crop is unable to use nitrogen that is applied, in low pH soils.

ECM uses only Calcium hydroxide as a liming agent as this works within 14 days of application compared to the more old fashioned ground limestone that can take 12 weeks to have any effect. Secondly all organic manures such as slurry or Farm Yard manure are analysed and used to replace (in some cases this more than halves the need for synthetic fertiliser) synthetic fertiliser. Thirdly weeds such as docks and thistles are controlled so fertiliser goes to feed the crop. A 10% weed infestation leads to a 10 % grass yield loss.

Finally ECM uses amino acid technology that make the grass more efficient at using Nitrogen. This technology also reduces abiotic stress(caused by drought or waterlogging) that prevents the grass from using nitrogen efficiently. To summarise, this

integrated approach allows the grass to grow optimally, with low weed competition in soil that has a balanced nutrient status. The amino acid treatment allows for highly efficient uptake of nitrogen INTO the crop allowing the grass to use the nitrogen to produce high grass yields, whilst minimising any losses to the environment such as leaching or nitrous oxide production which occurs if the grass is growing poorly.

ECM is using this innovative approach on 600 farms in the North West England. ECM has shared this approach with the Crest group who have 90 agronomists(crop doctors) in the UK. As a contributor to The Parliamentary Review ECM will publicise the scheme when next asked to contribute.

Further research to extend this integrated approach to both cereals and maize will take place in 2022. With food security being highlighted at the moment

Another successful wild flower meadow established by Pete Clare to support the bee and insect population



with the war in Ukraine ,and the need to reduce global warming this scheme offers farmers the opportunity to feed the nation in a more sustainable manner than ever before.

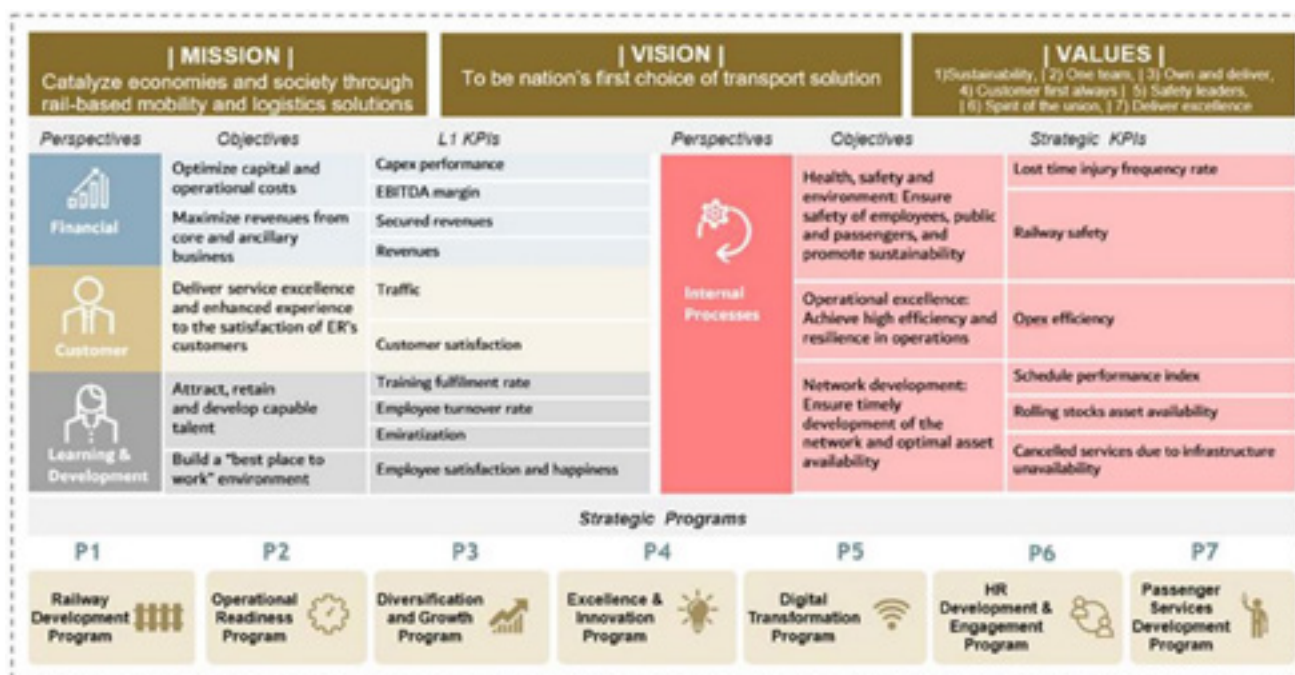


A pioneering way of working

ECM Integrated Crop Management demonstrates that profitability and environmental responsibility can go hand in hand

ETIHAD RAIL

ETIHAD RAIL PROJECT



The railway Programme aims to develop a sustainable road transport system that supports economic development efforts in all sectors, including the environment, industry, and tourism. The program also aims to connect the emirates of the UAE and provide a reliable transportation system. Etihad Rail, the UAE's megaproject to link the country's centres of trade, industry and population, will grow from running heavy goods services to carrying millions of passengers between the major cities by 2030.

The UAE has pledged to reach net-zero emission by 2050, it is recognized that to enable the UAEs targets, a major shift in transport mode is essential, Etihad Rail is an active contributor towards those reductions, due to the implementation of the passenger and freight rail solutions across the UAE.

ENVIRONMENTAL & ECONOMIC BENEFITS

- Reduces greenhouse gas emissions by more

than 2.2 million tonnes annually.

- A fully loaded train is equivalent to 300 trucks off the road.
- Reduction in the rates of road accidents & saving lives and an estimated AED 22Bn over the next 50 years.
- AED 23 Bn wider economic benefits; land value increase, accessibility, productivity, and tourism benefits.
- The value of travel time saved due to reduced road delays is estimated to be equivalent to AED 11Bn over the next 50 years
- 70-80% less CO2 emissions than truck's same tonnage.
- Total benefits of emissions savings are approximately AED 24Bn over the next 50 years.
- Minimal negative impact on unique flora and fauna,

- Relocated 550 Al Ghaf Trees translocated and 2590 planted with EAD
- Houbara feeding area Al Dhafrah Region of 500,000 sqm with 750 arak Trees & 3200 Plants with EAD. This will Support the Houbara migration
- More than 300 animals were moved from the Misanad Protected Area in Sharjah working with EPAA, including protected Geckos
- Collaborated with Emirates Nature-WWF, Fujairah Environment Authority and Fujairah Adventures. Society Benefits
- Developing Al Dhafra Region: Connects more areas within the UAE and GCC, and various industries and communities will expand; more economic, social, and cultural growth in the form of job opportunities.
- Noise Control: Sound levels generated trains are minor; for example, the decibel (db) range for freight trains traveling at 100 kph with three locomotives and 110 wagons in normal circumstances shouldn't exceed 88 dB at a distance of 25 meters.
- Crossing Points: Crossing points have been designed to allow for the smooth flow of

traffic on both the railway and roads, 20 over-bridges, 2 under-bridges, 10 roads underpasses, and 18 smaller underpasses.

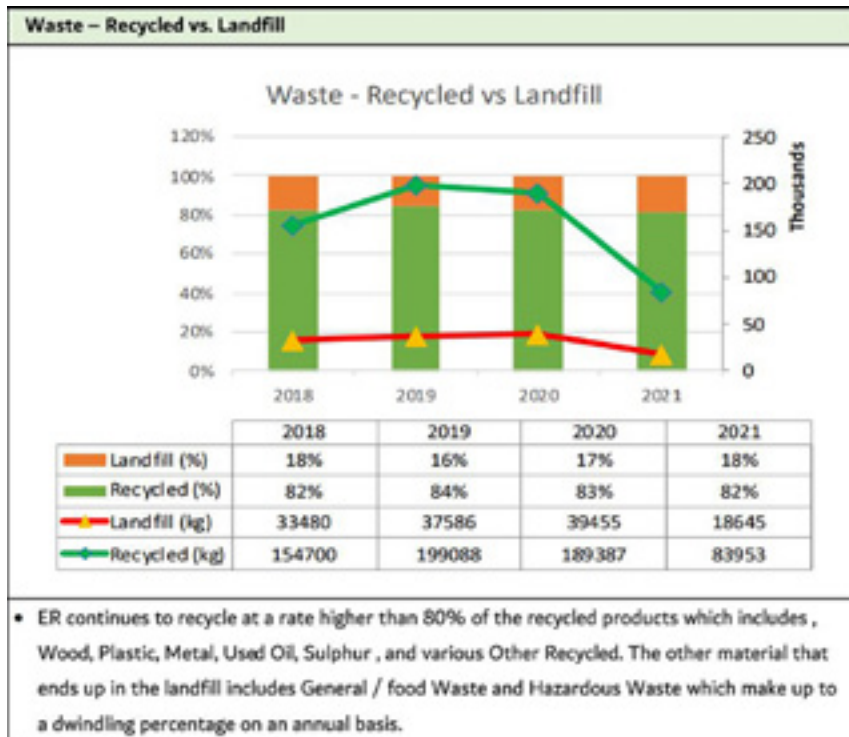
- Corridors and facilities are segregated by different types of fencing, including boundary, sand mitigation, security, anti-dazzle and military fences.

Etihad Rail Leadership Commitment Etihad Rail has been given the mandate of developing and delivering the rail industry in UAE to accommodate the requirements of the UAE's future transport needs which passengers and cargo goods will reach all parts of UAE and GCC. ER Leadership has established a clear strategy along with a roadmap to deliver in line with UAE National Vision 2021, Abu Dhabi Economic Vision 2030, UAE Centennial 2071, international standards, best practices, and benchmarks to exceed stakeholders' expectations. ER's vision is "to be nation's first choice of transport solution" and the mission is to "catalyze economic and society through rail-based mobility and logistics solutions".

ER establish strategy and sustainability initiatives and objectives through the operation and development of the UAE rail network in line with

Etihad Rail Environmental & Social Crossing Points Solution





- ER has a strategic partnership with local and international stakeholders to engage them in achieving environmental sustainability initiatives, such as: ER has partnered up with Emirates Nature-WWF in a long-term partnership.

Annual review with ER stakeholders to assess and refresh its strategy and sustainability objectives using SWOT, PESTEL tools and reflect international standards. ER implement a Balance Scorecards framework tailored to meet the strategic needs of the business all reflected in.

principles of sustainable development, recognizing that the success of our organization is enhanced by environmentally, socially, and economically responsible business conduct.

ER's sustainability plan spans every team of the organization, and all employees are responsible for helping the company achieve the goals outlined in this plan.

IMPLEMENTATION OF THE PLAN WILL FOCUS ON THESE KEY FACTORS:

- Each team is expected to demonstrate in their work plans how existing or planned programs and activities align with this sustainability plan.
- Encourage employee activism around sustainability plans and initiatives with a comprehensive employee education and outreach campaign.
- Sustainability plans yield the best results when embraced by employees at all levels, so this effort will focus on team specific messaging and outreach plans.

GOALS & OBJECTIVES

ER has developed sustainability goals and objectives in line with ER corporate strategic objectives are "Building a competitive and sustainable Network" to ensure that the environmental, society and governance sustainability initiatives will be achieved:

- Review and evaluate all programs and projects to ensure their balanced and measurable.
- Adopt the 'Estidama' standards set forth by government municipalities as guiding criteria for achieving sustainable design and construction practice in the development and remodeling of rail network and facilities.
- Ensure compliance with all local and national relevant regulatory requirements.
- Contractor responsibilities: ER has set out a range of guidelines to ensure that all contractors on site conform to a uniform environmental performance and to protect the bio-environmental conditions.

- Foster a culture of social sustainability through ER's relationships with customers, partners, tenants, contractors, suppliers, and participate in local and regional sustainability partnerships.
- Develop larger service offering along the logistic value chain: Upstream as well as downstream innovations and expansions along the value chain; potential to develop passenger business.
- Becoming the UAE logistic backbone: Develop new customer segments for rail transport and expand an ER service offering close to the core network.
- Advancing sustainability in all facets of business including service planning, rolling stock, fuel selection, facility operations, design, construction and customer service.

FUTURE DEVELOPMENT PLAN

ER's strategy focuses on developing the network, growing core freight operations, and expanding into new businesses. ER recognizes its role in developing a diversified economy based on long-term economic and sustainability strategies planning :

1. Extending Geographic Markets
2. Freight Facilities
3. Rail Industry
4. Road Congestion & Maintenance
5. Multiplier Effect on UAE Economy Current and Future Offerings



PRODUCT SEGMENTS

ER is currently engaged in the local market through the operation of Stage 1, transporting granulated Sulphur from ADNOC facilities at Shah and Habshan, to the port in Ruwais for export. With the future extensions which will link the 7 Emirates and extend to other GCC countries, ER will extend its services to cover the UAE and penetrate into the markets of the neighboring GCC countries.

Aggregates from quarries in the Northern Emirates will be shipped to Abu Dhabi and Dubai Aggregates will represent the largest freight segment of the over 150 million tons available for rail transport in the UAE in 2035.

INTERMODAL:

Intermodal volumes are largely based on goods arriving by ship at Jebel Ali, with some significant domestic flows.

- Bulk: Contracted volumes with large industrial customers.

- Aggregates: Main flows from moving raw material from the Northern Emirates to Dubai and Abu Dhabi for use in construction.

The current base plan of the AED 19.1 Bill does not include access to the aggregates in the North and is deferring passenger investments. Planned network extension with highly increasing complexity is summarized below: Revenues depend on intermodal flows, driven mainly by factors outside of ER's immediate influence, completion of GCC network, custom agreements, and competitive situation with GCC port extension, KSA infrastructure development.

CAPEX is driven up by investments into links with small or unclear revenue potential. is ER revenue projection.

INNOVATION

ER leadership established an Innovation Committee, responsible for reviewing each submission by a set criterion, and shortlisting the top three innovations. The main objectives are establishing a sustainable basis for improvement of quality and productivity, giving credit directly to committed talent. With the adoption of the sustainability strategy at Etihad Rail, sustainability initiatives and projects have begun to bear fruit in terms of achieving the objectives in an integrated manner, as the result of 60% in 2021.

LOCOMOTIVE EMISSIONS:

Etihad Rail has taken additional action to minimize the railway's environmental impact, such as implementing the United States Environmental Protection Agency's standards for engine emission levels. Under these measures, all the engines used on the railway meet a Tier 3 emission level, which regulates the locomotives' emissions of nitrogen oxide, Sulphur oxide, volatile organic compounds, particulate matter, and carbon monoxide.

ROLLING STOCK:

For Stage 2 heavy haul mainline freight train operations, modern locomotives would be specified with engine efficiency and emission standards according to the best proven Tier technology available at the time of procurement. As a further measure to minimize engine emissions and fuel consumption, mainline freight train service locomotives will be specified with a "low idle" feature to reduce engine idling speed and fuel consumption, as well as an automatic engine control system that would shut down the engine when the locomotive is not used for an extended period.

CULVERTS AND UNDERPASSES:

There will be several culverts and small underpasses throughout the alignment. These will consist of Small Underpasses (SUPs), Camel Underpasses (CUPs), Road Underpasses (RUP), Reptile Culverts (RCU) and Gazelle.

ENVIRONMENTAL, SOCIAL & ECONOMIC BENEFITS ENVIRONMENTAL BENEFITS

- ER carries out constant Environmental Impact Assessments (EIAs) to minimise the environmental effects of the railway throughout its planning, development, construction and operation.
- Reduces greenhouse gas emissions by more than 2.2 million tonnes annually.
- One fully loaded train is equivalent to taking 300 trucks off the road
- 70-80% less CO2 emissions than the trucks same tonnage.
- Total benefits of emissions savings are approximately AED 24Bn over the next 50 years.
- ER Railway was designed and built to have a minimal negative impact on the region's unique flora and fauna,

ER Alignment crosses ecological sensitive and critical habitats, and Linear infrastructure may cause habitat fragmentation and subsequent loss of biodiversity:

- We relocated 550 Ghaf Trees translocated and 590 planted with EAD
- Plants 2000 Al Ghaf Trees in Al Mirfa with Al Dhafra Municipality.
- Houbara feeding area Al Dhafrah Region of 500,000 sqm with 750 arak Trees & 3200 Plants with EAD. This will Support the Houbara migration
- More than 300 animals were moved from the Misanad Protected Area in Sharjah working with EPAA, including protected Geckos
- Collaborated with Emirates Nature-WWF, Fujairah Environment Authority and Fujairah Adventures, to implement an environmental conservation and habitat rehabilitation project in Al Bithnah, Fujairah.
- To ensure the protection of native wildlife, the railway also features 10 camels, 22 gazelles, and 78 reptile underpasses. For convenience, crossings are spaced at a maximum of 6 to 7 kilometers Stage 2 will see this commitment to animal welfare carried through along the entire network.

SOCIETY BENEFIT

- Developing Al Dhafra Region: ER network connects more areas within the UAE and GCC, and various industries and communities will expand as a result the region experience more economic, social, and cultural growth in the form of job opportunities and industrial diversification.
- Noise Control: Sound levels generated by ER trains are therefore minor; for example, the decibel (db) range for freight trains traveling at 100 kph with three locomotives and 110 wagons in normal circumstances should not

exceed 88 dB at a distance of 25 meters.

- Crossing Points: Crossing points have been designed to allow for the smooth flow of traffic on both the railway and roads, and with as little disruption to the surrounding wildlife as possible

Stage One includes 20 over-bridges, 2 under-bridges, 10 roads underpasses, and 18 smaller underpasses to cater to native wildlife.

- All the ER right-of-way corridors and facilities are segregated by different types of fencing, including boundary, sand mitigation, security, anti-dazzle and military fences. Fence installation ensures a secure environment for the rail network, keeping rail corridors safe and maintainable during operations while also providing a secure and well-maintained environment for people and wildlife in the surrounding areas.

ECONOMY BENEFITS

- A single ER freight train carries the equivalent load of up to 300 trucks, thus reducing traffic congestion, road accidents, and road maintenance costs. A significant reduction in the rates of road accidents can be expected by saving lives and an estimated AED 22Bn over the next 50 years.
- The cost savings made by businesses that transfer their freight via rail will enable them to be more commercially successful and therefore, make greater contributions to their own and subsequently the nation's economic growth.
- ER will bring a further AED 23 Bn wider economic benefits, such as land value increase, accessibility, productivity, and tourism benefits.
- The value of travel time saved due to reduced road delays is estimated to be equivalent to AED 11Bn over the next 50 years

ETIHAD RAIL SUSTAINABLE RAIL

ER has been given the mandate of developing the rail industry in UAE and of delivering a world-class rail network and services to accommodate the requirements of the UAE's future transport needs as the guardians of this mega project through which passengers and cargo goods will reach all parts of UAE, ER recognizes its role in promoting and supporting the nation's ambition of developing a vibrant and diversified economy based on long-term economic and sustainability strategies

ER commits towards establishing the environmental sustainability initiatives and objectives through the operation and development of the UAE rail network in accordance with **principles of sustainable development**, recognizing that the success of our organization is enhanced by environmentally, socially, and economically responsible business conduct This commitment to sustainability management is aligned with Abu Dhabi's 2030 vision and is firmly bound with ER's vision and mission for the future, which is to develop and operate safe, sustainable, and cost-efficient rail-based transport solutions, connecting the UAE and serving clients, industries, and society with passion,

ER promotes sustainability through its services, program, and operations and has an impressive track history of environmental stewardship and innovation ER

offers cutting-edge impacts and benefits: faster, safer, more reliable, and more environmentally sustainable services than current transport alternatives

ER places the highest value on conservation of resources and operational efficiency, completing several energy-efficiency initiatives throughout the network These efforts reflect the company's

ER Vision

*"Safely and **sustainably** connecting regions and integrating industries through rail-based transport"*

ER Mission

*"Develop and operate safe, **sustainable** and cost-efficient rail-based transport solutions, connecting the UAE and serving clients, industries and society with dedication and integrity."*

ER Corporate Values



Spirit of the Union



Reaching Beyond



Own and Deliver



One Team



Customer First - Always

overall management approach to find and incorporate practical and cost-effective solutions to transportation and financial challenges that benefit both the environment and the community we serve

In line with our sustainability strategy, ER and Environment agency - Abu Dhabi has started a collaboration to ensure the preservation of UAE's environment and natural heritage during the planning and construction of ER project,

Sustainability is central to ER's mission to provide the best possible rail transportation services and improve regional mobility and quality of life in UAE Advancing sustainability in all facets of business - including service planning, rolling stock and fuel selection, facility operations, design, and construction, and customer service - ensures that ER is well-positioned to adapt to future environmental, economic, and social challenges.

ER has developed a sustainability plan that is derived from the corporate strategy which states that ER will provide a safe and sustainable freight and passenger transport railway system in the UAE through innovation and continuous improvement of technologies and practices ER has developed goals and objectives in line with ER strategic themes and objective **"Building a competitive and sustainable Network"** to ensure that the environmental sustainability initiatives will be achieved in line with the corporate objectives:

- Review and evaluate all-new programs and projects to ensure their balanced, holistic, and measurable addressing all three sustainability pillars: environmental, economic, and social

- Incorporate language that supports ER's sustainability initiatives within all new leases, and contracts

- Adopt the 'Estidama' standards set forth by the Abu Dhabi Urban Council as guiding criteria for achieving sustainable design and construction practice in the development

and remodeling of the rail network and rail facilities

Minimize the environmental impact of the organization's operations

Ensure compliance with all local and national relevant laws, regulatory and other requirements Rigorously monitor ER's progress against meaningful goals and targets

Foster a culture of sustainability through ER's relationships with customers, partners, tenants, contractors, and suppliers, and participate actively in local and regional sustainability partnerships.

This commitment to sustainability management is fully aligned with Abu Dhabi's Vision 2030 and is firmly entrenched in the company's vision for the future, which is to connect regions and integrate industries through rail-based transport safely and sustainably Our philosophy aims to ensure that future generations can benefit from rail and the valuable opportunities it offersThe project is special because a fully loaded train would remove up to 300 trucks from the UAE's roads.

SHORT TERM:

- Potential enhanced land value (the land around the railway): AED23Bn over the next 50 years

- Reduce the cost of a trade

- Reduce material transportation costs and time

- Employment creation & Emiratization is also sustainable in nature

LONG TERM:

- Use sustainable materials which can stand high temperatures and humidity, ensuring a long design life

Estimated tourism benefits: AED23Bn over the next 50 years

A large but sustainable increase in population at the carrying capacity of some areas of the UAE

70 - 80% less CO2 emissions than trucks

Improved air quality, as one loaded train would remove 300 container trucks from UAE road network

Reduce greenhouse gases by more than 22 million tons annually: the equivalent of 375,000 vehicles

Estimated total benefits of emissions savings: AED24Bn over the next 50 years

Projected savings from road maintenance: AED8Bn over the next 50 years

CONTRIBUTING TO THE UAE ECONOMY

Freight Cost Savings:

Direct economic benefits include freight cost savings, business travel time savings, along other economic remunerations. These economic benefits will support businesses, commuters, and other travelers across the region. The project will also contribute to tourism and the wider UAE economy. The cost savings made by businesses that transfer their freight carriage to rail will enable them to be more commercially successful and therefore further contribute to economic growth.

Increased Inward Investment:

Analysis shows that the economic benefits that ER will bring are shared across all seven Emirates. It will support exports as well as increase inward investment. It will

also provide employment opportunities and increase the incomes of business and property owners, as well as their employees.

Extending Geographic Markets:

The enhanced connectivity that ER will deliver will effectively bring businesses closer together, facilitating more efficient trade, extending geographic markets, and making a greater labor force available. Rail transport lowers the cost of trade and improves the market position of existing industries, promoting their growth, and leading to economic diversification through the creation of new transport infrastructure and its related ecosystem.

Freight Facilities:

ER will manage the handling of the UAE's freight and cargo through world-class freight facilities, supporting import and export services and developing comprehensive delivery processes for freight forwarders and other stakeholders including ports.

Rail Industry:

Each year the rail freight industry carries goods valued at billions of US Dollars ranging from steel, cement, and construction materials. To date, only a



small portion of goods exported from the UAE are transported by rail, but with a national network in place as Stage Two comes online, rail will be well placed to provide long-haul consumer services; this sector has seen steady growth in the past years and the industry predicts that rail freight will dramatically increase with consumer traffic growing fourfold

Road Congestion & Maintenance:

Rail freight has a major role to play in reducing road congestion, lowering the risk of collisions, road damage, and pollution ER is actively campaigning to have the right policies in place and will provide the necessary infrastructure and terminals to accommodate more freight traffic as it is transferred to rail

Multiplier Effect on UAE Economy

Located in the heart of the Middle East, with one of the world's richest cities as its capital, UAE possesses a fast-growing economy and has been

increasing its international status as a global and strategic hub for commerce and travel To meet the needs of the UAE's robustly growing economy, ER is committed to providing world-class rail transport infrastructure for passengers and freight coming into and out of UAE Major enhancements are being undertaken at ER's new phase 2 rail network which, together with services provided by ER, are expected to augment the company's positive economic results and further support the economic development of UAE with approx. 21 billion (AED)

CONTRIBUTING TO UAE ENVIRONMENTAL PROTECTION

Nature Conservation:

ER works closely with the Abu Dhabi Authority for Tourism and Culture (TCA) and Environment Agency-Abu Dhabi (EAD) to ensure that the UAE's natural environment is preserved Reducing or eliminating risks to the environment is an essential part of the construction and operational strategy



Emirates Nature-WWF (World Wildlife Fund) Partnership

While the railway was designed and built to have minimal impact on the region's unique flora and fauna, ER has developed and implemented an ongoing environmental protection plan

Culverts and underpasses:

Several culverts and small underpasses are being built throughout the alignment. These consist of Small Underpasses (SUPs), Camel Underpasses (CUPs), Road Underpasses (RUP), Reptile Culverts (RCU), and Gazelle Underpasses (GAZ). Many gazelle underpasses have been combined with SUPs and CUPs.

Tree Management:

All healthy mature, native, non-irrigated trees are transplanted prior to any construction to a location agreed with the plantation owners. For example, all-natural Al Ghaf trees are identified and clearly demarcated. Disturbance to these specimens will be avoided where possible. Where disturbance is unavoidable, the specimens will be carefully removed and replanted in an alternative suitable location before works commence in the area. Trees existing within the construction corridor are tagged, removed, and translocated to a suitable alternative site as agreed with the owners. A tree management plan ensures that trees are well looked after. Surveys are conducted for the possible removal of sensitive specimens of small mammals and reptiles, and demarcation and avoidance of floral specimens and Dhuf (lizard) habitats. Culverts are provided to allow free movement of Mountain and Sand Gazelles, Dhuf, Desert Monitors, and other snakes, geckos, lizards, and large and small mammals and reptiles.

Climate Change:

ER will monitor, manage, and minimize impacts on climate change by effectively removing many trucks used for freight off the road. By June 2022, ER has transported more than 30 million tons of granulated sulphur for Abu Dhabi National Oil Company

(ADNOC), the equivalent of nearly 2 million truck trips. One fully loaded train removes approximately 300 trucks from the road, producing 70%-80% less carbon dioxide emissions than the trucks required to transport the same tonnage. When Stage 2 becomes operational, these figures will be significantly higher.

Rolling Steel:

For Stage 2 heavy haul mainline freight train operations, modern locomotives have been specified with engine efficiency and emission standards according to the best-proven technology available at the time of procurement. As a further measure to minimize engine emissions and fuel consumption, mainline freight train service locomotives will be supplied with a "low idle" feature to reduce engine idling speed and fuel consumption, as well as an automatic engine control system that shuts the engine down when the locomotive is not used for an extended period. Reuse of 'grey water' from the train wash facility is repurposed for irrigation.

Locomotive Emissions:

While trains are one of the most environmentally friendly modes of transport, ER has taken additional action to minimize the railway's environmental impact, such as implementing the United States

Environmental Protection Agency's standards for engine emission levels. Under these measures, all the engines used on the railway meet a Tier 3 emission level, which regulates the locomotives' emissions of nitrogen oxide, sulphur oxide, volatile organic compounds, particulate matter, and carbon monoxide.

CONTRIBUTING TO UAE SOCIETY

Developing Al Dhafra Region:

As the railway network connects more areas within the UAE and GCC, various industries and

communities will expand as a result The region will experience more economic, social, and cultural growth in the form of job opportunities and industrial diversification

Noise Control:

ER and ER recognize the importance of being a good neighbour and are committed to keeping noise from trains to a minimum as the network has no level crossings (all traffic crosses the track over bridges and through tunnels), horns will only sound in emergencies In addition, the railway utilizes the best noise reduction technology to minimize the sound of passing trains Ballast Mats are used on bridges to reduce noise, vibrations and degradation of ballast

Crossing Points:

Crossing points have been designed to allow for the smooth flow of traffic on both the railway and roads, and with as little disruption to the surrounding wildlife as possible Stage One includes 20 over-bridges, 2 under-bridges, 10 road underpasses, and 18 smaller underpasses To cater to native wildlife, the railway also features 10 camels, 22 gazelles, and

78 reptiles' underpasses For convenience, crossings are spaced at a maximum of 6 to 7 kilometers Stage 2 will see this commitment to animal welfare carried through along the entire network.

Job Creation:

The railway is bringing bring beneficial changes to Abu Dhabi Emirate due to increased employment and improved access to community facilities for the projected increased population When complete, the network will provide a sustainable and efficient mode of transport for public and commercial uses The project will provide a sustainable and efficient mode of transport for both the workforce and industrial products This will in turn promote tourism in Abu Dhabi

Connect Cities:

The railway will connect rural areas to cities, improving connectivity and generating wider economic benefits for these areas The value of time saved due to reduced road delays by car, bus, taxi, and freight users who will shift to the rail network, accounting for station-to-station road and rail time



and distance is equivalent to AED 96Bn over the next 40 years. A reduction in the rates of accidents can be expected as the railway will lead to a lower number of kilometers traveled on the roads, hence fewer road accidents per year on the UAE's Road network, saving an estimated AED 199Bn over the next 40 years.

Reducing Highway Traffic:

The rail network will ultimately provide services for both freight and passengers, with social benefits including lower-cost transportation, faster journeys than highway alternatives, and reduced levels of highway traffic by offering a time and cost advantage over trucks when compared with the no-rail scenario option for freight transportation, the ER network will attract container and bulk freight cargo that is currently transported by trucks.

The UAE's progressive economy is synonymous with an evolving landscape. ER's strategy is to build a railway network that caters to the needs of customers, both today and tomorrow, ensuring sufficient capacity for anticipated traffic and infrastructure growth. Planners, designers, and engineers are required to future-proof projects of this magnitude from the outset, in order to mitigate the risks of significantly higher costs in the future as a result of network changes. Part of this future and sustainability proofing includes securing a rail alignment that will enable future expansion capability and possible future electrification of the railway.

ER has a clear strategy and business model which will ensure railway suitability in a commercial manner. The following are the main stages to sustain this project:

Stage 1 business as usual with cost and operations optimization and innovation with requisite business development and customer experience enhancements aligned with AD NOC key account management for sustained high levels of satisfaction.

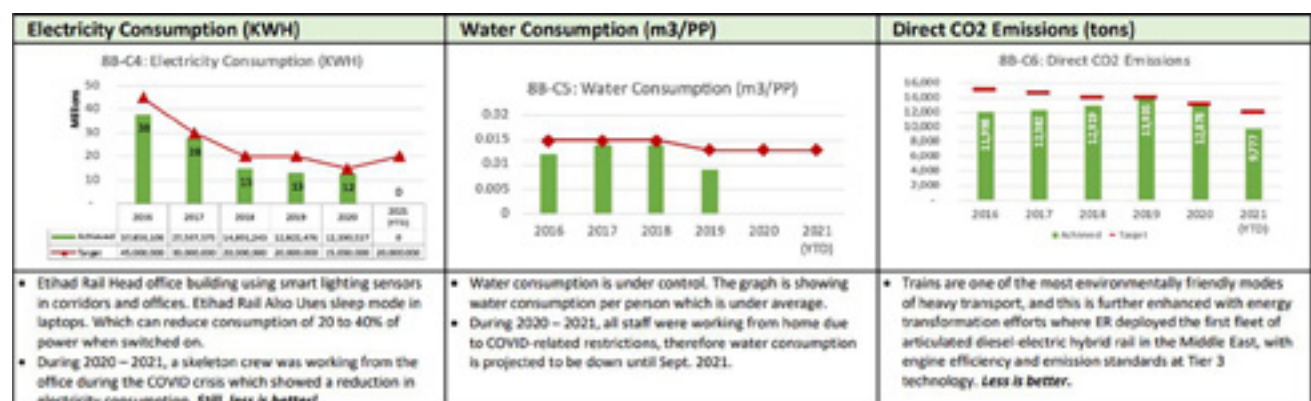
Stage 2 freight network and services development and launch core rail operations.

Maturation and diversification of Stage 2 freight operations and maintenance capabilities and future growth and expansion of the network in subsequent stages on commercial principles.

Secure commercial agreements with prospective Stage 2 customers in advance of the commencement of operations to optimize start-up capacity and financial performance.

Cautious diversification into initial passenger services leveraging investments in freight network and based on sound business case with a clear route to alternate (non - government) financing.

Secure bilateral agreement between UAE and GCC countries for strategic network expansions, connections, and cross-border services.



EVRI

EVRI: PARCEL DELIVERY THAT DOESN'T COST THE EARTH

The project consists of two elements. In October 2021, we launched our first environmental, social and governance (ESG) strategy; and in March 2022, we rebranded from Hermes UK to Evri. As a responsible carrier, we've always recognised our impact on the environment and commitment to do the right thing for our colleagues, couriers and customers. But a period of dramatic growth, largely fuelled by the surge in home delivery during the pandemic, saw the business double in size.

Now we're delivering c700million parcels a year, we're doubling down on our focus to become an even more ethical and sustainably conscious business. As we move towards our net zero direct and indirect carbon emissions target, which we aim to hit by 2035, ESG forms two of four pillars that underpin Evri. Firstly, there's community.

Couriers and ParcelShops (where customers send, receive and return parcels), play a key part in our operation and a vital role in the communities we serve. Secondly, there's ESG itself. We already have the lowest carbon emission of any dedicated parcel delivery company in the UK and we're growing the biggest sustainable fleet in the industry thanks to investment in technology and exploration of alternative fuels.

Achievements over the last 12-18 months include:

- Appointed a dedicated ESG steering committee to develop and implement our ESG strategy
- Published our first ever ESG end-of-year report and launched a dedicated ESG

section on the website, thereby making our vision and achievements to date accessible to all

- Achieved 100% renewable electricity in operations
- We've signed to the UN Race to Zero via Climate Pledge
- We've signed up to the Task Force on Climate-Related Financial Disclosures (TCFD)
- The delivery of our first ever auditable carbon footprint
- Successfully implemented new ESG software and completed Scopes 1-3 carbon assessment – a method developed by the most widely used global accounting tool, the Greenhouse Gas Protocol. By our calculations, the total CO2e per parcel is currently 520g, which is the best in the industry in the UK
- Alternative fuel exploration. We were the first UK parcel company to successfully trial an

HISTORY OF ESG AT EVRI

2017 HERMES Launch of first Hermes ParcelShop	2018 LOW-CARBON First low-carbon biomethane CNG truck and EVs in London	2019 COURIERS Launch of Self-Employed+ programme, enabling any of our 33,000 self-employed couriers to benefit from paid holidays and a guaranteed hourly rate
2020 BIOMETHANE Biomethane CNG accounts for 30% of our fleet TRANSFORM Advent-International invests in Hermes UK (now Evri), launch of Transformation Programme and ESG Steering Committee	2021 ELECTRIC VANS Increase ParcelShops and lockers to 10,000, increase CNG biomethane fleet to 40% of total and 30% EVs to service ParcelShops	Oct 2021 ESG Launch of our new ESG strategy

electric HGV, and we recently trialled an HVO (hydrotreated vegetable oil) truck. In the last year we invested in 70 CNG (compressed natural gas) units and ordered 168 electric vans for zero-emission final-mile deliveries.

1. BACKGROUND

The project – the launch of our ESG strategy and the rebrand from Hermes to Evri – was a result of a business-wide transformation programme that began in 2020 and is continuing into 2022. Initially it was a five-year plan but Covid significantly accelerated the changes we wanted to make, and we effectively implemented that plan in around five months in order to adapt to the unprecedented surge in online shopping and home delivery.

We also benefitted from investment from global private equity company Advent International, which acquired a 75% stake in 2020. Much of the funding for our project came from this investment, as well as re-investment of previous profits. As stated in the Project Aim section for this entry, the rebrand to Evri aligned with our renewed efforts in the ESG space, and we set a target of net zero direct and indirect carbon emissions by 2035.

To achieve this, we're taking a blended, holistic approach by focusing on our vehicle fleet; buildings; and innovation in terms of the products and services

we offer to customers and retail clients. To help steer this, we've appointed three senior roles in the last 12 months: Chief Transformation Officer, Head of ESG, and Head of Diversity, Equity & Inclusion. All senior leadership will have ESG in their objectives this year, and all employees and contractors will receive mandatory ESG training by 2024.

2. FLEET

Ongoing exploration of alternative fuels for our fleet has put us in a strong position across the first, middle and final mile as we head towards net zero. We use a biomethane compressed natural gas (CNG) powered fleet as an alternative to diesel.

In 2021/2022 we ordered 70 new Bio-CNG tractor units, bringing the total to 160 – 50% of our core tractor fleet. This gives us the UK's largest CNG parcel delivery fleet. Approximately 40% of our first-mile fleet is powered by Bio-CNG. Each new unit reduced CO2 emissions by more than 80% when compared to a Euro 6 diesel vehicle – a reduction of 150 tonnes of CO2 per vehicle and 24,000+ tonnes of CO2 across the entire Bio-CNG fleet annually.

Other CNG benefits include reductions in air pollution impact, such as 70% less NOX, 99% less particulate matter, 90% less NMHC and 88% less methane. They're also 50% quieter than diesel equivalents. We partner with CNG Fuels, which sources 100% renewable Bio-CNG for its stations.

This is sourced from food waste, independently verified and approved by the Department for Transport's Renewable Transport Fuel Obligation.

Our London Gemini site operates with 100% electric vehicles to service final-mile deliveries in central London, and in 2021/22 we ordered 168 new zero-



Fash Sawyer,
Chief Transformation
Officer at Evri:
"As a responsible carrier, we recognise our impact on the environment and we are pushing sustainability and ethics to the forefront of our operating model. We are committed to delivering a better future for the planet, including our people, our customers and retail partners, and wider communities."



New e-cargo bike

We are currently trialling an e-cargo bike that has been calculated to reduce last-mile carbon emissions by 89%.

emission electric vans to support our out-of-home ParcelShop network. We aim to undertake all ParcelShop collections with electric vehicles at the earliest opportunity, and we're installing charging points at our hubs and depots. Over 2022/23 we plan to increase the number of CNG tractor units by more than 12% and increase our dedicated out-of-home electric van fleet to 30%.

We are also currently trialling an e-cargo bike that has been calculated to reduce last-mile carbon emissions by 89%.

3. BUILDINGS

Our infrastructure of hubs, depots and delivery units is a key part of our overall roadmap to become a low-carbon delivery business. We have already converted 100% of our purchased energy to REGO-backed (renewable energy guarantee of origin) UK renewables in our whole operation.

Our flagship 340k square-foot, 55-acre 'superhub' at Barnsley, which will open in 2022 and can handle up to 1.3million parcels a day, will include solar panels, rainwater harvesting and acoustic bunds to help

reduce noise pollution. There's also a substantial biodiversity area to support local wildlife, and we're planting more than 25,000 new trees and hedgerows.

Offsite habitation creation initiatives involve land being set aside and managed under a dedicated 30-year biodiversity management plan. This includes significant financial contribution to the maintenance and re-seeding of nearby playing fields.

This builds on other eco-features we've already got in place elsewhere in our network. For

Targets

- Introduce alternative zero-emission transport methods in our final mile.
- Reduce the carbon footprint of a parcel's journey through increasing the use of our out-of-home estate, which reduces a parcel's carbon footprint by up to 90%.



example, our Rugby hub features transparent roof sections to increase natural lighting and LED lighting throughout to save energy. We're also committed to comprehensive waste collection and recycling, with nothing sent to landfill.

4. PRODUCTS & SERVICES

Our proposition, developed and trialled in our bespoke Innovation & UX Lab in our home city of Leeds, helps customers and retailers become more sustainable. Many of our innovations can be easily integrated into our clients' checkout process as we support them on their own sustainability journeys.

Evri carbon emissions and energy consumption

UK and offshore GHG emissions data ¹	2021/22	2020/21
Scope 1 (tCO₂e)^{2*}		
Stationary combustion at all of Evri's sites, mobile combustion for all company owned vehicles.	68,060*	79,137
Scope 2 (tCO₂e)^{2*}		
Electricity purchased, and heat and steam generated for own use		
– Location-based	5,387*	6,228
– Market-based	4,208*	8,442
Scope 3 (tCO₂e)⁴		
Purchased goods and services, fuel and energy activities; well to tank and transmission and distribution emissions, upstream transportation and logistics, waste, business travel, employee commuting.	264,361	241,493
Intensity metric (tCO₂e per parcel delivered)		
– Market-based	520g	508g
UK and offshore energy usage	2021/22	2020/21
Evri energy consumption (kWh)^{3**}		
Total energy consumed (electricity, gas, and transport)		
– Electricity	25,805*	26,715
– Natural Gas	9,759*	8,335
– Stationary Combustion	1,007*	8
– Transport	328,716*	348,627
Evri electricity renewable (%)		
Total electricity which is REGO backed	41.6%	0%

Highlights include:

- Divert to ParcelShop and Locker.

Customers can divert their parcel earlier in its journey – before it's even on the road. Out of home is a priority because delivery/collection via ParcelShops and Lockers reduces a parcel's carbon footprint by up to 90%.

- 'Local to Local' – we're trialling delivery by electric bikes.

This has potential for a carbon-free 'store-to-door' delivery model while supporting local retailers post-Covid restrictions.

- Street-portering – carbon neutral delivery on foot to reduce emissions and congestion in urban areas. Successfully trialled in London, but we aim to explore scalability further. We've already delivered more than 75,000 parcels by foot and the benefits are clear: two electric vans and eight porters means six diesel vans are taken off the road.
- Packageless returns. Customers take their return item to a ParcelShop where staff will package it in an FSC-approved eco-friendly bag and consolidate into containers, reducing the amount of driver collections and CO₂ emissions. We've seen 4.2 million users to date and we're developing this further with more clients in 2022.
- Digital calling cards. Where we have an email address for the customer, couriers will notify them digitally when a delivery attempt has been made rather than leave a physical card. We've reduced the number of printed paper slips by more than 70 million.
- We're continually improving first-time delivery rates, which means fewer delivery attempts and less time on the road. We've enhanced tracking capability; employed geofencing technology; and partnered with innovative addressing service what3words to boost first-time delivery accuracy.

THE FLOORBRITE GROUP

WASTE MANAGEMENT INNOVATION & INCREASING SUSTAINABILITY AWARENESS AT TIP TRAILERS UK LOCATIONS

The Floorbrite Group have been providing waste services at TIP Trailers at Head Office site since September 2016. TIP Trailers services provides all the value-added solutions regarding transportation and logistics in Europe. Our bespoke Waste & Environmental Management Service was introduced and rolled out across the now 27 sites across the UK in Jan 2017. We offered a direct tailored alternative to waste removal and recycling services. In December 2016 our Waste & Environmental Consultant, Trudie Williams, who is an ISO 14,001 Lead Auditor and WAMITAB accredited, met with TIP Trailers Head Office and discussed the variable waste solutions. Our ideas fitted perfectly with their company objectives to increase office recycling and fall in line with the company's corporate and social responsibility. In becoming a responsible supplier and by diverting a higher percentage of waste to recycling means, TIP Trailers' focus switched to view the waste produced on site in Trafford Park. Trudie was able to help the management team outline their aims to reduce their carbon footprint helping them to achieve their sustainability goals, reduce costs, increase recycling and reduce landfill. Floorbrite's aims were to reduce waste



This is to certify that

TIP Trailers Ltd

participated in

Floorbrite Group Recycling Program

The Period from 2016 to June 2022

Diverted 53,835 kilos of waste from landfill in this period

Achieving Zero Landfill Status

Recovering Energy from 24,410 kilos of waste

Recycling 24,811 kg of waste

Saving 399 trees from destruction

Equivalent to 5461 kg of CO₂

Floorbrite Group congratulate staff members on the positive impact this recycling program has made towards saving our environment

Thank you all for your continued support

Green World Ambassador



removal costs, encourage increased recycling, achieve zero landfill, introduce full segregation of waste streams, recover energy from waste. Get buy in from management and staff to increase recycling, fully train staff, reduce overflowing containers and handle waste in the correct way. Finally, by working closely with TIP Trailers staff and management we have created a powerful case study to target other logistic companies to reduce their waste to landfill.

Our achievements have certainly helped the environment by reducing Co2 and transport (road mileage) to and around TIP Trailers UK sites and neighbourhood in the form of waste vehicles. The reduction in waste pickups has in turn reduced transport costs. Movement of waste on site has reduced due to the reorganisation of waste disposal and recycling points and the in-turn reduction in the total amount of waste produced. We have introduced the separate removal of Mixed Recycling and diverted the General Waste to waste to energy, increased the amount of paper waste removed for recycling, increased the amount of wood waste, ensuring that each waste stream had a sustainable collection and disposal method. By adding a workshop waste service, workshop waste detailed below which has reduced the staff time in sorting this waste for safe disposal and diverting this waste from previously contamination of the general waste skip and hazardous landfill to reuse. Adding the below waste containers to increase segregation in the workshops. Oily Rags/Sealants/Drummed Oil/Grease Cartridges/Thinners/Paint contaminated waste/Aerosols/Filters/Gloves/Spent Aerosols. We have also installed parts washer in all the trailer locations to clean and remove the oil from all used parts, this in turn is recovered for reuse. Interceptor fluid also form parts of the service, this waste is removed by tanker and cleaned and reused.

By educating the management team and staff they have become passionate about recycling. There is a real “Feel good factor” proved by Trudie’s reports and this has also inspired staff to take what they have learned home and become greener individuals.

There is a definite change in staff culture with all looking at ways to make other waste reductions. With Floorbrite’s recommendations, TIP Trailers have invested more in their onsite segregation process and promoted their achievements to their supply chain, inspiring their staff to carry out more recycling. By breaking down the waste into individual waste streams, Trudie’s waste and environmental reports give a clearer picture of the waste that is recorded. There is greater control over disposal costs and control of the waste visits on site.

TIP Trailers UK Sites are very proud that the introduction of Floorbrite’s new systems with the co-operation of the whole of the TIP Trailers team have achieved zero to landfill.

WHAT DID THE PROJECT INVOLVE DOING?

- Site Audit/ UK Site visits
- Visit to site 2 x per week during implementation process
- Ongoing visits with the Operations Manager
- Special cleaning of outside area’s
- Movement of all existing containers
- Placement of workshop waste containers and signage
- Re-Placement of skips
- Change of containers (External)
- Decrease in collection frequencies
- Provision and installation of signage
- Options of internal recycling containers
- Installation of Parts Washer on the sites for cleaning the metal components
- Managing the removal of existing containers
- Training and education during regular 12 monthly visits
- Negotiating new waste contractors and contracts

Arrange new delivery and collection process
Control of all Compliant documentation
Renegotiate year on year with all suppliers

WHY DID YOU DO IT

In becoming a responsible supplier and increase their focus on recycling, TIP Trailers UK Sites wanted to also focus on how their own waste production was dealt with on each site across the UK. From the original 11 sites TIP Trailers have continued to grow within their market sector, we have been fortunate to work with them through this growth period and added 16 further locations across the UK, all of which will benefit from the project of waste reduction.

WHAT DID IT COST AND WHERE DID THE MONEY COME FROM?

The money for the project came from the existing annual Budget for waste management, but by reducing waste transport costs by 7% the costs for reorganising the process became cost neutral.

If quantifiable what did the project achieve in terms of sustainability, development, economy, environment and equity.

All TIP Trailers staff, management and customers have been educated about the benefits of recycling with a change in culture by seeing the achievements unfold. All staff are enthusiastic about promoting their success and their green credentials with the ability to become attractive to PLC Companies and their own KPIs. The local community have benefitted from a reduction in traffic. TIP Trailers UK have benefited from transport saving and will benefit from further investment and savings. Floorbrite have reduced skip collections per annum from 80 to 34 and increased recycling from 8% to 85%. and still increasing. In achieving zero to landfill, since 2016, TIP Trailers diverted 53,835 kilos of waste from landfill, saved 92 trees from destruction and the equivalent to 5065 kg of Co2. With the total of waste diverted from landfill has continued to increase across the sites, month on month. With the workshop waste diverting a further 18,098 kg in the first quarter of 2022, achieving landfill diversion of a further 18098 kg, saving a further 307 trees, equivalent to 396.16 kg Co2.



LONGER TERM BENEFITS

As TIP Trailers are the leading edge in logistics and are embarking on further accreditations within the business and with their own waste management achievements, their credibility in this area will increase. As TIP Trailers own customers become more aware of the achievement and of their own responsibility to achieve sustainability goals, with a trusted track record they will be able to encourage and inspire customers to follow suit.

The story does not stop with what Floorbrite have achieved so far. We have inspired the TIP Trailer Sites to look at additional recycling innovations and make further investment in containers and signage to increase recycling in other areas. E.g., Floorbrite have changed the method of disposal and storage of Trailer Curtains on site and divert this waste from Landfill to reuse method. With these curtains weighing 250 kilos approx. this can reduce disposal costs and divert this waste away from the unsustainable landfill option to a reuse product. Floorbrite have introduced a reuse option for this material, where the trailer curtains are reused into shelters for farmland and used in humanitarian projects as roofing material for temporary housing.

WAS THERE ANYTHING INNOVATIVE ABOUT THE PROJECT?

- Introduction of correct size containers to reduce collections on site

- Introduction of storage methods, reducing costs of transport visits

- Innovative options for the movement of Trailer Curtains

- Place signage and containers in the correct locations for the workshop waste to be sorted correctly

CAN OTHER ORGANISATIONS BENEFIT FROM IMPLEMENTING YOUR METHODS?

Yes

Logistic companies could benefit from this method.

TRANSPORT COMPANIES COULD BENEFIT

Companies that have multiple skips or bin collections weekly would benefit from the introduction of a monitoring the weight and control of collections on site

Review each waste streams to find innovative options of disposal

WHAT DID YOU LEARN FROM THE PROJECT AND ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

Further development for the reduction of metal waste on site.

Further development for the segregation of Pallet waste recycling on site.

Carry out regular review meetings and site visits to help achieve consistent reduction on site.

AWARDS GAINED

2015 Bronze Green Apple Award – for the built Environment for improving environmental awareness

2015 Golden Service Awards x 2 (manufacturing and Hospitality)

2015 Silver Green Apple Award – Estate Management

2016 ROSPA Gold

2016 Gold Green Apple Award – Service Industries

2016 Green World Ambassador Award

2017 Silver Green Apple Award – Waste Management

2017 Green World Ambassador Award

2017 ROSPA Gold

2018 Golden Service Award [Environmental Innovation]

2018 Golden Service Award [Environmental Innovation]

2018 Green Apple Award – Waste Management

2018 Green Ambassador Award – Turkey

2019 Green Ambassador Award – Vietnam

2019 Environmental Awareness

2019 Best in Fields – Waste Management

2020 Environmental Awareness

2021 Environmental Awareness

2021 Green World Ambassador

2022 Green World Ambassador

We specialise in trailer leasing, rental, maintenance and repair, as well as value added services and provide these to transportation and logistics customers. TIP Trailers is a leading equipment service provider. With years of experience, we are experts in providing all services that a customer will require during the life cycle of a trailer, tanker or other type of equipment, making us a one-stop shop for all our customers' equipment needs.

As a customer of TIP, you need only to deal with one service partner, simplifying your fleet management and enabling you to focus on your core business activities. We are a pan European provider of these services and work independently from equipment manufacturers and banks, and that allows us to find the best possible solution to any transport-related need you may have.

Headquartered in Amsterdam, we service our customers from 102 locations spread over 17 countries in Europe and North America.

We apply high environmental and social standards to our business to support a sustainable future.

In our view, being economically successful and internationally competitive generates value for our shareholder, customers and society at large. We apply high environmental and social standards to our business to support a sustainable future. We recognise that we have a duty to our stakeholders to be a reliable partner with the highest integrity and ethics. We engage with and learn from others through open dialogue on mutual interests.

AIMING FOR ZERO WASTE TO LANDFILL

TIP Trailers invested time in partnership with The Floorbrite Group in the recycling system to reduce landfill waste. Floorbrite have introduced recycling facilities for the separate collection of confidential paper waste, paper, cardboard packaging, wood, metals, plastics and organic, hazardous waste. The prevention, re- use and recycling measures introduced by Floorbrite have reduced the amount of residual waste it produces by 55%. With the introduction by Floorbrite of the correct size and type of containers, we have been able to reduce the collection of waste across the locations. This helps reduce movement on site, cut down on road traffic in the surrounding housing estate and reduce road mileage and co2.

DIVERTING RECYCLING WASTE.

The introduction by Floorbrite of Internal Recycling Containers in offices and external areas, has diverted all recyclable waste into the external bins. Recovering other value Since Jan 2017, recyclable waste has been collected weekly and sent to a sorting plant to be recycled. All workshop waste has been segregated and sent for reuse instead

of landfill or incineration. Trailers curtain are now recyclable and not landfilled. Adding the below waste containers to increase segregation in the workshops. Oily Rags/Sealants/Drummed Oil/Grease Cartridges/Thinners/Paint contaminated waste/Aerosols/Filters/Gloves/Spent Aerosols/Interceptor Waste. We have also installed parts washer in all the trailer locations to clean and remove the oil from all used parts, this in turn is recovered for reuse. Interceptor fluid also form parts of the service, this waste is removed by tanker and cleaned and reused.

ENABLING RE-USE

As part of Floorbrite's objective to decrease the amount of waste produced on site, recycling containers have been introduced and has increased paper re-use, paper waste is sent for off-site and 100% recycled. All cardboard waste is now separated and sent for recycling. By the introduction of segregation of all mixed recyclable waste, Floorbrite have used a separate container for disposal via a recycling method on site. This has reduced collection of the waste considerably. All of this waste is removed and sent to a recycling facility which recovers 98% of the waste and the balance of 2% is used in waste to energy. This has achieved Zero Landfill for TIP Trailers Sites and has also seen a reduction in waste by 55%.

MAXIMISING OPPORTUNITIES FOR RECYCLING

We have set targets to increase the amount of waste it recycles. General Waste is a major waste item and TIP Trailers aims to reduce the amount it needs to dispose of by encouraging suppliers to: Optimise packaging to prevent excess; and use reusable containers. Any cardboard that cannot be re-used is recycled. Using the larger container means fewer visits from recycling contractors to collect the waste and less space is taken up by waste awaiting collection also improving site health and safety.

CONTINUED OPPORTUNITIES

Floorbrite are now looking into reducing General waste collections, by increasing segregation and removal methods on site. Which will further reduce the collection frequencies of the General skip.

COMMUNICATING WITH STAFF AND MANAGEMENT

Following initial discussions with Floorbrite, TIP Trailers aspired of achieving Zero Landfill. Floorbrite have been able to reduce waste disposal costs, which has inspired the Management and Staff into looking at how the saving can be reinvested in ways of recycling more within the business. Working together with staff, the Floorbrite team have visited site to carry out training with staff and fully audit the areas of concern to ensure initial targets are being met. Floorbrite trained on site staff and placed signage to help them understand where items go to be recycled. Train operatives on the movement of waste, type of waste, container and bags required. Quarterly waste reports are provided enabling the Management to see the improvement and the weight of each collection and share this with staff to motivate and keep the momentum. Only by measuring the waste can consistent improvement be made.

TIP Trailers sites have been able to inspire their supply chain with the good news waste story so far challenging them to make changes.

FM CONWAY

THIN SURFACE COURSE TRIALS CONTAINING 85% RECLAIMED ASPHALT

The aim of the project was to resurface Third Avenue in Westminster using an innovative surface course containing a warm mix of 85% recycled materials, ultimately showcasing that higher percentages of recycled content in our road surfaces should be used industry-wide as a more sustainable method of construction. Traditionally, standard practice has been limited to 50% recycled content for the lower layers of road and just 10% for the surface courses of motorways and A-roads, however this project marks the highest percentage of recycled material laid on a London road.

The use of this innovative material aimed to provide a more sustainable road surface, that both reduced the carbon emissions created as a result of the project delivery and provided more durable infrastructure for our client. In doing so, this would help our client achieve their ambitions of becoming carbon net zero, as well as providing a blueprint for the wider industry to adopt this specification across the UK's road network.

The project was successfully delivered and a road surface containing a warm mix of 85% recycled material was laid in Westminster. This marks the highest percentage of recycled material laid in London to date and means that we have demonstrated how resurfacing projects can be delivered in a more environmentally friendly way. FM Conway's bespoke product, SureLayer® E, which is produced at its own UKAS certified Laboratory, was used on the project, producing a 40% carbon saving over traditional hot rolled asphalt.

This saving was achieved via an increase in productivity, a reduction in the timeframe for the works, as well as the number of lorry movements required. The project's successful delivery has presented Westminster City Council with a solution



to deliver their carbon net zero goals, as well as contributing towards the circular economy. If adopted industry-wide, this solution has provided a more sustainable construction method for treating carriageways and could deliver large-scale environmental benefits.

WHAT DID THE PROJECT INVOLVE DOING?

FM Conway is an industry leader with 60 years' experience delivering innovative, sustainable construction solutions. Our self-delivery capability ensures low carbon and high-quality recycled materials are at the heart of everything we do, to achieve a greener future for our partners, communities and planet. In 2019, Westminster

City Council (WCC) declared a climate emergency, with the aim of the borough being carbon net zero by 2040. To support this and our own net zero ambitions, FM Conway worked with WCC to push the boundaries of materials recycling and laid a new specification surface course as part of a revolutionary sustainability trial.

The trial featured a bespoke product, FM Conway's single-layer solution, SureLayer E, which was laid on Third Avenue in the Queens Park district of Westminster. This product contained a recycled content of 85% which was a combination of high Polished Stone Value (PSV) Reclaimed Asphalt Pavement (RAP) and recovered aggregate. In total 760 tonnes of the material were supplied by FM Conway's Heathrow Asphalt Plant and successfully laid by its surfacing division, showcasing that higher recycled content in our road surfaces can and should be used.

WHY DID YOU DO IT?

The construction industry relies on primary aggregate for survival, but pressures are mounting for change with the impending climate crisis. Therefore, we challenged traditional methods to find more sustainable ways of working. Supporting clients' needs to reduce their carbon footprint is high on our agenda and FM Conway boasts a comprehensive range of high-quality recycled

products that offer bespoke solutions. Traditionally, standard practice has been limited to 50% recycled content for lower layers of roads and 10% for surface courses of motorways and A-roads. Westminster had a single specification of hot rolled asphalt (HRA), however we suggested SureLayer E, which challenged conventions around the amount of RAP incorporated in road surfaces and delivered carbon savings via the use of a more sustainable warm mix content.

Warm mix asphalt is mixed and laid at a reduced temperature, which cuts energy usage and reduces associated carbon when compared to traditional HRA. As a result, the use of SureLayer E in the overall scheme, including transport, produced a 40% carbon saving over traditional HRA. This also provided sustainability benefits, resulting from fewer plant and vehicle movements and safety benefits from fewer operatives working around heavy plant. The single layer is also quicker to lay than the traditional dual-layer HRA – the project was completed in four days rather than eight – making it less disruptive for residents.

WHAT DID IT COST AND WHERE DID THE MONEY COME FROM?

FM Conway is the contracted highways maintenance provider for WCC and completed the project as part of the borough's Planned Preventative Maintenance programme.

IF QUANTIFIABLE, WHAT DID THE PROJECT ACHIEVE IN TERMS OF SUSTAINABLE DEVELOPMENT, ECONOMY, ENVIRONMENT AND/OR EQUITY? WHO AND WHAT BENEFITED?

Savings/Benefits:
from Plant and Material Quantities:



Lorry Movements

HRA (traditional method) – 124 SureLayer E (new method) – 78

Material Required (tonnes)

HRA – 1230 SureLayer E – 780

Personnel:

Working Hours HRA – 1280 SureLayer E – 440

Operatives

HRA – 16 SureLayer E – 11

Works Duration (Days):

HRA – 8 SureLayer E – 4

LONGER TERM BENEFITS?

Warm Mix is more durable because there is less damage to the bitumen during the manufacturing process. This means that the network needs resurfacing less frequently, which reduces disruption for communities and importantly means a reduction in carbon. The greatest opportunity that the industry has to reduce carbon in road resurfacing is by doing it less. These activities have ensured that WCC's sustainability and carbon saving targets have been achieved. The use of high recycled content also contributes towards a circular economy, providing the industry with a more sustainable construction method for treating carriageways, which could deliver huge environmental benefits if adopted across the UK's road network.

WAS THERE ANYTHING INNOVATIVE ABOUT THE PROJECT?

The major innovations are:

- High recycled content makes it the most sustainable option for treating carriageways – the highest proportion of recycled content used for surfacing on any London street
- Using a single-layer treatment means the carriageway can be resurfaced in one pass,

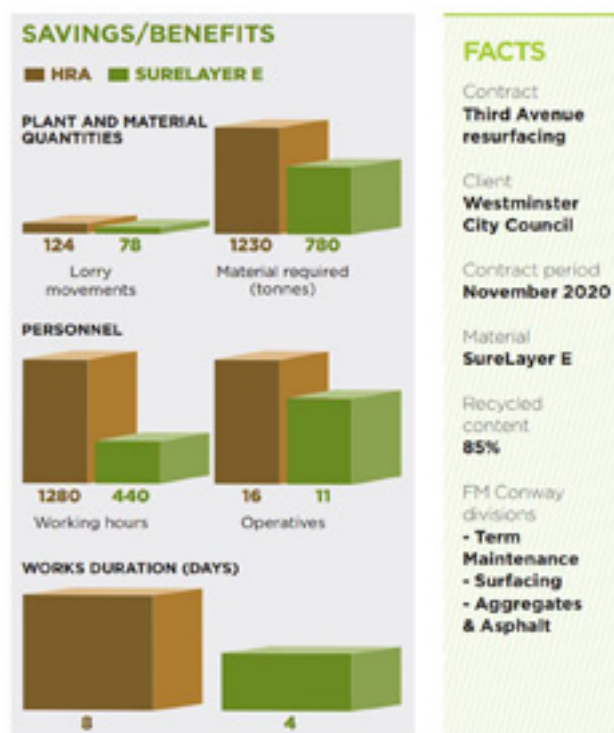
when traditionally it is two, reducing time on site, limiting disruption to residents and reducing the amount of plant required

- Warm mix asphalt provides high carbon savings
- An odour suppressant was added to the mix for the first time - this reduces odours during the material manufacturing and installation, reducing risk of "odour emissions" to staff and the public

CAN OTHER ORGANISATIONS/ COMMUNITIES BENEFIT FROM IMPLEMENTING YOUR METHODS?

With a strong network of high-profile clients, we are working with industry partners to combat the current climate emergency. This initiative builds on previous work with TfL. In 2015, FM Conway laid its SurePhalt asphalt surface course mix, containing 50% recycled aggregate, on the A1.

This marked the first time that a surface course mix containing such a high proportion of recycled material had been used on a highly trafficked



strategic road. In 2019, FM Conway working with surfacing business partner Toppesfield, Skanska UK and Connect Plus Services, delivered an asphalt surface course containing 50% recycled content on the M25. This marked a step change in the use of recycled material on the UK's Strategic Road Network (SRN). These projects provide a blueprint that is transferrable to any surfacing scheme and this approach is paving the way for highway authorities to adopt more sustainable methods to highway maintenance that protects our natural resources whilst reducing their carbon impact.

WHAT DID YOU LEARN FROM THE PROJECT AND ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

The project showed that higher percentages of RAP content can and should be used to achieve more environmental benefits within our work in the industry. There is a constant demand for resurfacing on the SRN, so improving the management of waste

and recycling rates is crucial in tackling the UK climate emergency.

FM Conway previously delivered similar trials with TfL and WCC and is working with National Highways on the next phase of this innovative approach to sustainable construction. We will continue to strive for innovations like this to become standard working practice in a bid to become carbon net zero by 2045.

DETAILS OF ANY RELEVANT ACCREDITATION OR AWARDS GAINED.

- United Kingdom Accredited Services (UKAS) certified laboratory
- Our laboratory is on the British Board of Agrément's (BBA) External Risk Register – a UK body accredited by UKAS that provides environmental certification to the ISO14000 series and operates appropriate internal controls



FM Conway's Technical Centre and laboratory facility

BESPOKE SOLUTIONS **LEADING MATERIALS INNOVATION**

FM CONWAY IS HELPING CLIENTS UNLOCK THE ENVIRONMENTAL AND ECONOMIC BENEFITS OF SUSTAINABLE MATERIAL DEVELOPMENT FOR PAVEMENT DESIGN

Through our UKAS Accredited Laboratory, we can provide a full suite of testing and design services for bitumen, asphalt, aggregate and concrete to help deliver bespoke pavement solutions that meet exacting performance and sustainability objectives.



To find out more about our laboratory

Please call 01474 333 221

visit: www.fmconway.co.uk

email: laboratory@fmconway.co.uk



FRESH-PAK CHILLED FOODS Ltd

EFFECTIVE USE OF RESOURCES

Our sandwich fillings business grew out of our egg processing operation, which was, and remains, the biggest in Britain, cooking 2-3 million eggs every week. One of our core values is the “effective use of resources” taking responsibility to use all our resources wisely.

As a food business, we’re constantly dealing with natural ingredients and materials. And like any large manufacturer, we’re also aware that our activities affect not just our immediate area and neighbours, but our partners, suppliers, and customers further afield, too.

OUR PROJECT AIMS INCLUDE:

- Maximising the recycled content and recyclability of our product packaging • Minimising food waste arising (UN SDG 12.3)
- Improving our recycling rate (71%)

- Minimising waste to landfill
- Implementing processes to reduce our carbon footprint

No two years are the same in our business. Our trading patterns change with the weather, customer, and consumer demands and of course, the impact of the coronavirus pandemic. So, when we benchmark our performance, rather than comparing year on year tonnages, we ask ourselves what our environmental credentials would be if we hadn’t made the changes highlighted.

The last year has been incredibly busy, and we’ve taken huge steps along our sustainability journey. By Targeting, Measuring and Acting, our environmental credentials from May 2021 until April 2022 are as follows:

- Sandwich filler packaging contains 80%+RPET and is itself recyclable





- Cardboard outer cases contain 85%+ recycled content
- Cardboard sleeves on certain products made from virgin board are from FSC certified sources
- Improved recipes & portion control as part of our commitment to WRAPs Food Waste Reduction Roadmap
- Reuse or Recycle 99% of all waste generated
- Just 0.02% of waste is landfilled
- Our Scope 3 carbon footprint for 'Waste Disposal' has reduced by 84%
- Switched to LED lighting where possible in the factory
- Upgraded 60% of chillers to the latest energy efficient refrigeration gases
- Installed an energy efficient boiler and pumps

PROJECT BACKGROUND

It's probably impossible to picture a factory that processes 2-3 million eggs every week, but that's part of what we do when producing sandwich fillings for some of the UK's best-known supermarkets. The "effective use of resources" isn't about contractual obligations with our clients, it's a moral obligation to our staff, their families, and the climate. We've spent the past few years focusing on way to improve all aspects of our environmental credentials and over the past year we've taken some great strides forward.

In 2020 we were already diverting 84% of our waste from landfill:

71% of materials being sent for recycling or processing via anaerobic digestion facilities

13% being crushed eggshells sent to local farmers for reuse.

The fact is that the calcium from eggshells is great for soil, it moderates soil acidity while providing nutrients for plants.

Eggshells contain such an abundance of calcium that they can be used almost like lime. Our environmental credentials were good, but they'd plateaued. We could have continued as we were and sought a supplier to divert general waste from landfill and continue as is. But as you can see from our objectives, we wanted to do a lot more than that.

WHAT DID THE PROJECT COST?

In terms of waste disposal, there has been no increase in costs to deliver our improved environmental credentials. Our waste partner allocated a Sustainability Manager to work with us on engagement programs for staff, and their in-house marketing team provided digital support for our education campaigns. The fact is, we now produce less general waste and recycle more than ever, which means our costs have actually decreased. With regards increasing the recycled content in our packaging, the costs fluctuate for many reasons, but if we had failed to ensure high levels of RPET in our products we would have incurred UK Government plastic packaging tax.

We have invested a large sum of money to update our boiler system and refrigeration units to ensure they are more energy efficient. However, the costs are partially offset by the significant rises we are all seeing in energy prices in the UK.

WHAT WE ACHIEVED

We generated 8,334 tonnes of waste in the timeline mentioned earlier. If we had carried on with our previous approach, 1,335 tonnes would have been sent to landfill and our Scope 3 carbon footprint for 'waste disposal' would have been 944.4 tonnes (based on Government published GHG conversion factors).

Between May 2021 and April 2022 our waste hierarchy stats are as follows:

REUSED 1,112 tonnes (13.3%) Eggshells

RECYCLED 7,136 tonnes (85.6%)
Cardboard, several grades of plastic, effluent Houmous, mayo and pits, food waste, mixed recycling, metals and wood.

RECOVERED 86 tonnes (1%) General waste

LANDFILLED 1.5 tonnes (0.02%) General waste

By focusing on increasing recycling, segregating all food waste and adjusting our supply chain to maximise landfill diversion we reduced our Scope 3 carbon footprint for 'waste disposal' down to just 154 tonnes; the 790-tonne reduction represents an 84% decrease in just one year. To put the saving into context, you would have to drive a Toyota Prius 8,406,744kilometers to produce an equivalent footprint.

ENGAGEMENT & BUY-IN

From day one of our partnership Novati mobilised a zero landfill solution. By engaging with their supply chain, they were able to identify a provider who could ensure that all general waste was sent for recovery. However, this solution was always intended to be a stop-gap until a full audit of processes on-site could be completed.

We worked together to analyse the material composition of the general waste. Several recyclable waste streams were identified and traced to identify the reasons why the materials ended up as general waste. Through investment in additional bins & services and by engaging with staff, we've been able to create a new solution for almost everything that was being viewed as general waste. But, the recipe for success was more than just installing the right bins in the right places.

Delivering technical change was only half the job, success was achieved because we engaged and empowered staff who produce and dispose of the waste on a daily basis.

We've designed bespoke posters that include images of the materials staff see on a daily basis. By making the information simple to read and easily accessible we're able to gain greater buy-in from staff to maximise recycling and source segregation. This has been further underpinned using a sustainability quiz and a recycling crossword.

FUTURE PLANS

Here's just a few of our plans for the this year:

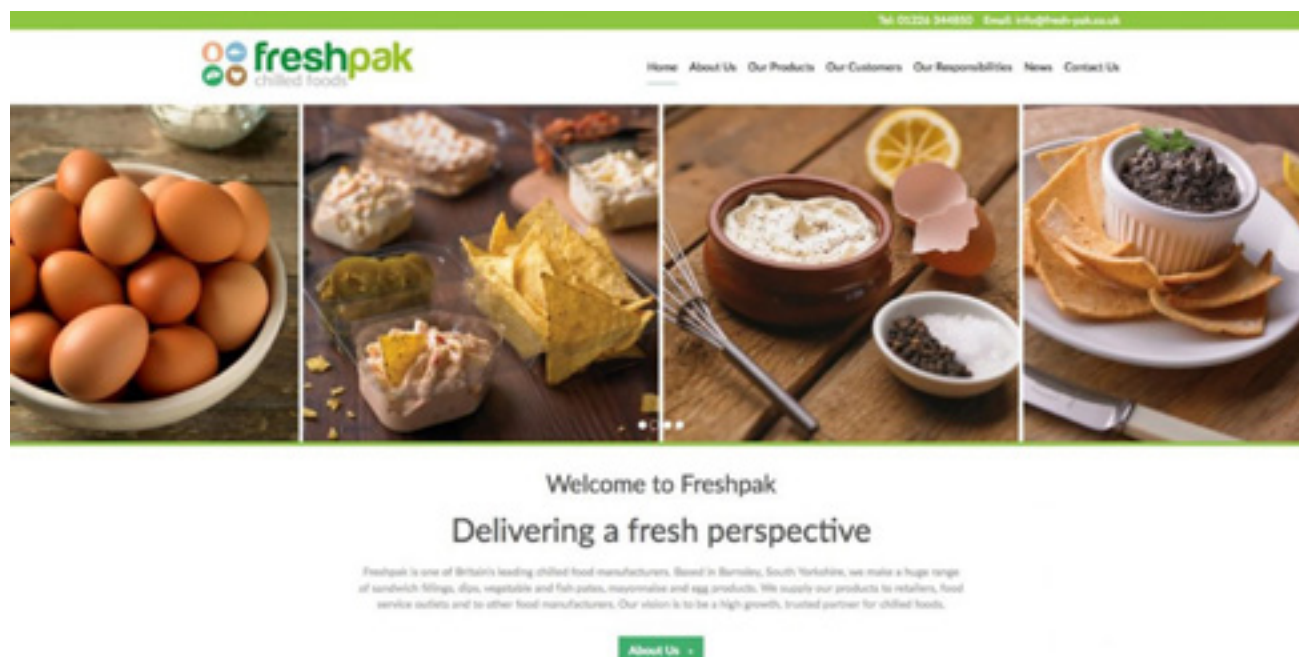
- Implementing a project to reuse air filters historically deemed as single-use
- Recycling of PPE & other workwear
- Increase staff community fridge availability during cost-of-living crisis
- Increasing recycled content within our product packaging

OUR ACCREDITATIONS

As a chilled food manufacturer, we operate in a highly regulated industry. We're proud of our exemplary technical compliance record, and our industry approvals including BRC AA+ accreditation (under the full unannounced scheme).

Our South Yorkshire facility offers a selection of sandwich and deli filling, dips and other products conforming to Marine Stewardship Council (MSC) global sustainability standards and the RSPCA Assured (formerly Freedom Foods) welfare standards.

As one of the true pioneers of deli and sandwich fillings in the UK, and the country's largest producer of hard-boiled eggs, we're active in a large number of industry bodies and associations, including Campden BRI and the British Sandwich Association (BSA).



FRESHNEY PLACE SHOPPING CENTRE

FRESHNEY PLACE SHOPPING CENTRE

Freshney Place Shopping Centre is the largest shopping centre in Lincolnshire. With over 80 shops, cafés and restaurants, we welcome more than 9 million visitors through our doors each year.

As a major attraction, we recognise that our everyday operations influence the environment and have therefore voluntarily implemented a thorough and rigorous Environmental Management Plan designed to minimise the impact we pose.

We also want to follow on from our Green Apple entry in 2018 and maintain what we set out to achieve pre-Covid-19 gripped the world.

WE AIM TO:

1. Become a more environmentally sustainable retail operation
2. Reduce our usage of key resources by at least 2% each year
3. Protect and enhance the environment on a local and global scale
4. Minimise any negative environmental impact our operations may have
5. Make a positive environmental impact
6. Prevent pollution





7. Comply with legislation
8. Operate an environmentally responsible building
9. Minimise production of waste and waste sent to landfill
10. Raise staff awareness of environmental issues and involve staff in the delivery of this policy
11. Consider the environmental impact of goods and services when purchasing and procuring.

As part of the implementation of our plan, we have undertaken an array of different initiatives to improve our environmental impact and performance. As a result, we have achieved the following:

1. No waste from the shopping centre is sent to landfill. (70.24%) of waste is recycled over the last 4-year period 2018-2021 with the

remainder (29.74%) incinerated to produce energy.

2. Reduction in total waste since measures set up in 2013
3. Reduction in electricity usage since 2014
4. Reduction in paper usage since 2015
5. Installation of free electric vehicle charging points
6. Installation of free to use cycle racks
7. Created an effective community education and awareness project delivering informative workshops
8. Encouraged and provided recycling facilities for visitors to the shopping centre.

RESOURCE EFFICIENCY

Improving resource efficiency is one of the key elements of our environmental project and we have been focussed on achieving a minimum 2% reduction in the usage of the following resources each year.

ELECTRICITY

Electricity usage has been reduced by 30% since we introduced our environmental measures;

- 2014 by 8%,
- 2017 by 8%
- 2018 by 9%.
- 2019 by 6%
- 2020 by 20%
- 2021 by 10%

In 2020/2021 this significantly dropped due to Covid-19 and the restrictions in place to close the business. We then reopened for essential retail under Government guidelines. With the measures introduced, one of the main initiatives we started to introduce pre-Covid-19 and has continued is our lighting replacement scheme. We have installed LED lighting to almost all areas of the shopping centre and car parks. Also, energy saving feature such as gearless operation, LED lighting, low power modes and motion sensor lighting was part of our lift refurbishment.

TOTAL WASTE

The amount of waste produced by the shopping centre has reduced considerably from 398 tonnes each year, since the measures were set up in 2013, to 168 tonnes in 2021. In 2020/2021, when Covid-19 gripped the globe, lockdowns and restrictions saw non-essential retail waste drop further in percentage and tonnage, but before 2020 there was already a decrease in waste produced.

This reduction is a result of our efforts to educate and encourage tenants to reduce their own wastage and dispose appropriately.

None of the waste produced by the centre is sent to landfill - all non-recyclable waste is now sent to produce energy.

RECYCLED WASTE

Since the beginning of 2018 to 2021 the centre generated 896.63 tonnes of waste, 629.82 tonnes has been recycled with 269.81 tonnes sent for incineration giving a 70.24% recycling rate, with 29.74% sent to produce energy.

To achieve the above we increased the provision of recycling bins throughout the shopping centre and have actively encouraged tenants to recycle.

The introduction of 1100litre drop front bins for further segregation has aided this, and with the service road divided into zones, it has made it much easier to identify tenants who are not complying with our shopping centre procedures. We also offer our tenants workshop training

Since our policy for recycling waste was initiated in 2014, we have seen the amount of waste we recycle drop with the installation of a second static compactor and open top skips for other waste streams. We have been able to break down waste and make sure it is placed in the correct container for disposal. No waste is sent to Landfill.

PAPER

We have achieved a reduction in paper use since 2015. This continual reduction in paper usage is due to a multitude of initiatives including automatic set up of double side printing, usage tracking, internal "Think Before You Print" campaigning and paper usage reporting. 2020 and 2021 we used less paper due to restrictions on non-essential retail but before this we had a decrease each year.

TRAVEL & TRANSPORT

Our travel policy aims to reduce the environmental impact that travel and transport to the shopping centre has. A good range of public transport services are available, and the centre encourages sustainable travel through the provision of free electric vehicle charging points in car parks and its free cycle parking areas. Business travel is monitored, reported and sustainable methods of transport are encouraged.

Since September 2018 we have reduced the number of visits made by our waste management vehicles from 104 visits per annum to just 30. This is being achieved by installing a second static compactor and bulk container and with skips for other waste streams. We have also appointed a local supplier to collect waste, reducing travelling distance.

GREEN GRIMSBY

Our 'Green Grimsby' campaign still drives greater awareness of environmental concerns amongst colleagues and visitors.

Two designated recycling areas have been installed in the shopping centre for visitors to use for mixed waste.

Staff members have also cleared debris from of a section of the river Freshney that was causing harm to wildlife and plants.

We have also installed water butts on our service road which helps with rain harvesting. The harvested rainwater is then used to water the multiple flower baskets and tubs located around the site.



FURTHER INFORMATION

A growing environmental conscience and desire to support the environment led to the decision to implement these environmental initiatives. No enforcement actions have ever been taken against the organisation.

All our plans and policies have been well communicated to staff and tenants to ensure their co-operation and involvement. Notices and formal plans have been available on the website, displayed on noticeboards and included in tenant newsletters. We hold regular talks with staff teams where environmental issues are raised and promoted.

The cost of specific energy saving projects, e.g., lighting has been

approximately £150,000. The money to fund the changes has come from the centre's owners and tenants with payback periods typically being under two years. A large number of savings have come from the cyclical replacement of equipment and plant with energy savings being considered during procurement.

The changes we have made hold real long-term benefits to the environment, using less resources, producing lower carbon emissions and improving consumer behaviours all of which will have a positive effect on the environment each year.

We are dedicated to continuing to achieve a minimum 2% reduction in resource usage each year which will further heighten the long-term benefits of our project. 2020 and 2021 were extremely challenging years in the retail sector, we can all hopefully move forward to get back in line with our savings pre Covid-19.

Our environmental initiatives have taught us that being 'green' isn't difficult to achieve. We now constantly review our actions and learn about other changes we can make. Looking ahead, we are already focussing on reducing our use of gas and diesel. Air handling units are our main consumer of gas, and we will continue with a replacement programme for these units, installing motor inverters to improve efficiency and high efficiency gas burners to improve energy usage. To reduce water usage, we have installed smart trackers on our cleaning machines which will show when too much water is being used, aiding us to identify where we can make usage savings. The introduction of waterless urinals has seen our water usage drop. We have also taken steps to reduce our diesel use, acquiring an electric buggy to replace our diesel-powered refuse collection machine and replacing inefficient cleaning equipment

with more energy-efficient battery powered versions.

We have installed a chilled water dispenser on the mall. As part of our green campaign, we have provided free refillable water bottles to our visitors to encourage them to be more environmentally friendly by helping to reduce plastics

We also compost the used coffee grounds from some of our café operators, which is then used as fertilizer in our flower beds and tubs.

Many organisations can benefit from implementing the energy saving methods that we have introduced. Making changes such as switching to LED lights and monitoring paper are easy, inexpensive, and effective and can be done by companies of all sizes. Education is key when it comes to the environment and community campaigns such as our Green Grimsby initiative can be easily replicated by other organisations.

Freshney Place has already been awarded an Investor in the Environment (iE) Silver level accreditation and achieved a Green Apple in 2018. As a business this is a vital aspect of what we are striving to achieve, looking after the environment. We aspire to progress each year now we are getting back to normality to look, learn and protect our environment.



GOURMET BURGER KITCHEN UK Ltd

TOMORROW'S BURGER CAN ALWAYS BE BETTER

Before this initiative commenced, GBK recycled just 45% of the total waste arising from restaurants. Worse still, food waste was being disposed of with the general waste and there was no information about how much of that general waste was being diverted from landfill.

THE OBJECTIVES WERE:

- Audit all restaurants to establish the recycling potential of each site with a goal of 70% recycling
- Implement food waste recycling
- Create and implement a Zero landfill solution
- Utilise an SME supply chain to ensure we support the local communities in which we operate
- Become certified as carbon neutral
- Sign up to the UK Plastics Pact Trial "Too Good To Go" app to reduce food waste When we came out of lockdown in the spring of 2021, Novati headed out into our estate and audited all restaurants where we have control of waste and recycling processes.

The aim was to engage with our restaurant teams and put together a Sustainability Plan that can deliver our objectives and to mobilise these solutions in June 2021.



Following the initial audit and engagement program a new sustainable service solution was created and mobilised to commence on 1st June 2021.

- Of the 15 GBK restaurants covered by this initiative, 14 now segregate food waste which is now sent for Anaerobic Digestion instead of being mixed with general waste.
- 12 of the 15 restaurants now consistently recycle 70% or more of their total waste arisings.
- 99.94% of our waste is being diverted from landfill

- Our combined recycling efforts equate to 71.21% of total waste arisings.
- 85% of the material collected is done via Small and Mid-sized businesses
- 93% reduction in Carbon footprint for Scope 3 'Waste Disposal'
- On 7th December we announced that Boparan Restaurant Group had been certified as carbon neutral.
- All Boparan Restaurant Group brands signed up as Associates of the UK Plastics Pact
- Commenced trial with "Too Good To Go" app

WHAT WE DID AND WHY

Boparan Restaurant Group are a forward-thinking family of brilliantly diverse brands and we're

passionate about food and hospitality, often looking for new ways to innovate and create unforgettable experiences. Boparan acquired Gourmet Burger Kitchen (GBK) in October 2020 from Administrators. GBK is all about straight-up honesty in everything it does. We're talking about burgers made fresh from real ingredients, service delivered by real people with genuine smiles and real solutions to minimise the impact we have on the climate.

In the months that followed the acquisition, we focused on creating a commercially viable brand that would be ready when government Covid restrictions were eased. In Spring 2021, we appointed Novati as our partner; delivering solutions that maximise the value of our natural resources. Having already worked together on brands such as Giraffe, Harry Ramsdens, Slim Chickens and Fishworks, the partnership has a great understanding of each other and a clear plan to deliver fantastic results.



THE COSTS

Whilst cost savings weren't a priority for this project, it's also fair to say that we couldn't allow GBK costs to spiral. Working closely with restaurants, we've been able to repurpose existing bins to improve waste segregation; meaning we haven't had to invest heavily in this area.

During the audit program, service specifications and costs were reviewed, and new recycling led solutions were implemented at no additional cost. All the internal staff engagement collateral was designed by Novati's inhouse marketing team meaning the costs had already been factored into our commercial deal.

PROJECT ACHIEVEMENTS

As we've already stated earlier in this submission, we've achieved all the goals we set out to achieve. Given the nature of our business and the impact the coronavirus pandemic had on the hospitality sector, it's simply not possible to give an exact year vs year comparison for waste management. Instead, we benchmark ourselves by asking "what would our stats look like if we hadn't made the changes".

Here's how the annual figures compare:

Cardboard (Recycled)

Pre-Project 5.57 tonnes (119kg CO₂e) Post-Project 4.03 tonnes (86kg CO₂e)

Dry Mixed Packaging (Recycled)

Pre-Project 107.42 tonnes (2,287kg CO₂e) Post-Project 178.89 tonnes (3,809kg CO₂e)

Glass Bottles (Recycled)

Pre-Project 142.03 tonnes (3,024kg CO₂e) Post-Project 106.90 tonnes (2,276kg CO₂e)

General Waste including Food (Landfilled)

Pre-Project 305.28 tonnes (156,329kg CO₂e)
General Waste excluding food (Recovery) Post-

Project 184.45 tonnes (4,298kg CO₂e)
Food Waste (Recycling) Post-Project 86.03 tonnes (770kg CO₂e)

Our overall recycling rate was just 45% with the remainder being sent to landfill; our carbon footprint for Scope 3 'Waste Disposal' was 161.76 tonnes CO₂e Our recycling rate is now 67% with just 0.05% of waste being sent to landfill; our carbon footprint for Scope 3 'Waste Disposal' is just 11.24 tonnes CO₂e.

That's a phenomenal 93% carbon reduction.

****NOTE**** as we have no record of how previous suppliers managed the disposal of general waste we had to assume the worst case; that it was being sent to landfill.

LONG TERM BENEFITS

12 of our 15 restaurants consistently recycle about 70% of their waste. The others still recycle 60%+ so we're continuing to work to find ways of supporting them to achieve our goals. We know we're capable of doing more, doing better; and we see this in restaurants like Cambridge, who recycle an eye watering 86% of their waste.

Through the sustainability plan and project roadmap we have in place with Novati we're looking at the best practice in place at the restaurant and seeing what we can learn and how we can replicate this success throughout the rest of the estate. Our carbon neutral certification means we're actively helping to fund renewable energy; woodland preservation; and tree planting projects around the world. The certification is regulated by the Verra Verified Carbon Standard, Gold Standard Voluntary Emission Reductions (VERs) and the United Nations Certified Emission Reductions (CERs) programmes.

Group-wide carbon neutrality certification is a proud moment for us, but there's still a lot of work to be done. This is an early step in our sustainability



journey and our ultimate aim is to achieve true net-zero across all brands; we're seeking and implementing scientific methods to get there.

Delivering the technical changes to make this initiative successful is complex enough. However, this initiative would have failed if we hadn't engaged and energised our teams. One of the biggest challenges of running an effective sustainability initiative is getting the teams onboard. It's vitally important everyone is on the same page and carrying out materials handling procedures correctly.

We need to raise awareness and educate staff on the challenges and the solutions because this is fundamental to driving long-term cultural change. This was done in several ways, all were designed to ensure staff understand the impact our operations and actions have on the environment in which we all live. Restaurant Managers and the Head Office team now have access to reports which shows the tonnage of materials being generated by site by month; and includes details of how the material was processed in line with the waste hierarchy.

More importantly, reports include Greenhouse Gas (GHG) conversion factor data on Scope 3 'Waste Disposal' so that we have a clear picture of our carbon footprint. We're able to analyse trends and

create ongoing projects designed to minimise the impact our operations have on the environment.

INNOVATION

At a glance, segregating material and diverting it from landfill may not appear innovative. However, very few companies in the hospitality sector are able to boast high recycling rates and most are yet to announce their net-zero goals let alone announcing themselves to be carbon neutral.

We are also one of the first in the sector to sign up to the UK Plastics Pact.

SOCIAL BENEFITS

From the outset, we knew we wanted to work with SME's wherever possible on this project. 85% of the tonnage of material collected over the past year has been done via SMEs. Of the remainder, 8* has been collected by local authorities leaving just 7% being placed with large companies.

GREEN MOTION

ADVOCATING FOR SUSTAINABLE DEVELOPMENT

Green Motion's objective is to ensure that Green Motion operate and promote the lowest CO2 emitting fleet within a given region/country. From a global perspective, around 35% of our fleet is made up of hybrid or electric models and our ultimate mission is to deliver the world's first and only zero emission fleet. In addition, Green Motion strives to offer customers the choice to rent vehicles from a company who is genuinely concerned about their impact on the environment.

The Green Motion model is unique as it does not charge a premium to go green, educating customers that they do not have to compromise on cost or comfort to make greener choices. We also concentrate on overall environmental and sustainable efforts such as reducing our energy use, minimising water consumption, effective recycling and the employment of sustainable/ecological materials throughout our business platform.

Fleet: Prime examples of Green Motion franchisees fully embracing our CO2 emissions philosophy are Green Motion Martinique and Guadeloupe, who operate the cleanest BMW and mini fleet, including the new electric mini and the new BMW X5 edrive hybrid; Green Motion UK also recently added a fleet of VW ID.3 full-electric, as well as a brand new fleet of Polestar full-electric to their portfolio for 2022, embracing the very latest zero-emission technology and expanding their already market-leading low-emission offering.

Joining Green Motion Martinique and Guadeloupe and leading the changing landscape of mobility is Green Motion Australia that, in the recent month, has added all electric Tesla Model 3 and BMW X to its ever-expanding fleet. Green Heart Foundation: Tens of thousands of dollars have been donated through the Green Heart initiative resulting in the planting of thousands of trees along with other ecological initiatives.

Green Motion is considered to be the only legitimate offering in the environmental car rental sector with us having the lowest CO2 fleet with a large selection of environmentally-focused vehicles including hybrid, plug-in hybrid, range extender and full electric. Each franchised Green Motion location must adhere to strict guidelines for operational sustainability as well as the rental vehicles they contain on their fleet.

CO2 EMISSIONS:

The perfect example of Green Motion's efforts to build upon the objective of reducing CO2 footprint is Green Motion Curaçao. Having opened at the in 2022 the location has already become the first rental company on the island to have electric car offering - The Letin Mengo with a single charge range of a 300km. In support of Green Motion's low-emission goals, European airline Wizz Air in collaboration with Booking.com recently entered into a partnership with Green Motion for 2022 as part of their efforts to





reduce emissions associated with travel, to provide greener car rentals to their customers.

LEADERS IN THE ENVIRONMENT:

At Green Motion's annual Awards ceremony held during our International Conference, a Leaders in the Environment Award is presented every year. This Award was recently won by Green Motion Morocco, who focused on strengthening their environmental responsibility by reducing emissions, managing waste efficiently and making employees aware of the importance of eco-responsible behaviour. Green Motion Morocco is continuously improving the energy efficiency of its sites and fleet; it also uses renewable energies and the latest technologies to minimize the consumption of electricity. It regularly renews its fleet, introducing less polluting and more fuel-efficient vehicles. In addition, Green Motion Morocco supports the installation of electric terminals in Morocco in Partnership with their highway association.

They have 15 charging stations for electric vehicles located in 10 Total service stations. This franchisee was the first to launch hybrid cars for hire in Morocco, in partnership with Toyota. Another award that is presented every year is our 'Greenest Fleet' Award which recognises the Green Motion franchisees who have best embraced our green credentials, and have taken the best steps to increase low emission vehicles within their fleet.

For 2021 this award was jointly won by Green Motion Italia who has the greenest car rental fleet in Italy, and Green Motion Martinique & Guadeloupe

who as previously mentioned have the widest selection of hybrid and full-electric mini and BMW fleet to rent. Green Motion Costa Rica has received their Sustainable Tourism Certification and has organised volunteer activities throughout the year, totalling 444 hours supporting environmental initiatives such as cleaning natural protected areas, recycling campaigns and supporting communities.

Presenting our franchisees with Awards such as 'Leaders in the Environment' and 'Greenest Fleet' really helps to reinforce the ethos and give them pride in themselves, the Green Motion brand, and what it stands for.

SOCIAL IMPACT:

Our global network of franchisees are all true ambassadors for the green environmental movement. The master country franchisee for Green Motion Costa Rica launched the Green Heart Fee initiative in 2013 which has now been adopted across the entire global network. The Green Heart fee is charged to customers when they make a booking with Green Motion (they do have the option to opt out if they wish) which is then donated directly to the Costa Rican government reforestation and conservation programs via FONAFIFO.

This initiative allows Green Motion customers to reduce their CO2 footprint by offsetting the emissions produced while driving one of our vehicles. Tens of thousands of dollars have been donated through the Green Heart initiative resulting in the planting of thousands of trees along with other ecological initiatives.

A VERY DIFFERENT APPROACH

Established in the United Kingdom in 2007 by car rental entrepreneur Richard Lowden, Green Motion was launched with a very different approach to the market, with the environment at the very core of its business, taking the unique position of offering both its leisure and business customers the opportunity to lower their own carbon footprint when hiring a vehicle – essentially a green rental service from a green rental company.



Green Motion International was also awarded the prestigious Green Tourism Silver Award in 2019, and is currently working towards achieving Gold status. Initiatives such as analysing waste and recycling processes, as well as water use reduction by installing new efficient toilets were introduced in accordance with the Silver Award criteria.

Nearly 52% of all direct to brand Green Motion customers choose to contribute to our carbon offset initiatives when booking car rental.

Awards – Green Motion is proud to be an award winning car hire company, winning several environmental contribution awards such as

GreenFleet's 'Rental Car Company of the Year' 7 years in a row (2009 – 2016), Energy Saving Trust's 'Fleet Hero Award' in 2011,

the 'Environmental Rental Company of the Year' for the Institute of Transport Management in 2011,

and Green Apple Awards in 2015, 2016, 2017, 2018, 2019 and 2021 as well as becoming Green World Ambassadors in 2016, 2017, 2018, 2019, 2020, 2021

and 2022 Green Motion also won an International Corporate Social Responsibility Excellence Award in 2020, 2021 and 2022.

Green Motion is also a finalist in SME National Business Sustainability Award for 2022.

We are incredibly proud that our Founder & CEO Richard Lowden was also named a Finalist for the 'Lockdown Leader' Award in the 2020/21 SME Business Awards for his swift, decisive, innovative and sustainable response to the pandemic.

THE FUTURE:

Green Motion is now in its 15th year of operation and has achieved phenomenal success in creating a completely new brand sector within the daily rental industry with many of our industry partners and competitors starting to introduce their own greener fleet. Green Motion was genuinely the market disrupter that started the total change towards greener vehicle rental.

Despite the last two years being the toughest in Green Motion's history, not just for the car rental sector but the entire travel and tourism industry, our franchisees have continued to thrive, with us expanding into new locations, launching new franchises.

We will continue to support the regeneration of the travel and car rental industries, using our position as leaders in our sector to reinforce our green message for sustainable development and progress towards 'Drive Zero'.

GREEN PARK, READING

GREEN PARK, READING

The original landscaping remit for the design and build of Green Park was to create and manage an attractive working environment through visually appealing amenity and recreation opportunities. Although the original design included an emphasis on biodiversity - especially birds – the current Biodiversity Management Plan has expanded to include a variety of species.



This has significantly increased the biodiversity levels, which have exceeded the original remit. The motivation for this includes protecting, maintaining and enhancing the biodiversity interest/character of the habitats and protected/notable species; to strengthen relationships with local wildlife groups; and actively manage the park for the enjoyment of its users and promote news of Green Parks biodiversity achievements

Over the past 13 years there has been continued increases in species numbers and diversity with birds and bats being

of particular importance. Effective landscape management has led to a reduction in abundance of invasive species and strategic partnerships with the environment agency has led to the near eradication of floating pennywort.

Each year, Green Park increases the diversity of habitats available through planting of wildflower areas, and effectively managing reedbeds. Green Park has successfully retained the biodiversity benchmark accreditation from the wildlife trusts for 6 years and was the winner in the legacy category for the big biodiversity awards in 2021.

WHAT DID THE PROJECT INVOLVE DOING?

Originally the site was low-lying, poor quality agricultural land.

The first biodiversity action plan, produced in 2009, is continually reviewed, updated, and expanded. A phase 1 habitat report was produced in 2011 which





helped identify the known or potential key ecological receptors within the park. The original owners identified a clear sustainability objective to achieve a net gain in biodiversity and provide a distinct, diverse attractive place without compromising the value and integrity of the environment.

SMART objectives in the biodiversity management plan (BMP) include wildflower meadows, bird/bat boxes, native planting. BMP was compiled in 2014 with an initial 2013 baseline. A plan is in place until 2025 - regularly reviewed twice yearly with stakeholders. Green Park's BMP mirrors the goals of the Reading BMP. Ten new habitats created, ranging from reedbed, forested areas, wildflower meadows to hedgehog brush piles, riparian grass, and relaxed mowing areas.

Habitats are linked by hedgerows and long grass supporting commuting and foraging species. The development commenced before net gain metrics were widely used, however now contains diverse habitats. Longwater Lake, which runs through Green

Park, enables the site to be biodiverse by managing seasonal flooding and reedbeds and housing multiple aquatic and bird species.

WHY DID YOU DO IT?

The landscaping remit was to create/manage an attractive working environment through visually appealing amenity and recreation opportunities. Although the original design included an emphasis on biodiversity - especially birds - the current BMP has expanded to include a variety of species. This has significantly increased the biodiversity levels, which have exceeded the original remit.

The motivation for this includes protecting, maintaining, and enhancing the biodiversity interest/character of the habitats and protected/notable species; to strengthen relationships with local wildlife groups; and actively manage the park for the enjoyment of its users and promote news of Green Parks biodiversity achievements.

WHAT DID IT COST AND WHERE DID THE MONEY COME FROM?

Green Park is unique in that it was designed and built with the environment in mind at a time where this was not a front and centre concern. Maple Tree Pte Ltd continue to regularly invest in biodiversity management to ensure that the original vision of Green Park is not lost.

Project Team

- Client / funders – Mapletree Investments Pte Ltd
- Other design team members – Knight Frank (Managing Agents), Landscaping Team (Ground Control), Stantec (Consulting Ecologists)
- Volunteer organisations - Berks & South Bucks Bat Group, Berkshire Ornithological group

WHO AND WHAT BENEFITED?

In 2021, 53% of 25 bird boxes were used plus 25% of 33 bat boxes, 14 insect hotels and 2 artificial grass snake breeding sites. 2020 Hedgehog survey identified hedgehogs in two locations with similar results found in early 2021 and 2022. In 2018, 11 dragonfly species were observed.

A 2013 survey found 11 noteworthy invertebrate species; therefore, Green Park can be considered of regional importance. The landscape team has regular biodiversity-based toolbox talks plus yearly training and management reviews with stakeholders occurring every 6 months.

Green Park is open to everyone via the many signposted public footpaths – often used by cyclists, runners and dogwalkers. Local bird, bat and mammal groups undertook surveys on-site. Staff-led volunteering initiatives like litter picks are open to the



wider community. Onsite, tree works chippings are used as mulch, plus grass cuttings for artificial grass snake breeding pens.

All green waste is kept for planting projects. Green Park has an environmental working group which regularly volunteers.



LONGER TERM BENEFITS?

The biodiversity on site, created in the design, has now been included in CSR initiatives, KPI's and awards. CSR includes community engagement, working groups and newsletters articles. KPIs are incorporated into the organisational KPIs and are targeted towards indicator species – Bats, birds, botanical species, hedgehogs and invasive species.

WAS THERE ANYTHING INNOVATIVE ABOUT THE PROJECT?

Green Park is bio-diversely innovative because few business parks have established business/residential communities alongside the biodiversity. It has repeatedly achieved a biodiversity benchmark accreditation – one of only 53 sites in the UK.

CAN OTHER ORGANISATIONS/ COMMUNITIES BENEFIT FROM IMPLEMENTING YOUR METHODS?

Green Park is a flagship example of biodiversity best practice, demonstrating how people, business and wildlife can work in synergy for environmental, and societal benefit. Green Park has created a visionary ecosystem where biodiversity, people and commerce can live, play and work side-by-side.

The unique design subtly combines public roads, business units and wildflower meadows and wildlife habitats.

WHAT DID YOU LEARN FROM THE PROJECT AND ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

Green Park continues to show how people, businesses and wildlife can work together to

the benefit of all. Communication between all stakeholders and a positive working relationship between the managing agents and the landscaping team has allowed the original vision for Green Park to be maintained and expanded.

During 2022/23, the wildflower area will be expanded and insect surveys added to measure the positive impacts wildflowers are having.

DETAILS OF ANY RELEVANT ACCREDITATION OR AWARDS GAINED.

- Biodiversity benchmark accreditation from the wildlife trust from 2015 to current
- Winner of the legacy category for the big biodiversity challenge award and highly commended overall for 2021
- Reading in Bloom Winners

HOLBORN BARS (CBRE)

HOLBORN BARS

Holborn Bars still stands proudly on the site it was built on in 1879 by The Prudential, this site is where Furnivals Inn previously stood and housed Charles Dickens. The decision to build Holborn Bars was the result of The Prudential outgrowing their Chief Office. The original estate was designed by Albert Waterhouse, who is synonymous for his gothic style and many architectural designs, such as The Natural History Museum.

As a tribute to Albert, the three buildings in the estate are named 1, 2 & 3 Waterhouse Square. During the 1930's, the original 1879 block was rebuilt with large open plan floors inspired by Art Deco interior design by Architect E M Joseph and two additional refurbishments of 2 Waterhouse Square were completed in 1993 and 2011.



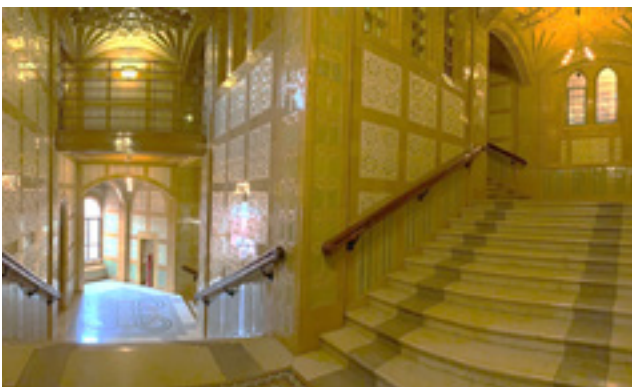
Holborn Bars possess a rich and diverse history, from having a restaurant and roof promenade solely for lady clerks, a chapel, and a meeting hall. At this present-day, the estate is used as office and event space mixing the rich gothic exterior and contrasting between the remaining Art Deco interiors, such as handmade mosaic tiles and the grand stairwell that begins at the entrance hall of 3 Waterhouse Square.

In 2 Waterhouse Square, the lobby acts as a transitional space between the courtyard and the main reception area. The reception houses chapel-stained glass windows and Art Deco pillars,



combining the two modern atriums built in 1993. The desk has a steel halo installation above the desk making this a focal point and marrying traditional and contemporary architecture together perfectly. Whether it is intentional or by chance, most people who wander into Holborn Bars are frequently seen panning around the courtyard taking in all its grandeur. Holborn Bars has been likened to a Hogwarts in the City due to its red gothic façade. The team at Holborn Bars regularly observe the public entering the estate through the archway on High Holborn, they are then met with a bridge that joins 1&3 Waterhouse together.

As they continue to walk under the bridge, they are met with the Waterhouse Square courtyard, where each building sits adjacent to the other. At Holborn Bars, we have thoughtfully softened the exterior of the courtyard by adding trees, plants, and seating, making the courtyard a welcoming space for all to come and sit, enjoy lunch, or provide a backdrop for



selfie lovers.

Also, each year, the outdoor space proudly hosts a Remembrance Day service at the Prudential war memorial on behalf of M&G. Holborn Bars had an extensive exterior restoration project that was completed in 2020. The first that has ever been undertaken, which has restored the estate to its former glory. At M&G, we are extremely proud to have Holborn Bars as a part of put portfolio as it is now a part of our history.

More importantly, it is a reminder of the longstanding relationship between M&G and The Prudential that is to help people manage their savings for a life they want to live.



INSEE ECOCYCLE COMPANY Ltd FOOD WASTE COMPOSTING

The INSEE Ecocycle, Food Waste Composting project aims to help closing the gap of circular economy, encourage waste segregation at source, and reduce the impact from food waste by offering a composting solution.

Our innovative technology allows for an automated and odorless composting process. Utilizing our proprietary microorganisms, food waste is transformed to bio-soil in only 12 hours' time.

Each year 1,300 tons of food waste in landfills around the world contribute 8% of the greenhouse gases that cause global warming and the climate crisis.



Thailand contributes millions of tons of trash to landfills, according to the Pollution Control Department, organic waste collected by municipalities across the country in 2017 accounted for 64%, or about 17.56 million tons of the country's garbage.

Inappropriate disposal of solid wastes and no waste segregation obstructed efforts to enable appropriate treatment of each type of waste, particularly food and other organic waste which constitute up to 45-60% of wastes generated.

Segregation of these and other

kind of waste could significantly lessen the problems and burdens of waste management. Since food and other organic wastes will contaminate other waste materials, especially combustible materials such as non-recyclable plastics which should be recovered for energy.

The INSEE Ecocycle, Food Waste Composting project aims to help closing the gap of circular economy, encourage waste segregation at source, and reduce the impact from food waste by offering a composting solution.

INSEE Ecocycle works with the leading innovation institute in Thailand to develop a food waste composting machine. Our innovative technology allows for an automated and odorless composting

process. Utilizing our proprietary microorganisms, food waste is transformed to bio-soil in only 12 hours' time.

INSEE Ecocycle Food Waste Composter is easy to use, start by adding our bio-additive and sawdust one time. Then adding your food waste and let the machine work for about 12 hours. 80-90% of the food waste is eliminated and the remaining 10-20% could be used as a soil fertilizer.

We believe we help solving one of Thailand's largest environmental issues. By encouraging composing food waste, we are contributing positively to the environment on multiple fronts while showing other companies they too can make a difference.





INSEE Ecocycle

Sustainable Waste Management
and Industrial Services



We believe in partnering with our customers to develop and deliver “peace-of-mind” waste management and industrial service solutions. Our mission is to earn trust by improving their environmental footprint, achieving sustainability goals and moving towards a circular economy.

1732 Press 6
www.inseeecocycle.com



J BREHENY CIVIL ENGINEERING Ltd

BREHENY CARBON REDUCTION

Breheny has undertaken a significant carbon reduction plan and has seen a dramatic reduction around 25%+ in the last 3 years compared to our 2018 baseline, we are aiming to reduce all carbon emission by a further 30% by 2030. In order to achieve Net Zero we have adopted stringent targets and practices setting us aside from our competitors and demonstrates our commitment to environmental sustainability.

The operation of non-road mobile machinery accounts for over 87% of Breheny's carbon emissions. We aim to undertake a phased replacement of our fleet of non-road mobile machinery to zero or ultralow emission models by 2030. Breheny also seeks to switch from running our fleet of non-road mobile machinery and generators on fossil fuels to sustainable alternative fuels such as Hydrotreated Vegetable Oil (HVO) or Gas to Liquid (GTL) by 2026. This will see a 90% reduction in carbon emissions in comparison to gas oil. The reduction in carbon emissions through utilising zero or ultralow emission models is currently being determined. Moreover, all Breheny premises and projects where connection to the grid is practicable are supplied with 100% renewable energy,

The best current and ongoing example we have for our carbon reduction plan is on the works we have and continuing to deliver for Urban and Civic at Alconbury Weald in Cambridgeshire. Breheny won their first competitive tender on the new Alconbury Weald Enterprise Campus in June 2013. Since then a further 10 contracts have been secured, totalling in excess of £40 million. Acting as Principal Contractor on each contract, the collaborative approach and high quality of work has promoted Breheny Civil Engineering to be Urban and Civic's (U&C) default choice of Civil Engineering Contractor for the 1400 acre development.

One of the more substantial collaborative projects is the recycling of the concrete runways on Alconbury. Upon award of our first contract we approached U&C to discuss the operation of the incumbent contractor. The material being produced was inconsistent and the supply erratic. Following negotiations we are now Principal Contractor for the recycling and Waste Management processes across the entire development. We have demonstrated innovation as we introduced lower rates to businesses working on the development to incentivise the use of the facility and the produced materials.





One of the developers on the site needed a fine graded material which wasn't available from the site. Working with them, assessing the specification required, we have now started producing the material as part of our recycling operations. We have developed the processes, procured the plant, and obtained the approvals necessary for its use and produced over 144,000 tonnes of recycled aggregate from the former runway. This has increased recycling rates, reduced haulage distance and vehicle movements for several parties on the development. The Alconbury Site Waste Management and Soil Treatment Facility has not only created savings, an additional source of funding for the client but has also helped U&C, suppliers and contractors across the development to achieve their environmental targets.

A commitment of U&C is to provide the best opportunities for local people and businesses. As a major part of the development team we have bought into this commitment by aiding with charity events, working with the local community and being a proactive member of the community. Our supply chain have joined us in this endeavour by sponsoring events, providing free materials and

expertise. This has created a better relationship with the existing community and helped to integrate the new community together.

Working with Groundwork (Registered Charity) we have created work experience placements for disadvantaged people who had been out of work for some time.

We provided hands on experience, training and qualifications such as CSCS cards to better equip them for the future. Two of the individuals who had performed highly were offered permanent positions with us and still work for us now, creating a legacy from the development.



JEFF WAY GROUP RETROFIT OF OFFICE

Our aim was to make our head office more energy efficient. We had an audit from Simon Pyne at Green Energy Futures and then applied for grants through WECA. The measures we implemented were for solar panel installation, LED lighting installation and loft insulation. We will implement other measures next year.

We now provide electricity from our solar panels and reduce our energy usage through the other measures of LED lighting and loft insulation. These measures have reduced our energy costs by over £3k per year.

In 2021, we implemented energy efficient measures into our Bristol Head Office. The project included:

1. 11.9kWp solar PV system on office roof.
2. Loft insulation.
3. Replacing fluorescent lighting with LED throughout office.

Here is an extract from our application:

The Jeff Way Group head office would benefit from some straightforward improvement measures as it doesn't fully exploit energy-saving technologies. The project would install a combination of measures including lighting upgraded from 140W fluorescent luminaires to 51W LEDs throughout the office, the installation of 12kW of solar PV panels on the office roof, and improved loft insulation to improve the heat retention. In total, these measures should reduce the site's carbon emissions by 14% to 16.2 tonnes annually through reducing energy consumption by 14248kWh. Additionally, they will improve comfort in the high summer & deep winter.

PROJECT COST AND SOURCE OF FUNDS

The total project cost is £20,576 of which we received grant funding of £6,715 from WECA.

Vehicles

- 25% of fleet hybrid or electric
- 100% of fleet CAZ compliant (Euro 6)
- Reduction in fleet mileage by 25% through efficient operative allocation and use of technology (Zoom meetings)





Properties / Locations

- Retrofit properties to improve efficiency for heat in summer and winter. All depots to have Retrofit assessment by JWC and suggested measures installed e.g. loft insulation
- LED lighting installed in all locations
- Install recycling bins and appoint a verified recycling waste collector for each location
- No single use plastics
- Install changing facilities and storage to encourage 'cycle to work'

JEFFWAY
GROUP

The difference was funded by Jeff Way Group with an approximate pay back period of 5 years.

We received grant funding from WECA.

WHO AND WHAT BENEFITED?

This project has resulted in over £3k per annum cost savings. It has also led to numerous staff members being inspired by the works and implementing their own green initiatives in their own lives e.g electric vehicle, air source heat pumps.

We have installed several EV chargers for staff members at their homes for cost.

LONGER TERM BENEFITS?

The installations will reduce our energy usage which saves the Group money and benefits the environment by reducing our carbon footprint.

We have gain practical skills for the installation of measures and will incorporate those skills in our

Retrofit business proposition within 3 months.

CAN OTHER ORGANISATIONS/ COMMUNITIES BENEFIT FROM IMPLEMENTING YOUR METHODS?

Yes, we have informed several competitors, stakeholders and suppliers of the work we have achieved. They have now liaised with Simon Pyne of Green Energy Futures and are working on their own measures to reduce their energy consumption. One examples is Jill Thomas from Hartcliffe Withywood Ventures Trust that are a non-profit organisation to increase the choices and opportunities for local people (www.hwv.org.uk). HWV are planning to install pipe lagging, cavity wall insulation and lighting changes (LED) with the help of Simon.

WHAT DID YOU LEARN FROM THE PROJECT AND ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

We learnt a vast amount regarding contractors, grant applications and energy efficient measures.

We will now seek funding and support for our two offices in South Wales. We now have a 'proof of concept' that we will roll out to other locations.

We have developed on from the Retrofit works on our buildings and incorporated other 'Green' measures into our working practices.

These include:

- Planting over 350 trees to offset our carbon footprint. This is with the Green Organization.
- Installing recycling bins across all physical locations
- Purchasing 10 electric/hybrid vehicles for our fleet
- Installing EV charging points at relevant staff members homes

- Registering with the Cycle to Work scheme and installing showers at the Bristol Head Office to encourage cycling to work.
- Carried out 5 community days to improve the environment e.g. litter picking

We have now created our own Climate Action Plan with numerous measures to achieve by 2025.

These works have now given us the confidence and knowledge to develop a new business for the JeffWay Group – JeffWay Retrofit. We will provide these services to local Housing Associations and Local Authorities to help meet the 2030 Carbon Reduction plan set by the Government. It will lead to local employment and training opportunities in these skills.

Jeff Way Activities

- Appoint a Jeff Way 'Green Champion' and provide training (GEP certified). Champion to be accountable for objectives.
- 2 green initiative/charity events per year e.g. litter picking, tree planting etc
- Commit to planting 500 trees per annum
- Obtain the Green Business Certification e.g. Green Mark
- Green Action to be specific agenda item for Director meetings (demonstrate senior leadership 'buy in').
- Utilise grant funding from UWE, WECA etc for initiatives and placements to help us achieve our goals



Project	Cost/£	Savings/kWh	Cost saved	Fuel intensity	Lifetime	Annual abatement	Lifetime Savings/CO2 tonnes	Payback	Abatement Cost (£/tonne)
Solar	13350	7008	1,618.65	0.185	22.5	1.29648	29.17	8.25	457.65
Lighting	4837	4216	865.33	0.185	25	0.77996	19.50	5.59	248.06
Cavity						0			
Loft	2389	3024	197	0.204	27	0.616896	16.66	13.8	143.43
Totals	20576.00	14248.00	2680.98				65.33	7.67	314.97

JLL - COLLEGE BUSINESS PARK AXIS PARK

For ecosystems to thrive, we must ensure wildlife is protected. So many of us in the workplace and at home are very removed from the environment, the birds, plants, and the wildlife animals that share it with us. Luckily here at JLL we fully support our Biodiversity, sustainability and Ecological systems

At Axis Park, we have implemented several initiatives to support our ethos of supporting our planet and biodiversity. As life becomes busier and there are more developments emerging, we are driving our wildlife out and decreasing biodiversity, sadly these effects can be devastating. Our aim is to attract the wildlife back to our modern environment and urban living to co-habitat along one another. To encourage



and implement this, we are designing attractive habitats to encourage wildlife back.

Thus far, we have seen a considerable increase of pollinators at the Wildflower garden, such as bee's and butterflies, we have birds nesting in the boxes and our bug hotels are flourishing with wild bugs inclusive of leaf cutting bee's. We have hedgehogs making use of the compost area and are awaiting some hoglets. The wildlife is flourishing at the park and bringing much joy to visitors, and the staff, who enjoy taking lunch breaks and admiring the wildlife, particular nesting birds, whereby they can witness the fledglings taking their first flights.

We have learnt that by supporting Biodiversity, sustainability and Ecological systems, it has not only aided the increase of wildlife, however this has increased the awareness of our ecosystem to the public by having signage designating the wildflower area. This has certainly aided the wellbeing of staff as we are creating a calming environment for them to enjoy and support the wildlife. Very often just a chance engagement with a butterfly, bird or walk by the wildflower garden, can trigger a great desire investigate what it is an individual has seen, and from this will hopefully flourish a curiosity of what else may be out there to enjoy.

WHAT DID THE PROJECT INVOLVE DOING?

At Axis Park, we have implemented several initiatives to support our ethos of supporting our planet. As life becomes busier and there are more developments emerging, we are driving our wildlife and decreasing biodiversity, sadly these effects can be devastating. Our aim is to attract the wildlife back to our modern environment and urban living to co-habitat along one another. To encourage and implement this, we are designing attractive habitats to encourage wildlife back.

We have implemented a number of wildflower areas to the front and side of the park. Additional planting to all the car park beds as this encourages, pollinators such as bees, butterflies and birds.

We have introduced bird boxes which are fitted to various trees around the site and boundary fixings to attract different species of birds. Bug hotels are established around the site and we have created natural habitats by recycling old pallets to build and encourage hedgehog homes.



WHY DID YOU DO IT?

So many of us in the workplace and at home are very removed from the environment, the birds, plants, and the wildlife animals that share it with us. These projects were undertaken to appreciate the working environment and incorporate a place for wildlife to thrive rather than decline. Working with our tenants, and by introducing these wildlife areas, it has promoted mental health and wellbeing whereby staff get to see not only a built-up commercial site, however, get to appreciate the wildlife during their breaks.

WHAT DID IT COST AND WHERE DID THE MONEY COME FROM?

£1,707.50 - wildflower areas, composting areas built of pallets.

£1,136.77 - plant 84nr Lonicera Nitida (3L) to the area in front of the estate directory board, this can then be shaped into a uniform hedge once plants become established, area to be finished with bark mulch to help improve

the appearance as you enter site. Free – making use of old pallets, we have created a leaf compost area for the hedgehogs to build homes.

IF QUANTIFIABLE, WHAT DID THE PROJECT ACHIEVE IN TERMS OF SUSTAINABLE DEVELOPMENT, ECONOMY, ENVIRONMENT AND/OR EQUITY?

Thus far, we have seen a considerable increase of pollinators at the Wildflower garden, such as bee's and butterflies, we have birds nesting in the boxes and our bug hotels are flourishing with wild



bugs inclusive of leaf cutting bee's. The wildlife is flourishing at the park and bringing much joy to visitors, and the staff, who enjoy taking lunch breaks and admiring the wildlife, particular nesting birds, whereby they can witness the fledglings taking their first flights.

WHO AND WHAT BENEFITED?

The wildlife certainly benefited as they had new homes to explore and grow in. The visitors to the park get the benefit, such as at Costa Coffee, where if you are sat outside, you can watch the bugs busy in the large bug hotel adjacent. The tenants have benefited as they now get to enjoy their lunch breaks with wildlife views.

LONGER TERM BENEFITS?

As the threats to biodiversity are increasing, it is imperative that we all play our part in supporting our species in our environments. The longer-term benefits will prove that even in urban built up areas, we as business can improve the environment for biodiversity to flourish and grow. Not only is this beneficial to the wildlife, but it is also aiding mental health for the individuals making use of the areas within the workplace.

WAS THERE ANYTHING INNOVATIVE ABOUT THE PROJECT?

There is nothing innovative, other than we are embracing our environments along with biodiversity. We did however, make a free compostable area making use of old pallets, to encourage hedgehogs.

CAN OTHER ORGANISATIONS/ COMMUNITIES BENEFIT FROM IMPLEMENTING YOUR METHODS?

Absolutely, we work closely with our tenants and communities to promote biodiversity.

WHAT DID YOU LEARN FROM THE PROJECT AND ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

We have learnt that even with small sums of funding, we can make the workplace a better environment for all. We will certainly be looking at other projects along with our tenants and users, on how we can improve biodiversity, our environment and sustainability.



JLL - HAMPTON LEISURE PARK

HAMPTON LEISURE PARK

For ecosystems to thrive, we must ensure wildlife is protected. So many of us in the workplace and at home are very removed from the environment, the birds, plants, and the wildlife animals that share it with us. Luckily here at JLL we fully support our Biodiversity, sustainability and Ecological systems

At Hampton Leisure Park, we have implemented initiatives to support our ethos of supporting our planet and biodiversity. As life becomes busier and there are more developments emerging, we are driving our wildlife out and decreasing biodiversity, sadly these effects can be devastating. Our aim is to attract the wildlife back to our modern environment and urban living to co-habitat along one another. To encourage and implement this, we are designing attractive habitats to encourage wildlife back.

Thus far, whilst it may not be a huge investment, we are limited by the park and demographics of planting, therefore we have installed 2 x bird boxes, a bug hotel at no cost made up of old pallets and twigs from the site, and we have carried out wildflower planting.

We have learnt that by supporting Biodiversity, sustainability and Ecological systems, it has not only aided the increase of wildlife, however this has increased the awareness of our ecosystem to the public by having signage designating the wildflower area. This has certainly aided the wellbeing of staff as we are creating a calming environment for them to enjoy and support the wildlife. Very often just a chance engagement with a butterfly, bird or walk by the wildflower garden, can trigger a great desire

investigate what it is an individual has seen, and from this will hopefully flourish a curiosity of what else may be out there to enjoy.

WHAT DID THE PROJECT INVOLVE DOING?

At Hampton Leisure Park, we have implemented several initiatives to support our ethos of supporting our planet. As life becomes busier and there are more developments emerging, we are driving our wildlife and decreasing biodiversity, sadly these effects can be devastating. Our aim is to attract the wildlife back to our modern environment and urban living to co-habitat along one another. To encourage and implement this, we are designing attractive habitats to encourage wildlife back.

We have introduced two lovely bird boxes, of which we have Tits nesting and customers of Toby Carvery love sitting eating their food and watching the birds come and go.



WHY DID YOU DO IT?

So many of us in the workplace and at home are very removed from the environment, the birds, plants, and the wildlife animals that share it with us. These projects were undertaken to appreciate the working environment and incorporate a place for wildlife to thrive rather than decline. Working with our tenants, and by introducing these wildlife areas, it has promoted mental health and wellbeing whereby staff get to see not only a built-up commercial site, however, get to appreciate the wildlife during their breaks.



WHAT DID IT COST AND WHERE DID THE MONEY COME FROM?

£90 - 2 bird boxes £50 - wildflower planting. Free – Bug hotel using reclaimed pallets and twigs/wood from the site.

IF QUANTIFIABLE, WHAT DID THE PROJECT ACHIEVE IN TERMS OF SUSTAINABLE DEVELOPMENT, ECONOMY, ENVIRONMENT AND/OR EQUITY?

The wildlife is flourishing at the leisure park and bringing much joy to visitors, and the staff, who enjoy taking lunch breaks and admiring the wildlife.

WHO AND WHAT BENEFITED?

The wildlife certainly benefited as they had new homes to explore and grow in. Outside the front of Toby Carvery, we have a set of tits nesting, the manager loves watching them and have even become quite protective of them. The tenants have benefited as they now get to enjoy their lunch breaks with wildlife views.

LONGER TERM BENEFITS?

As the threats to biodiversity are increasing, it is imperative that we all play our part in supporting our species in our environments. The longer-term benefits will prove that even in urban built up areas, we as business can improve the environment for biodiversity to flourish and grow. Not only is this beneficial to the wildlife, but it is also aiding mental health for the individuals making use of the areas within the workplace.

WAS THERE ANYTHING INNOVATIVE ABOUT THE PROJECT?

There is nothing innovative, other than we are embracing our environments along with biodiversity.



CAN OTHER ORGANISATIONS/ COMMUNITIES BENEFIT FROM IMPLEMENTING YOUR METHODS?

Absolutely, we work closely with our tenants and communities to promote biodiversity.

WHAT DID YOU LEARN FROM THE PROJECT AND ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

We have learnt that even with small sums of funding, we can make the workplace a better environment for all. We will certainly be looking at other projects along with our tenants and users, on how we can improve biodiversity, our environment and sustainability.



JPC by SAMSIC

1 FINSBURY AVENUE

JPC by Samsic actively work in partnership with British Land across Broadgate Campus to deliver soft services whilst having a positive impact on the planet. Specifically, at 1 Finsbury Avenue, we constantly disrupt the cleaning industry by finding creative ways to tackle age-old problems. Our goal is simple: continue to deliver the world-class standards that we're known for whilst having a positive impact on the environment around us.

We have entirely removed fossil-fuel reliant equipment from the cleaning scope at Broadgate. The electronic equipment we use has a reduced impact on air quality as fuel is not combusted onsite. The equipment is also quieter, which has an impact to visitors and wildlife in the area. On top of that, we have drastically reduced our chemical consumption, single-use plastics, and water consumption due to

the volume of innovative techniques used to deliver the soft services.

At JPC by Samsic our visions and values align with British Land and at Broadgate we are constantly working in partnership to implement carbon reduction practices into our daily routines. We have incorporated a number of techniques within the soft-services scope to drastically reduce our carbon footprint across a number of buildings, and in particular 1 Finsbury Avenue, a Grade II listed building constructed in the early 1980s by Arup Associates.

The building is significant in defining speculative office typology in London and we view it as a frontrunner for innovation, social architecture, and sustainable development. Whether it's a significant investment in technology or a small habitual change, we are constantly improving our sustainability practices and empower those around us to have a positive impact on the environment. In 1 Finsbury Avenue, we committed to our sustainability goals by exclusively supplying recycled toilet paper. An initiative which was then rolled out across the entire Broadgate campus; we are often able to replicate practices from 1 Finsbury Avenue into other buildings. When investing in equipment, we seriously consider the impacts on the planet. In line with Broadgate's vision to being a green neighbourhood, we committed by eradicating petrol jet washers from site, and instead use electric equipment to clean terraces and the estate.

The electric equipment reduces our impact on air quality as we have eradicated toxic fumes and by-products which are harmful to both our colleagues and the environment. Within the last twelve months, we implemented Toucan Eco-solution to 1 Finsbury Avenue. This allows us to create a cleaning and sanitising solution dispensed through a reusable





spray bottle. The effects on the environment are two-fold: we have reduced our plastic consumption whilst drastically cutting the volume of chemicals (up to 80%) used to produce the same standard of cleanliness. We have also invested in the Orbitiser; a powerful piece of equipment which uses orbital movements to drastically clean surfaces.

The motion alone has enough impact to improve cleaning standards and as a result we scarcely require the need for chemicals at all. With this equipment, just one litre of water gives us the ability to clean an area of 150m². This, along with other techniques, has allowed us to slash our water consumption in cleaning use by 70%. We're also conscious of the impact from our supply chain and filter our beliefs through our contractors. At 1 Finsbury Avenue we partnered with Clearup Solutions to implement sustainable pest management throughout the building and pledge to use humane practices where practicable. To enhance bio-diversity onsite, we purchased a bug hotel from Men's Sheds, a charitable organisation

who create a community space for men to connect, converse and create.

The hotel is a welcome addition to the roof terrace and in future our team members look forward to volunteering with Men's Sheds to continue our supportive relationship with them. Recently, we discovered and partnered with Decitex, a manufacturer who provide chemical-free cleaning solutions. Their factory is a hermetically-sealed building, powered by solar-panels. In commitment to their ecological garden, the grounds contain nesting boxes and beehives. Fruit and vegetables are grown in the garden for employee consumption. The equipment we purchase from Decitex is entirely recycled and also helps us in our goals to reduce water and chemical consumption within the building.

Decitex products have a longer shelf life, meaning we reuse our products for longer, rather than discarding them after use. Within the reception of 1 Finsbury Avenue, our tenants and guests can find



vertical farms supplied by Square Mile Farms. The produce contributes to place making and creates an inviting atmosphere, fostering collaboration, creativity and productivity. They are a beautiful addition to the reception and the benefits are reaped by all building users who are empowered to live a healthier and more sustainable lifestyle. We have also implemented Infogrid in certain areas of the building. Infogrid is an innovative sensor-based technology system which allows us to implement smarter cleaning practices within our regime.

Strategically, we installed the system within key bathrooms allowing us to monitor usage. Alerts are sent to the supervisor who attends the bathroom after a set number of times rather than cleaning the toilets on regimented schedule. In doing this, we cut the time spent cleaning toilets by 30%, consequently slashing the volume of chemicals used. In addition, we have cut the requirement, and therefore the costs associated with, deep-and-periodical cleans. We are able to utilise our team members in more effective and productive ways by focusing on attention to details. The technology also allows us to measure air quality, virus risk, and temperature allowing us to create a safe and conformable environment for our tenants and guests.

Our commitment to sustainable practices does not only lie within the confinement of our buildings. Last year, JPC by Samsic, with Broadgate, adopted Allen Gardens through Plastic Busters, whose aim is to adopt the world a little corner at a time in order to carry out litter picks and clean the environment around us. It's an excellent way for our team to have a positive impact on our planet. During our last litter pick we collected over 30kg of litter which

we brought back to our recycling and waste facilities at Broadgate. In the future, we plan to purchase an eco-bot for the reception of 1 Finsbury Avenue.

It's important to us that robots never replace people and so for us the eco-bot will be used to clean floors and drive interest in the building whilst our team members continue to focus on attention to details – giving them opportunity to polish and shine certain areas of the building. We're passionate about implementing environmental best practices within our daily regimes. We don't do it because we have to: we do it because we want to. Our goal is to enhance the environment around us, to inspire others, and to educate. We are industry-disrupting in our techniques because we're aware of the responsibilities we have and the impact we can achieve together.



KELTBRAY

KELTBRAY USE OF DRONES INSTEAD OF HELICOPTERS FOR UTILITIES INSPECTION

Keltbray have invested in drone surveying techniques for advanced mission planning, deploying the 45MP P1 photogrammetry camera and L1 LiDAR sensor, in conjunction with the DJI Terra drone mapping software package, to create highly detailed, centimetre-accurate 3D models and point clouds for the power distribution asset's inspections. Enabling the Keltbray Distribution team to extract crucial site information such as details about terrain, slopes, gradients, routing issues and safety distances between powerlines and buildings – for vital pre-job insights, while the visual 3D site models streamline communication with clients and stakeholders. Drones are also proving valuable for maintenance and post-construction surveys. The Drone camera also enables to collect thermal imagery, enabling the team to spot defects or issues to help prevent fires that can occur due to failures and defects in power lines.

Keltbray, a leading specialist engineering business and provider of overhead line and substation services, is using drones to double inspection efficiency and cut carbon emissions by almost 50%. The team is benefiting from zoom and thermal imagery during automated and condition-based inspections, while photogrammetry and LiDAR is providing enhanced mission planning and tackling challenges associated with traditional methods of powerline construction. Removing the need to deploy all-terrain vehicles, avoids staff to work at height or over difficult terrain, identifying rust or defects in detail, eliminating asset downtime and cutting inspection costs and therefore eliminating human error in the inspections.

Using this technology, Keltbray is able to inspect six electricity towers per day, doubling traditional



Inspection Using the DJI M300 RTK & Zenmuse H20T Footage courtesy of Keltbray



Inspection Using the DJI M300 RTK & Zenmuse H20T Footage courtesy of Keltbray

methods and cutting carbon emissions by 45.46%, per pylon. The DJI M300 RTK has an IP45 rating, it can operate effectively in difficult weather conditions, while its RTK system provides stability in high electromagnetic interference areas. Drones provide an efficient and effective way of understanding the remaining lifespan of aging assets and determining investment programmes and also help us to care for the natural world, the current drone inspections are carried out to check for bird's nests, lightning strikes, rust/corrosion, and damaged fixtures in power pylons.

Keltbray is a leading UK specialist engineering and construction services business, offering a unique self-delivery capability spanning key phases of the construction value chain such as civil engineering, geotechnical, asbestos management, demolition, piling and reinforced concrete structures, decommissioning, remediation, rail, power distribution and transmission, and environmental services all contributing to the development and maintenance of Britain's rapidly changing economic infrastructure and built environment.

Keltbray provides certainty of delivery to meet the needs of diverse and complex projects. Its professionally trained employees take pride in delivering safely and sustainably on time, to budget, and with care for the environment and our communities.

Keltbray is using DJI drones to transform powerline inspections - doubling efficiency, cutting carbon emissions by almost 50%, and conducting drone mapping to create highly accurate and detailed models.

Keltbray turned to the UK's leading drone supplier, heliguy™ which is a leading and award-winning drone company, headquartered in the UK and supplying and supporting drone programmes around the world.

Having played an integral role in the evolution and growth of the drone industry, heliguy™ is perfectly placed to facilitate end-to-end workflows to empower commercial drone operations to adopt the zoom, thermal imagery, photogrammetry, and

LiDAR technology, which are proving an effective tool. has invested in the DJI M300 RTK platform and its ecosystem of powerful cameras to collect better quality data, quicker and safer than before.

Gordon Cranston, Project Construction Manager at Keltbray Energy, said:

“Innovation is at the forefront of our business and drones are the future, Drones use bring many benefits to our operations such as providing an efficient and effective way of understanding the remaining lifespan of aging assets and determining investment programmes.”.

With a relatively small investment, drones reduce business risks and costs, enabling Keltbray to access and develop new marketplaces and increase overall safety in high-risk environments while naturally driving efficiency during projects.”

- The DJI M300 RTK and its cameras have transformed utilities inspection for UK engineering and construction specialist, Keltbray.
- See datasets showcasing the H20T’s incredible zoom, thermal and automated inspection solutions, as well as LiDAR and photogrammetry models processed by DJI Terra; for example, this technology has helped spot thermal abnormalities and defects in

cables and joints.

- The drone has doubled the efficiency of condition-based inspections and reduced carbon emissions by almost 50%.
- Drones have enabled Keltbray to conduct electricity inspections without shutting down critical infrastructure - expanding its client portfolio in the process.
- Drone mapping has enhanced mission planning, combatted challenges faced with traditional methods, and streamlined team-wide communication.
- The level and clarity of the zoom eliminates the need to deploy all-terrain vehicles and staff having to work at heights or in difficult conditions or areas. Helping identify tiny defects in the Energy distribution lines with great detail.
- DJI surveying ecosystem of M300 RTK, L1 LiDAR/P1 Photogrammetry sensors, and Terra mapping software build ‘highly detailed and accurate’ models.

Drones have revolutionised the way that Keltbray conducts condition-based assessments, replacing a once time-consuming, labour-intensive, and high-risk process with a highly efficient, safe, and data-rich alternative for a sustainable development.



Cinematic Footage Caught of DJI M300 RTK During Keltbray Inspection Footage courtesy of Keltbray

KNIGHT FRANK PROMISE

60 THREADNEEDLE STREET- ENVIRONMENTAL IMPROVEMENTS

60 Threadneedle Street was completed in 2009 and is a 214,000 sq ft multi-let corporate office building incorporating three restaurants, positioned in the heart of the City of London. The overarching aim set by the building management team was to provide the most sustainable environment for the occupiers and stake holders of the building. Work began reviewing all working practices and working closely with our occupiers and supply partners to identify areas of improvement and ultimately introducing new products, ideas and initiatives. One example of partnership working was reaching out to Bywaters, the buildings waste & recycling carrier who shared the knowledge of their sustainability team and dedicated a 'Green Guru' to the building. All areas were reviewed from utility procurement and usage, waste management and recycling, suppliers and products to customer experience.

During the past year 60 Threadneedle Street has made great progress in reducing its impact on the environment and operating in a more sustainable manner.

A full account of our progress is contained in the full submission document however the main highlights are listed below-

- The buildings electricity is sourced 100% from renewable sources
- The EPC score has improved from D-85 to B-42 in May 2022
- The building has heating via centralised dual fuel biodiesel and gas boilers and electric heaters provide point of use hot water to showers and basins.

- The building has photovoltaic panels on the roof that generate electricity used by the building reducing the load from the National Grid.
- Lighting is movement activated to reduce electricity usage and a rolling program of replacing fluorescent to LED lighting is underway.
- Introducing a 'Green Team' with the assistance of a Green Guru from Bywaters. Engaging with Occupiers, completing Green Audits of demised and common areas, suggesting and implementing improvements.
- Green roofs, bird & bat boxes promote biodiversity of the local area
- Obtaining a recycling rate of 70% and introducing further waste recycling streams
- Encouraging cycling with free maintenance and safety awareness training
- Switching to Biodegradable cleaning products



60 THREADNEEDLE STREET, EC2R 8HP

Introduction 60 Threadneedle Street is a trophy office building with a design that makes a striking contribution to the architecture of the City of London. Located in the heart of the City, the main entrance faces Royal Exchange, the City's premier retail destination with the eastern façade forming the pedestrianised Threadneedle Walk hosting a number of fine dining restaurants. Positioned on the site of the former London Stock Exchange, the building was completed in January 2009 and was voted 'City Development of the Year' at the Property Week Office Development Awards in November 2009 and achieved a BREEAM 'Excellent' rating.

60 Threadneedle Street is owned by St Martins Property Investments Ltd, managed by Knight Frank with the facilities management by a team from Knight Frank Promise. A range of measures combine to minimise 60 Threadneedle Street's impact on the environment which are summarised below-

Energy - The building consists of double-glazed curtain walling and heating via centralised dual fuel biodiesel and gas fired boilers. The lighting is energy efficient movement activated lighting with a rolling upgrade program of converting fluorescent to LED light fittings.

There are photovoltaic panels on the roof that generate electricity which is utilised by the building to reduce the amount drawn from the National Grid. After an assessment in June 2022 the building's EPC rating has returned as a 42-B, much improved on the previous rating of 85-D. Active Travel- The building encourages green transportation through the provision of 130 bicycle spaces and shower facilities for cyclists. Occupiers receive free bicycle servicing to 'Get ready for Summer/ Get ready for Winter' and free cycle safety checks and advice.

Ecology - Green roofs attenuate the flow of rainwater while bird and bat boxes promote the biodiversity of the local area.

Water - A focussed approach to reducing water demand includes dual-flush toilets, movement sensor operated urinal flushing and aerated tap and shower fittings.

To continually review and reduce the building's environmental impact, Knight Frank actively encourages knowledge sharing and utilising specialist knowledge from our supply partners via Green team meetings with nominated representatives from the building's occupiers.

Bywaters are one such partner who provide innovative and sustainable solutions when it comes to the management of waste and recycling. Headed by experienced Account Manager, Andreanna Coley, the Bywaters team is responsible for ensuring that all waste is removed from the premises in a timely and efficient manner, ensuring all recyclable materials are properly sorted and processed. In addition, Bywaters have a Sustainability Team from which 'Green Guru's' are responsible for promoting sustainable practices within the building, presenting ideas and initiatives at occupier meetings, conducting site surveys to promote recycling, composting and reducing food waste.

Monthly recycling statistics track the habits of 60 Threadneedle Streets occupiers, and this is used as the benchmark for the waste reduction management moving forward. Keeping it simple To increase recycling rates, the Green Guru recommendations were introduced across the building with the purpose of ensuring our procedures were straightforward and easy to follow by the many hundreds of staff regularly using the building.

By reducing multiple small waste bins with clear signage and colour-coded centralised bins it was simplified for staff to make the best possible recycling decisions.

Coffee and PPE bins have been added to enhance the existing recycling streams. Since the Covid restrictions were eased in April 2021 the recycling

of glass and dry mixed recycling has trebled. 60 Threadneedle has maintained a steady recycling rate of around 70% over the last year. To put this into context, March 2021 produced 13 tonnes of waste, whereas March 2022 produced 26 tonnes; both months had the same recycling rate.

Keeping a consistent recycling rate before, during and after a national lockdown is a sign that the systems and education put in place are working. Driving continual improvement Knight Frank and St Martin's are always looking for ways to improve their sustainability practices. Current recycling statistics record the output of the whole building, but with no way of determining who is performing well and where improvements need to be targeted.

To remedy this, the next step of our journey is to introduce a Weightron System in the Loading Bay that will measure and record the actual weights of each occupier's waste & recycling. Not only will the data allow the occupiers to monitor accurately their output for their own ESG Reporting but as the Weightron system knows exactly the capacity of each compactor it ensures they are only collected

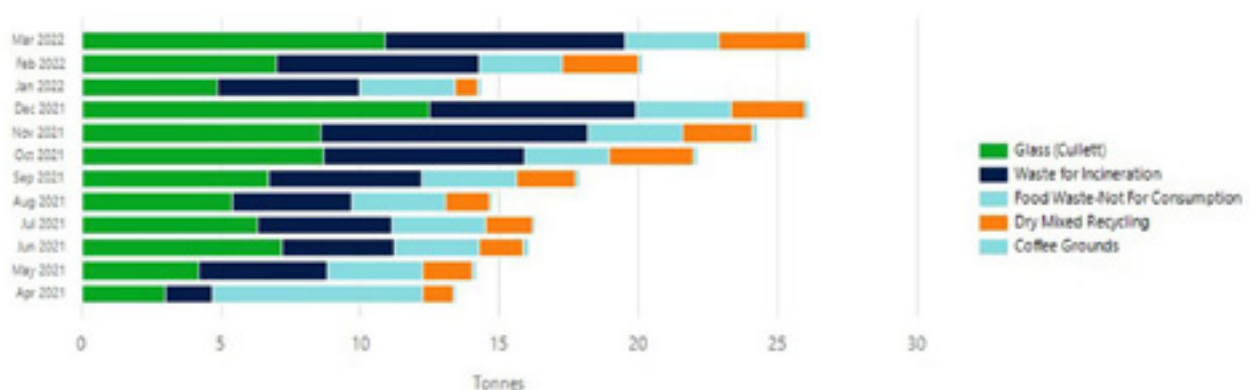
when the weighbridge notifies the app, resulting in fewer vehicle trips and less fuel emissions.

The partnership with TRAIID (Textile Recycling for Aid and International Development) was a highlight of the most recent Waste Awareness Day. The partnership was designed to raise awareness about the problem of clothing waste and the opportunity for donation and recycling. As part of the event, 60 Threadneedle Street staff donated clothes they no longer wore to TRAIID.

The clothes will be recycled or sold to raise funds for charity. Working in partnership with our cleaning contractor, DOC, all cleaning products at 60 Threadneedle Street have been revised and are now biodegradable, often plant-based, with minimal impact on aquatic life.

At 60 Threadneedle Street both management and supply partners continually look for new ways to work in the most sustainable manner. Be it new technology, innovation or simply breaking old habits, with a strong focus on education and engagement we strive to achieve our goals.

Chart 4. Total Waste by Waste Stream



KOREA AIRPORTS CORPORATION

NET-ZERO AIRPORTS BY 2050

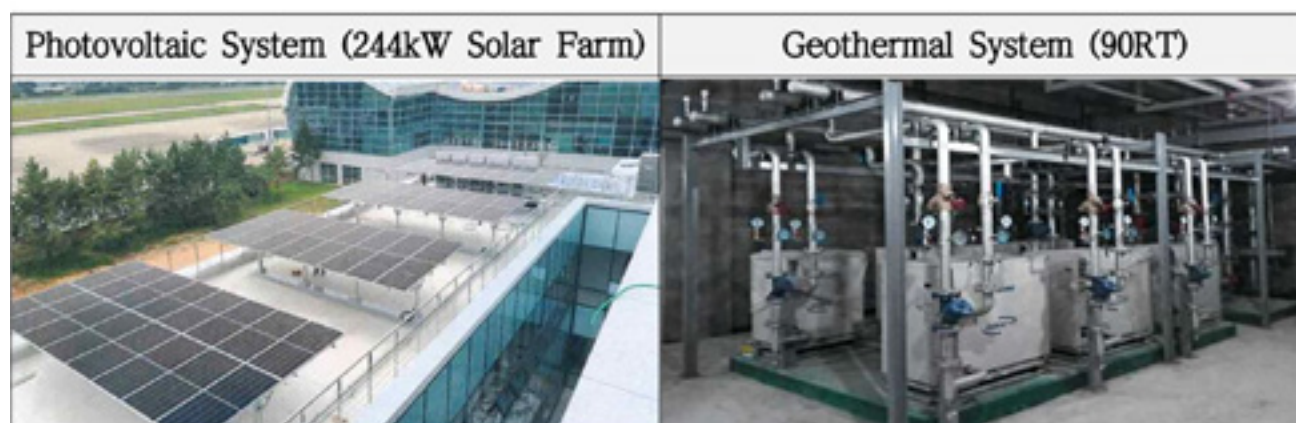
We, Korea Airports Corporation (KAC), were founded as an airport operator in 1980 and are currently in charge of operating a total of fourteen airports. We have set forth a vision of operating “glocal (global + local) net-zero airports that create environmental value” and an objective to achieve 0 tCO₂ of greenhouse gas emissions by 2050 and 100% energy sufficiency(RE100) by 2040. A new global economic order has been established based on the keyword, “net-zero emissions,” or “carbon neutrality.” Accordingly, there needs to be a shift in business management practices from adaptive reduction to active reduction.

In response, we are pursuing the project in question to tackle the imminent climate crisis that is a threat to the global community and to operate sustainable airports. In addition to reducing greenhouse gas emissions, we also encourage airport stakeholders to strive for carbon neutrality by establishing eco-friendly vehicle charging infrastructure, implementing an airport carbon point system, and verifying sustainable aviation fuels (SAFs). Mindful of the fact that airports bridging the world are transportation facilities used by countless people on a daily basis, we are committed to contributing to the global greenhouse gas reduction efforts through its project.

In 2021, we reduced greenhouse gas emissions by 41%, 9% more than the target set by the government. In fact, we have surpassed the government’s annual reduction target in the past decade and received a distinguished service plaque from the Ministry of Environment in recognition of its excellence. We even set up a 244kW solar farm and a 92RT geothermal system in 2021. Further, all of the new vehicles (20 vehicles) purchased for the airports were electric vehicles, and this was part of the efforts to build the infrastructure for net-zero airports in phases.

In order to raise public awareness of a carbon-neutral society, we signed the memoranda of understanding with twenty-one government agencies and enterprises to spread net-zero emission practices and declared our commitment to achieve net-zero emissions alongside airport stakeholders. We also carried out a pilot program to install reusable cup collection machines to eliminate disposable cups on Jeju Island in collaboration with seven institutions and companies, including the Ministry of Environment and Starbucks, and as a result, 23,958 disposable cups were reused over the course of 6 months. we were honored with the top prize at the Korea Energy Awards (Ministry of Trade, Industry and Energy).

[New and Renewable Energy Facilities Built in 2021]



[Introduction of Eco-Friendly Vehicles]



Our greenhouse gas reduction target is set according to the target management system of the Korean government. In 2021, we recorded 39,992t CO₂, a 41% drop from the average emissions of 67,218t CO₂ from 2008 to 2009, and continued efforts are being made to realize the vision of net-zero airports. We were able to achieve this feat based on five key strategic tasks:

First, it was to reorganize the net-zero decision-making organization. For decisions on environmental management, the ESG Management committee, comprised of external experts, was formed, with the CEO as the chairperson.

The Committee makes decisions on environmental management and checks related performance. This helped lay the groundwork to strive for net-zero airports by 2050 more effectively.

Second, the establishment of eco-friendly infrastructure was given top priority. Eco-friendly infrastructure is essential for building the potential to curb greenhouse gas emissions in the

long run. We have been building new and renewable energy power generation facilities over the years and built a 244kW solar farm and a 90RT geothermal system in 2021. We are also gradually switching to electric vehicles (EVs) and introduced twenty EVs in 2021.

Gimpo International Airport's shuttle buses and airport fire brigade's command vehicles were replaced with EVs for the first time and their effectiveness is being verified, with plans to apply this strategy across all airports nationwide.



Third, we pursued net-zero public-private partnership projects. To create a resource recirculation system on Jejudo Island, seven public institutions and private enterprises, including the Ministry of Environment, KAC, and Starbucks, are working closely together on a pilot program to retrieve reusable cups at Jeju International Airport for reuse.

From July to December 2021, 23,958 reusable cups were reused.

Creation of Carbon Sink in Idle Area of Airport



Fourth, we endeavored to expand carbon sinks. In order to improve air quality and reduce particulate matter in the atmosphere through multi-faceted cooperation with the government (Korea Forest Service) and local governments, we carried out an afforestation project at Cheongju, Muan, and Yangyang airports.

We also created carbon sinks in idle areas of airports and raised public awareness of its importance.

Fifth, we strove to promote awareness of the importance of achieving carbon neutrality. We organized environmental campaigns to inform the public of the need to achieve carbon neutrality and reduce greenhouse gas emissions in Korea and around the world.

On Energy Day, we held a light-off event at our airports nationwide and live-streamed it worldwide via YouTube. We also use the advertising platforms at our airports to raise the awareness of carbon neutrality among travelers.

We are also implementing an airport carbon point system, where incentives are provided to airlines, commercial facilities, etc. to reduce greenhouse gas emissions, and as a result, 373 participants helped reduced 673t CO₂ in 2021.

At KAC, we will continue our efforts to reduce greenhouse gas emissions to operate net-zero airports by 2050.

KUANTAN CITY COUNCIL JALAN MAHKOTA

KUANTAN ART FOR BEAUTIFICATION OF HISTORIC BUILDING

Walk along Jalan Mahkota and Jalan Besar, offer a chance to see the mixture of modern and old architecture in the city. Rows of old shops on one side and the new iconic 92 meters' tower on the other side are the perfect examples of these views.



Kuantan has its history, known as Teruntum Malay Village in the early days. The arrival of the British, Chinese miners, and Indian workers in 1900 that started up tin mining, saw the establishment of a township. School, hospitals, offices, shops, and roads were built by the British. It became the business center that sold all the imported goods from England, such as suits, cardigans, and shoes. It had turned Kuantan into the most bustling town on the East Coast. As the history and precious buildings are worth protecting, the City Council makes an effort to regenerate the area and rejuvenate activities.

The attention is to preserve and conserve historical shops along Jalan Mahkota and Jalan Besar. These buildings show a blend of

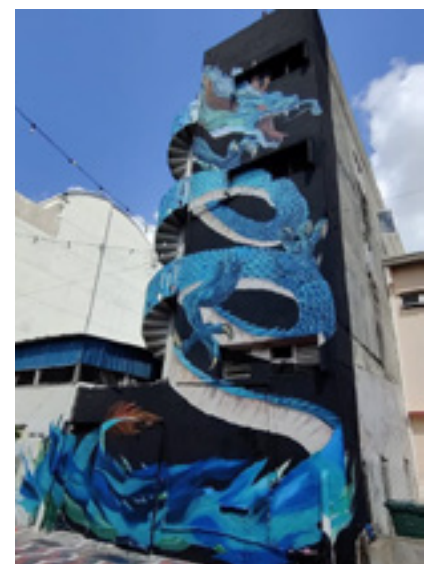
traditional design and British architectural features. The protection of this architectural heritage requires by law.

The conservation and preservation guidelines state the list of the building and regulations of alterations of façade design, structure, or material.

Secondly, the beautification of these historic buildings aims to attract young generations to appreciate history. Through a series of discussions, the City Council and locals have worked out ideas of using art to enhance the architecture and create a visually stunning environment without destroying heritage value.

The buildings are home to some of the oldest businesses established by the Chinese community, Indian family tradition, and Malay. Art is a tool to integrate the building aesthetically, space, history, and culture, creating a sense of place.

The buildings have been given a new lease of life by 13 Pahang-born individuals, aged 26 to 52, working hard from December 2020 to February 2021 to





complete 36 mural paintings of Kuantan identity. It is stretched for 500 metres, involves 60 shops.

The back lane that was previously dark and gloomy now transformed into a colorful and vibrant street.

The spaces encourage social interactions for locals and owners. The Council and community are expecting good tourism growth, thereby providing employment and business for the locals. It has improved their living standard and also enhanced the socio-economic development of Kuantan.



The most outstanding mural is 20 feet painting on the side of buildings, the Shoe Cobbler. It is blended nicely with the façade and the tower as the background.

Branded shoes were widely famous during the heyday. The traditional cobblers repaired footwear and provided shoe polishing services in front of shops were once a common sight in Kuantan.

Another genius integration of art and structure of the buildings is the Legend Dragon of Chini Lake. It is on 40 feet tall building with an outdoor spiral staircase, painted as part of the dragon's body. The legend of Dragon known as Seri Gumum are very famous and synonyms among Malaysian people as a symbol of powerment.



LAKESIDE SHOPPING CENTRE

IMPROVING SUSTAINABILITY THROUGH BETTER WASTE MANAGEMENT

Savills sets each location management team bronze, silver and gold sustainability targets. Under its Sustainability Service Level Guidelines there are certain levels and standards to achieve. Given that waste management is a major part of these standards, our goal was to completely overhaul our waste management regime in order to work towards achieving the Bronze Standard in Year One.

As the Centre's Sustainability Champion my role included appointing a new waste services provider, and in September 2021, we began working with Grundon Waste Management. The goals were to:

- Achieve zero waste to landfill
- Reduce the amount of general (non-recyclable) waste
- Identify new waste streams for segregation and recycling
- Work towards an onsite recycling rate of 50%
- Produce a waste strategy plan
- Involve tenants and retailers in the waste management process
- Invest in new technology to deliver ongoing improvements
- Introduce training programmes for our waste/cleaning operatives
- Increase on-site sustainability and cut our carbon footprint
- Ensure we received monthly waste data reports in order to track progress

- Ensure 100% compliance with necessary legislation and all waste permits in place
- Plan an ongoing programme of innovative ideas to build on initial successes

In the first 10 months we achieved significant success and are well on track towards Bronze status.

Achievements include:

- Zero waste to landfill – non-recyclable waste now sent to Energy from Waste facilities, where it generates green electricity
- In Q1 2022, recycling reached 34% - an increase of 10% compared to pre-Grundon figures
- General waste tonnage reduced by 15%
- Segregation of new waste streams introduced: cardboard, glass, food, polythene
- Cardboard collections alone have seen 577,770kg of cardboard removed from site so far, providing a rebate of c£50,000 - enabling



us to offset 5-10% of our monthly waste bill

- This enables us to invest in further waste services, better machinery, increase standards etc., for the benefit of all tenants and the Centre overall
- New bins, waste containers and compactors installed
- Waste engagement days and 1-1 meetings held with retailers/tenants
- Hands-on training and advice guides provided for cleaning teams/operatives
- Vehicle waste collection journeys significantly reduced, cutting our carbon footprint
- Grundon provides monthly recycling reports for regular review and guarantees compliance with waste-related legislation
- Having achieved initial benefits, a long term waste strategy document is in development



Grundon has been very, very supportive and made it easy. We're realising opportunities for recycling and reuse are endless – not everything has to go in a bin, there are so many other options available.

We are already benefiting the environment through improving sustainability and reducing our carbon footprint, retailers and tenants are improving their environmental credentials through increased recycling. It is benefiting us as a Centre, and longer term it will benefit local communities and the public.

Sustainability successes to date:

- 1,191.52 MWh power generated
- 776,554kg of CO2 saved
- Equivalent 9,245 trees saved

Previously, our view was largely 'chuck your waste in the bin and don't worry about it'. We needed to change and improve to meet Savills' sustainability targets.

We want Lakeside to be known as a place where visitors say, 'they care about recycling, they care about the environment and they are doing everything possible to improve things'. When I see what has been achieved already, it makes me feel proud.

ACTION

Following Grundon's appointment, an initial site audit was followed by a Tenant/Retailer Waste Engagement Day in October 2021. This was very successful in helping them understand the importance of waste management and segregating waste streams at source.

Grundon also made 1-1 visits to each unit, providing waste & recycling guides. They asked everyone to complete a questionnaire highlighting main waste streams and collated this data to help shape the services required, making the project very 'tenant-led'.

I think the fact Grundon visited them all is why we had such positive feedback and support.

WASTE STREAMS

Achieving zero waste to landfill was very important. Non-recyclable general waste now goes to Energy from Waste, creating green energy for export to the National Grid.

One big surprise has been understanding the value of waste, such as cardboard, which previously wasn't recycled. We paid to have it removed whereas now it earns us recycling rebates, offset against our monthly waste bill, allowing us to invest in additional waste services.

Previously all unwanted food went into general recycling bins. As food waste is very heavy, it added to our waste collection costs. Before launching our new segregated food waste collection service in July, we organised a food waste recycling event. Grundon visited all food/drink retailers and provided 120 litre wheeled food bins and kitchen caddies, plus a food waste compactor for the service yard.

We anticipate as the food waste service gains momentum, it will significantly reduce general waste disposal costs and increase recycling figures to help us reach 50%. It also increases sustainability as food waste is sent for Anaerobic Digestion, producing renewable energy and biofertiliser.

Glass is now segregated and recycled, to date we have recycled 136,702kg.

Another newly-introduced waste stream is polythene segregation, which will earn rebates as the polythene is sent for recycling.

CLEANLINESS AND INNOVATION

Our six service yards have had a facelift, resulting in a much cleaner and more organised working environment. Waste skips have been replaced with

compactors, balers and dedicated containers, plus easy-to-read signage.

Grundon's engineers went the extra mile by designing a bespoke compactor 'cage', bolting the equipment to the wall to create a secure compound that cannot be accessed by the public. It is ideas and innovation like this that we really appreciate. Introducing the horizontal cardboard baler has transformed how cardboard is managed. This used to have to be loaded manually, now it is tipped automatically, cutting loading time by at least 50% and improving working conditions.

Installing the new baler has also released the smaller baling machines for additional recycling projects.

At every stage Grundon has provided training for tenants/retailers and our cleaning teams, ensuring they understand how equipment works.

CARBON FOOTPRINT

Because more waste is being compacted and baled on site, the number of waste vehicle collection journeys has dropped significantly, reducing our carbon footprint. Previously, we had multiple collections every weekday, now there are just two weekly Grundon collections, plus a flexible schedule for collection of cardboard bales.

Because Grundon's fleet of waste vehicles is certified CarbonNeutral® its collections don't add to our carbon footprint.

GRUNDON COMMENT:

Grundon's James Luckett says a combination of adding new equipment, support from the management team, and being able to engage tenants has been really important: "When we started we could see that an awful lot of good recycling was going into the centre's general waste, so the starting point was to talk to retailers and explain what we were trying to do.

“When we first came on board, it was about getting recycling figures up, adding new waste streams and reducing costs, as well as the number of vehicle collections. Having achieved those goals we are now setting more specific targets and looking at further opportunities. We’re delighted that the Lakeside team has found the whole process very easy and we can’t wait to get started on the next stage.”

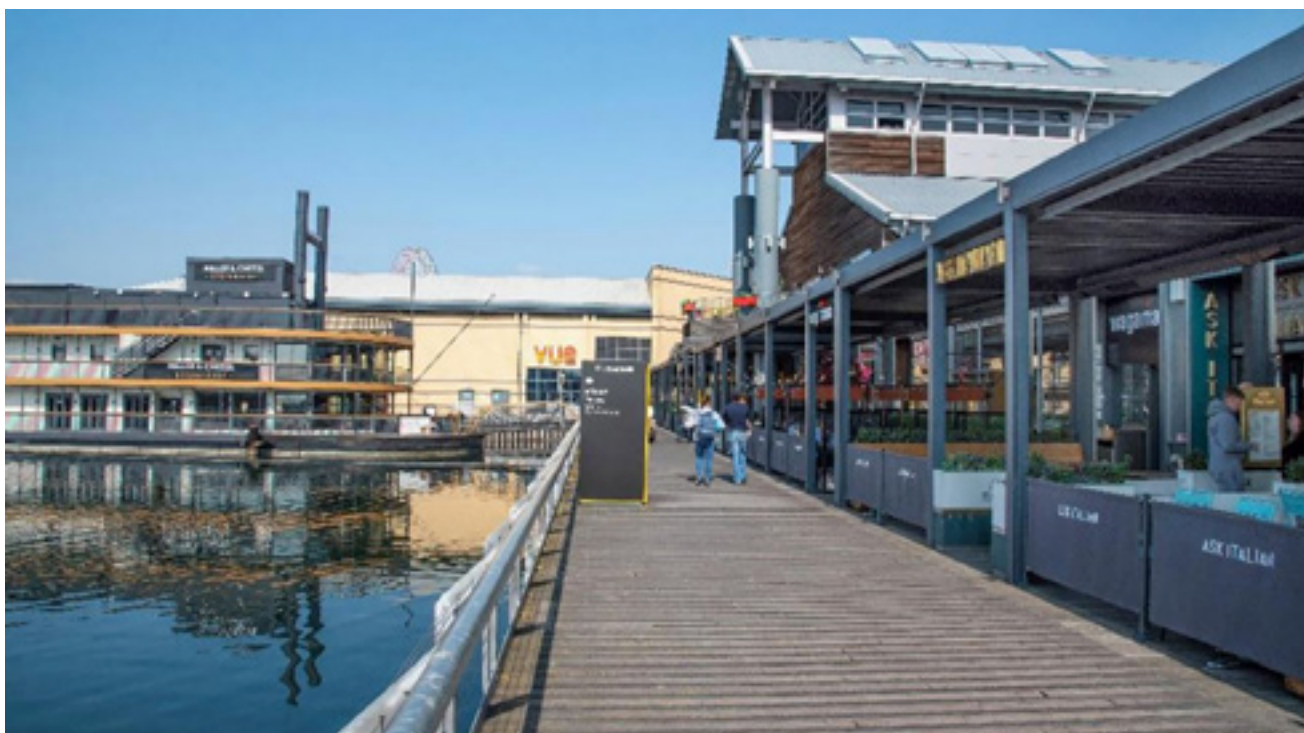
FUTURE PLANS

The waste budget is paid for through tenant service charges. We are now investing our rebates back into the Centre’s waste management services, allowing us to invest in potentially more staff and better machinery, to increase cleaning standards and improve signage, so everyone benefits.

Monthly recycling data is analysed to track progress and help set new future goals. These include:

- Improving recycling opportunities in public areas by:
 - holding a public engagement waste day to

- encourage recycling best practice
- installing reverse vending machines from Grundon sister company GreenRedeem. These reward the public who earn ‘points’ by recycling aluminium cans, plastic bottles etc
- installing Grundon’s coffee cup recycling stations
- Introducing further segregation of waste streams, including:
 - plastic coathanger recycling
 - composting of coffee grounds from drink outlets
- Working with local schools/community groups to promote recycling projects, sharing ours/ Grundon’s knowledge so they can see the benefits achieved
- Arranging visits to Grundon’s recycling facilities so employees/tenants/retailers can see the full recycling journey
- Leading by example, showing other Savills’ properties what can be achieved and how our ideas can be replicated



LK&PROJEKT

LEWITA HOUSE

1. Usable area	469,89 m ²
2. Basement area	161,77 m ²
3. Total area	835,78 m ²
4. Building area	361,2 m ²
5. Building height	8,5 m

The large glazing area creates the impression of unity with nature - the landscape literally flows into the house. The second scene of the “plant stage” is a natural forest, and a cubist design is also used in the layout of the adjacent territory.

The LEWITA HOUSE project was implemented in Poland in 2021. The high-tech project is based on balanced asymmetry. Cubism penetrates the artistic idea of the building, and its parts are woven into a single whole due to the original layout solution.

The lintel connecting the parts of the house, on the side of the exit to the garden is defined by a “uniting” cube with open sides, in the center of which there is a living tree. Its appearance will change from season to season, and this is one of the features of the project.



The building is planned for three floors: one underground floor and two above the ground level. The living room opens onto the infinity pool. From the side of the garden, there is an open terrace. Above it, a bathroom in the form of a dark cube with a panoramic view literally “hovers”. Thanks to this feature, the project was named LEWITA HOUSE, from the word “levitation”.

The underground floor includes technical rooms, a garage and an entertainment area with a bar and home cinema. Due to the original



The second floor is also planned with blocks isolated across the corridor. There are 2 kids bedrooms with their own dressing rooms, a bathroom and a laundry room. Another part of the floor is completely dedicated to the master bedroom with a huge dressing room and a spectacular bathroom. Separate storage rooms allow not to clutter up the living space with furniture.

During the construction, environmentally friendly Porotherm ceramic blocks were used. The facade is faced with eco-panels made of Laminam quartz alloy.

planning solution, the blocks are separated by the corridor.

The ground floor traditionally has general-purpose premises. In the end part, there is a full-fledged complex for sports and recreation with a gym, spa and sauna. The living room is combined with the dining room, which opens onto a terrace with a swimming pool. The spacious room looks even bigger due to the second light. A fireplace in the center of an open and airy space fills the home with coziness and warmth.



Energy-saving technologies are used in the engineering system of the building. Solar panels are installed on the roof. The heating of the house is designed on the basis of a heat pump, and this makes the project partially autonomous.

In the house, you can work, relax, enjoy the views and play sports. This is your own oasis for a comfortable life, which does not limit you in the choice of any activities that you like.



MILESTONE INFRASTRUCTURE BENSON RELIEF ROAD CARBON MANAGEMENT

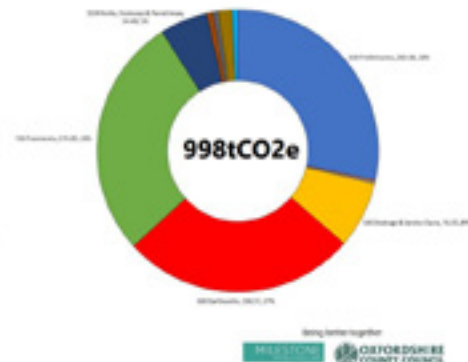
The overarching aim of this project was to demonstrate the feasibility and impact of integrating effective carbon management processes into the design and construction of a high-profile highways improvement scheme following the principles of the PAS2080 Carbon Management in Infrastructure standard. Another key intention was to demonstrate that adopting this approach and achieving significant carbon reductions could also go hand-in-hand with realising substantial cost savings. It was envisaged that we could use our experiences on this project to form a framework for future projects to help standardise carbon reduction measures and ensure organisational sustainability objectives are realised, including delivery of net-zero carbon targets. The project also provided an excellent opportunity to put our bespoke and relatively new carbon tool to the test on a different type of project to further refine its functionality.

The carbon management approach implemented facilitated effective engagement and collaboration across different disciplines from within the project team to achieve industry-leading carbon and cost savings. The value engineering initiatives implemented to date have saved a total of 156tCO₂e. This equates to 95 return flights from London to Sydney and a 15% reduction on the total carbon baseline for the project (998tCO₂e). Cost savings in excess of £400,000 have also been realised.

Additional carbon saving opportunities are also being negotiated which could generate an additional potential carbon reduction of 633tCO₂e (63%) and extra financial savings of at least £470,000 (£870,000

Total Carbon Footprint

- Total emissions = **998tCO₂e**
 - North Oxford Corridor = 3,458tCO₂e
 - Kennington Bridge = 11,112tCO₂e
- Carbon intensity = **477.5tCO₂e/£1m**
 - North Oxford Corridor = 247tCO₂e/£1m
 - Kennington Bridge = 471.4tCO₂e/£1m
- Equivalent to **7%** of the total baseline annual emissions from the TMC contract or **200** return flights from London to Sydney



total). These financial benefits far outweigh the initial investment (circa £7,000) assigned to covering the costs of commissioning the carbon assessment work.

Oxfordshire County Council (OCC) declared a climate emergency in 2019 and aims to be a carbon neutral organisation by 2030. There is also an objective for net-zero carbon emissions across the entire county by 2050. Similarly, Milestone Infrastructure (MI) also has a target to achieve net-zero carbon across its operations by 2040, including supply chain emissions, and has developed a Carbon Reduction Plan.

Milestone Infrastructure deliver essential highways maintenance services on behalf of Oxfordshire County Council. The contract also includes larger standalone infrastructure improvement projects within the works programme. The Benson Relief Road (BRR) project is one of these valued at circa £3m, involving construction of a new link road and associated highways infrastructure between a new housing development and the existing road network near Benson.

It is imperative that effective carbon management processes are embedded within the planning, design, construction, commissioning, and

Carbon Reduction Initiatives – Construction

- HVO fuel for plant – 298tCO₂e saving (30% of baseline)
- CRBM from Drayton – 139tCO₂e saving (13% of baseline)
- Warm Mix – 42tCO₂e saving (4% of baseline)
- Re-use of topsoil on other projects – 251tCO₂e saving – linked to Materials Management Plan
- Higher GGBS concrete – 6tCO₂e saving
- Durakerb – 4tCO₂e saving



operational phases of a development in accordance with the PAS2080 (Carbon Management in Infrastructure) standard. In recognition that the largest potential for carbon reduction exists during the earliest stages of the project life cycle, Oxfordshire County Council commissioned Milestone Infrastructure to carry out a carbon assessment during the preliminary design stage of the BRR project so that a focus on carbon reduction could be implemented from the outset.

This initial carbon assessment involved using a bespoke and innovative tool developed by Milestone Infrastructure to calculate a carbon baseline for the BRR project based on a bill of quantities (BoQ) from the preliminary design phase. The carbon tool adopts the same format as a standardised BoQ template to ensure it is user-friendly and relatable for members of the project team. It has built-in carbon rates for specific activities, and a carbon output is automatically generated based on the quantity inputted against a particular activity. This is exactly how the existing BoQ template works when pricing a project, but this new tool returns both financial and carbon 'costs' in a quick and efficient manner. As the activity descriptions align with the standard methods of measurement detailed within the Manual of Contract Documents for Highways Works (MCDHW), the tool could easily be adopted by others within the wider industry. The principles of the tool are also transferable elsewhere. Having access to a standardised and suitable carbon accounting tool which fits relatively niche operations is a key

industry challenge which this new Milestone carbon tool helps to address.

The carbon tool outputs were then analysed to provide a clear insight into the hotspots within the baseline carbon footprint. This highlighted that over 80% of carbon emissions were focused within site preliminaries (28%), earthworks (27%), and pavement (28%) elements of

the BRR project. The Milestone carbon tool format even makes it possible to dissect down to the detail of identifying specific work categories and activities with the highest carbon outputs. For example, 70% of the project's total baseline carbon emissions relate to pavements, accommodation (site compound), fill materials, waste, and traffic management. The top 3 work activities in terms of carbon impact include laying binder courses, operating site offices/welfare, and importing Class 1 material. The process of recognising these hotspots through the carbon assessment process was critical in setting the foundation for a focused effort on implementing carbon reduction measures.

Armed with successful carbon reduction measures from previous projects and information on industry best practice, a series of recommendations were collated and shared with the wider project team. A significant amount of value engineering work was subsequently undertaken in line with the highest priority aspects within the carbon reduction hierarchy of avoid and reduce. The value engineering initiatives implemented to date have saved a total of 156tCO₂e, the highlights of which include:

- Adapting embankment profile to reduce fill material (74.1tCO₂e & £193k)
- Agreeing alternative assess routes to omit haul roads (61.2tCO₂e & £169k)
- Reducing the carriageway width of the new link road (13.6tCO₂e & £34k)

- Reducing footprint of embankments by steepening slopes (7.6tCO₂e & £16k)

This equates to 95 return flights from London to Sydney and a 15% reduction on the total carbon baseline for the BRR project (998tCO₂e). Cost savings in excess of £400,000 have also been realised meaning a proportion of this total could be used to fund more challenging carbon reduction measures during future phases. Such financial savings also help to relieve growing pressures on constrained local authority budgets and enable greater investment in other valuable infrastructure improvements which deliver wider environmental and social benefits, such as active travel schemes.

Another benefit of the Milestone carbon tool is the ease of calculating carbon (and cost) savings associated with the above design changes. It is simply a case of adapting the quantities inputted against specific activities to reflect these changes which quickly highlights the relative cost and carbon impacts and helps to embed both considerations into the decision-making process.

Adopting this approach to carbon management on the BRR project has enabled a range of carbon saving opportunities to be acknowledged. Those

which are currently being negotiated represent an additional potential carbon reduction of 633tCO₂e (63%) and financial savings of at least £470,000.

Representatives from different disciplines within the project team have collaborated closely throughout this process for the BRR project. This commitment has extended up to the most senior managers, who began by incorporating the costs of this carbon assessment work (£7,000) into the project budget, and then continued to actively participate in monitoring carbon reduction progress. The above cost savings far outweigh this initial investment.

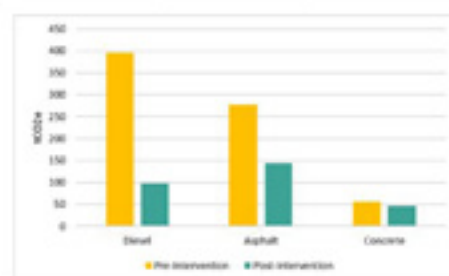
Future plans include reassessing the BRR carbon footprint upon conclusion of the detailed design and construction phases to track further carbon reductions. We will also endeavour to capture appropriate data during construction to assess the accuracy of the carbon rates built into the tool for specific activities and drive continuous improvement in its accuracy. We are also seeking external accreditation on our carbon accounting methods. This framework will also be used and improved upon for future projects with a view to standardising delivery of low(er) carbon infrastructure and ensuring net-zero carbon targets are realised.

Key Carbon Reduction Interventions

- These key interventions could result in a **44% (441tCO₂e)** reduction in the project's carbon footprint
- Saving of circa £400k through VE initiatives implemented to date – a proportion of this could be reinvested in delivering significant carbon reduction initiatives which may come at a cost ensuring that cost (£) per tCO₂e saving is evaluated



Material	Interventions	% reduction
Diesel	HVO fuel for plant	75
Asphalt	Warm mix CRBM from Drayton	48
Concrete	Higher GGBS concrete Durakerb	17



MITIE

BIN THE BAG

Plan Zero is Mitie's commitment to leave the planet in a better condition than we found it. Our commitment to Plan Zero net carbon by 2025 scheme is to eradicate non sustainable waste by eliminating single use materials and embracing the circular economy. We have 3 key targets to manage our waste in line with not only the principles of the waste hierarchy but also the management of waste to reduce our carbon emissions.

Our plan zero waste targets are: 1. Zero non hazardous waste to landfill 2. Recycling rate of 80% by 2025 3. Reduction in total waste generation by 25% by 2025 To assist with achieving these targets Mitie has removed single use plastic bin liners from our offices and replaced them with a trademarked 'Bin the Bag'; an innovative solution to reduce single use plastics, reduce waste and improve recycling.

The 3 chamber bin uses rigid washable caddies instead of plastic bin liners for the source separation of dry mixed recycling, food and general waste. A marketing campaign using QR codes ensured this programme changed the way Mitie managed its own waste at 12 of our key buildings.

Our initial capital expenditure for the purchase of the bins, the project management and the marketing was £13,500; the current spend of bin liners was just under £6,000 per annum. Mobilising the project meant that we would have payback for our outlay in just over 2 years which demonstrates that this kind of innovation not only has huge environmental benefits but also provides a financial benefit.

- We added a food waste service to all of our sites by the inclusion of the food caddy in the bin, allowing for our recycling rate to increase from 62 to 70%.

- The purchase of bin bags for one year (2019) was 40,000 bags. These bags are made up of 600 kg of plastic material – the equivalent of a mill sized bale per year.
- The conversion of this to CO2 would be the equivalent of 3.6 tonnes of carbon per annum to produce these bin bags. Over a 5 year period, by removing the purchase of bin liners from our offices we will be saving 18 tonnes of CO2.
- There is an annual saving of £6,000 on single use plastic bin liners

Bin the Bag is a trademarked bespoke Mitie solution which is designed to remove the need for single use liners in waste and recycling bins to assist with achieving our target to reduce waste generation and to improve recycling through better on site source segregation of waste, recycling and food.

When we started to work through how we could achieve the plan zero targets one of the first things to review was what consumables are Mitie purchasing; everything purchased to run our offices has a waste element to it so we wanted to where possible reduce these items at source.

Unsurprisingly the top three consumables by volume we purchase are:

1. Toilet paper
2. Bin bags
3. Hand towel

It made commercial and environmental sense to focus on the consumables that we could easily eliminate in line with the principles of the waste hierarchy with reduce as the most preferred option. For the waste division removing the single use

plastic bin liners with a better solution was the obvious choice – why segregate a good quality recycling product and then place it in a plastic bag, so we decided to bin the bag!

To implement this we needed to:

- Remove all desk bins and provide central bin stations
- Remove single use plastic liners for all bins
- Capture recycling and general waste segregated at source
- Introduce a food waste service to improve recycling
- Provide a communications plan to employees to provide information on recycling best practice

We researched the market place looking for a bin that had the following functions to be able to remove the single use plastic bin liners:

- 3 chambers so that waste, recycling and food could be collected and segregated at source
- One single bin to remove the problem of people moving separate units (material ends up contaminated when bins are not placed together)
- A bin manufactured in the UK
- Made from post consumer plastic and rotomoulded for stability and durability
- With an easy to clean top section with clear colours for each unit which are WRAP compliant
- Lids on both the general waste and food to reduce any smells
- An integral sign kit that allows for a bespoke poster to be fitted which can be changed with a variety of graphics
- Removable internal caddys instead of a sack retention unit

- Size that is suitable for manual handling and optimum emptying efficiency
- Dimensions: H:852mm W:600mm D:400mm

The unique benefit of this bin is the removable caddys which mean that there is simply no need for a bin bag. These caddys are emptied by the Cleaning Operatives straight into the external bin, washed dried and returned to the units.

Key to the success of any new service is a successful communications plan. For the Bin the Bag service we used a QR code which can be placed on the poster above the bins. Not only does the poster give a ready reckoner on which caddy should be used for which material but also the QR code takes the user to an intranet page which has a wealth of further information on the bin the bag scheme such as FAQ's, videos on the recycling process, fact facts, what is contamination and a number of other useful training modules.

The bins will be emptied by the Cleaning team on site. Each time the bins are over half full the Cleaners will remove the caddys, place them on the trolley so that they can transport a few each time and take them to the external bins.

At this location the caddys will be emptied into the corresponding external bins – general waste, dry mixed recycling and food. The caddys will then be brought back into the building, rinsed and dried and replaced into the bin units.

A few ancillary benefits of the change from a bag to a rigid caddy are as follows:

- It removes the possibility of a sharps injury from removing a bin bags from a bin and the movement therein.
- It removes the problem of spillage of liquid waste (most notably from half empty cups, bottles and cans) because any residual liquid is kept inside the bin

- The placement of bin bags (both for waste and recycling) in an external bin produces pockets of air, the bags by nature of their shape do not store effectively in the bin. However if you remove the bags and place loose material directly into the external bin the material finds a level and as such a better payload of material is stored within the bin which can then provide a right sizing exercise where the frequency of collections and / or the number of external bins can be reduced.

This has the extra benefit of not only reducing costs but also exponentially improving the recycling rates.

Due to the success of the Bin the Bag mobilisation within our own offices we have also provided this turnkey solution to our clients and on the back of this we have trademarked 'Bin the Bag'.

We have recently won the LetsRecycle Level 3 award for the Bin the Bag innovation and were shortlisted for the 2022 Waste and Resource Management Initiative of the Year Edie awards.



MITIE

LOWER PRECINCT PROJECT

The aim of the project was to visually represent the amount of single use plastics being generated at Lower Precinct Shopping Centre in Coventry, using many recyclable materials such as plastic bottles, plastic film, and pallets to create a sculpture to visually impact the amount of waste being generated. It was essential to both JLL and Mitie Waste that this was a community project, which is why we ensured to include the local community, local primary school, and a local artist.



Mitie Waste and JLL collaborated to promote “Resource not waste” The goal was to create a Sculpture made from material destined to be classed as waste, it was to highlight the importance of waste avoidance and what can be created if we think differently and change our attitude to waste

The project involved the centre sourcing and segregating around 1000 plastic bottles which normally would be placed into their recycling compactor onsite and sent for recycling, with the school collecting around 100 plastic bottles also.



In total this came to a weight of around 242kg which equates to nearly a quarter of a tonne.

Site also segregated plastic film and wooden pallets that would have been collected and taken away to be processed, to make the Plinth was destined to be recycled however because of the project they were reused. This is a great achievement as many resources were not sent away as waste, putting us at the top of the waste hierarchy for avoiding any waste from being produced in the first place.

This project also encompassed Mitie Waste’s philosophy “Resource Not Waste” something which is so important to us and it was great to pass this onto the pupils at the school so the next generation is aware of the importance of the Waste Hierarchy.

Mitie Waste have been providing JLL with total waste services for 6 years, going above and beyond to build innovative solutions to best fit their environmental objectives.

As part of recycling week in September 2021, Mitie Waste worked in partnership with JLL at Lower

Precinct Shopping Centre in Coventry supporting their Eco and Sustainability Day and bottle sculpture collaboration. Our aim was to support the centres initiative to build a sculpture from single use plastics across the site, to promote sustainability values to future generations.

The project involved working closely with JLL to transport said materials from site to a local school to wash and prepare the materials for a local street artist to make into a sculpture which was unveiled on site. Mitie Waste have been providing waste service at the Lower Precinct Shopping Centre for 3 years. The waste collection is outsourced by a local provider, leaving our Account Manager, Daniel England to focus on additional schemes to encourage recycling across the centre and within the local community which resulted in the creation of the project.

Daniel worked with a local supplier to arrange for extra containers to be delivered to site to store the single use plastic. He then worked with the on-site

cleaning team to give guidance on best practice on how to segregate recycling materials from the streams to build the sculpture. Once the plastics had been collected, Mitie Waste arranged for them to be transferred to Eastern Green Junior School where pupils and a local artist got to work on creating the sculpture.

After two weeks of hard work, the sculpture was completed and transferred back to the centre. These transfers were managed by our Landscaping teams. The Sculpture was unveiled as part of an 'Eco Day' put on at the Centre that included a market of local companies selling reusable and sustainable items.

Mitie Waste supported the centre in unveiling the sculpture to the community, pupils from the school and members of the local press to provide media coverage.

On top of this, our Mitie Waste representatives attended site and provided a Waste Roadshow to highlight the importance of recycling to centre users.



MIVAN

SUSTAINABILITY STRATEGY

To increase the level of renewable energy generated within our business. As timber makes up a large majority of the materials used and waste generated in our operations, we wanted to explore the opportunity to upcycle or re-use our waste. We wanted to increase our diversion from landfill rates for waste, and to improve our waste management procedures throughout our business.

This would subsequently increase our overall level of sustainability. We wanted to introduce a biomass boiler that could allow us to re-use our timber waste as a form of renewable energy.

We now divert 100% of our timber waste from landfill, a large portion of which is through this renewable heat generation, with the remainder being recycled. Our biomass boiler uses the timber waste, that has been mulched down and reshaped into easily burnt pellets, to convert waste into renewable energy.

This renewable energy source now provides heats to over 70% of our premises including our manufacturing workshop and office premises. This accounts for approximately 150 people on a daily basis.





Company

Mivan Ltd

No of employees

150

HQ

Antrim, Northern Ireland

Website

www.mivan.com

Main contact

Michael Girvan –
michael.girvan@mivan.com

Services

Internationally renowned
leader in specialist joinery and
interior fit-out.

About

Based in Antrim (Northern Ireland), Mivan has showcased forty-five years of excellence and innovation. The company offers a complete turnkey fit-out service in a broad range of sectors, including luxury hotels, prime residential, museums, stadiums, arenas, commercial and marine, and a range of modular solutions.

We want to build on this achievement by continuing to introduce more renewable energy schemes, and subsequently increase and further diversify our environmental performance and level of sustainability.

The project involved sitting down and trying to rethink our current heating and waste systems and collaborating to explore any possible opportunities for improvement.

Our factory and office traditionally used natural gas supplied from the mains to heat the premises, and due to the nature and scale of our operations our energy consumption was very intensive in terms of cost and carbon impact. The biomass boiler was installed in 2016, and so far has generated 3353MW of heat energy, which is roughly 515MW per year. We would have an approximate feed of 140 tonnes of timber waste into the boiler each year.

This is waste that has now avoided landfill. Our main reason to do it was to increase the level of renewable energy generated within our business. As timber makes up a large majority of the materials used and waste generated in our operations, we wanted to explore the opportunity to upcycle or re-use our waste. We wanted to increase our diversion from landfill rates for waste, and to improve our waste management procedures throughout our business.

This would subsequently increase our overall level of sustainability. We have wider sustainability goals (incorporated within our sustainability plan) for Mivan, particularly in terms of our carbon impact, and our own journey to becoming net zero by 2050. This was to be our first step in our conversion to renewable energy systems to fuel our factory operations. It has taught us the importance of how significant low and zero carbon transition can be to a business, and how important of a role they will play in the future – particularly in achieving net zero emissions.

Members of Mivan attended an ESG Charter hosted by Multiplex, who had partnered with the Supply Chain Sustainability School.



Multiplex used it as an opportunity to display their sustainability plan and their journey to Net Zero by 2030 and to engage with other members of their supply chain by making them aware of the School and the various resources available to them.

The level of emissions associated with this type of renewable energy generation is fractional compared to the use of conventional fossil fuels, in this case the burning of natural gas. Our entire company has benefited from this transition, in many ways; the saving in costs incurred as the need to purchase gas to heat our premises has reduced, the overall natural environment has benefited as we are now emitted much fewer greenhouse gases, all of our company staff have benefited as they can take pride in their place of work making steps towards improving their impact on the environment.

Other companies can benefit from implementing renewable energy schemes such as this one. Companies should evaluate what areas of their business could be rethought, as our company's timber waste stream was quite extensive, then it made economic, environmental and social sense to target this area and try to improve. There are other ways in which businesses could reduce their emissions and improve their environmental impact, that would be more relevant to the nature of their operations.

NHS FLEET SOLUTIONS PROMOTING ELECTRIC VEHICLES

NHS Fleet Solutions is the UK's original and largest public sector salary sacrifice scheme, allowing workers in the NHS, Police, Councils, Universities and Academy schools to benefit from an affordable car lease scheme – but a scheme with a massive positive impact on the planet and on encouraging people to make cleaner and greener choices.

1 in every 20 zero emission cars registered in the UK last year was provided through NHS Fleet Solutions' car scheme, demonstrating a significant role in reducing the impact of pollution across the UK. NHS Fleet Solutions are managed by Northumbria Healthcare NHS Foundation Trust, and unlike those in the private sector, all the surplus income from our schemes stays in the public purse to fund front-line NHS services.

This is part of the wider Trust award winning Community Promise, the first NHS Trust in the

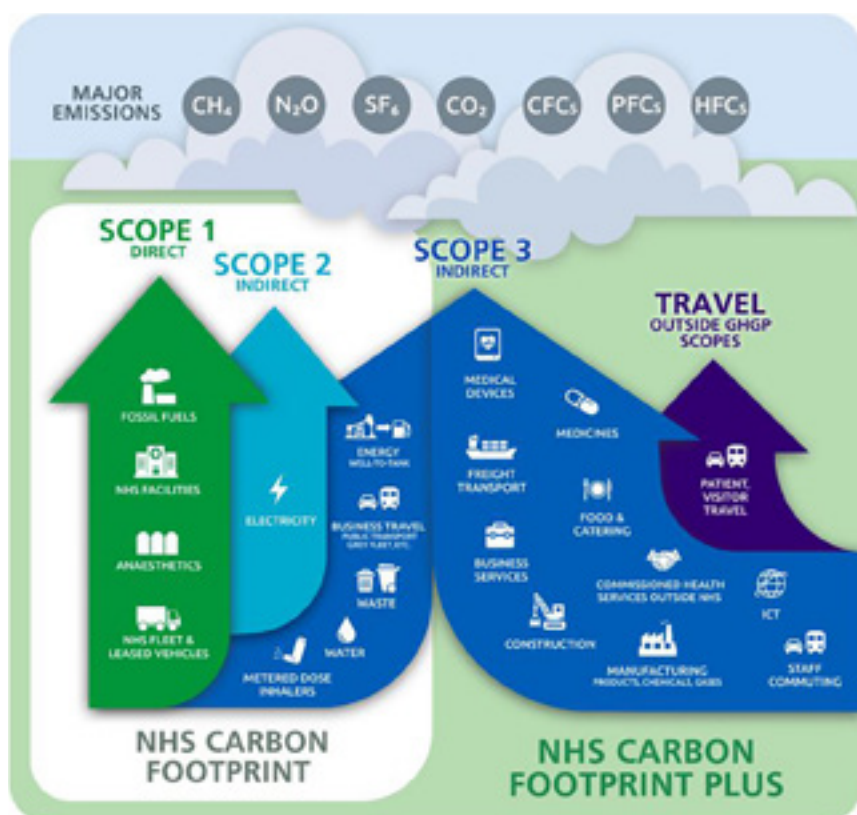
which is already delivering impact to protect the environment, reduce emissions in our towns and cities and uses surplus income to support wider investment into health and wellbeing.

The NHS is the largest employer in Britain, responsible for around 4% of the nation's carbon. NHS Fleet Solutions works with around 40% of the UK's NHS trusts and other public sector organisations and is playing a key role across the UK in reducing the impact of fossil fuels by actively promoting to thousands of staff the benefits of using an electric vehicle over traditional petrol and diesel. 9,570 Battery Electric Vehicles (BEVs) were registered through NHS Fleet Solutions car salary sacrifice scheme in 2021. .gov.uk shows each fossil fuel car produces around 24 tonnes of CO2 in its lifetime, this equates to taking out almost 229,680 tonnes from the atmosphere with the 9,570 electric vehicles we supplied.



UK commit to tackle issues around Poverty, Economy, Employment, Education, Wellbeing and the Environment. NHS Fleet Solutions shows how commercial awareness, coupled with values around corporate social responsibility, results in a scheme

The same source shows that a fossil car generates 4.6 tonnes of pollutants pa, therefore 44,000 tonnes of pollutants every year are no longer being emitted. NHS Fleet Solutions has done more. Apart from the benefit to the environment, the cost saving over



the potential spread of infectious diseases to the UK. Almost 900 people were killed by 2021's summer's heatwaves while nearly 18 million patients go to a GP practice in an area that exceeds the World Health Organisation's air pollution limit.

Scientists believe perhaps a third of new asthma cases might be avoided by cutting emissions, while Lyme Disease and encephalitis are among conditions expected to become more common as temperatures rise. NHS Fleet Solutions is playing a major role in the national Greener NHS plan coupled with Northumbria Trust's ethos of "Beyond Outstanding" which places a clear commitment to developing a consistent approach

petrol, they also realise that using an electric vehicle means changing the way we think about refuelling. As part of the transition they also offer staff taking a new car the option of having a home charging unit fitted.

In October 2020 the NHS adopted the Greener NHS multiyear plan to become the world's first carbon net zero national health system. The commitment comes amid growing evidence of the health impacts of climate change and air pollution, and aims to save thousands of lives and hospitalisations across the country. One of the biggest contributors to global warming and pollution is the use of fossil fuels.

Air pollution is linked to killer conditions like heart disease, stroke and lung cancer, and academics have linked high pollution days with hundreds of extra out-of-hospital cardiac arrests and hospital admissions for stroke and asthma. The changing climate is leading to more frequent heatwaves and extreme weather events such as flooding, including

across the Trust, working closely with partners in the public and voluntary sectors, driving improvements on sustainability, recycling, improved air quality, emission reductions, sustainable and active forms of travel as well as increasing access to green spaces, while enhancing the ecology and biodiversity across all our sites, delivering real and recognisable social and environmental benefits.

In 2020, the Trust won the best carbon reduction category at the Investors in the Environment (iE) Awards, due to its achievements, which seen an annual reduction of 6,440 tonnes of CO₂e based on energy, waste and travel improvement solutions, a 17% reduction from the previous year. In 2021 the Trust won a Green Apple Award for our work to decarbonise our estate which included the significant work to reduced emissions from our hospital estate.

The Trust's past credentials show a clear determination to bring about recognisable

improvements, but our strategies moving forward shows bold determination, innovative approaches and a dedication to the future health of our planet. A Corporate Approach – Delivering Real Change The Trusts Corporate Sustainability Group (CSG) provides a co-ordinated approach across themed delivery areas, aligning directly to the Trusts Green Plan, which in turn is aligned to the statutory requirements of the national Greener NHS Plan.

The group provides strategic foresight towards carbon neutrality, with oversight in the development and delivery of improvement projects, innovative approaches, best practice and awareness campaigns. Trust wide Green Champions, help promote sustainability and environmental improvement initiatives, promoting and feeding back on initiatives and ideas. Staff can also share their thoughts, ideas and suggestions to the Green Team inbox.

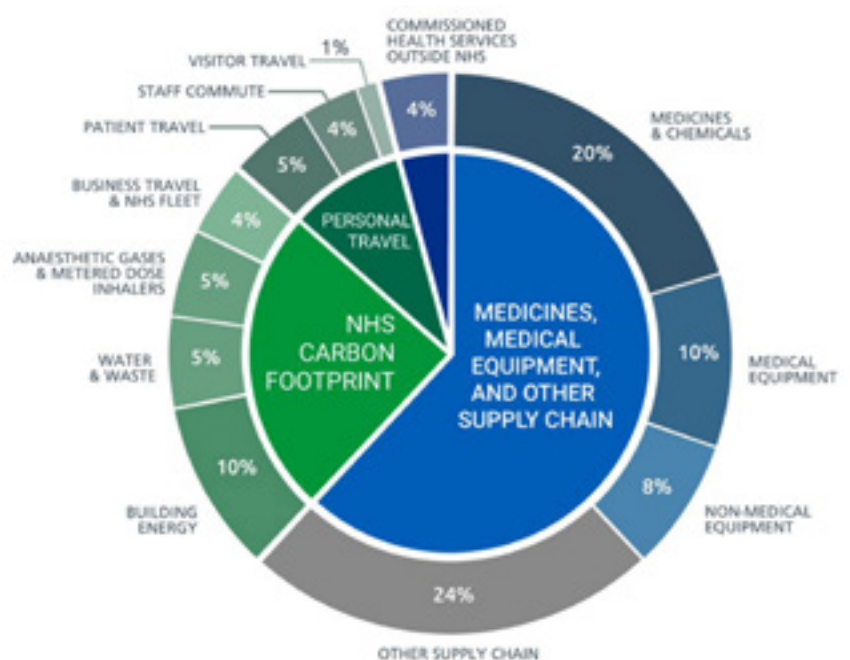
Campaigns such as Day Hawks and Night Owls, ensures the effective promotion and engagement on energy reduction, environmental and biodiversity enhancement activities, promoting positive step-changes, towards a net-zero future. NHS Fleet Solutions has been working closely to ensure that electric chargers are provided for staff who drive to work and across Northumbria NHS Trust alone there are 79 standard and fast charger units in the staff parking and public areas.

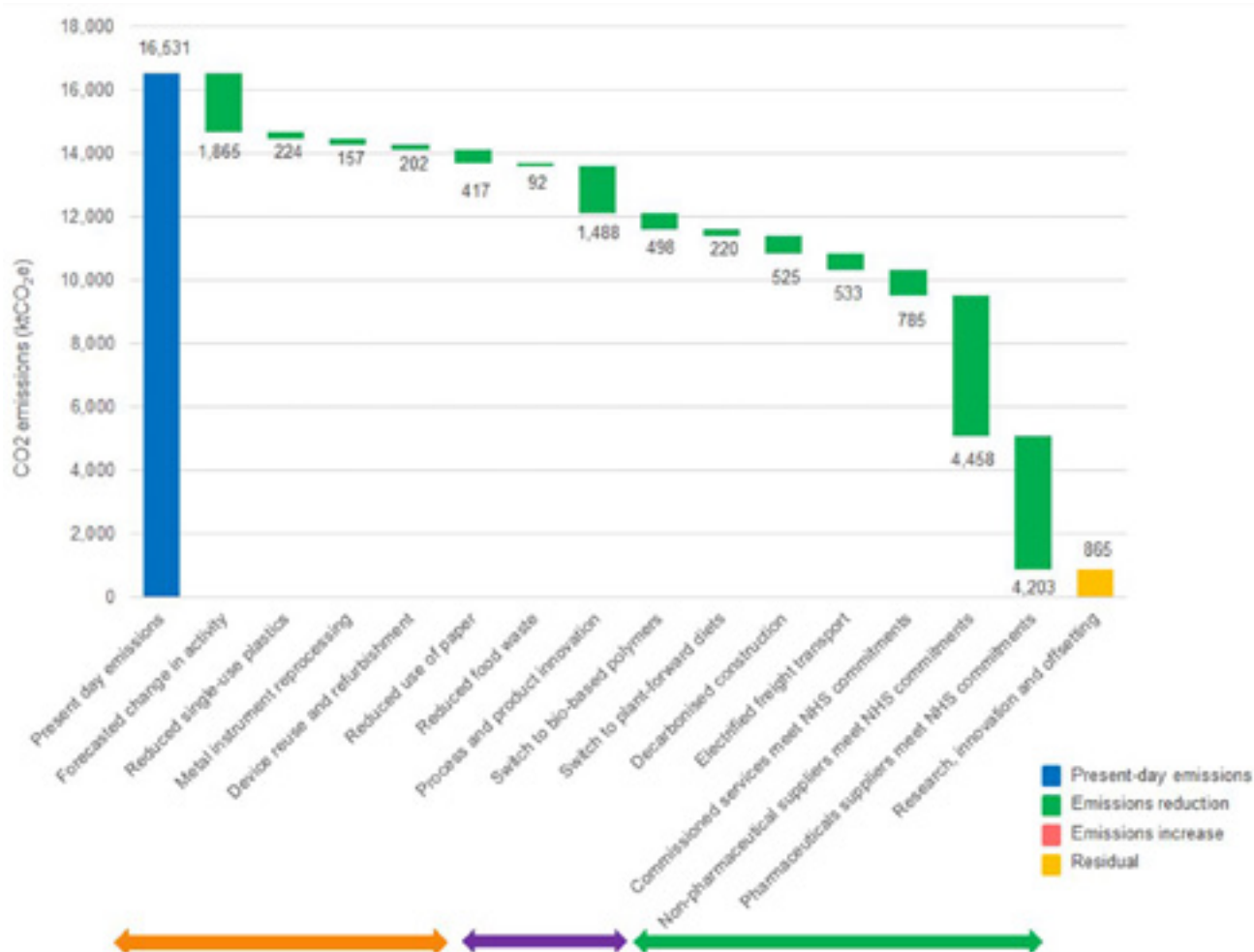
The Trust also recognise that cars are not the only choice for some, so our cycling initiatives and changing/locker facilities, clearly supports the drive towards sustainable and active forms of travel, promoting environmental and health benefits, diverting away from car use to more sustainable

modes of travel. Our Community Promise As one of the UK's leading NHS Trusts, Northumbria NHS has a new strategy focused on supporting health and wellbeing, through education, employment and the economy.

Our role as an Anchor institution has led to clear CSR work encapsulated in a cohesive and focussed programme - The Community Promise, supported by six key pillars, of poverty, employment, education, economy, environment, wellbeing.

Our Manufacturing Hub created 60 jobs at the height of the pandemic, including 10 apprenticeships, ensuring the continuity of PPE supplies for ourselves and NHS colleagues. Communities are made aware of the wide range of job opportunities, and we work with 197 schools/colleges to drive aspirations, opening pathways into healthcare careers, including hundreds of work experience placements, we also offer upto 12 internships for those with additional needs.





We were the first health organisation in the UK to receive World Leader Status for corporate social responsibility including our most recent at the International CSR Awards in London May 2022. Our work with the Trust's Bright Charity has seen increased biodiversity and greenspace development, enhanced nature corridors, wildflower planting, improving and enhancing the Trusts natural environment with a clear mission to "Improving our environment is something that we all must address, it is all our responsibility to bring about real and lasting change".

This all demonstrates clear and identifiable support for the environment across everything Northumbria NHS does as a healthcare provider. It also shows

the major impact which NHS Fleet Solutions has on driving change for the better.

By promoting the uptake of electric vehicles there are significant environmental and health benefits. Reduced pollution, reduced emissions and all leading to a virtuous circle of using profits to support wider work to make people healthier.

NHS Fleet Solutions is leading the way in which we can go greener, cleaner and also benefit the wider community by doing the right thing.

NORTHUMBRIA HEALTHCARE TRUST

DELIVERING A SUSTAINABLE FUTURE

Northumbria Healthcare Trust is committed towards a vibrant future, striving towards net zero by 2040 for emissions within the Trusts direct control, with a wider ambition to become carbon neutral by 2045 for in-direct emissions. The Trusts commitment is embodied in our award winning Community Promise, the first NHS Trust in the UK to make a commitment to tackle issues around Poverty, Economy, Employment, Education, Wellbeing and the Environment .

Our commitment is about strategies that bring about real change, significantly reducing the amount of GHG emissions being emitted, increasing renewable capabilities, moving to a cleaner, greener renewable source for our energy supplies. We have already taken actions, reducing emissions through building modernisation and improvement programmes; installing PV; LED lighting upgrades and a wide programme of staff engagement and awareness initiatives, but this is just the start.

The Trusts passion to be an exemplar in the field of sustainability, improving environmental performance at every opportunity is unquestionable, as we drive forward innovative solutions, shaping the decisions being made, embedding a culture of “climate first” across all Trust activities. The solution to a thriving environment is rapid, ambitious, transformative action by all, delivering a healthier planet now and in the future.

The NHS is the largest employer in Britain, responsible for around 4% of the nation’s carbon emissions. Northumbria Trust’s ethos of “Beyond Outstanding” places a clear commitment to developing a consistent approach across the Trust, working closely with partners in the public and voluntary sectors, driving improvements on sustainability, recycling, improved air quality, emission reductions, sustainable and active forms of

travel as well as increasing access to green spaces, while enhancing the ecology and biodiversity across all our sites, delivering real and recognisable social and environmental benefits.

In 2020, the Trust won the best carbon reduction category at the Investors in the Environment (iE) Awards, due to its achievements, which seen an annual reduction of 6,440 tonnes of CO₂e based on energy, waste and travel improvement solutions, a 17% reduction from the previous year. In November 2021 the Trust officially opened an £8m “net zero” state-of-the-art healthcare sterilisation facility.

The sterile processing centre seen the rationalisation of two old and in-efficient sterilisation units brought into one. This two-storey bespoke, carbon neutral facility is powered by green electricity, with significant improvements to the cleaning and sterilisation process, improving efficiency, resulting in reduced use of electricity, water and subsequent carbon emissions.

The Trust’s past credentials show a clear determination to bring about recognisable improvements, but our strategies moving forward shows bold determination, innovative approaches and a dedication to the future health of our planet.

A Corporate Approach – Delivering Real Change
The Trusts Corporate Sustainability Group (CSG) provides a co-ordinated approach across themed delivery areas, aligning directly to the Trusts Green Plan. The group provides strategic foresight towards carbon neutrality, with oversight in the development and delivery of improvement projects, innovative approaches, best practice and awareness campaigns.

Trust wide Green Champions, help promote sustainability and environmental improvement



initiatives, promoting and feeding back on initiatives and ideas. Staff can also share their thoughts, ideas and suggestions to the Green Team inbox. Campaigns such as Day Hawks and Night Owls, ensures the effective promotion and engagement on energy reduction, environmental and biodiversity enhancement activities, promoting positive step-changes, towards a net-zero future.

Our cycling initiatives, changing/locker facilities, clearly supports the drive towards sustainable and active forms of travel, promoting environmental and health benefits, diverting away from car use to more sustainable modes of travel. Reducing Emissions from our Buildings and Operations The Trusts commitment to decarbonising its estate is evidenced by our most ambitious net zero project to date.

The £22-million net zero investment at North Tyneside General Hospital, aims to reduce emissions by 80% over a 15-year period. The project innovated by design and nature will see the replacement of 40-year old boiler and steam distribution systems, with sustainable low carbon alternatives with the installation of Air/Water Source Heat Pumps, nearly 1MW of installed Solar PV, coupled with battery storage, double glazing and cavity wall insulation, resulting in a significant reduction of 2,033 tCO₂e per annum.

Improvement works at Wansbeck General Hospital has seen the investment of nearly half-a-million pounds in pump rationalisation works, resulting in a reduction of 130 tCO₂e. The Trust has invested quarter-of-a-million pounds in Investment Grade Audits (IGAs), developing decarbonisation plans, supporting growth in renewable energy solutions,

while increasing the EV charging infrastructure, supporting the decarbonisation of fleet vehicles. The IGAs provides a strategic pathway, focusing on energy reductions; decarbonisation as well as innovative solutions, establishing a clear financial mandate towards net zero. Innovative Solutions to a global problem Working with Apian, the Trust has a grant award from SBRI Greener NHS programme to use drones as an alternative method of transporting critical medical goods such as chemotherapy drugs and pathology samples.

We are aiming for this to take place between two of our more remote sites – Alnwick and Berwick – where the fully electric drones will remove couriers from the ground and decrease emissions. Mask Recycling Programme During the height of the pandemic the Trust used around 80,000 mask's per week, increasing waste. The Trust installed



The introduction of coolsticks have helped Northumbria trust economically and environmentally. Right, Zoe Robertson with one of the sticks.

a Sterimelt machine, implementing an innovative solution to effectively recycle masks/offcut polypropylene fabrics into blocks, making other products.

Future use of these blocks, could include the production of garden furniture, walking sticks etc, used across healthcare settings, providing social and community benefits. The Trust is sharing its innovative approaches directly with other Trusts, helping to improve waste processes and cost improvements. Reducing Environmental Impacts across Clinical Practices Ethyl Chloride spray is a topical anaesthetic widely used across theatres/labour wards to test sensory block heights/density for spinals, epidurals and regional anaesthesia.

The Trusts drive and ambition to reduce its environmental impact, introducing improved practices, has seen the move from Ethyl Chloride sprays, to sustainable alternatives. The Trust trialled the use of Coolsticks determining their effectiveness. Individual Coolsticks can be cleaned and re-used, integrating alternative low carbon solutions.

The ordering of Ethyl Chloride sprays has been stopped, with educational sessions delivered amongst anaesthetic and labour ward staff, introducing Coolsticks as a standard practice across the Trust. Anaesthetic gases account for over 2% of NHS emissions. Desflurane is one of most commonly used, but also one of the most harmful, with 20 times the environmental impact of other less harmful GHG.

Using a bottle has the same global warming effect as burning 440kg of coal. As part of the Trusts ambition towards greener anaesthetics, desflurane is no longer used within the Trust, demonstrating positive steps towards greener anaesthetic departments. Endoscopy Green Champions have been created, resulting in significant environmental improvements, through improved waste segregation and recycling, reduction in the use of sterile water, and plastics.

Other improvements include the recycling of instruments, reducing paper usage, moving to digital reporting, utilising QR codes for patient information. The team offers patients the chance to have a Greener Endoscopy, advising on Entonox usage, raising awareness on its environmental impact. The Trusts Green Endoscopy Lead Champion recently presented to the BSG in Birmingham, and is linking with Trusts right across the country, as well as European Countries, and Australia, on how to set-up green endoscopy.

This has resulted in a recent award nomination through the RCN. Our Community Promise As one of the UK's leading NHS Trusts, we have a new strategy focused on supporting health and wellbeing, through education, employment and the economy. Our role as an Anchor institution has led to clear CSR work encapsulated in a cohesive and focussed programme - The Community Promise, supported by six key pillars, of poverty, employment, education, economy, environment, wellbeing.

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We were the first health organisation in the UK to receive gold accreditation for corporate social responsibility. Our work with the Trust Charity has seen increased biodiversity and greenspace development, enhanced nature corridors, wildflower planting, improving and enhancing the Trusts natural environment.

"Improving our environment is something that we all must address, it is all our responsibility to bring about real and lasting change".

PARC TROSTRE, LLANELLI

'ENCOURAGING WILDLIFE THROUGH NATURE' INITIATIVE 2022

INTRODUCTION

Parc Trostre is a busy outdoor retail park in Llanelli, South Wales. We are situated in 22 acres with 35 retail units and a large car park providing 2009 spaces. Parc Trostre has an eclectic mix of retailers which attracts 5 million customers per annum.

The retail park is located near the South Wales coastline which has many nature trails, country parks and coastal pathways all in proximity. Parc Trostre has some large landscaped areas that have been developed around the park - this year-round planting provides a habitat for nature as well as tranquil distraction for our customers and local communities.



OUR AIM

The aim of our 2022 initiative is to further develop / enhance our contribution to nature and bring more wildlife to the park, such as birds, bees, bats, hedgehogs & other insects to engage with our local community / customers in becoming more proactive in how they can support the natural environment.

Our role is not only in what we can do and achieve to protect and promote wildlife, but also in showing others what they can enjoy & contribute locally as well.

2021 we won a Green Apple for our project, 2022 we continue to develop this, creating further wildlife habitat/food areas for year round use as well as using recycled products.

CURRENT INITIATIVES

We are an open air park surrounded by landscaped gardens / natural wooded areas set within our boundary.

As part of our continual growth & development we have introduced new wildflower areas which we hope will attract an increasing number of birds, butterflies / bees to the area. We have natural / manmade bird boxes, bug & bee hotels, recently installing bat and hedgehog housing into our wooded areas. We offer the added benefit of various food sources around the park for insects, in terms of strategic planting.

Birds currently nesting on the park include Woodpeckers, Blue Tits, Wagtails, Finches and Seagulls.

We hope to encourage more species with the variety of flowers that we have planted which will give year-round habitats / food sources.

We are situated within 22 acres, with approximately 6 acres around the site being landscaped, wooded, natural and planted areas. Our site team maintain these areas, cultivating planted stock, tending to native floral and ground covering plants as well as grass cutting.

We are now using used coffee grounds as fertiliser donated free by one of our tenants.

We have built a composed bin out of reclaimed wood that was sourced from tree felling around the park.

A 3rd party provider has donated £1000 worth of trees/shrubs to aid our efforts.

We have a variety of wildflowers and plants at the retail park, including bee loving plants such as Butterfly Bush, California lilac, Cotoneaster and Red Claws, as well as a selection of lavenders, flowering shrubs, heathers, and native trees.

As part of engagement with our local community & customers, we launched our 2nd Nature photographic competition via our social media, with prizes donated by our tenants. Our intention is to highlight some of the beautiful local scenery & wildlife and to encourage support & care for what we have on our doorstep.

We have added links to local nature walks & parks to our social media platforms to encourage

customer and the wider local community to go outside and explore nature to see what they can find. To help encourage this we have posted scavenger hunts & blogs.

June's blog post encourages customers to grow flowers/plants which will encourage wildlife at home.

<https://www.parctrostreretailpark.co.uk/get-garden-ready-for-summer/>

<https://www.parctrostreretailpark.co.uk/fresh-finds/>

The team at Parc Trostre are committed to this cause and continue to look for new ideas that will continue our growth and development in this area. The dialogue we have instigated with our shoppers and local stakeholders is testament to the whole team's passion in the area. We all want to celebrate and protect what we have on our doorstep, whilst still running a busy commercial shopping park.

We have continued to develop our Environmental green programme, last year installing additional cycle shelters, working with the local council/ community to help the further development of cycle tracks in Llanelli. Thus, helping to reduce the carbon footprint for fossil fuels as car users are encouraged



to use greener forms of transport.

This year we have installed an electrical charging point for customers with electric powered vehicles. This will assist in reducing carbon emissions that contribute to climate change at a local and macro level. Improving public health and supporting the reduction in ecological damage as well as directly contributing to the protection of the local natural environment.

FUTURE INITIATIVES

We continue to develop / grow our wildflower areas, proactively encouraging and increasing wildlife.

We are also currently identifying ways to introduce a rainwater capturing system, this will allow us to use rainwater to irrigate our landscaped/wooded areas. This is both sustainable, as it reduces the impact on natural resources, is more nutrient loaded and also

provides a financial saving to the service charge for our occupiers.

CONCLUSION

Our ongoing objective is finding new ways to be greener and more environmentally focused, to engage with our customers / local communities in joining us on this journey, as together we can have a positive impact on our shared local environment. Tenants / service providers have joined us in our efforts.

We are proud of what we have continued to achieve over the last year and are excited by our future plans for the park.

By working together we can facilitate change and we are determined to encourage others to join us on our journey.



Parc Trostre Retail Park, Llanelli

Parc Trostre is a large outdoor retail park that comprises retail units inhabited by well-known high-street brands with external common space and landscaped areas, situated on the South Wales Coast.

Since 2021 we have worked on and further developed our project '*Encouraging wildlife through nature*' by adding Bee & Butterfly friendly plants, native planted areas, winter foliage, Bee, Insect hotels, Bird, Bat and Hedgehog housing in various areas.

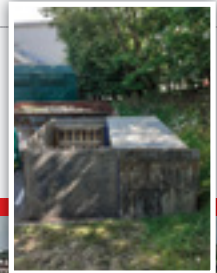
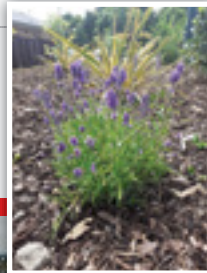
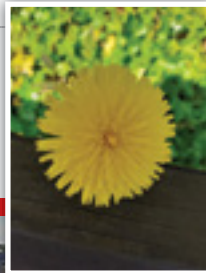
Annual Tree felling gave us logs & chippings that we have used to create areas for insects to shelter under, which provides not only areas for colonies to grow and additional sources of bird food. Chippings help protect plants in both cold and dry weathers.

Using timber for various works around the park we have created fenced areas, plant pots and a compost bin which uses both our biodegradable green waste and used coffee beans donated by one of our tenants to create fertilizer which we use on site.

A rainwater harvesting tank which holds 15,000. It will not only allow us to save costs but also by using rainwater we are delivering water with natural minerals etc to our plants through dry periods.

New EV units have been added along with additional cycle shelters and we are working with our local council in facilitating new cycle pathways around and out of the town.

Social media and events on the park have contributed to increase our engagement with our local community/customers and tenants.



Parc Trostre.

RETAIL PARK



Address:

Parc Trostre Retail Park, Llanelli, SA14 9UY



Open Today:

8am to 8pm



Contact Site Security:

01554 775 344

PIPERS CORNER SCHOOL CREATING TOMORROW TODAY

The aim is to create a school and community where there is full understanding and engagement in creating a sustainable future. This being achieved by all concerned supporting the programmes and activities developed and run by the school.

We feel it is no good setting up and running programmes if one cannot get full staff and public support. The school has an integrated approach through all aspect of school life including parents and linking it to local schools and communities. Introducing Global Citizenship as promoted by the UK Government and the UN. Pipers is the only school in the UK to have live classroom inter action with indigenous people in the Amazon Rainforest



We have won a number of awards: LEAF Education Conservation Sustainability Competition (National competition for Food Farming and Environment) Regional Winners and Finalists 2019-2021 The John Muir Trust Provider of John Muir Award Plan-It Eco Education for Sustainable Development Award Young Enterprise Regional Sustainability Winners for 2 years. The school raised £900 for the British Charity Rainforest Concern to enable the protection of over 18 acres of tropical Rainforest it was the highest raised by any school in the UK. Pre Prep were awarded their Eco Schools Green Flag for their Environmental work.

Wildlife Trust Wild School Certificate The schools eco group have become regular contributors to the local residents magazine. We work closely with the school catering company Holyroyd Howe who have won their own independent Green Apple Award

and have reduced our overall food waste by 42% Through our paper reduction monitoring scheme we have seen a large reduction in paper waste resulting in a reduction of paper purchased. We have a energy monitoring scheme run by the students where we are seeing a marked reduction in electrical

appliances being left on or on stand by coupled with our No Lights Wednesday programme resulting in a reduction in energy use and/or wasted. We have seen a marked decrease in litter throughout the school as we aim to become a litter free site.

Through the sustainability programme the school eco group (HOPE) is now the biggest group in the school with over 60 students members and 26 staff (adult) members (teaching, support, administrative and estate members) We have gained outside interest for our whole school approach.

Pipers Corner School is an independent day school for girls in the High Wycombe area. There are over 600 students ranging in age from 4 to 18 years of age. With teaching and support staff the Pipers Corner School community is approx' 850 people; this does not include parents and guardians who



form a vitally important part of Pipers Community. Set in 48 acres of natural countryside the grounds are a mix of wild woodlands, British wildflower meadow.

It was and continues to be the vision of the Head Teacher Mrs Helen Ness-Gifford supported by Senior Management to bring the environment and sustainability into the ethos and fabric of the School including using the wonderful and diverse biodiversity provided by the school grounds.

ALL SUSTAINABILITY WORK AT PIPERS CORNER SCHOOL RELATES TO AND GOES ABOVE THE PRINCIPLES OF EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD) WHICH IS SUPPORTED BY THE UK GOVERNMENT and the UN SUSTAINABLE DEVELOPMENT GOALS DIRECTIVE.

To enable the process to move forward the school made the decision to appoint an Environmentalist-in-Residence a unique position the demonstrates Pipers' commitment to creating a sustainable future. The position acts as a focal point developing new programmes, events and activities monitoring and reporting on the success while creating a whole school approach.

The school appointed Mr Phil Williams who has over 25 years of working in sustainability

in education and was Wales Sustainability Champion. To reach the Schools sustainable and environmental potential it has a fully intergrated whole school approach.

SUSTAINABILITY WHOLE SCHOOL APPROACH being split into a number of key aspects of running a school.

Classroom Activities (Teaching)

Estates Grounds Estates Buildings (includes procurement, material use, energy and food)

Outreach (working with local authority schools, community groups and organisations.)

Special Events Catering

The workings of the HOPE Group.

It was decided to set up a strong environment group operating in a business like manner with a Chairperson, Marketing finance and Human Resources. The students decided to name the group HOPE (Helping Others Protect the Environment) they then designed the logo.



Membership is across the school family including students, parents, teachers and support staff. HOPE is a focal point developing, running and monitoring the environmental/sustainable activities and reporting back to senior management. The group started by completing a comprehensive Environmental Impact Audit of the school operation which acted as a platform to develop future sustainability programmes, activities and attitudes.

Programmes include: Teachers encouraged to bring the environment, sustainability and Global Citizenship into all subject areas and to use the grounds as their classroom. Waste Reduction programmes for Paper, Energy and Food Special Annual and one off events. Providing support and running joint events with local schools.



Special Sustainability programmes including outreach activities including:



Community Activities.

Wildlife/biodiversity survey.

Active membership of national and international groups.

Global Citizenship through activities such as Q and A sessions with indigenous people in the Amazon Rainforest.

ENVIRONMENTAL/ SUSTAINABLE CONFERENCES

An annual Year 5 Eco conference for Pipers students and students from a number of local Primary schools. This event is followed by a one day free visit to each of the local authority schools by the Environmentalist in Residence. A similar conference is planned for Year 9/10 students.

FOREST SCHOOLS Pipers Corner School has a strong Forest Schools programme an initiative where young people from reception to Year6 learn a number of key life skills and

the importance of conservation through outdoor activities. The programme is set up in the school woodland area, local authority primary schools make use of the facilities and the specially trained staff.

MEMBERSHIP The school is an active member of several local and international groups: RSPB, BOT, Surfers Against Sewage, Marin Conservation Society, Bucks and Berks Wildlife Trust, South Bucks Youth Climate Action Group, LEAF, BEE SQUARED.

GLOBAL CITIZENSHIP During Green Week students raised £900 to sponsor the protection of 18 acres of tropical rainforest through the British Charity Rainforest Concern,



The school is the only school in the UK to run live classroom sessions and Q and A sessions with famous Amazonian Indian guide Juan Kunchikuy in the Amazon Rainforest.

ECO FAMILY PLEDGES To reach the whole school community families are asked to make environmental pledges that they will carry out at home to help create a sustainable future. We have been very successful with this programme.

SPECIAL EVENTS VISITORS The school arranged a Q and A evening with the famous environmentalist, broadcaster and author Sir Jonathon Porritt open to the public. Kate Humble famous environmentalist, author and TV presenter was guest speaker at Awards day. Dr. Paula Owen famous Climate Scientist gave a talk to year 12's.

GREEN WEEK and WORLD EARTH WEEK.

These key annual weeks act to introduce and remind people of the importance of sustainability at home, in school and work informing and enthusing individual action. Both weeks include specialist classroom activities, challenges, displays events, assemblies and radio programmes. (The school has its own radio station)

ASSEMBLIES and TALKS Students arrange these special events on important topics such as Fast Fashion and Waste.

YOUNG ENTERPRISE Pipers Corner School has a strong reputation in the Young Enterprise programme. Last year winning the regional finals and the sustainability award. The students design, construct and market products that have environmental/sustainability themes.

ECO SCHOOLS GREEN FLAG

was awarded to the Pre Prep school for their environmental work.

OUTDOOR CLASSROOMS

The school has the most wonderful grounds and have both natural and constructed outdoor classrooms. Teachers are encouraged to use these locations not just as an outdoor classroom but as extensions of their existing classroom.

BEE MURAL/BRITISH WILDFLOWER MEADOW

Famous American mural artist Matthew Willey painted a permanent Bee mural at the school to remind us of the importance of bees at the same time the School developed a large British Wildflower Meadow to help bees and pollinating insects.

THE COMMITMENT CONTINUES as can be seen by the school's new play area which has been constructed using sustainable wood and environmentally friendly flooring.



QATAR MUSEUMS

NATIONAL MUSEUM OF QATAR

The complex form of the desert rose, found in Qatar's arid desert regions, inspired the striking design of the NMoQ building, conceived by French architect Jean Nouvel. The building's one of the dominant features is its roof – winner of the Wallpaper Design Award for "Best Roofscape".

It is a multifaceted sculpture inspired in part by 'desert roses', clusters of interlocking crystals that emerge out of the sand to form striking, bloom-like outcrops. Completed in 2019, the museum's building has been constructed around the centerpiece of Sheikh Abdullah bin Jassim Al Thani's original palace – his family home and seat of the government for 25 years.

The palace has been carefully restored and conserved so that it can be enjoyed by visitors

and future generations to come. In addition to the unique architecture and stunning gallery spaces, the building features a 220-seat auditorium, two restaurants, a café, and a traditional food forum. For scholars and students, the museum offers a new research center and laboratories along with access to digital archives.





A landscaped park also provides visitors with a chance to explore and learn about Qatar's indigenous plants and their role in Qatari culture. Upon Khalifa bin Hamad Al Thani's accession to the throne in 1972, he drew up plans for a national museum to document the country's heritage and traditions.

Originally in 1975, its facilities included a 100-seat auditorium and a library. The new building was constructed on the site of the old building and grows around the original twentieth century palace of Sheikh Abdullah bin Jassim Al Thani.

This important monument to Qatar's past is now preserved as the heart of the new NMoQ. The Park at the National Museum of Qatar includes playgrounds, several public artworks, a lagoon and two large kiosks with amenities including prayer rooms, washrooms and cafés.



The Nakilat Adventure Ship playground is constructed to look like the wreck of a traditional Qatari boat. NMoQ is the renowned museum which has achieved high sustainability ratings from multiple internationally recognized and independent bodies. Among these is the GSAS 4-Star rating for design and build certification, Gold for GSAS Operations. GSAS – which stands for 'Global Sustainability Assessment System' – is considered the gold standard in sustainability, and four stars is its highest award category.

NMoQ has also received a LEED Gold certificate, among others. The National Museum of Qatar (NMoQ) has received Green Key certification for its continuous efforts to implement sustainability best practices, becoming the first museum in the Middle East to achieve this certification.



SAVILLS

BEES, BINS AND BOW BELLS HOUSE

Bow Bells House's contribution to a sustainable future is also shown in the management's choice to install a green roof, one of the few rooftops of its kind with a Beehive, managed and utilised for environmental improvement.

The Green Roof produces many plants and organic products from the beehive. This has made Bow Bells House one of London's most self-sufficient major buildings. This achievement has been celebrated with the announcement of more Green

Roof installations across its development.

Since the partnership, Bow Bells House's recycling rates have not just risen, but they have also remained above the targeted percentage. The Waste Awareness Day and waste audits have ensured that staff feel educated and supported in their mission to make this one of London's most environmentally friendly buildings.

The waste awareness day has helped improve the recycling rate and reduce emissions, saving money and making staff

feel involved. Through feedback, we have found that these initiatives have not just helped the waste management at Bow Bells House but also staff morale within the company.

The Bow Bells House is a green office building located at the midpoint of Cheapside, linking the Bank of England and St Paul's Cathedral. The state-of-the-art 215,000 square feet office building has been carefully designed to respect its historic surroundings, with a simple and elegant look that promotes sustainability through design. Bow Bells House is a striking example of what can be achieved when a building is designed with the environment in mind. From the green roof with its beehive and live bees, every element of the building has been carefully considered with sustainability in mind.



Bow Bells House is a relatively new client of Savills. The partnership's goal has been to set a standard amongst staff and residents that quickly improves the recycling rates and drops carbon emissions. With a very low recycling rate before the partnership, it was imperative Savills brought everybody on board at Bow Bells House. Putting together a team of sustainability scientists, Savills and Bow Bells House set out to educate those at Bow Bells House through a bi-monthly waste awareness day, posters, interactive quizzes and more.

Audits were completed to ensure the correct bins were in place, with state-of-the-art equipment to ensure Bow Bells House staff got the best support within this project.



The result is a building that looks amazing and has a minimal impact on the planet. Our team of Sustainability Scientists, Green Gurus, and account managers at Savills partnered up with Bow Bells House to improve the recycling rate and cement a sustainability culture amongst staff. We started by conducting waste audits to identify where improvements could be made. We then developed a bespoke recycling solution, including coloured bins, signage and educational materials.

Our efforts resulted in a significant increase in recycling rates and a more sustainable culture amongst staff. Since we began working with Bow Bells House, its recycling rate has reached a consistent average of over 75%. This is thanks to the dedication of tenants and staff, who are committed to segregating waste and learning about waste management from Savills' Green Gurus. We provided bins for different recyclable materials and education on what can and cannot be recycled.

At the start of our latest campaign to reduce waste, we conducted a waste audit and discovered that glass and food were the leading waste streams. We quickly increased the number of

bins to reflect these findings, and as a result, we have seen a significant increase in the tonnes of recycled waste. This has had a positive impact on the environment and has also helped to improve the recycling rate at Bow Bells House. Through the support and guidance of Savills' Green Gurus, Bow Bells House's waste management team improved recycling rates by diversifying waste streams and segregating waste at the source.

The main waste streams at the building include 1100 litres of compacted Dry Mixed Recycling, glass, cardboard (baled), food, and General Waste (Bergmann bags). One of many things that contributed to the increased recycling rate at Bow Bells House is the interactive approach taken by Savills' very own team of Sustainability Scientists - The Green Gurus. They have been working hard to engage employees in recycling initiatives, such as a bi-monthly Waste Awareness Day. Games, educational sessions, and even food all centred around bringing staff together and incorporating a culture of sustainability across the building.

This day is designed to educate employees on the importance of recycling and to help them understand how they can make a difference. The Green Gurus also work closely with the building's management



team to ensure all recycling bins are placed in strategic locations, a method that has proven to improve recycling rates. Carrying out a Waste Awareness Day with the tenants to create an interest in waste management was hugely successful. Waste segregation signage has been designed to further push the correct waste streaming on site.

Additional languages have been printed to accommodate the vast and varying languages spoken within the building. Bow Bells House has recently placed Bees on its roof to help with sustainability. Putting bees on the roof supported the local environment and the building itself. The bees will help to pollinate plants and flowers, which will in turn help to improve air quality and provide a more sustainable ecosystem for London. The introduction of bees to the roof of Bow Bells House is just one example of how the team at Bow Bells House are working to make the Grade 2 building more sustainable.

Every month, a company comes to check on the beehives on the roof. This is to ensure that the bees are happy and healthy. The company checks the hives for signs of stress, disease, and pests. They also make sure that the bees have enough food and water. If the hives are not in good condition, the company will take action to improve the situation. This may involve providing more food or treating diseases. By accepting these measures, the company ensures that the hives are in good condition.

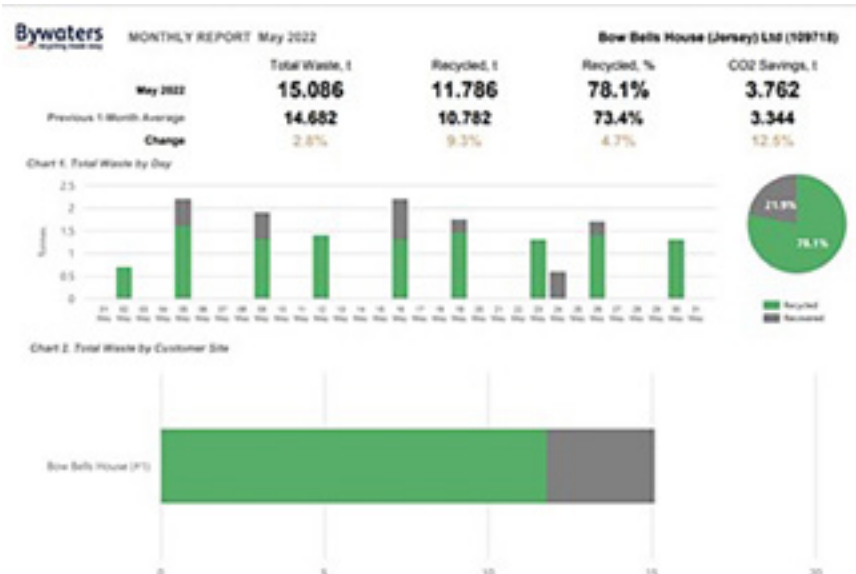
Measures have been implemented to segregate as many waste streams as possible on-site. This includes using an in-bin compactor for dry mixed recyclables, which reduces the number of weekly collections. This, in turn, reduces vehicle movements and Co2 emissions. Savills has also introduced a Weightron to provide granular

data to their tenants regarding waste management and recycling efforts.

The system weighs waste and notifies the waste management team, removing unnecessary vehicle movements from waste collection. Food waste is collected and repurposed as fuel to ensure no damage is done to the environment. Bow Bells House is an exemplary example of progressive sustainability amongst London Buildings. With innovative features such as a green roof, it is clear that the team at Bow Bells House are committed to creating and maintaining a sustainable environment.

The use of environmentally friendly materials throughout the building further reduces its impact. The team at Bow Bells House has also developed an extensive education program to engage the local community in their work, and they regularly host events to raise awareness of sustainability issues.

Bow Bells House is an outstanding example of how London buildings can be designed and operated more sustainably, with Bow Bells House management choosing to utilise their structure alongside our team at Savills' to improve waste management and overall sustainability.



SEOCHO-GU DISTRICT OFFICE

PROMOTION OF GREEN ENVIRONMENTAL ACTIVITIES WITH CITIZENS

PROJECT PURPOSE

Establish the foundation for a carbon-neutral practice movement through sustainable environmental activities by encouraging private-led low-carbon and eco-friendly activities with citizens

ACHIEVEMENT

Reduce Carbon emissions of 19,040kg(5,630kg of Carbon-Zero Resource Recycling Practice Shop Certification System and 13,410kg of Dissemination Project of Heater acting without car engine). This amounts is equivalent to 2,884 pine trees 30-year-old. And We also Establish an eco-friendly recycling network that citizens can easily implement and sustain without difficulty

SUMMARY

Most of the climate and environmental measures have been led by the government. As a result, there was a problem of poor participation rate and persistence of citizens. In order to realize a sustainable and citizen-participating carbon reduction campaign, our institution has helped

citizens practice carbon reduction campaigns on their own.

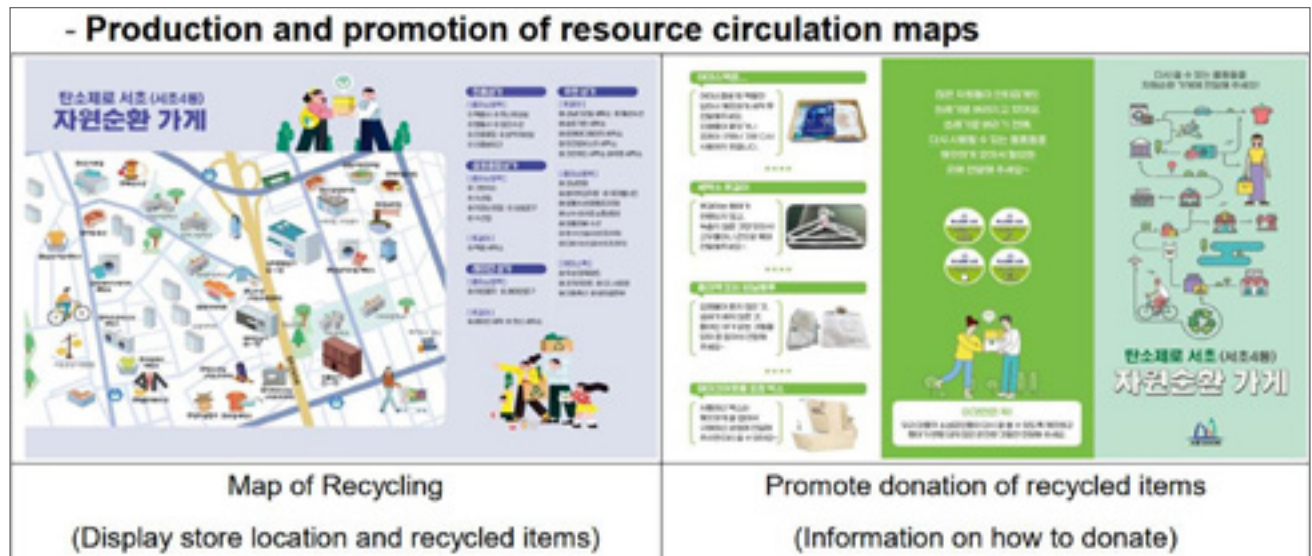
1. Carbon-Zero Resource Recycling Practice Shop Certification System
 - Establish recycling network for reusable items (hanger, plastic bag, shopping bag, ice pack) in connection with residents, stores, and public office
2. Carbon neutral and climate crisis education for elementary school students
 - Educational activities to foster junior environmental protector in response to the climate crisis
3. Promoting a Carbon Neutral Campaign
 - Encourage voluntary participation and carbon reduction activities through carbon neutrality campaigns.
4. School Bus and Minibus Dissemination Project of Heater acting without car engine
 - Install a heater acting without car engine on school buses and mini-buses with long idling to minimize the generation of greenhouse gases, pollutants, and fine dust generated by engine idling.

Through this project, we reduced 19,040kg of carbon emissions. Also, by Establish an eco-friendly recycling network that citizens can easily implement and sustain without difficulty

WHAT WE NEED TO DO WITH THIS PROJECT?

A mind for the environment
voluntary participation of citizens
And the government's interest





in forming an organization for citizens to run their own carbon emissions programs and helping the organization operate reliably.

WHY DID WE DO THE PROJECT?

It is meaningful for citizens to participate in and practice carbon emission programs directly, not led by the government. The government helps civic activities proceed smoothly by providing necessary support for civic activities. Sustainability is secured by citizens directly building governance and participating in carbon reduction activities.

PROJECT BUDGET

We have secured a total project budget of KRW 184.8 million(about 117,845£).

WHO AND WHAT BENEFITED?

The use of small disposable products that occur in everyday life is minimized. In addition, generation of waste may be minimized by reusing various reusable items. Citizens are proud of their contribution to the green environment and participate in carbon reduction programs harder to pass on its value to



future generations. All these activities will contribute to making the Earth clean and green.

LONGER TERM BENEFITS?

Sustainability is high as citizens plan themselves and participate in carbon reduction activities. In addition, since it is a project driven by voluntary participation of citizen, the project can continue and grow in the future even when the use of government budgets is minimized.

WAS THERE ANYTHING INNOVATIVE ABOUT THE PROJECT?

Climate policies have been led by the government. In this regard, the government's budget reduction or indifference was likely to outweigh the result of project suspension. However, the government's intervention was minimized by creating a basis for citizens to plan and participate in projects on their own, and sustainability was secured through citizen-oriented operations. In addition, the project was promoted with a driving force on the spontaneity of citizens. As a result, when the project reached a certain level, it had the advantage of continuing the project by citizens without any further government intervention.

CAN OTHER ORGANISATIONS/ COMMUNITIES BENEFIT FROM IMPLEMENTING YOUR METHODS?

The project was carried out in a way that created the spontaneity and circulation structure of people, not a special budget or method. Therefore, projects can be carried out without a specific environment or geographic economic base. Therefore, this approach may be very universally applicable. All this project needs is a love of nature. And the effect will contribute to 7 billion humans and the green environment around the world.

WHAT DID YOU LEARN FROM THE PROJECT AND ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

It is easy to think that strong policies begin with the strong will and abundant budget of the government. However, the success of the policy begins with the government sharing its vision with citizens and the voluntary participation of citizens. It was impressive that inducing citizens' voluntary participation was the driving force of policy success and effective policy.



SHAHI EXPORTS PRIVATE LIMITED

CARBON EMISSION MITIGATION THROUGH ENERGY TRANSITION AND OTHER ACTIONS

The proven correlation between carbon dioxide in the atmosphere and the rising temperature of the earth has given rise to many policies and agreements such as the Paris agreement. At the national level, the agreement translates into NDCs (Nationally Determined Contributions). India has set forward a 33-35% reduction goal in the emissions intensity of GDP by 2030.

Shahi Exports being the largest apparel manufacturer in the country has recognized its responsibility to reduce carbon emissions by various interventions. Since 2019, successful mitigation of more than 400,000 MT total in Scope 2, 16,000 MT every year in Scope 1, and many more interventions of energy savings have been implemented.

The company also has concrete goals to meet higher targets of Energy sourcing and Carbon reduction.

Reducing company-wide carbon emissions has been achieved by moving away from high emission fuels to renewables, and lower emissions. By coupling our fuel transition with operational efficiency and introducing new technology, we have achieved more than 300,000 metric tons of carbon dioxide (equivalent) mitigation since 2018.

Our Scope 2 emissions have particularly decreased by a drastic 63% over a span since 2019, by our conscious transition to green energy. Today Shahi uses 70% of Renewable electricity. The company has



Materials



mitigated around 400,000 MT of scope 2 in total and 16,0000 MT of scope 1 every year.

These achievements have given us the confidence to set goals to become 100% renewable electricity driven by 2026 and mitigate 1 million tonnes of carbon dioxide equivalent by the same year.

To combat climate change, while also aligning with our nation's goals (Nationally Determined contribution), industry's demand, and partners' goals, we began the journey of carbon mitigation. Mapping the source of emissions and devising a strategy to mitigate it, has been Shahi's approach to climate action.

Ways in which Shahi has mitigated emissions- Transitioning to cleaner fuels. The source of thermal energy has also been under transition, from coal to natural gas and biomass, which have lower carbon footprints.

With the transition from coal to carbon neutral fuel such as biomass, we have developed a pathway to mitigate more than 16,000 MT of carbon emissions every year. Overall, combining the electricity and thermal transitions, our company uses 33% of carbon-neutral energy. Being an energy-intensive industry, we shifted our electricity source from the national grid to renewable electricity. We kicked off our green journey with a large installation of 8.75 MW wind energy plant and 84 MW of solar energy

plant in 2007 and 2018, respectively with financial investment of INR 400 crores (\$50 million).

Spread across 300 acres of land with over 250,000 photovoltaic panels (solar PV), the solar plants have a capacity to generate more than 125 million kWh of electricity per year under ideal conditions. The capacity of solar is further expected to increase to 114 MW in the next two years. These installments will make Shahi run on 100% renewable electricity by 2026.

HOW WE DID IT

The Top management of the company was motivating and understanding of the purpose of this project, hence finding the budget was easy. Impact on carbon emissions The mitigation of emissions has happened every year since establishing a renewable energy setup. The emissions mitigated in 2018 were 88,508 MT from solar energy, 106,417 MT in 2019, 106,400 MT in 2020 and 104097 MT in 2021.

Totaling to be more than 400,000 MT of mitigated carbon dioxide. From windmills, the emissions avoided were 9,350 MT, 9,350 MT, and 7,650 MT in the years 2018, 2019, and 2020 respectively.

Cumulatively, we have reduced our scope II emissions by 63% till 2020 with 2016-17 as the baseline, and have reduced overall GHG emissions

Environmental Management



Compliance



by 7.8% which is more than the global average of 6.4% in 2020. The emission reduction expected from the solar plant in the pipeline worth 40 MW of capacity has been calculated to be 157,500 metric tons per year.

We have a company target to mitigate 1,000,000 MT of carbon dioxide till 2026. Controlling our emissions and being ambitious to take these efforts to elevated levels are driven by only one motivation- the welfare of all. Climate change is a well-understood global issue with scientific evidence.

Our plans for the future are to become a 100% renewable electricity-run company by 2026, with negligible Scope 2 footprint. We are already working towards making this possible before the deadline.

Some more efforts towards reducing emissions, through efficiency improvements

Moving further, the operations need to be monitored and the focus has to be on reducing resource consumption, for the same, we have undertaken several initiatives to save energy, such as:

Replacing T8 and T5 fluorescent lamps with LED.

Replacing clutch motors with servo motors in sewing machines.

Installing VFDs in equipment
Installing energy-efficient machinery (sewing, washing, and utilities)

Installed occupancy sensors in sparingly used areas to save energy.

The efficiency of every machine is very important for its true impact. A case showing the company's dedication to improving efficiency is, when one of our windmills was not working to its full efficiency, we took a timely decision to shift the mills across states to an area with better wind and more energy output.

With the capacity to mitigate emissions, we have been awarded a title called GigaGuru by the company Walmart, as we are part of their supply chain and showcase responsible supplier behavior.

When there is excess energy and lower demand, we sell electricity to the state grid as well. If more companies share renewable electricity with the state grids, it will reduce our nation's dependence on coal for electricity.

Moving forward, Shahi wants to reduce its Scope 2 emissions to zero and bring down its scope one drastically low, so that we contribute to climate action as per our responsibility.



Responsible For People

Cultivating a holistic growth-oriented environment for all employees and the communities we operate in.



Responsible For Planet

Safeguarding the environment by investing in resource conservation, efficiency, and innovation.

**INDIA'S LARGEST EXPORTER OF
READY-MADE GARMENTS**

SHAHI

For more information visit www.shahi.co.in

SHAHI EXPORTS PRIVATE LIMITED

WATER CONSERVATION IN DENIM PRODUCTION

Shahi Exports, India's largest apparel and garment exporter, has two Denim units, which deliver extraordinary dedication at every stage to ensure we drastically reduce our water footprint. We approach the problem with an understanding of the impact that industrialization has had on our planet led to the exploitation of water as a resource.

The fashion industry alone uses 93 billion cubic meters of water per year (four percent of all freshwater extraction globally). The fashion industry also causes 25 percent of industrial water pollution from textile dyeing and treatment. To move away from conventional practices of water utilization towards sustainability, it is necessary to ensure conscious sourcing of water, reducing the consumption, its efficient use, recycling, and proper reuse.

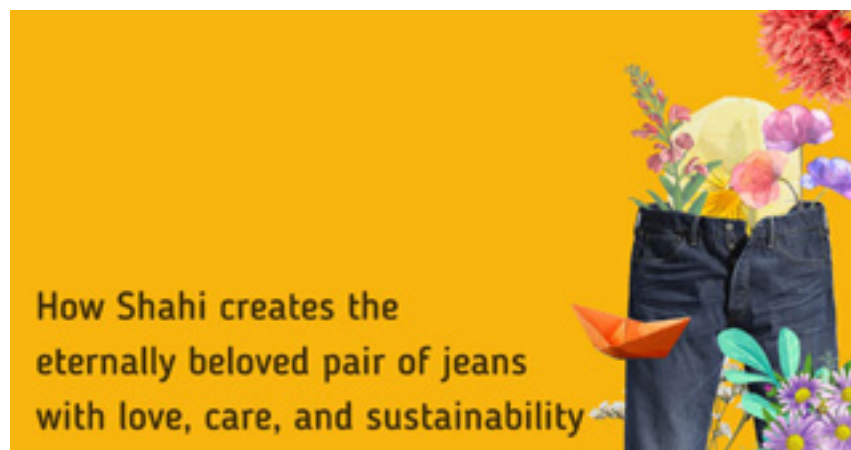
Where the average water consumption in the industry for a pair of jeans stands between 60-80 liters, Shahi operates at 30 liters. Combined with treatment and recycling, effective water usage is less than 5 liters per pair of jeans.

Shahi's denim production factories are equipped with best-in-class technology to meet high water efficiency standards. We have reduced our water

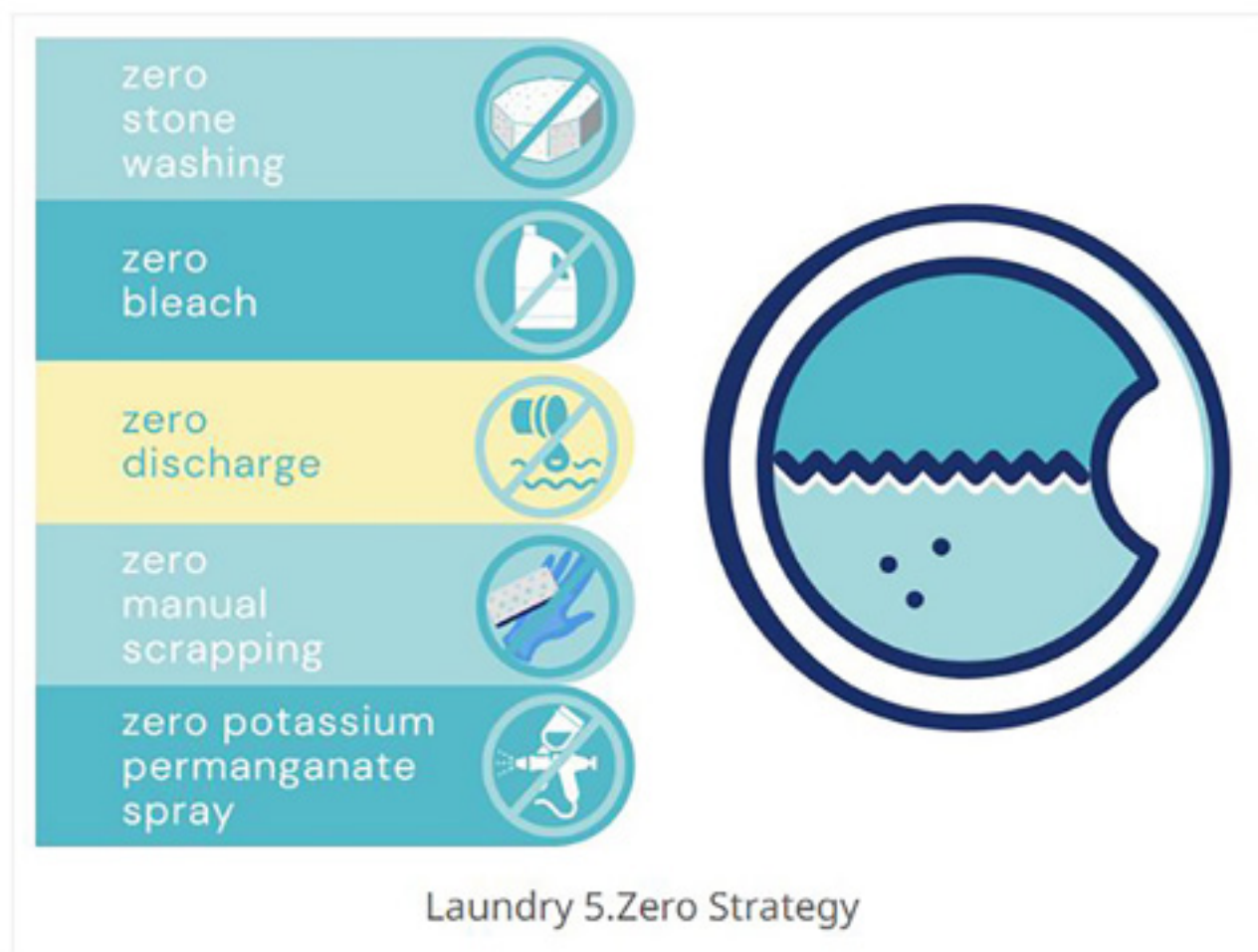
consumption from 1:6 material to liquid ratio to as efficient as 1:1, using the latest technologies such as E-flow, and Ozone washing.

We created an operation line that does not rely on fresh water at all by reusing the recycled water back into processing. The denim unit has achieved Zero Liquid Discharge with its ability to manage its entire wastewater and not discharge anything outside the facility. Overall, a pair of our denim effectively utilize less than 5 liters of water.

Water is an invaluable commodity and freshwater particularly, from any source is the backbone of life and livelihood. Due to climate change, India stands vulnerable in terms of water security. With the ultimate motive to reduce dependence on fresh water, protect water as a resource and be careful of the future generation's access to water, our strategy in the denim unit focuses on : Maximum recovery of water by utilizing high recovery RO & MEE technology. Recycling and Reusing water back into processes Increasing the efficiency of wet processes And implementing new technology to reduce water consumption and lastly. Since its inception, the denim division has explored several technologies to prove that jeans can be made with less water and more care.



Shahi has Invested over 10 million US Dollars in state-of-the-art machine equipment to upgrade the factory and laundry facilities as well as the effluent treatment plant with high recovery & ZLD. Currently, Shahi's two denim garmenting units and a laundry produce 12 million pieces per year sustainably by:



Designing the garment - The work starts right at the design stage. We opt for lighter shades of denim which require a light wash. They demand significantly shorter washing cycles, thus reducing the environmental impact.

Washing- Using E - Flow technology by Jeanologia for washing is ideal for reducing water consumption. The technology turns chemicals into nanobubbles before being subjected to the washing machine. Nanobubbles of air act as a carrier to transmit chemicals into a garment with a minimal quantity of water and zero discharge.

This has led to an average of 95% water savings for every denim washed.

Balance 5% water is absorbed by the garment with chemicals which convert this into zero discharge.

Another technology is the G2 Ozone washing machine, which generates ozone from the air to catalyze the indigo fiber dyeing and produces the authentic worn-down look in the desired shade. The water consumed is reduced by 65% and the energy by 20%. The Ozone is re-converted into Oxygen and released into the air, leaving no harmful by-products. Thus taking care of environmental safety also.

Treatment- While reducing water consumption in denim production is essential, it is equally important to reduce dependence on freshwater as much as possible., Shahi recycles and reuses 100% of its

water usage in its state-of-the-art effluent treatment plants. Our denim laundry achieved the Zero Liquid Discharge (ZLD) standard in 2019. Domestic effluent (sewage) is treated through Sewage Treatment Plants (STPs) and reused in the washroom for toilet flushing, dust quenching, horticulture & remaining for ETP top-up as a make-up for evaporation loss in the process.

For operations and manufacturing processes, where most of the water has to go into dyeing and washing, there is a huge potential for reusing water after recycling it. Condensate water recovery is done from ironing sections and dryers. Reverse Osmosis (RO) with >96% recovered from industrial effluent. MEE hot water is used back as boiler feed. STP cleaned water is used back as makeup water due to evaporator loss in the garment processing.

With zero dependence on freshwater, our denim production does not increase the pressure on the community on the already-reducing groundwater level.

We are continuously reducing our dependence on freshwater by improving our recycling and reuse efforts through better technology. We plan to

move towards enhancing our technologies to the point where they use a minimum or no water, and ultimately create water treatment systems that are able to serve the community's water needs as well.

With ZLD, efficiency of technology, and recycling, one jeans at Shahi takes only 5 liters of effective water, this data is constantly monitored in laundry through our Environmental Impact Measurement (EIM) tool. The learnings from our Denim unit have been carried forward to other divisions and many have achieved Zero Liquid Discharge.

We are also moving towards making our operations circular to save resources. Textiles undergo a resource-intensive pathway to become the final product. If waste fabrics are recycled and repurchased into processes, the resources used in second life are much lesser, saving lots of water.

The philosophy of saving resources is the backbone of sustainability; following the same motivation to save water across our other 50 units, we have successfully achieved Zero Liquid Discharge for many facilities and are reusing 74% of the wastewater for processes.

Savings in E-Flow

per garment (0.5kg)



95%



40%



40%

Savings in G2 Ozone

per garment (0.5kg)



65%



20%



80%

**INDIA'S LARGEST EXPORTER OF
READY-MADE GARMENTS**

SHAHI



**Water Conservation
and Recycling**



**Clean Energy and
Energy Efficiency**



**Safe Chemicals and
Strong Management**



**Alternative and
Sustainable Materials**



For more information visit www.shahi.co.in

SPINNING GATE SHOPPING CENTRE

AIMS

Spinning Gate Shopping Centre is a shopping centre in Leigh Town Centre (located in between Manchester & Liverpool).

The centre has 39 stores within 110,000sq of retail space in the town. The centres retail partners (stores within the centre) produce waste from their deliveries & their operation. In addition, the centre produces waste along with shopper waste from the mall bins.

The centre are committed to improving on its previous achievements for reducing waste, energy consumption & increasing recycling on site.

The centre identified 5 x key objectives this year:

- 1) Reduce volume of waste produced from site
- 2) Ensure 100% of all waste produced from site is diverted from landfill
- 3) Reduce energy consumption
- 4) Explore & implement recycling opportunities
- 5) Reduce costs

These 5 objectives are in addition to exceeding previous years results. The centre has committed to these objectives by continuing to educate the centre team and retail partners to the benefits of reducing waste, recycling opportunities and reducing energy consumption

ACHIEVEMENTS

- 1) Waste volume produced from site reduced by 53% since 2017 (a reduction of 50,190kg from 107,300kg) with a current occupancy level of 97%
- 2) 100% of waste was diverted from landfill
- 3) Energy Consumption:
 - Electrical Consumption reduced by -14.65%, cost saving of £1,424.51, reduction of 18,803 kWh
 - Installed motion sensor lighting & replaced high level mall bay lighting with LED alternatives





- Water Consumption reduced by -13.68%, cost saving of £6,289.34
- 4) Recycling Initiatives:
 - 720kg of metal waste recycled. Recycled 331 x wooden pallets, 136 x pens, 51 x batteries, 6 x printer cartridges, 6,171 x plastic hangers, 1,247 x diaries & wall planners, 607 x books, 2 x fridges, 5 x microwaves, 14 x bags of coffee grounds, 84 x milk cartons, 3 x walking sticks, 452 x puzzles, 78 x balls of wool, 15 x bath togs, 8 x pairs of glasses
 - Recycled used postage stamps
 - Re-use cleaning materials, washing all 675 cleaning cloths
 - Removed plastic water bottles for meetings, replacing with glass refillable bottles

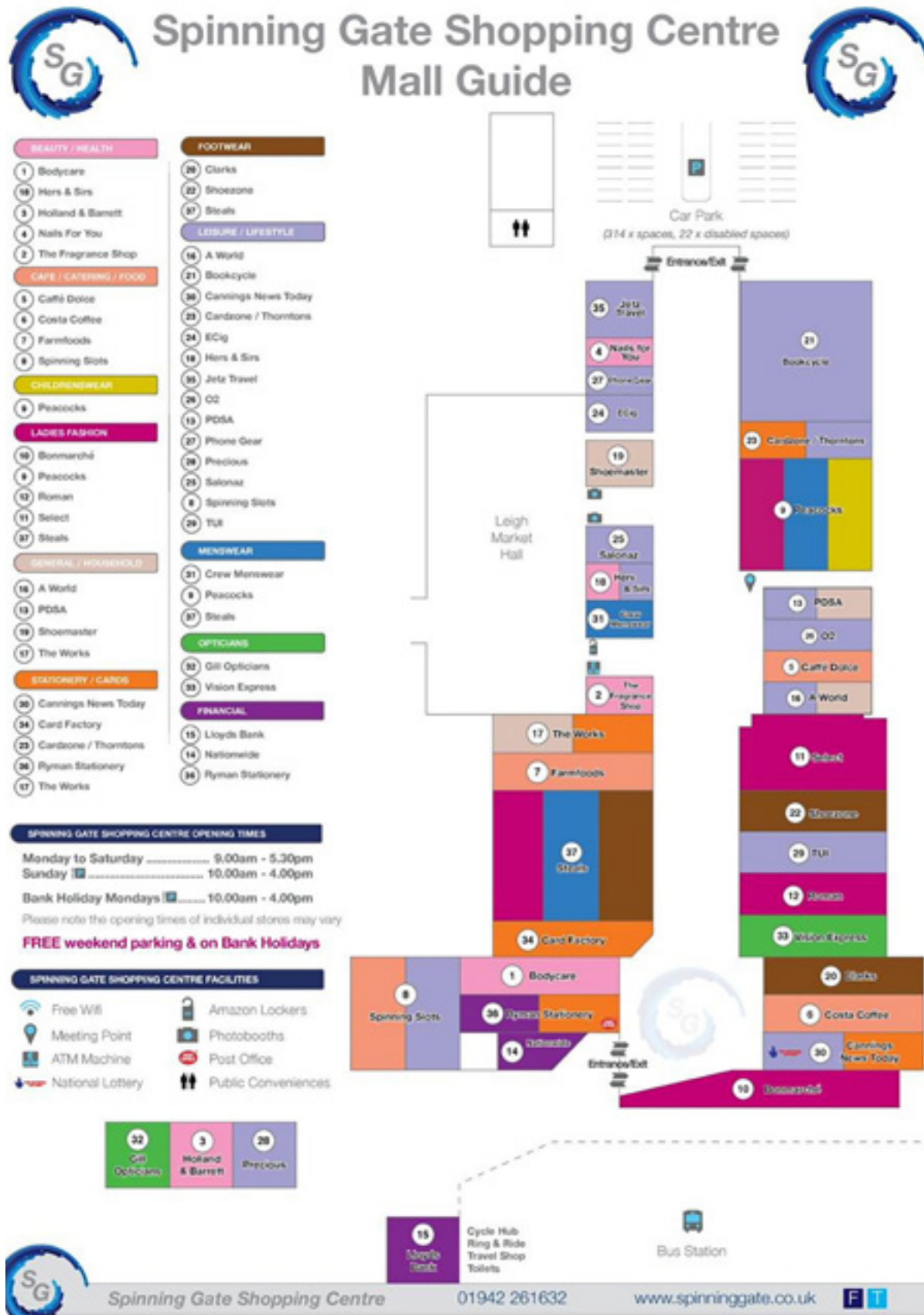
- 5) Total cost savings = £13,622.48, including:
 - Waste: £4,663
 - Electricity: £1,424.51
 - Water: £6,289.34
 - Cleaning consumables: £287.23 (-21.15%)
 - Print costs: £958.40

IN DETAIL

Spinning Gate Shopping Centre hosts 39 retailers within 110,000sq ft of retail space within Leigh Town Centre

WASTE MANAGEMENT

The centre partners with B&M Waste Services (B&M) to remove & process the waste produced from site. B&M provide a total waste management solution



to eliminate waste to landfill. The centre has on site a general waste porta-packer & a card board compactor.

The on site team collect waste from the centres waste bins used by shoppers & waste from centres retailers, transporting to the compactor & porta-packer via metal cages. The compactor & porta-packer are operated by the trained team, ensuring collections from B&M are requested once maximum weight limits are met, minimising transport costs & carbon emissions.

B&M collect the compactor & porta-packer & process the waste at their recycling plants, avoiding landfill. The centre benefits from a carbon neutral waste management strategy.

During the year, the centre produced 57,110kg of waste, achieving 100% diversion from landfill, saving the equivalent of 226 TVs powered for a year, 13,122 complete washing cycles, 81 fridge freezers powered for a year & 60,621 miles driven in a family electric car. This is a -53% decrease from 2017 when the centre produced 107,300kg of waste, despite having a lower occupancy level in 2017.

ENERGY

Electrical usage reduced by -14.65%, saving £1,424.51, a -18,803kWh reduction from the previous year & 23,245kWh, an 18% reduction in the last 4 years. This was achieved by reducing consumption, continuing to educate staff about reducing electrical usage, replacing lights with LED alternatives & installing motion sensor lighting in back of house areas when existing light fittings fail.

Water consumption reduced by -13.68%, a saving of £6,289.34. This was achieved by reducing water consumption & continuing to educate staff about reducing water usage whenever possible.

RECYCLING

- Recycled 720kg of metal waste to local metal recycling company
- Recycled 331 wooden pallets, donating to local companies for reuse
- Recycled 136 pens, 51 batteries & 6 printer cartridges to Ryman Stationery
- Donated 8 x pairs of glasses to Vision Express
- Donated 6,171 plastic hangers, 1,247 diaries & wall planners, 607 books, 78 balls of wool, 452 puzzles, 3 walking sticks, 15 bath togs to local charity Compassion in Action for sale in their charity shops
- Donated 2 x fridges & 5 x microwaves, 84 x cartons of milk to local charity Helping Support People to help support the local community in need
- Donated 14 x bags of used coffee grounds to local community garden projects
- Inviting shoppers to recycle used postage stamps, donating to Kicks Count charity
- If these items were not recycled, they would have been processed via the centres waste stream
- Reuse cleaning materials, washing 675 cloths at a local launderette
- Implementing digital forms
- Removed all plastic water bottles for meetings, replacing with glass refillable bottles

INNOVATION

The centre continues to identify all opportunities for recycling initiatives. We continue to donate oversupplies of stock from centre stores (where they ordered at pre-covid levels) to local charities. The stock is identified by the centre team, removed from the centres waste stream, ensuring it isn't wasted whilst benefitting the charity & local community.



COMMITMENT

The centre are committed to its environmental policies, identifying all potential recycling opportunities. These policies are issued to employees & retail partners. We have also promoted centre recycling opportunities to encourage shoppers to recycle within our stores.

The centre is committed to reducing volumes of waste, reducing energy consumption, increase recycling initiatives & help educate stakeholders in the importance of environmental awareness whilst reducing its environmental impact

- The centre appoints contractors who adopt the centres environmental policy & appoints local contractors to reduce carbon emissions, whilst helping to support the local community & economy

- Retail partners are fully committed to the centres environmental policy, segregating cardboard & general waste at source
- Without the support & commitment from the centre team & retail partners, these achievements would certainly not have been met.

SENIOR PERSONNEL

The Centre Manager provides a site induction to all new members of staff which includes a section on waste management & recycling initiatives, during this, the CM discusses the importance of waste management & recycling.

During weekly meetings, the CM discusses waste volumes & recycling, thanking the relevant members



of staff. The CM nominates staff for Employee of the Month who have achieved any recycling. Where members of staff achieve EotM, they receive a certificate & a gift voucher.

SOCIAL

We continue to work with local charities donating unused stock from centre retail partners, helping to support these charities & our local community whilst recycling & reducing waste volumes too. These charities either sell the items in their charity shops, or donate to local families in need.

ECONOMIC

Cost savings of £13,622.48

- Waste management saved £4,663, (-29%) in the last 4 years
- Energy costs saved £1,424.51, -7.41%
- Water costs saved £6,289.34
- Cleaning consumable costs reduced by -21.15%, saving -£287.23
- Print costs saved £958.40

All these costs are included in the service charge fee, paid for by the centres retail partners.

BENEFITS

There are numerous benefits: carbon neutral waste, 100% diversion from landfill, reduced waste volume, reduced energy consumption, increased recycling initiatives, increased awareness & training, supporting charities, supporting the local community & cost reduction.

DEVELOPMENT

We continue to drive the waste achievements & recycling opportunities & continue to educate retail partners in the importance of waste reduction & the benefits of recycling to future proof our environment.

ADOPTION

Other centres can certainly replicate the work achieved & benefit from the waste management solution, recycling initiatives & cost savings achieved.

Environmental Report

A551

ATMORE CENTRES LTD

Spinning Gate Shopping Centre

Date: 01/05/2021 to 30/04/2022

TOTAL DIVERSION FROM LANDFILL : 100 %

What happened to your waste?

■ RDF (44 %)
■ Recycled (56 %)



Of your recycled waste, below shows the materials

■ MIXED MUNICIPAL WASTE (34 %)
■ PAPER & CARDBOARD (56 %)



Welcome to your environmental report which shows you the breakdown of your waste by type, and what has happened to it once it has been collected. You'll notice the amount of waste which has been diverted from landfill. You'll see the proportion of waste which has been recycled, as well as waste sent for energy recovery at either an Anaerobic Digestion facility (AD, for food waste) or a waste-to-energy facility (Refuse Derived Fuel or RDF from non-recyclable general waste). We'll also show you the breakdown of recycled materials by the type of material. And you'll see how the equivalent energy generated through AD and RDF could be used. You'll see your data across the last 12 months on page 2 and following this, a breakdown of your waste by each individual site.



Total Collected Waste (KG)

Material	Weight	Recycled	RDF	AD	Landfill
Cardboard	21,250.00	21,250.00	0.00	0.00	0.00
Mixed Municipal Waste	36,860.00	10,758.00	25,102.00	0.00	0.00
Total	57,110.00	32,008.00	25,102.00	0.00	0.00
		56.05%	43.95%	0.00%	0.00%

How your RDF and AD use equates to energy

		Energy Equivalent						
RDF kWh/Tonne - each tonne of RDF produces the below kWh (1)	RDF Weight (KG)	AD kWh/Tonne - each tonne of AD produces the below kWh (2)	AD Weight (KG)	Total kWh Produced	No of TVs powered for a year (3)	Washing Machine Cycles Complete (4)	No of Fridge Freezers powered for a year (5)	No of Office Printers powered for 1 week typical printing cycle (6)
575	25,102	300		14,434	226	13,122	81	3,007
								60,621

SWAN SHOPPING CENTRE

ENCOURAGE THE BUGS AND BEES AT THE SWAN SHOPPING CENTRE

AIM

Here at the Swan Shopping Centre, Leatherhead, Surrey we take looking after our community very seriously. Looking after the little things impacts greatly on the larger things which is why we are trying to encourage the bugs and bees back into our urban town centre. These insects are a vital part of our eco system, helping us pollinate plants for food and helping sustain trees and shrubs which lessen pollutants; this is especially poignant to us being a High Street business which attracts lots of vehicles not only by customers but also for the many deliveries this creates. These small insects are thought to be in a state of decline which is why insect conservation shouldn't just be left to private gardeners. To make a difference to our local insect life we need to consider the broader ecosystem, including exploring what can be done with everyday but overlooked parts of our urban areas that might not be traditionally seen as 'habitat' at all. Hotbeds of biodiversity can be made behind our unpromising facades; like car parks, tops of buildings and infrastructural type of manufactured habitat.

ACHIEVEMENTS

Last year in the centre we installed 16 new planters on the walls in the mall, filled with flowers and plants, which not only look nice but also attract the



butterflies and bees. This year we are going one step further and installing bee hives up on the service deck, investigating water harvesting equipment off our roofs and new wildflower beds around the centre. To take care of our bees we need to be able to feed and water them so we are creating feeding stations for the bees and other insects by installing new wildflower beds at the entrance to the shopping centre and underplanting these with daffodils, crocus and bluebells so there is a variety of colour and scent to attract wildlife as many months as we can. We are also replanting our tubs in the centre with bug and bee attracting plants



and flowers. All of these things take a lot of water so we are planning to water harvest from our roofs when it rains and use this natural source to water the plants and have drinking water for the bees and insects. We are stopping the use of pesticides to kill weeds and using better housekeeping methods and ongoing maintenance so that we do not need to use pesticides in the first place.

IN DETAIL

Encourage the Bugs and Bees at the Swan Shopping Centre

Here at the Swan Shopping Centre, Leatherhead, Surrey we take looking after our community very seriously. Looking after the little things impacts

greatly on the larger things which is why we are trying to encourage the bugs and bees back into our urban town centre.

These insects are a vital part of our eco system, helping us pollinate plants for food and helping sustain trees and shrubs which lessen pollutants; this is especially poignant to us being a High Street business which attracts lots of vehicles not only by customers but also for the many deliveries this creates. These small insects are thought to be in a state of decline which is why insect conservation shouldn't just be left to private gardeners.

To make a difference to our local insect life we need to consider the broader ecosystem, including exploring what can be done with everyday but

overlooked parts of our urban areas that might not be traditionally seen as 'habitat' at all.

Hotbeds of biodiversity can be made behind our unpromising facades; like car parks, tops of buildings and infrastructural type of manufactured habitat.

WHAT WE DID LAST YEAR

Last year in the centre we started by installing 16 new planters on the walls in the mall areas, filled with flowers and plants, which not only look nice to customers and tenants but also attract the butterflies and bees.

WHAT WE ARE DOING THIS YEAR

This year we are going one step further and installing bee hives up on the service deck, investigating water harvesting equipment off our roofs and new wildflower beds around the centre.

To take care of our bees we need to be able to feed and water them so we are creating feeding stations for the bees and other insects by installing new wildflower beds at the entrance to the shopping centre and underplanting these with daffodils, crocus and bluebells so there is a variety of colour and scent to attract wildlife as many months as we can.

We are also replanting our tubs in the centre with bug and bee attracting plants and flowers.

All of these things take a lot of water so we are planning to water harvest from our roofs when it rains and use this natural source to water the plants and have drinking water for the bees and insects.

This will reduce our water costs and not put any pressure on the water services. We are stopping the use of pesticides to kill weeds in these areas and using better housekeeping methods and ongoing maintenance so that we do not need to use

pesticides in the first place.

This will then be rolled out in the rest of the shopping centre.

INVOLVING OUR TENANTS

The shop tenants are supplying us with the many wooden pallets that are left from their shop deliveries and we are reusing and recycling these into small bug boxes, planters, bee posts and signs.

Our maintenance staff will cut these into pieces to be made into bee boxes or bug boxes.

INVOLVING OUR COMMUNITY

As a large business we need to be an ambassador for our bugs and bees so our summer club in the centre during August will be encouraging children (and adults) to get more involved in nature.

Children will be encouraged to come to our summer club where they can learn about bugs and insects; they will be able to make a bug box or a bee post to take home (or the boxes and posts will be installed around our site). The children will also help plant our large containers around the site with insect attracting native plants making them into bug friendly mini gardens.

With signs created to tell people that we are a bug centre. Water is just as essential as nectar and pollen for our little bug friends so we are not forgetting to make small drinking stations for our bugs to drink from, from recycled plastic bottles.

We are creating signs from the left over wood to encourage shoppers to try these ideas to attract insects and bugs into their areas at home. Instructions on how to make bug boxes from a wooden pallet will also be downloadable from our shopping centre website along with more ideas for people to encourage more bugs and insects into their area.

SWAN

COMING
SOON

SUMMER CLUB UGLY BUG BALL

Learn more about bugs, butterflies and insects
Build your own bug house to take home
Help us plant our wild garden
Make bug wings or a headdress and join in our
End of Summer Ugly Bug Ball

SWAN
centre

EVERY WEDNESDAY IN AUGUST

TAYLOR WOODROW ECOPARK SOUTH PROJECT

UK Government has a target to be 'net zero' of all greenhouse gas emissions by 2050, with the construction industry targeting a 78% reduction of emissions by 2035. Concrete contributes towards 8% of global CO₂ emissions due to the carbon intensive production of cement. VINCI Construction, in partnership with Ecocem, has developed a cement alternative for use in concrete. This new concrete product contains 0% Ordinary Portland Cement (OPC) and is classified as an Ultra Low Carbon Concrete (ULCC).

The cement replacement consists of 96% Ground Granulated Blast furnace Slag (GGBS), a by-product of the steel industry, and 4% alkali activated binder. The ULCC has been used on two pilot sites in France, the Grand Paris Express and in construction of the Athletes' Village in Paris for summer 2024, however it has never been used in the UK. As part of VINCI Construction, Taylor Woodrow is advancing its own Net Zero strategy and the use of ULCC is a key factor in achieving this.

The first UK pour was undertaken at Taylor Woodrow's EcoPark South Project on the North

London Heat and Power Project, providing an industry case study and a massive step towards achieving the Government's 'net zero' target.

Following extensive research, development and mix testing by VINCI Construction, a trial pour of 150m³ was undertaken in November 2021 at EcoPark South. Low risk, 500mm thick concrete ground floor slabs were selected in the Temporary Bulky Waste Facility to use the ULCC. Following great success of the first pour, a total of 350m³ of C40/50 compressive strength concrete was poured. This saved 48 tonnes of CO₂ compared with the original concrete design which already contained 70% GGBS.

Considering the average UK house produces approximately 6 tonnes of CO₂ per year, the saving from using ULCC is the equivalent CO₂ produced from eight houses annually. Through their work, the team further improved the viability of this product for UK construction. The pours marked a world-first by achieving placement via a pump. Development of the pump mix design is critical in overcoming the barriers of largescale pours.



The ULCC also requires a minimum temperature of 15 degrees Celsius when being placed, which would ordinarily hinder its use within the UK industry; however, the project achieved multiple pours throughout the winter months. 93% of the design strength of the concrete was achieved within 28 days which greatly exceeded all initial expectations.

The project is the first phase in North London Waste Authority's

£1.2 billion North London Heat and Power Project (NLHPP) creating a sustainable waste management hub and Energy Recovery Facility in Edmonton. NLHPPs Carbon Strategy is to avoid and reduce carbon throughout design and construction. Innovative practices are encouraged, and the team worked collaboratively to build these into delivering EcoPark South.



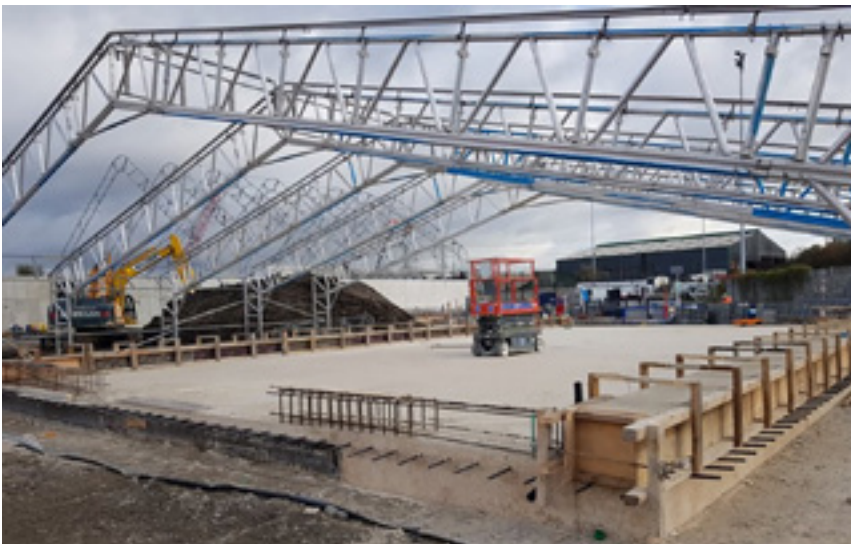
Part of the scheme involves construction of a Temporary Bulky Waste Recycling Facility (TBWRF). The temporary nature of the facility presented the right opportunity to use the product and help build the case towards it being covered under British Standards, so the project team set about incorporating it into construction. The additional cost for the ULCC was funded by the client.

There is a premium for the ULCC, so agreements were set up with the concrete supplier to keep the costs financially viable. It is envisaged these uplifts will reduce on economies of scale. A Non-Disclosure Agreement was set up between the concrete supplier and VINCI. An exclusivity agreement is in place for use of the ULCC.

As a new product, there were several challenges that the team successfully overcame to provide this first case study for the UK:

- British standards don't currently cover concrete with such high percentages of GGBS, meaning the ULCC required a departure from Standards and both client and designer endorsement. There is also very limited testing data to validate durability and design life of the product. The temporary nature of this structure means that it provides a fantastic opportunity to use the product and start building the case for the revision of Standards to enable designers and clients to specify ULCC with confidence.

- The next barrier to cross was the supply of the product. A supplier was sought with a spare cement silo that could be utilised for the ULCC binder and be large enough to supply the 150m³ concrete pour. As this ULCC had never been used in the UK, the cement replacement binder was transported via road in 26T tankers from France. It took several deliveries to fill the cement silo. There was also hesitation from the supply chain to use a new product with regards to liabilities.



- The site team had to plan how they would carry out the install of the ULCC. The product was not exothermic, so the temperature of the concrete could not go below 15 degrees Celsius in order to properly cure. This proved a challenge as the project team were pouring during the winter months. Hot water was added to the mix, frost blankets to contain what heat there was and temperature sensors placed inside the pour to monitor the internal temperature via graphical output.
- In the absence of similar projects to learn from, extensive scenario planning was carried out using technical data to facilitate informed decisions. The team had to be decisive and agile as the pour was being carried out, making immediate decisions on site as to how the concrete should be laid, specifically in terms of sequence depending on the workability and curing of the concrete.

This innovative solution has the potential to help the construction industry support the UK Government's 'net zero' target and reduce our contribution to

the global warming crisis. ULCC trials need to be carried out nationwide on a range of sites to simulate a number of scenarios/uses/exposures. As more sites use this product, the knowledge on it will also increase along with the confidence in its performance.

In order to carry out the extensive testing required to enable this product to be used in permanent works, significant funding needs to be obtained, which may only be viable on large infrastructure projects. The Eco Park South Case Study is currently being reviewed on HS2, with the hope that funding can be sought for the suite of testing required for this concrete to be used in the permanent works there.

The key to promoting innovation is to knowledge share. If people are more knowledgeable on a subject, they are more likely to make an informed choice to use it. The project team have focused on a number of ways to share the knowledge and lessons learnt from this ULCC pour.





Together, we deliver the projects that change people's lives

We improve the highways network, enhance rail infrastructure, and bring a fresh commitment to delivering the transformational infrastructure that will support the UK's Net Zero environmental transition.

Whether delivering small scale improvements or a major project, our success is founded on the teams that we build, the relationships we develop and the engineering solutions that we provide.



Enabling the energy transition



Unlocking the future of mobility



Optimising the urban environment



TCS PROPERTY MANAGEMENT Ltd MERRION CENTRE RETAILS STAFF RE-CYCLE FACILITY



Within excess off 300 staff serving our very busy shopping centre, we wanted to encourage the use of the cycle routes to get into work and help work us towards achieving our carbon neutral accreditation in the coming years.

Our aim was to re-us materials where possible from vacant or redundant retail units within our portfolio, encouraging the use of upcycling across our tenants and contractors and clearly demonstrate the benefits both financial and environmental in putting already used kit and equipment to good use again. We also wanted our suppliers to engage in the project by supporting with the provision of recycled products and giving us the labour required to install this very good initiative.

Over the course of the project, we have created an excellent facility that has recycled 20 cycle stands from elsewhere on the portfolio; installed wall cladding & Astro turf from a vacant unit around the corner from the shopping centre; happily, took a donation of lockers from a national gym and to make the area safe and secure,

re-used security fencing and gate that our fabrics contractor kindly donated.

Lastly our security contractors have kindly donated an access control system, using materials redundant from previous jobs. We have also received a grant from the local authority to install a shower & toilet facility in the area that utilises water provided through gathering rainwater. This facility has now been open fully for 6 months and has proven very popular by our tenants.





organisations to promote the benefits of cycling, along with the cycle to work schemes.

As noted earlier in this application, we were keen to engage with our supply chain to help promote this initiative and as such agreed a partnership with multiple parties to help make this project happen. As a result of this initiatives, we have seen a clear reduction in water use for that part of the centre; our energy usage has come down considerably and the number of bike thefts has dropped exponentially.

In this project we aimed to target two areas to support the environment:

1) By providing improved cycle facilities, our tenants staff would be encouraged to leave their cars at home and use their bikes.

2) Upcycling prolongs the life of materials and as a result helps the environment. In addition, we were keen to use the most recent technology to ensure our facility worked as economically as possible.

The inclusion of LED lighting to reduce energy consumption; water saving schemes for the toilets and an access control system that allowed a smarter way to secure and access the bikes. This project wouldn't work without encouragement from the senior management of both the retail tenants and our Landlords Asset management team. As a result, we engaged with various

Whilst the volume of cycle users has increased by 220%, the real benefit has been the positive way this scheme has been received. So much so that we have created another cycle facility in another of our offices and currently planning on building another facility onsite that can be used by the public.



THOLOS ARCHITECTS

4 BILLINGTON ROAD NEW CROSS GATE LONDON

Billington Road

YEAR: 2022

LPA: Lewisham

SCOPE: Retrofit, extension

CONTRACT: Domestic

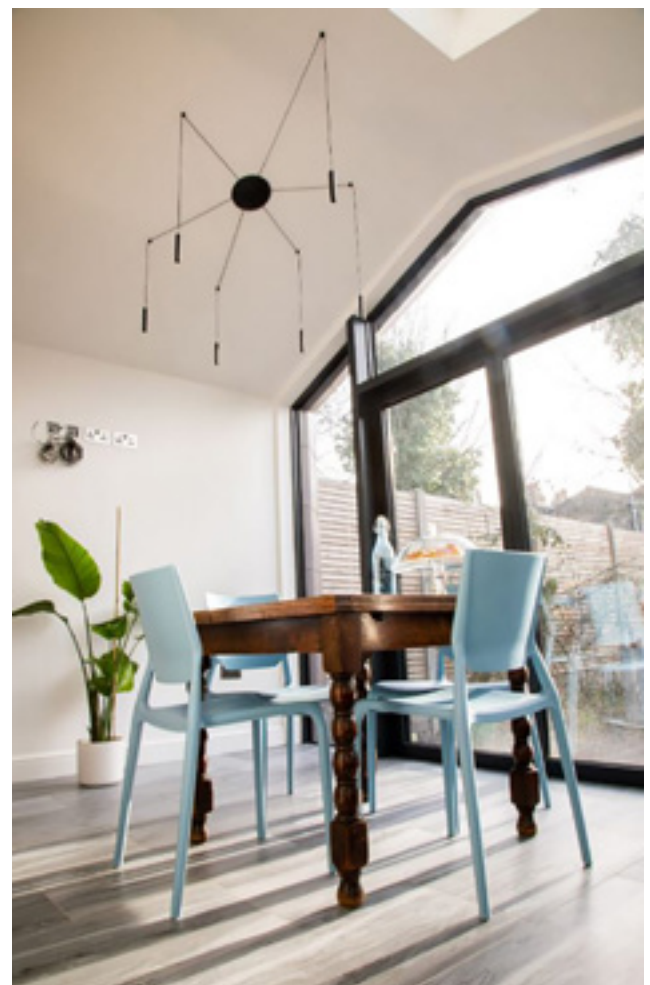
STAGES: 1-6

BUDGET CAT.: £ 250-500 k

GREAT PROJECTS ARE BUILT ON GREAT RELATIONSHIPS

At Tholos Architects, we design with you in mind and we believe the client is an integral part of the design process.

Your participation starts from the brief, we continue checking your satisfaction throughout the design stage and keep you informed with the construction progress. We ensure things keep moving and filter when your attention is really required -especially on timing and budget matters- to make your experience as seamless as possible.





Our advice is specific for your requirements and your project, to save you from common (and uncommon) mistakes.

We build actual relationships with our clients.

NOTHING IS LEFT BEHIND

Thanks to our multi-disciplinary approach Tholos Architects are the one-stop firm that you need.

We do a preliminary assessment for each project to identify the constraints and match the right services to your requirements.



Our team is specialised in residential and commercial Architecture and Interior Design. We pride ourselves of their international experience and sound understanding of other disciplines and trades' skills.

When specialist advice is required we avail of partner consultants, such as:

Chartered Engineer, Chartered Surveyor, Conservation and Restoration specialist, Art curator and sourcer, Horticulturist.

One for all, all for one!

THE MARK OF PROFESSIONALISM

We are a RIBA Chartered Practice and being members of the *Architects Registration Board* (ARB) and *Royal Institute of British Architects* (RIBA) we must adhere to a strict Code of Professional Conduct that has been established to ensure integrity, competence and professionalism are maintained at the highest levels.

We are proud and honoured of our profession and intentioned to do always our best.



TOUCHWOOD SOLIHULL GREENER FUTURES

The Sustainability Team at Touchwood strives for continual improvement on both our environmental performance and sustainability endeavours. We work to lessen our impact on the environment around us, enhance the environment around us, sharing details of our learnings, progress, knowledge and ethos with other organisations, such as schools, colleges, peers, shareholders, local residents and tenants.

WE INVESTED IN TREE PLANTING TO:

Plant 20 trees, to improve our carbon footprint and improve the public realm in a community park

Help build a pot of cash for our local community to plant additional trees

Grow awareness of the scheme to encourage others to follow our lead and engage in green activities

WE INSTALLED TWO BEE HIVES ON OUR SHOPPING CENTRE ROOF / SERVICE DECK TO:

Help pollination by growing the bee population

Grow awareness of the scheme to encourage others to follow our lead and engage in green activities by

- *Selling Touchwood honey to gain PR and reinvest in Green projects

- *Inviting Schools in for a tour of the beehives and to learn about conservation - we have purchased a virtual Beehive

with brood box display which is used as an educational tool

SPONSOR AND JUDGE THE GREENER SCHOOLS AWARD IN SOLIHULL:

Grow awareness of the scheme to encourage others to follow our lead and engage in green activities by

- *Driving support from other sponsors via the Solihull Chamber, our tenants and local businesses

- *Inspiring young people to take up the mantle for conservation and sustainability

THIS IS HOW WE WENT ABOUT OUR AIMS TO ACHIEVE OUR GOALS:

In January 2022 we kicked off the year with a tree planting campaign working in partnership with the



'Planting Our Future' team joining numerous likeminded partners including local colleges, schools, golf clubs, community groups and charities supporting Solihull Council in their pledge to plant 250,000 trees over ten years as part of its commitment to tackle climate change.

Dedicated members of the Touchwood team donned their winter coats, woolly hats, gardening gloves, wellington boots and spades to plant 20 trees in Lavender Hall Park a local Green Flag Nature Reserve marking its 20-year anniversary.



Getting involved on Touchwood's planting day were team members from Management, Concierge, Marketing and Waste Management to bring the borough closer to achieving net zero emissions by 2041. Our donation of £2000 was used, not only to plant the 20 trees, but also to build the pot of funds that enabling community groups and schools who don't have such a budget to get involved, learn about the project and plant more trees.

Keeping up the momentum, in June 2022 Touchwood welcomed/introduced two Western Red Cedar Classic Cottage Garden hives and our brood of Buckfast honey bees to the roof top service deck installed and maintained by Hosta Ground Care.

Honey will be extracted in Autumn 2022, placed into branded jars and promoted on our Enterprise stand taking pride of place on Touchwood's mall to raise awareness. In addition to our living hives, we

have purchased a virtual Beehive with brood box display which is used as an educational tool during student work experience placements.

Recognising that bees are the number one pollinator worldwide and the alarming decrease throughout the years Touchwood is hoping to do our bit to grow our bee colonies year on year. Striving to be greater and greener next year we have already taken steps to expand our green infrastructure and will be installing herb



gardens, rain water harvesting butts and bird boxes on our service deck to encourage biodiversity and promote health and wellbeing to our awesome team.

As founder partners of Solihull council's Greener Schools Scheme, we have been at the foundation of the project's success, providing funding and support. Our General Manager, Tony Elvin, is President of the Solihull Chambers of Commerce and has used this platform to garner more support for this scheme, driving sponsorship and role modelling what responsible businesses should be working towards.

As part of Touchwood's wider remit towards Environmental Impact and Sustainability which will hopefully provide some insight into our credentials and some results from our work, please find details on our Environmental Performance for last year:

In May 2022 Touchwood continued its ISO 14001:2015 and ISO 50001:2018 certification for another year awarded by certifying UKAS accredited body NQA. Certification achieved though demonstrating strict governance to both leading standards, reductions on utility consumptions,

100% diversion from landfill and a 75% recycling rate. Touchwood's performance against annual 2021 targets provided in the table below.

All of these savings are passed onto our retailers at the end of the service charge calendar year. Looking at 2021's total energy consumptions alone reductions equated to an annual saving of 919,000 kWh when compared against Touchwood's baseline year. This equated to a financial reduction of approx. £278,000 using current electricity rates.

TARGETS FOR 2021

Metric - Target V Baseline GHG Emission (kg CO2) equivalent

- 50% Reduction Energy (kWh)
- 20% Reduction Water (m3)
- 10% Reduction Waste Recycled
- Recycling Rate of 75% Waste Diverted from Landfill
- 100% Diversion from landfill

ACTUAL PERFORMANCE 2021

Metric - Target V Baseline GHG Emission (kg CO2) equivalent 1,164,858 – 2014 375, 394 - 2021

- surpassed Energy (kWh) - reduction 34%
- surpassed Water (m3) - reduction 35%
- surpassed Waste Recycled - 75% of waste produced was recycled
- achieved Waste Diverted from Landfill - 776 tonnes,
- 100% diverted from landfill - achieved



OUR GREEN LIVING COMMITMENT

Touchwood is committed to a programme of continuous environmental improvement and sustainability, supporting a community that we can all take pride in.

With our attractive and vibrant range of stores, eateries and events, we really are an award-winning destination.

CONNECT WITH US
[TOUCHWOODSOLIHULL.CO.UK](https://touchwoodsoli.hull.co.uk)



TOUREEN GROUP

OLD WAR OFFICE

The Old War Office is an iconic 580,000sq. ft. Grade II Listed building of national heritage importance on Whitehall, in the heart of London. The project involved sensitively repurposing the disused former listed Government building to create a 125 room hotel and 85 studio-to-fivebedroom apartments. Without intervention this historically important and impressive landmark would have remained unused and empty, with significant accumulating financial costs in order protect and maintain the building and heritage items within.

Toureen was the main contractor for the demolition and ambitious refurbishment. The huge scope of works on this extremely challenging project included integrating three new stories on top and ambitious proposals to add four new basement levels beneath the existing listed structure. Due to the historical nature of the building, we worked closely with Historic England to ensure materials and artifacts were kept, catalogued, and handled with the upmost care, and in most cases returned to their original position within the building once the intervention of the area they were in was completed.

The final project will also boast a grand new ballroom and multiple leisure spaces, whilst maintaining its status as one of London's landmark buildings.

The overall achievement of the project was to bring back to life a building of significant heritage and



history. Without funding or desire the building's future would have been uncertain, but with significant investment the Old War Office has been sensitively transformed into a hotel, whilst keeping its grand and historic stature.

As the building is both listed, and holds many historical artifacts and memories, we are also immensely proud of our achievements in the work we did with Historic England, saving, cataloguing, storing (in specialist storage), artifacts, and fixtures. The figures and statistics of the work that took place during the project are on a massive scale, and we are proud that this was also reflected on the amount we saved

- 65,000m3 of spoil reused offsite

- 50,000m³ of the demolition arisings, 98% diverted from landfill
- Extensive work to salvage and reclaim items within the building as well as protect the structure itself for reuse
- Weighbridge optimising waste loads saving 90 lorry movements and associated carbon and traffic impacts to surrounding community
- Delivering on local employment and procurement

The Old War Office - most famously known to be Winston Churchill's headquarters during World War II, the Old War Office building was designed by



William Young and completed during 1906.

The large neo-Baroque building is located on Horse Guards Avenue at its junction with Whitehall in central London.

The original building construction required five years to complete, at the cost of more than £1.2 million, at the time. The building is somewhat oddly shaped, forming a trapezoid shape in order to maximise the usage of the irregularly shaped plot of land on which it was built: its four distinctive domes were designed as a decorative means of disguising the building's shape. It held around 1,100 rooms over seven floors.

Following the Government's War Office Department relocating in 2007 the building had remained unoccupied, and due to its former use, it was designated as a protected site which didn't allow the public access. Therefore, without investment the Old War Office building would have remained unoccupied.

This would have both significant costs associated with an empty building, whilst also being detrimental to its upkeep. By transforming the building, it will keep the listed building intact, give it a new lease of life, and allow the public access. On undertaking a project of this scale, both in size and complexity, it was important to understand the building as much as possible.

This allowed us to re-use as much of the building as we could, both aesthetically and structurally. With early-stage planning and investigations of old records and drawings Toureen and the wider design team set out the best way to alter the grand building whilst giving great emphasis on environmental matters and disruption to the neighbours and Government buildings located in the area.

WASTE REDUCTION & RECYCLING

The figures and statistics of the work that took place during the project are on a massive scale,

and we are proud that this was also reflected on the amount we saved. From the 65,000m³ of spoil that was removed from beneath the building all of it was reused offsite and over 98% of the 50,000m demolition arisings were recovered and recycled offsite. There was extensive work to salvage and reclaim items within the building as well as protect the structure itself for reuse.

The size constraints of the site made moving waste around a real challenge, the project team trialled and investing in a number of electric wheelbarrows for a zero noise and emissions alternative to transport the waste, as well as having the additional benefit of reducing manual handling and HAVs risk to our operatives.

When the excavation works below the building had reached peak, the project team installed a temporary weighbridge – which was a challenge in a size constrained central London site. This ensured that each load was optimised – lorries are usually underfilled in order to ensure that they are safe and compliant for authorities on the road.

This introduced a level of efficiency contributed positively to the sustainability of the project –

reducing congestion in an already heavily congested area of central London in Westminster and also estimating to have saved over 90 waste lorry movements and 900kg CO₂e.

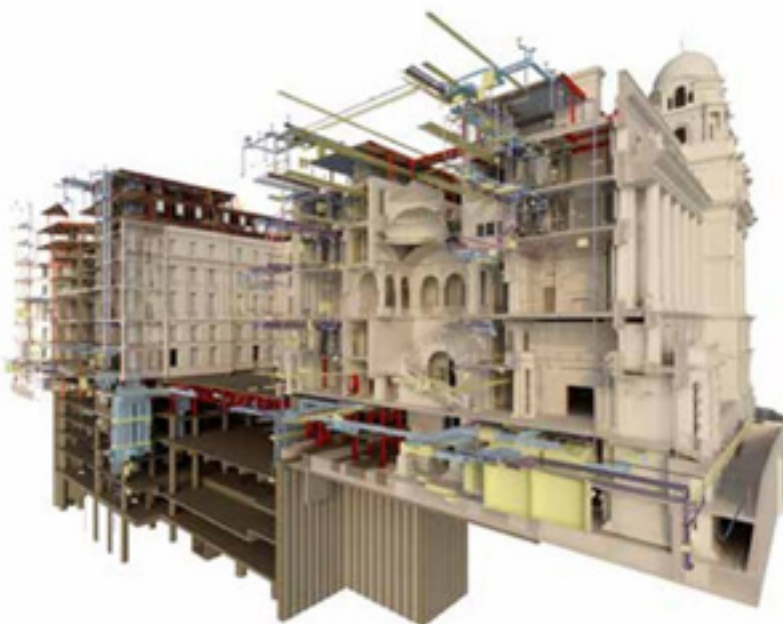
In addition all waste and delivery lorries servicing site were mandated to be FORS Gold compliant (matching the same standard as HS2 major infrastructure scheme) which is the highest standard for safety and environmental of on-road vehicles.

REDUCING CARBON & MATERIALS USAGE

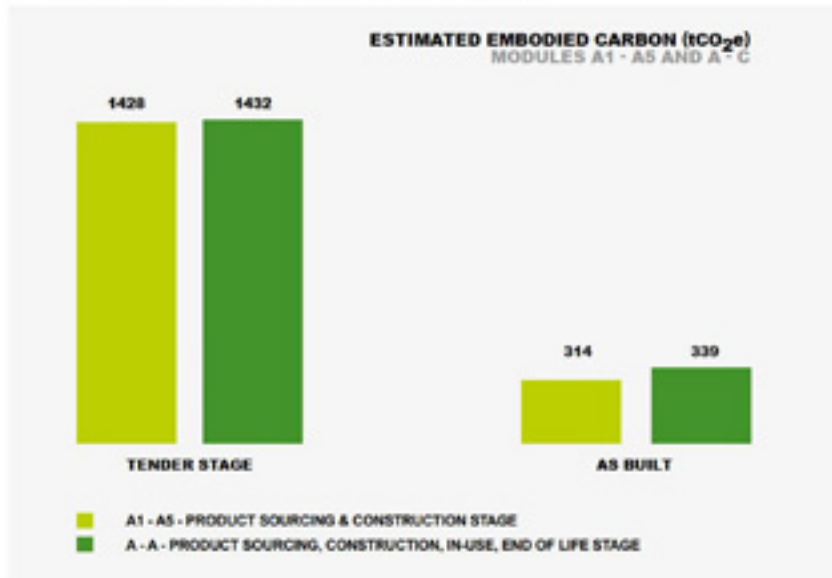
A big success was Toureen's ambitious proposal to dig down another two levels rather than add even more floors on top, this allowed us to devise a plan to use the existing foundations that were in place; coupled with our revised design with reduced temporary propping and Pynford Beams - saved huge amounts of materials and associated carbon in comparison to the tender proposal.

Constructing the new RC beams using the Pynford method, allowed us to form the beams in their final position, removing the requirement for large structural steel temporary propping frames. The new reinforce concrete foundations were also formed and cast in a piecemeal sequence, significantly reducing the requirement for temporary works.

For lifecycle stages A1-A5 the embodied carbon savings for Toureen's revised scheme were 1,114 tonnes (tCO₂e), realising a 78% carbon reduction and a similar 76% decrease across lifecycle stages A-C. The Embodied Carbon within the structure of the Central Wing temporary works designs at Tender and Construction were compared using the Elliott Wood Structural Carbon Tool.



- Upfront embodied carbon reduction from baseline: 1114 tonnes
- Upfront embodied carbon reduction from baseline: 78%
- The equivalent of 3.3 millions miles travelled by an average laden HGV vehicles



The quantities for the two schemes were generally taken from material extract drawings provided by Toureen & Elliott Wood.

For the piles, the material quantities were calculated by hand based on the specified pile diameters and a pile length as noted from available pile schedules. Reinforcement estimates were provided for the Tender scheme. For the construction scheme, a reinforcement estimate was provided so all reinforcement estimates were updated accordingly.

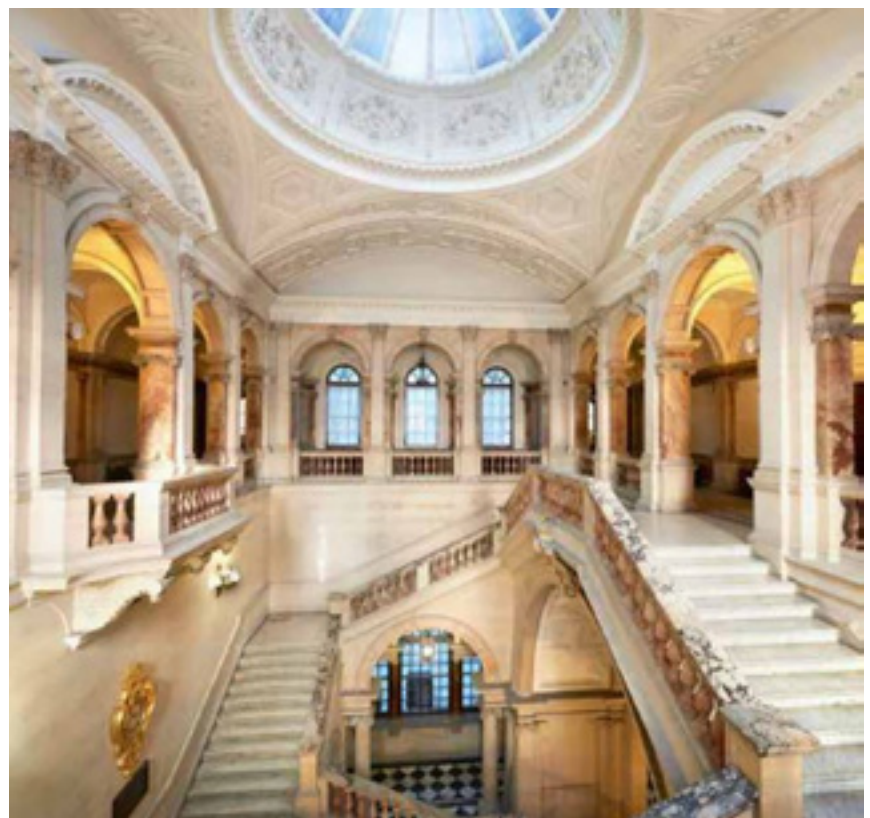
Concrete mixes were the same for both schemes; the Tender scheme assume C40/50 with 25% ggbs (industry average). It was unknown what the construction scheme concrete mix was. A5a (site activities) was consistent for each scheme. Excavation

of soil equivalent to the volume of the concrete elements was allowed for; it was not possible to calculate the exact excavation volumes for each scheme.

WORKING WITH HISTORIC ENGLAND

We are also proud of our achievements in the work we did with Historic England, saving, cataloguing, storing (in specialist storage), artifacts, and fixtures, and ensuring that the historically sensitive aspects of the works were professionally managed. In order to undertake certain aspects of this requirement,

Toureen appointed and managed a heritage contractor to undertake the works which involved the surveying and removal of components of the



building fabric for subsequent storage. This work was carried out in conjunction with Historic England and the client's own heritage architect. Major structural interventions at roof level also had to be undertaken whilst ensuring that rainwater and moisture ingress into the building base managed and minimised to ensure that historically important element of the existing building fabric were not damaged.

Similarly, major structural interventions were undertaken beneath a magnificent marble and alabaster staircase – which meant that the temporary works and sequencing had to be calculated precisely to ensure that movement was absolutely minimised to ensure no damage was caused. We also undertook a large amount of salvaging, transporting and storing of architectural antiques, e.g. floorboards; hundreds of oak doors and panelling; wrought ironwork; Portland stone porticos, chimney stones and balusters, marble fireplaces etc.

THE LOCAL COMMUNITY & EMPLOYMENT

With over 1.2m hours worked by teams on the Old War Office, the project was a great catalyst for employment, training, and inter-team working. We employed numerous new team members, from every walk of life, in every division to help with the project – two local trainees and a number of internship

placements throughout the project.

As well as undergraduate visits from Imperial College, Bath University and LSBU. The new skills people gained, along with the experience was invaluable. The project gave opportunities to so many young people and due to the length of the project, gave them a real start and steppingstone to a career with us.

Due to the location of the project, amongst residential buildings and Governmental offices, it was vital disruption was kept to a minimum. Travel and logistical planning was both on a large scale and in extreme detail. This was to minimise the number of trucks coming to and from site, and to minimise noise and disruption to the local area and on the roads.

Toureen have now completed our part of the works and it is now being finalised by the next contractor. Due to open in late 2022, the newly named 'OWO' will give the listed building a new lease of life and keep its status as one of London's landmarks.

One of the key successes that we are now replicating on other project's is the challenge of original design issued at tendering stage – it has enabled us to reduce further materials and associated carbon by changing and reusing foundations on both the Palmerston Road project and T4 Hotel project at Heathrow.





TOUREEN GROUP

SOLVING COMPLEX CHALLENGES SINCE 1992

Toureen Group are committed to deliver on a legacy we're proud of by building a greener future. Throughout our divisions, we perpetually raise the environmental standard and consistently deliver on our sustainability goals to reduce waste, energy and carbon emissions, whilst enhancing local biodiversity and raising awareness and engagement amongst our workforce.

**DESIGN & BUILD
BASEMENTS
RC FRAMES
GROUNDWORKS
DEMOLITION
RETAIL & PETROLEUM
RE-DEVELOPMENT, EV &
HYDROGEN UPGRADES**



THE DOWNS, GREEN APPLE AWARD WINNER



OLD WAR OFFICE, GREEN APPLE AWARD WINNER



BLU-3, GREEN APPLE AWARD WINNER

TRUSTMGT

USING NATURE TO BUILD COMMUNITIES

Wildlife Corridor

Your development borders the Dibbinsdale brook which is under tidal influence from the Mersey Estuary. A wildlife corridor lies on the banks of the brook that acts as a buffer between the brook and your development.

The dense scrub that forms the wildlife corridor lies on a steep embankment and is dominated by butterfly bush, dogwood, elder and bramble. There is also some young sycamore, evening primrose and teasel. This area



is a fantastic habitat for a vast array of wildlife such as bees, butterflies, caterpillars, dormice, bank voles insects and birds including goldfinch, robins and wrens.

This wildlife corridor provides animals with access to food and water and allows them to safely move while avoiding human infrastructure. It also helps to support the spread of seeds and pollen, enhancing biodiversity in your area.

We use habitat creation and biodiversity management to establish and enhance communities in urban environments across numerous sites across England and Wales. We aim to design and implement an effective landscape management plan guided by the principles of Biodiversity Net Gain (BNG).

Our focus is on safeguarding and improving native habitats to help combat the biodiversity crisis and allow communities to develop an understanding and appreciation for the wildlife that's on their doorstep.

This in turn brings people together and fosters a community spirit rooted in nature.

Our approach provides a greater community awareness of the unique habitats on our resident's doorstep, through targeted communication resources and community events that support our

goal of safeguarding and improving native habitats to help combat the biodiversity crisis.

These efforts include:

- Resident updates highlighting local wildlife and how it's managed for the benefit of all.
- Informative guides on nature-based engineering solutions including sustainable urban drainage systems (SUDS) on their development.
- Event literature to advise on upcoming events such as tree planting, bird box installation, nature walks etc.
- Free wildflower seeds to encourage residents to grow a wildflower patch in their garden that supports pollinators.
- Family wildlife trails to help encourage children to look out for wildlife in their area.

- Bespoke bird spotting/wildlife guides to help educate all ages on what they can find nearby that's unique to their locality.
- Creation of habitats including bird and bat boxes, hibernaculum, bug hotels, deadwood piles etc.
- Introduction of a Community Champion on one of our larger strategic sites to help bring cohesion and integrate the existing and new community through all the above in a concentrated location.

supports our goal of safeguarding and improving native habitats to help combat the biodiversity crisis.

One of our first events was a Community Awareness and Tree Planting event. This took place at Riverside Crescent, a development that sits on the bank of the River Tyne in Gateshead, Newcastle. It borders a stretch of rare tidal saltmarsh that is home to local wildlife.

Trustmgt planted a total of 47 trees, and alongside tree planting, a local ornithologist and ecologist did

Our company-wide mission is to 'Do the right thing'. Trustmgt operates with passion and integrity to measurably enhance the natural environment for our customers. We maintain, manage and monitor our open spaces with a commitment to sustainability. We are dedicated to improving the habitat within our managed areas, for the benefit of the local community and the wildlife it supports.

We make a positive impact on the environments we manage and employ a long-sighted approach to monitoring and maintenance. We want to raise awareness, ensuring the protection of biodiversity for perpetuity which is why we chose to launch a long-term project to provide a greater community awareness of the unique habitats on our resident's doorstep, through targeted communication resources and community events.

We identified that we have a real opportunity to educate the residents that live on our managed developments. This



some bird and wildlife identification, educating the residents on the wonderful wildlife that has made the riverside their home. We held a family wildlife scavenger hunt, where children were given the task to discover different species and correctly identify it with stickers on their map.

Councillor Freda Geddes said: “Thank you very much for the community event. I thought it was very successful and well attended. The success was due to the way the event was organised which was excellent. All aspects had been carefully and appropriately devised and prepared. Each area of the event was a great success. Parents and children enjoyed the children’s activities and goody bags that added to the general fun. Adults talked about things they had learned about wildlife and the river area near their homes. Residents were pleased that new live trees were replacing the dead ones.”

We also hosted a community event in partnership with Barratt Homes and the RSPB on one of our managed developments in Cheshire. The focus

of the event was the promotion of the nature and biodiversity found on the site and the surrounding area, and the ways we can help reduce and reverse the issue of habitat loss. With this in mind, we decided to focus our event on Swifts.

In 2021 Swifts were added to the UK Conservation Status report ‘Red list’ which is the highest conservation priority, with species needing urgent action. As part of the event RSPB swift boxes were placed on residents’ properties and information provided on how to monitor and record any swift sightings, which supports the RSPB’s Swift Mapper citizen science project. Other activities included a site-based wildlife trail, easter egg hunt and nature quizzes. Bespoke bird spotting guides were produced and distributed to families on the development.

We have a dedicated fund for community projects, habitat creation and community development. This is circa £10k per annum, but with the vision to grow this year on year. This project benefits local habitats,

Maintenance

Although a well designed drainage system should look like it forms part of the natural landscape, it in fact takes ongoing dedicated maintenance in line with an agreed plan to be followed in order to achieve this appearance and keep the SuDS operating optimally.

With any recent development that incorporates green infrastructure it takes a number of years to allow the required vegetation and biological organisms to not only establish but reach the prerequisite level of maturity that would have been specified in the original design.

Whilst the SuDS is establishing, each year will have a different maintenance regime in order to allow the necessary growth, colonisation and steps to be achieved to allow sustained, systematic progression to the next step.



What are the benefits?

SuDS have multiple benefits that go far beyond simply the slowing, storing and filtering of surface water run-off including:



Biodiversity
Increasing the biodiversity and wider ecology of an area



Wellbeing
The physical, emotional and mental health benefits that green space provide



Carbon Reduction
Natural carbon reduction and sequestration



Desirability
Increasing the attractiveness and desirability of an area



Water Quality
Improving the quality of water via natural filtration

wildlife and communities. We have seen measurable uplift in biodiversity net gain. There has been an increase in resident satisfaction, and a reduction in complaints logged regarding the appearance of wild areas.

This project has helped to improve relationships with our residents, and their relationship with the nature on their development. They have a greater trust in us and are aware of the reasons why we manage their developments in the way that we do, encouraging rewilding where possible.

We have received positive feedback from local councillors, MP's, and clients that we work with. The community events have been a great success, with a positive uptake from residents. This is the beginning of the journey for us, although we can already see the long-term benefits of this project which will include an ongoing uplift in biodiversity in managed areas. We look to inspire the next generation and safeguard existing habitats, this includes carbon

sequestration, the protection and reestablishment of endangered species and helping to develop stronger communities with roots based in nature.

We have an ongoing programme developing and documenting an uplift in biodiversity in line with the DEFRA metric. We are one of the first companies in our industry to adopt the principles of BNG and retrospectively applying it to our landbanks. We are proactively applying BNG principles to all future projects.

We openly communicate best practice and our findings through workshops with clients and industry colleagues and professionals. We sit on community practice groups with environmental bodies including CIRIA and we are IEEMA members.

We were delighted to have been awarded Housebuilders Service Provider of the Year 2021 which recognised our commitment to environmental work.



Open space management rooted in nature

We specialise in delivering a sustainable industry-leading **open space management** service for residential housebuilders and independent developers.

From improving habitats for the benefit of the local community and the wildlife it supports to building a greener, more sustainable future – we maintain the highest level of social responsibility.

We are proud to have been awarded a Green Apple Award for Helping the Environment and to be named a Green World Ambassador by the Green Organisation.

Web trustgreen.com

Phone **01829 708 457**

Email enquiries@trustgreen.com



TURKISH AEROSPACE WATER EFFICIENCY IN AEROSPACE INDUSTRY

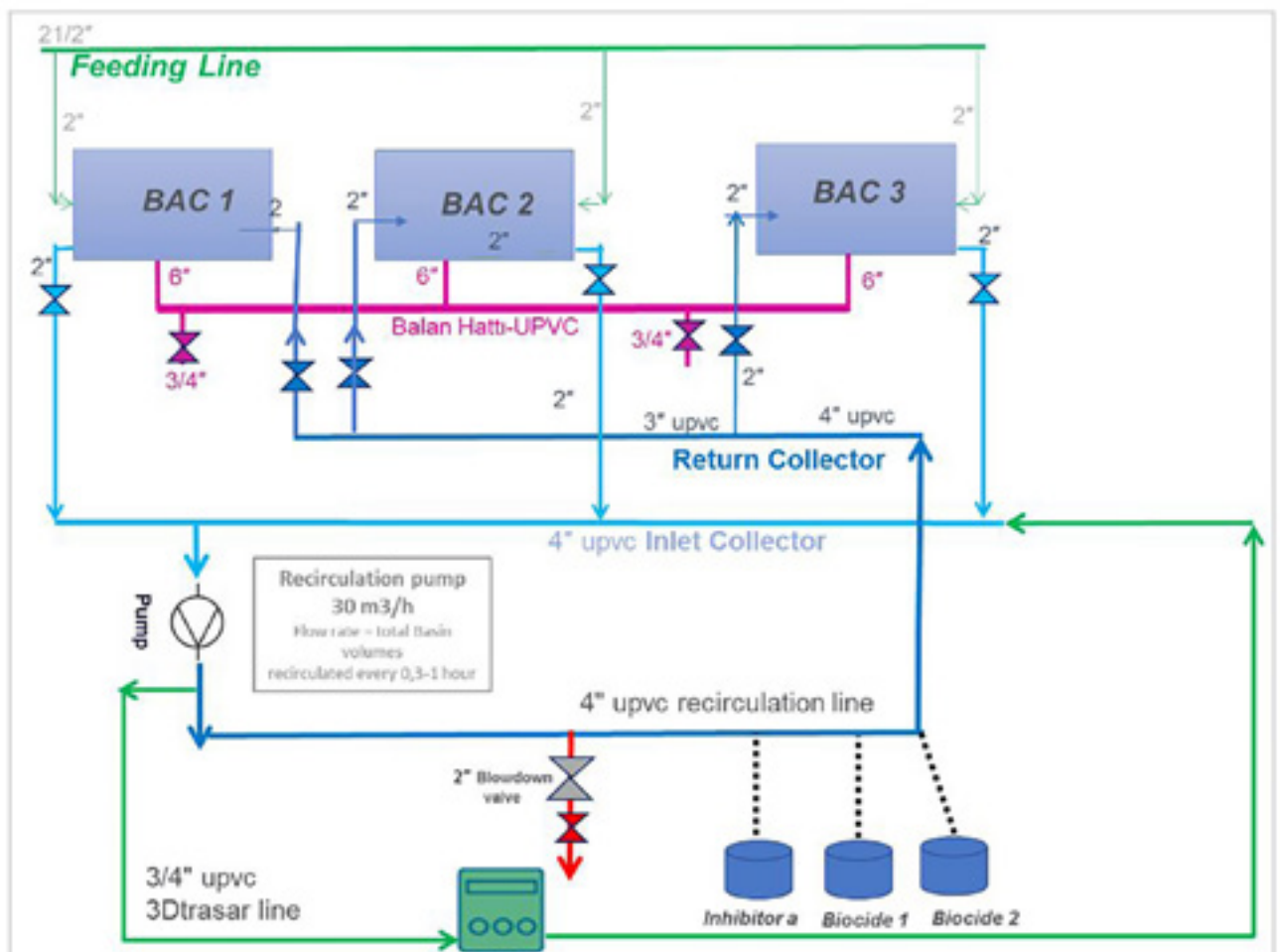
Thanks to the installation of digital controllers in cooling towers, the water efficiency increases by just-in-time chemical monitoring and control of cooling water which results in lower blow down activity. The blow down water saving for this project is approximately 40%.

By monitoring all water consumption points with main automation system, any water leakage can easily be detected. Water loss has been prevented and water consumption is sustainably controlled. At one consumption point, yearly %3 of total consumption has been saved with early detection.

WHAT DID THE PROJECT INVOLVE DOING?

The Project is composed of two stages. First stage is the flowmeter installation throughout the Turkish Aerospace (TA) water distribution network. In order to accomplish this stage 251 smart meters are installed to the water distribution network of TA. The gathered data from the meters are visualized in a SCADA system called XView.

Measurements and monitoring of 80 buildings, including production and employee housing area, are instantly visible through this system. The second



stage involves installation of digital controllers in cooling towers. Eight digital control systems called 3D TRASAR which are used for light industrial cooling water applications are implemented to the cooling towers of TA.

WHY DID YOU DO IT?

Our company with having high awareness and responsibility in the field of environment realizes that natural resources are limited and should be efficiently managed in order to preserve for future generations. In respect to this philosophy, most crucial natural resource is water.

With the mindset of continuous improvement, we are trying to reduce the water footprint in our processes. Therefore, this project was developed to serve this purpose. By installing flowmeters throughout the water distribution network of TA and by just-in-time monitoring in the SCADA system we are able to detect and control water leakages which are referred as Non-Revenue Water (NRW) over a network that serves approximately 380.000 m² closed area.

Also with the implementation of digital controllers called 3D Trasar, the water efficiency increases by just-in-time chemical monitoring and control

of cooling water which results in lower blow down activity. The water collected as blow down is directed to the wastewater treatment which means it is directly wasted. With the digital optimization and control, the cycle time of the cooling water is extended throughout the system resulting in less blow down and less water consumption for make-up water.

WHAT DID IT COST AND WHERE DID THE MONEY COME FROM?

The total cost of investment is 418.000 EUROS. The project is financed by Turkish Aerospace.

WHO AND WHAT BENEFITED?

The Water Efficiency Aerospace Industry Project uses digital solutions for instant monitoring and control of water, ensuring more effective use within the TAI campus. With this project, the water footprint will be reduced and it will serve the responsible production and consumption principle of Sustainable Development Goals.

Since the installation of meters; Water leakage was detected by monitoring the meter located in the Aviation OSB (HOSB) location. The meter showed a consumption of 120 m³/day.

This location is not a major water consumer given the operations taking place. The nearby area of the relevant flow meter was investigated and a leak was found in the pipeline. After the pipeline was repaired, the consumption value read from the same meter decreased to around 15 m³/day. For this reason, with a single early detection, annually around 40,000 m³ of water has been prevented from being wasted before reaching its final destination of use.

1. Water Automation System

OUTCOMES & BENEFITS

BENEFITS

- Establishing the water balance of the facility
- Just-in-time monitoring and control of the water distribution network serving 380.000 m² closed area.
- Early detection of water leakages and losses

OUTCOMES

- Leakage around the flowmeter HOSB was detected early. The consumption was around 120 m³/day before detection and it has drop to around 15 m³/day.
- Approximately 40.000 m³/year saving with just one early detection.

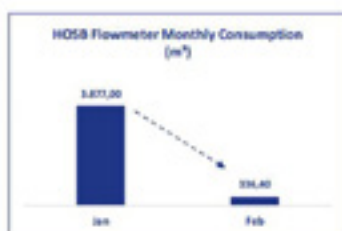




Figure 6. 3D Trasar Controller

This amount corresponds to approximately 3% of the total annual water consumption of the facility. In 2021, 6982 m³ of water was discharged directly to the wastewater treatment system with the blowdown valves of the cooling water systems. With the installation of 3D TRASAR controllers, just-in-time monitoring and control of the cooling water will increase water efficiency, resulting in lower blowdown activity. The expected water savings for this project is approximately 40%.

Therefore, according to this assumption, approximately 3000 m³ of water will be saved annually. The results of June 2022 blow down values in comparison to June 2021 supports the 40% saving assumption. Also chemical consumption is

expected to decrease by 20%. Besides the optimization of chemical dosing the controllers are also beneficial in terms of eliminating human errors caused by manual operation. **LONGER TERM BENEFITS?** By implementing this project, we will be able to restore and improve our water distribution network throughout the years with detections and continuous monitoring.

It will improve our service capabilities, decrease the loss of facility budget to NRW and reduce our energy consumption through optimization and improving our water balance calculations.

WAS THERE ANYTHING INNOVATIVE ABOUT THE PROJECT?

To optimize the amount of controllers that needed to be set, combination of towers which serve similar systems and that are

in the same location is done through collecting the cooling water in common pools or collectors. This innovation results in single controller installation in nearby towers that serve the same system instead of installing each tower with its own controller.

CAN OTHER ORGANISATIONS/ COMMUNITIES BENEFIT FROM IMPLEMENTING YOUR METHODS?

Non-Revenue Water (NRW) is a common problem among every organization and community. In order to prevent water loss through the distribution network a similar metering and SCADA system can be easily adapted to all areas of concern.

NRW management allows utilities to expand and improve service, enhances financial performance, increase climate resilience and reduce energy consumption. Similarly, digital controllers such as 3D Trasar can be easily adapted to any organization having industrial cooling towers to optimize chemical conditioning of cooling water. The organizations that implement this technology will be losing less water to blow down and reduce their chemical use for conditioning water.

In a similar manner there are digital controllers for water consuming industrial systems such as boilers as well, therefore they can also be adapted to such systems.

WHAT DID YOU LEARN FROM THE PROJECT AND ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

The TA campus has a complex structure since its water distribution network infrastructure is old and serves approximately 380,000 m² of closed area.

Difficulties were experienced during the process of placing meters at the correct points. These difficulties were overcome by following the pipes in some locations.

With this experience, in the new investments to be made, as per the Environmental Requirements Procedure for TA Suppliers, it is obligatory to install meters at the new water consumption points, so possible risks are prevented.

If new cooling systems are installed in the future, it is aimed to integrate 3D Trasar systems into them. Likewise, new meters will be integrated into the water consumption points in new investments in order to calculate the water balance and determine the lost and leaks, and it will be defined in the SCADA system. In addition, the integration of the data collected in 3D Trasar devices into the water automation SCADA system is among the future plans.

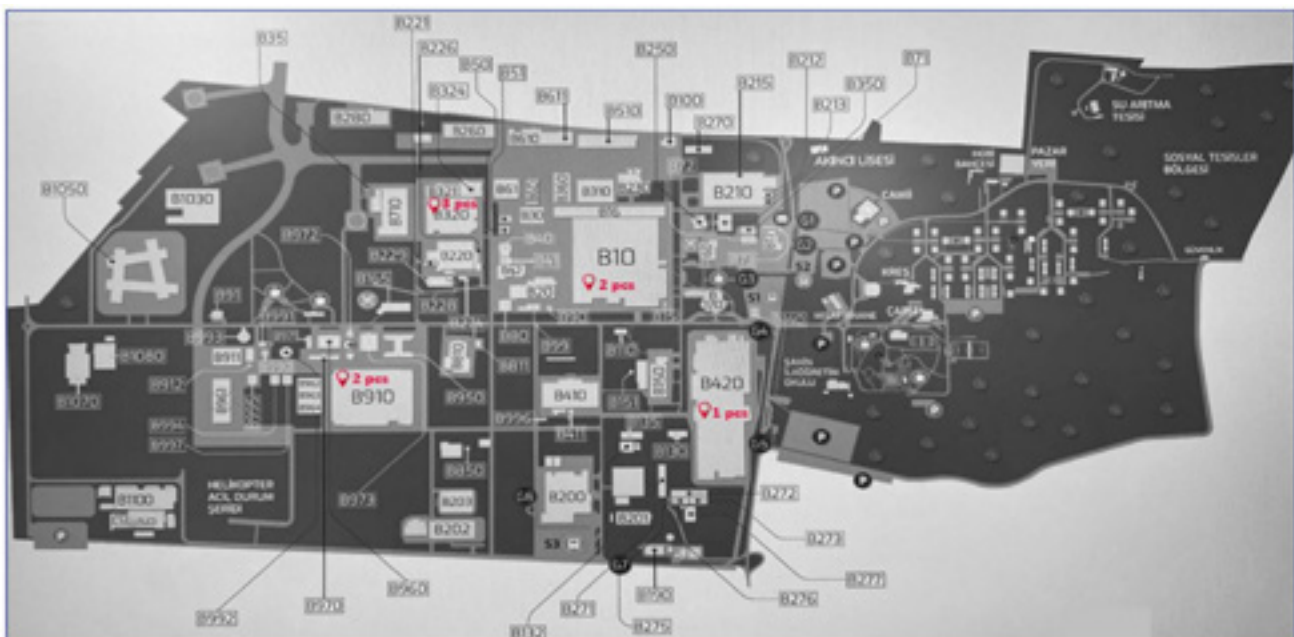


Figure 5. Layout of the implemented 3D Trasar Controllers

UNITED DEVELOPMENT COMPANY-QATAR THE PEARL ISLAND

United Development Company (UDC) is a leading Qatari public shareholding company established in 1999 and was first listed on the Qatar Stock Exchange in June 2003. It has an authorized share capital of QR 3.5 billion and total assets of QR 20 billion as of 31 December 2021. UDC actively contributes to the development of the State of Qatar, that has successfully established a group of various good performing investments.

United Development Company (UDC) received the Global Sustainability Assessment System (GSAS) Operations Certificate in GOLD rating for its headquarters, UDC Tower 01. This makes it the first building in The Pearl Island, to receive this top regional sustainability ranking from the Gulf Organisation for Research & Development (GORD),

for meeting sustainability and environmental best standards.

At the same time, it is the first GSAS-certified project to demonstrate full indoor air quality compliance which qualifies it as a healthy building. Indoor air quality within the tower is constant which are influenced by changes in building operation, occupant activity and outdoor climate.

Efficient and properly functioning air-conditioning and mechanical ventilation systems within the tower to maintain the desired indoor air quality control is present. Being one of the tallest structures in The Pearl Island and prominent tower sprawling on a built-up area of about 114,740 m² and a height of 201 m., the 42-storey building is a high-end office



UDC Tower, The Pearl Island

برج الشركة المتحدة للتنمية، جزيرة اللؤلؤة

complex equipped with state-of-the-art amenities that include a health club, restaurants and eight-floor podium parking space connected to the tower.

To ensure sustainable operations across these facilities, the project benefits from district cooling technology which compared to conventional cooling, delivers significant energy savings.

UDC Tower 01 is one of the gateway towers located at the main entrance of The Pearl-Qatar. The 42-storey tower is a high-quality office development having a bold, dramatic, and iconic imagery structure, is one of the tallest structures on the Island. United Development Company (UDC) is committed to caring for the environment as evidenced by the attention given to incorporate

sustainable development programs into the Company's business decisions and practices which are aligned with the vision for 2030 set forth by the State of Qatar.

UDC's efforts towards sustainability include the focus on various areas which includes appropriate management and recycling of waste, environmentally friendly processes and packaging, optimization of energy consumption in all company's operated and managed projects and developments, including the use of environmentally friendly technologies such as district cooling, regular training and events designed to highlight environmental issues and initiatives, and constant awareness campaigns promoting activities to reduce environmental impacts and use natural resources



efficiently through innovation and performance monitoring.

The high-end office complex provides the best possible working environment with first-class

facilities, which includes several amenities such as a health club, restaurants and eight floor podium parking structure connected to the tower, making the Tower a great choice for many businesses.



DEVELOPING SUSTAINABLE LIFESTYLES

A TIMELINE OF REMARKABLE ACHIEVEMENTS

Sustainability has always been a key focus of United Development Company's (UDC) development vision. As a leading Qatari public shareholding company and master developer of leading developments The Pearl and Gewan Islands, UDC aims to fulfill the objectives of Qatar National Vision 2030 related to aligning its strategic goals with international standards and planning future activities to leave a good environmental footprint.

UDC boasts a record of outstanding environmental achievements including but not limited to achieving international accreditation certificates that have culminated in several prestigious awards that reflect UDC's long-standing and deep commitment to adopting the latest sustainable and environmentally friendly practices to ensure the health of the ecosystem and the wellbeing of the community residing in The Pearl Island.

The Pearl Island is one of the largest real-estate developments in the Middle East and a model destination that adopts the best global environmentally friendly practices. The integrated and sustainable Island incorporates a variety of distinct features including apartments, villas, townhouses, and penthouses as well as diverse retail and entertainment facilities, in addition to an award-winning marina and beautiful serene beaches.



INITIATIVES

THE FIRST ESG REPORT

UDC is the first real estate company in Qatar to release an ESG report that officially discloses its environmental and sustainability friendly strategies.

TREE PLANTING FOR NEW EMPLOYEES

UDC launched a program of planting a tree for every new employee who joins the company aiming to reduce carbon dioxide emissions.

BIODIVERSITY MAP

UDC is the first non-governmental entity to release a biodiversity map for The Pearl Island which highlights marine species living in the waters.



AWARENESS

QATAR SUSTAINABILITY WEEK 2022

UDC organized a series of community events at The Pearl Island to raise environmental awareness and opened the first community park to educate about the importance of biodiversity and sustainability.

GLOBAL RECYCLING DAY 2023

To promote a healthy marine ecosystem, UDC celebrated Global Recycling Day on March 18, at The Pearl Island by organizing a beach cleanup campaign at Bahri Villas South.

WORLD WATER DAY 2023

UDC celebrated World Water Day on March 22, with the theme, "Be the change you want to see in the world" encouraging community members to switch their water taps into automated ones.



AWARDS

MARINE ENVIRONMENT PROTECTION AWARDS

UDC ranked in the top 5 companies for its environmental marine initiatives at The Pearl Island by the North American Marine Environment Protection Association (NAMEPA).

GREEN APPLE AWARDS 2022

UDC is the first private sector Qatari company to receive the two awards: Best Development Company and Best Waste Management Company from the "Green Apple Environment Awards".

SEAL AWARDS 2022

UDC won the Business Sustainability Award 2022, under the 'Pioneering and Innovative Environmental Initiatives' category beating over 50 companies globally.



CERTIFICATIONS

ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEM

UDC was awarded the ISO 14001 certification for environmental management from the British Standards Institution (BSI).

GSAS GOLD CERTIFICATE

UDC Tower, received GSAS Gold Operations certification, becoming the first building to receive the highest regional sustainability rating from GORD.

V12 FOOTWEAR

LYNX CARBON NEUTRAL RANGE

With the Lynx range, our aim was simple: to create a new safety boot that gave maximum protection to the wearer, but had minimum impact on the planet. V12 have always been dedicated to going above and beyond to manufacture responsibly - and we saw the development of the Lynx as the perfect opportunity to make a serious and long-lasting environmental impact. But whilst on our journey to achieve a more earth-friendly product, we were immensely excited to learn that we could go a step further.

By making a series of manufacturing innovations and drawing on the wisdom and experience of environmental experts, we realised that we could make our Lynx safety boot range carbon neutral. So, a new objective was born – to make Lynx a product that from factory to feet, leaves no footprint. Throughout the campaign, the slogan ‘sustainability is a team game’ was used to reinforce that true environmental impact comes from a collective desire.

Our aim became wider than simply making a carbon neutral product. Ultimately, it was an aim to foster all V12 employees’ passion and drive to take positive climate action. And only through this company-wide effort did the Lynx reach its environmental milestone.

Like any project where there is real desire and passion for results, we ended up achieving much more than we originally set out to with the Lynx campaign. Turning Lynx into a carbon neutral



product took perseverance and determination, but it was most significantly an enlightening journey where we learnt an incredible amount about ourselves, our world and our power to make a positive impact on that world. In many ways, reaching carbon neutrality became a by-product of a larger win: our passion for carbon reduction is now embedded into everything we do at V12 - and for us, our wearers and the planet, that's the real achievement.

WHY?

We saw the development of Lynx as an opportunity to prove we could reduce carbon in every phase of a boots' life cycle – starting with design, construction, through to shipping and right down

to the packaging. Ultimately, because V12 believe responsible production is essential for the planet's longevity, we developed this range because we, our wearers and the earth need carbon neutral products.

The V12 slogan is 'Step Up In Comfort,' but we wanted our wearers to have the opportunity to 'Step up to Sustainability' too - and our Lynx boot and the carbon reduction it is responsible for was the gateway to this opportunity.

WHO, HOW AND WHAT? (THE STORY)

To guarantee the Lynx range led to significant carbon reduction, our journey was directed by our three sustainability steps: REDUCE, EXTEND, OFFSET. The 'Reduce' step saw us slash our shipping mileage by moving production of the Lynx from the far east to Europe, reducing the mileage by a massive 8,000 miles. This huge reduction means compared to previous journeys from Asia to the UK, we now save 225 KGs of carbon on each voyage from factory to port. Put another way, every 100 pairs of Lynx boots shipped to the UK saves 90 KGs of carbon.

But the Lynx campaign wasn't just about reducing mileage. We built carbon reduction into every point of production. Operations analysed factory

recycling, water-use and energy data to highlight areas to reduce emissions, while our Supply Chain Team made further sustainable changes including upgrading to a closer tannery to reduce leather-shipping and working with our factory on its cutting methodology to reduce leather waste.

V12's Sustainability Team - a cross section of the whole workforce from marketing, sales, product development to the Managing Director - kept the Lynx's carbon neutrality top of the agenda in regular meetings by analysing offsetting data and exploring more ways to manufacture this range responsibly. 'Extend' focussed on using top-level components and materials in production to guarantee the long life of the product. We only use LWG gold-rated tanneries to guarantee high-quality leather in production, and this 'no compromise' policy on materials means Lynx is built-to-last.

While cheaper boots might need replacing several times per year, Lynx spends more time on wearers' feet and less time on landfill - reducing waste and saving energy. 'Offset' saw us compensating the remaining carbon that couldn't be captured in production by signing up to three UN-led environmental initiatives and working with Carbon Footprint Ltd, allowing us to invest in their carbon-reducing global community projects.





THE EVIDENCE

The positive environmental impact of our Lynx range is reflected in some really inspiring data. Each pair of Lynx safety boots generates 8 KGs less carbon than the average safety boot. When we calculated how much of a carbon saving this was based on our total sales of the Lynx so far this year, the difference comes to an amazing 10,000 KGs plus.

Put another way, in production so far this year, Lynx has generated over 10 tonnes less carbon than an average safety boot. But the most significant number of all is 0. Because after our carbon compensation has offset any remaining emissions through production, that's how much carbon the Lynx is responsible for. So V12's wearers can trust that when we tell them that from factory to feet, Lynx is a boot that leaves no footprint, it isn't just a claim: it's a fact.

Benefits With Lynx, our wearers get a double benefit. They will continue to get a product with the safety excellence they've come to expect from V12, but they also get the peace of mind that their

gain isn't at the expense of the most important beneficiary of this product: the planet. The Lynx is not supposed to be a flagship product; it's a gateway to kickstart improved sustainable manufacturing at V12.

We want to use everything we've learnt on our carbon neutral journey with Lynx so we can look at our other products to streamline their production processes and explore the potential they have to become carbon neutral. Additionally, joining environmental UN-led initiatives Race To Life, Carbon Neutral Now and The SME Climate Hub means we've been

given - and have pledged to meet - ongoing GHG and carbon reduction targets, so our sustainability practices won't simply continue - they'll continue to progress.

We chose our carbon offsetting partner and the environmental initiatives we've invested in very carefully so they align with our own environmental values. They do incredibly impactful work across the globe including rewilding, forest preservation, solar and wind farm installations and developing geothermal power - all culminating in a massive ecological impact for communities across the globe. And other companies will benefit from our experience.

We wrote a comprehensive blog on our entire carbon neutral journey, centered around our top 'carbon journey learning moments' which gives companies embarking on similar campaigns advice to ensure their green claims are within government guidelines and their sustainability messaging is accurate and transparent. Learning and development Making this product carbon neutral hasn't been the result of planting a few trees here and making a small production tweak there - it has

led us on a journey to learn how to refine our whole production and supply chain, which will continue to have a worldwide impact. And if there is teamwork, passion and consistency, carbon neutrality is absolutely achievable. And going forward, there is a very exciting list of further carbon-reducing developments for the Lynx range including improved recycled packaging, less production processes and introducing more recycled and non-leather components.

Most exciting though is the new factory which will be responsible for manufacturing all Lynx boots. Half of this forthcoming building's 2000sq/meter roof will be covered with solar panels which will provide up to 20% of the factory's energy.

Ultimately, we've stepped up to sustainability, but these are just the first few steps of a long and exciting journey.





STEP UP IN
COMFORT

LYNX



A SAFETY BOOT THAT'S GOOD FOR YOUR FEET AND THE EARTH

V12 are the first UK safety footwear brand to introduce a carbon neutral boot range. Lynx combines comfort, safety and sustainability, providing day-long comfort, maximum protection for the wearer - all with minimum impact on the planet.

Be good to your feet and the earth!

Find out more about Lynx by visiting [V12footwear.com](https://www.v12footwear.com)



VAYA SPACE

THE CASE FOR VORTEX-HYBRID GREEN ENGINES

To make a difference for humankind, reducing plastics on the planet, by taking them off the planet. Vaya Space intends to have a profound impact on the environment, by creating a new use case for recycled thermoplastics, especially PET bottles.

Vaya utilizes the 2 million recycled plastic bottles per launch. Traditional rocket companies use dangerous and often toxic fuels, present health and safety risks when things don't go right, and harmful environmental impact when things do go right.

Vaya's vortex-hybrid engine technology solves both of these problems. Vaya's engines are fueled by 100% recycled thermoplastics. This means that with every launch, Vaya directly removes 20 tonnes of plastics from the pollution stream. As we launch, unlike competitors that emit tons of carbon soot, our sole emissions are water vapor and CO₂, placing Vaya with the lowest greenhouse gas emissions of any rocket company.

Our fuel is non-toxic and non-hazardous, with zero TNT explosive equivalency at ambient temperatures and pressures, it only acts like high-energy rocket fuel under controlled conditions, meaning it does not require special storage, handling, or transportation, and significantly reduces the risk of loss of life and injury to personnel, or damage to the environment or equipment.

Vaya Space has proven both in our technological accomplishments and through the faith placed in us by NASA and commercial customers that our technology is poised to redefine the paradigm of space.

Vaya successfully conducted our first launch, flight testing our core technology and proving it is functional and ready for commercial operations. Vaya signed an agreement with NASA's Kennedy Space Center that authorized the transfer of NASA technology to Vaya Space, paving the way for imminent commercial operations. Vaya modified an



existing umbrella agreement with NASA's Stennis Space Center to accelerate full-scale engine testing, building on a history of over 100 successful hotfire tests to date, and expanding the scope and scale of our test operations.

Vaya has also secured a number of launch contracts over the past year, demonstrating the belief in the Company and transformative technology via the endorsements by and contracts from the satellite industry, customers that intend to themselves.



Vaya Space, a developing small satellite and technology company (formerly Rocket Crafters), is deep into the development of their STAR-3D vortex hybrid engine that will be used on the company's Dauntless rocket.

Finally, Vaya has recently been awarded with two patents on its breakthrough technologies validating its unique approach and differentiation vs. technologies in rockets, missiles and other engines that have been around for decades.

For the past century, rockets have worked largely the same way, with two main variations. The first is the liquid-bipropellant rocket, which combines a liquid fuel and liquid oxidizer to create a powerful reaction. The second is the solid-propellant rocket, powered by a powdery fuel and oxidizer mix that has been pressed together into a solid, flammable substance. Both variations present their own advantages. Liquid rockets are efficient and flexible; solid rockets are simple and reliable.

But both variations are also extremely complex and expensive, and are plagued with enormous flaws that have led to environmental degradation, failed missions, and, on multiple occasions, the loss of human lives. Vaya Space was founded to consign these fatal shortcomings to history.

To do this, Vaya has created the vortex-hybrid rocket engine. This engine is a hybrid because it uses both solid and liquid propellants: a solid fuel and a liquid oxidizer. And it is a vortex-hybrid

because of our revolutionary vortex injector, which essentially creates a hurricane of liquid oxygen inside the engine's combustion chamber, ensuring reliable and efficient utilization of the fuel. The advantages of this engine architecture are numerous and profound. For solid fuel, our vortex-hybrid engines use 100% recycled thermoplastics in the form of High Density Polyethylene (HDPE).

With every single launch, Vaya eliminates 20 tonnes of HDPE from the pollution-stream, keeping the equivalent of 2 million water bottles out of our landfills and oceans. On top of being environmentally beneficial to manufacture, the actual operation of our engines is some of the highest performance and among the cleanest in history.

Vaya's vortex-hybrid system is a greener alternative that emits mostly water vapor, compared to traditional rockets that combust fuels like kerosene and methane, emitting a variety of compounds like black carbon/soot that are harmful to both the environment and human health. Vaya's vortex-hybrid rockets are capable of delivering payloads to space with a fraction of the overall emissions of a traditional rocket, and with zero emissions of black carbon/soot, sulfides, nitrous oxides, or other contaminants.

Providing the first truly sustainable method of accessing space is core to Vaya's very existence, and that encompasses all stages of our product life cycle from material procurement, to production, to launch. Multiple aspects of rocket propulsion had to be completely reinvented to make this technology a success, and this work was carried out by a small team funded entirely by extended friends and family.

First, we had to invent a way to 3D print a large grain of solid, HDPE fuel—a process for which we have a US patent pending. Another necessary (and patented) innovation was the vortex injector, which ensures that oxidizer is consistently applied to the fuel grain as it is being consumed. This injector technology completely eliminated a problem that has hamstrung hybrid rocket engine development for decades: unreliable utilization of the solid fuel.

Our leadership believes space access is crucial for humanity, and they are passionate about converting the entire industry to sustainable practices. We will achieve this through both our future product development and by spurring vortex-hybrid adoption throughout the industry. Our engines are the most competitive in the industry, offering the lowest emissions, the lowest prices, and the greatest reliability.

This means that Vaya can viably scale the technology to medium and heavy-lift rockets, offering a sustainable option for every single payload that needs to get to space. Our competitive advantage is evidenced by our increasing backlog of orders from small and emerging satellite developers, who are attracted to Vaya both for our extreme reliability and our best-in-the-industry launch costs.

Given the technology's numerous attractive features—from reliability, to price, to

sustainability—we also plan to supply our vortex-hybrid engine technology to other competing launch service providers, enabling the entire space launch industry to go green. And it is not just rocket companies and satellite developers who benefit from our work. In keeping with our commitment to reduce plastic pollution on the Earth, Vaya regularly conducts environmental cleanups on two continents, removing trash and debris from the waterways of Alabama and the coasts of Florida and Brazil.

Vaya Space exists to revolutionize space and make a difference for humankind, reducing plastic pollution on the planet by taking plastic off the planet. Along the way, we've enabled a dramatic reduction in launch costs, democratizing space by allowing a new class of companies and educational institutions to launch their own payloads for the very first time.

And we've made perhaps the greatest step forward in safety in spaceflight history, developing a non-hazardous fuel that has the potential to make astronaut disasters a feature of history.



A large, stylized green letter 'W' that serves as a background for the text. It has sharp, pointed edges and a slight asymmetry, with the right side being more jagged.

WYA
SPACE

WATER PLUS

ACTIONS FOR A CLEANER CLIMATE

Green World Ambassadors and 5 times Green Apple Environment Award winners Water Plus, outlines how water can be a whizz to help organisations towards environmental goals and Net Zero - <https://www.water-plus.co.uk/about-us/>

AIM:

Setting out to go further - with action with employees and organisations – water retailer Water Plus delivered an awareness and engagement approach that increased engagement sites had with their water use and moved behaviours to help reduce impacts on the environment.

Understanding water usage can help save organisations water, lower bills, cut carbon emissions and save energy too - where less water is heated and less needs to be moved through pipes.

If less water needs to be transported to a site – and less wastewater needs to be taken away and treated - then less carbon emissions are created. The water for Water Plus customers also forms part of the Scope 3 emissions for Water Plus, as a business.



The work was all under the Be Wise On Water campaign and Water Plus's commitment to reducing impacts on the environment, amongst customers, suppliers and colleagues. It saw new partnerships in 2022, biodiversity supported and water waste cut in the UK.

In November 2022, Water Plus won Gold for Water Management for its work with organisations in England and Scotland at the Green Apple Environment Awards.

THE DETAILS:

In 2022, along with its Be Wise On Water awareness and engagement approach, Water Plus supported extra trees for UK communities and raised awareness around how we all use water - and how we can reduce water waste and carbon emissions too. This included:

- **A Water Plus partnership with the charity Trees for Cities, which started in April 2021, has grown and is boosting tree-planting in the UK to help, amongst other benefits, manage surface water that can increase flooding.** Initially this involved 94 trees, put into the soil in the planting season which ran to March 2022, in Northumberland, England. The extra trees being supported through the charity were to target areas of higher pollution in England.

Water efficiency messages were also shared by Trees for Cities as part of the partnership.

The partnerships sees 1,000 more trees to be planted for communities in the UK too.

- 50 new fruit trees for Stoke-on-Trent communities, with planting with the city council in November 2021, which continued in

2022. This included growing new orchards at allotments for communities.

None of the tree planting through Trees for Cities or in Stoke-on-Trent was for carbon offset.

In Autumn 2022, due to its work, Water Plus was ranked in the top 25% of companies across the world for its approach around Corporate Social Responsibility (CSR). The EcoVadis sustainability rating looks at the integration of CSR principles in an organisation. This focuses on 21 issues, which are grouped into 4 themes: Environment, Labour Practices & Human Rights, Fair Business Practices, and Sustainable Procurement. 2022 was the fifth year running the water retailer has secured an EcoVadis rating.

Water Plus also continued to be a member of a Business and Environment Network in Staffordshire, where its main office is based, sharing advice and information with organisations in the county.

ENGAGING ORGANISATIONS WITH WATER

The aim to drive a positive shift, including how organisations engage with their water in England and Scotland to help increase water efficiency - and raise awareness on spotting water waste and issues, like leaks, early – saw a range of results and benefits.

- In January 2022, a site in England had a 12 cubic metre an hour water leak (12,000 litres an hour), though they were not sure where on their pipes. They contacted Water Plus Advanced Services, who located the source and carried out the repair. The leak, which data loggers on the water meter and the online portal provided to Water Plus customers tracked, would have cost £22,000 in a month. The leak was repaired within two weeks of it being flagged.
- A manufacturing facility had a leak on a main site pipe, which had a fracture losing 21 cubic metres of water an hour (21,000 litres an hour).



If this hadn't been identified, and quick action taken to organise a repair in December 2021, it would have cost around £10,000 a week (£41,000 if it ran for a month). The Water Plus Advanced Services team quickly pinpointed the leak's location and made the repair.

- **Work between the Water Plus Advanced Services team and organisations – including installing data loggers on water meters, which feed information into a smart online portal Water Plus provides customers, resulted in around £4 million of additional water waste being stopped and an estimated billion litres of water stopped from being lost unnecessarily, which equals 543 tonnes of CO₂e, based on published Conversion Factors (1st January 2021 to 26th May 2022. Water loss totalling 1333399.46 m³ stopped by isolation or repair, measured by water meters). Estimates on cost and volume based on if water loss was running for 12 months.**

With social media posts under #BeWiseOnWater and online information on the importance of regular meter readings, where the water meter is safe to

Waterplus

access, to help budgeting and spot leaks early, we engaged with customers during 2021 and 2022 around their water use.

- **41% of those who'd seen a benefit of reading their water meter more often, said it saved them water and 20% said it'd saved energy (Feb 2022 survey with 65 responses).**

ENCOURAGING STEPS WITH EMPLOYEES AND OTHERS

The main office site for Water Plus in Staffordshire is powered by 100% certified renewable electricity (65% wind, 35% biomass) and has electric car charging.

80% of Water Plus employees who completed a survey in November 2021, now think more about the impact their actions have on the environment and do more to reduce the effect they have, after information in the News and Water Plus shared about the environment.

In 2022, Water Plus also increased the action it was taking. It launched greener transport options

for their employees including bicycles, e-bikes and electric vehicles to help health, wellbeing – and reducing impacts on the environment too.

Employees at Water Plus can apply to get a traditional bicycle, an e-bike, cycling kit or a combination of these, under the salary sacrifice approach. The initiative sees employees get discounts on the cost of these. 2022 saw a number of bicycles delivered and some used in commutes into work.

An Electric Vehicle scheme for its employees, to reduce carbon emissions around journeys to and from work and during the working week was also launched in 2022.

We'll build on what we've started, reducing impacts on the environment where possible, at our rented office space - and elsewhere, along with gathering more data for our business as we contribute further to the UK's Net Zero aims.

There's more on the water and carbon emissions savings seen by organisations in the UK on the Water Plus website: www.water-plus.co.uk/about-us and <https://www.futurenetzero.com/category/water-plus-news/>.

To partner with Water Plus, email hello@water-plus.co.uk (and mention "Green Book 2023" in the subject heading).

Other projects we've supported



Waterplus

Your Sustainable Water Partner

Save Water, Save Money – **and carbon emissions too.**

Join the hundreds of organisations we've helped
save with our expert **water management services.**

+ Find out more



hello@water-plus.co.uk



water-plus.co.uk



[@WaterPlusUK](https://twitter.com/WaterPlusUK)



WHITE CITY PLACE GREEN CITY PLACE

THE AIM WAS

Recycling our green waste Ensuring no waste is sent to landfill.

Improve our overall recycling levels Increase biodiversity at White City Place by creating a broad variety of habitat for insects, birds, and mammals.

Reduce operational carbon footprint.

WE NOW HAVE

Green waste recycling at 100%

Ensured no waste is sent to landfill.

Improved recycling levels from 38% to 60% within 3 years

Increased biodiversity at White City Place by creating a broad variety of habitat for insects, birds, and mammals.

Reduced operational carbon footprint – growing plants on site and also producing some of our own compost.



White City Place

WHAT DID THE PROJECT INVOLVE DOING?

Minimising and Reusing Waste: A big educational and training program for our team and occupiers. Regular forums to discuss progress and share ideas. We carry out regular waste audits to ensure recycling streams aren't being contaminated. We also collect waste direct from occupiers now to ensure this is compliant. We currently produce on average 100KG of green waste a week, we recycle 75KG using our green waste collection service which gets composted for commercial use.

The remaining 25KG we shred, and compost on site using our Hot bins and constructed compost bays. We aim to create around 200KG of mulch and compost per year. **Biodiversity** We have installed bird, bat & insect boxes and maintain natural habitats such as a permanent large wildflower bed, flanked by a mixed native deciduous hedge, seasonal tall grass, water sources, and a large variety of pollen and nectar rich plants.

A 15m2 bed dedicated specifically to encouraging insects, and is planted with perennial plants and shrubs. **Reducing Carbon Footprint.** In July our rain water harvesting system will be installed, using the rain water off the gatehouse. We grow our own plants onsite where possible by taking cutting of existing plantings and grow them in the poly-tunnel.

This reduces the number of deliveries and carbon footprint. All our other tools are battery operating such as hedge trimmer/cutter, trimmer, blower, grass mower and changed our diesel water bowser for an electric one. We have a growing tower producing mint, chives, parsley, basil that are used by our onsite retailers.

WHY DID YOU DO IT?

This is part of our overall ESG strategy to minimise our impact on the environment. Composting our green waste lowers our carbon footprint by reducing the frequency of green waste collections, and providing on-site mulch to use on our beds and borders - reducing plastic use by lessening how many bags of Mulch we need to order, this in turn removes excess vehicles from the road which would be needed for the deliveries/ collections.

Natural habitat for wildlife is being eroded by development. It's important to provide shelter and sustenance for this wildlife to prevent extinction and the collapse of delicate ecosystems.

WHAT DID IT COST AND WHERE DID THE MONEY COME FROM?

The 4 hot bins cost was £932, it came from the Estate service charge budget. The beehives cost £1,674 and the annual maintenance is £2,000 The composting bays cost us nothing as we reused pallets, and built by our own team.

One off planting following the biodiversity audit was £1,639 and funded by the service charge

WHO AND WHAT BENEFITED?

The compost we produce is used on our existing beds, borders, and planters to reduce evaporation, suppress weeds and in turn provide nutrients for the plants. This reduces the volume of water we use, and keeps the soil moist for longer periods of



time. Plant health is maintained and the plants are less susceptible to attacks from fungal, bacterial diseases and attract fewer pests.

Providing habitat such as the bug hotels, longer grass and log piles meant that predatory insects such as ladybirds, hoverflies, parasitic wasps, lacewings, ground beetles and solitary bees move into areas where they are most beneficial to us.

LONGER TERM BENEFITS?

Producing more compost on site makes it available for use when it is ready, and we will therefore require fewer collections of the green waste skips benefitting us both economically and environmentally. Providing habitats for insects means that we require less insecticide as booms in pests are less likely to occur and are managed naturally, causing minimal damage.



WAS THERE ANYTHING INNOVATIVE ABOUT THE PROJECT AND CAN OTHER ORGANISATIONS/COMMUNITIES BENEFIT FROM IMPLEMENTING YOUR METHODS?

Reusing existing materials and utilising our on-site team saved us both time and money. Sharing our methods and ideas would reduce the need to purchase new materials and give communities the confidence to tackle similar projects. Educating schools and local communities can increase our repertoire of natural control methods and overall improve the health of habitat and ornamental planting in the local area.

WHAT DID YOU LEARN FROM THE PROJECT?

Researching various techniques and seeing what others have made previously, has given us ideas that otherwise may not have occurred to us. We installed hot bins and they work but once we created mulching bays, we produced more compost at a low cost.



ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

Operations Expand our mulching bay capacity Water harvesting as planned and to identify other locations for use by our teams Investigating electric vehicles and solar charging points to replace our diesel gator. Purchase another growing tower for our new building, which will be completed in Summer 2022.

Biodiversity Community Garden – We had identified an area that we could create a community garden that can be used for more educational programmes with local schools and charity organisations. We are awaiting permission to use by the landlord.

Our Garden workshops where we would provide free advice to our occupiers (and some seeds/small plants) during lunch time which had been planned to start in 2020 and was delayed as a result of covid is now launching in July 22.

An existing external garden is planned to be replanted with additional planting for diversity to add to existing planting. We are now looking to incorporate our utility management and energy reduction programmes into this project and reporting and embracing technology for better reporting and smarter working.

WJ GROUP

REDUCING CARBON THROUGH LIFE CYCLE ASSESSMENT MODELS

WJ Group have established the aim to be net zero operationally by 2032, however we recognise that a large part of our overall emissions are our scope 3 emissions that originate throughout our supply chain from the products that we install and use. Therefore, we realised that we also needed to significantly reduce these emissions if we are to play our part in helping the industry and world reach net zero by 2050.

One way we identified that we could make a substantial difference is in the thermoplastic material that we install. This is because we manufacture approximately 10,000 tonnes of this material in house at our 2 production facilities. Consequently, we embarked on a project to understand the true carbon footprint of all the raw materials used, in addition to the delivery emissions and the energy used in production. From this we could then reformulate our products to reduce the embedded carbon.

This would support our objectives as well as helping deliver low carbon highway projects.

We were able to create a Cradle to Gate Life Cycle Assessment Model that provides quick, efficient, and reliable at-scale carbon foot printing for all current and future hot applied thermoplastic products. This was then independently verified to PAS 2050:2011 and ISO14067 (2018) by Lucideon, meeting the specifications and standards requirements for quantifying and reporting.

Using the carbon footprint model, we were able to determine that switching from a hydrocarbon resin binder to a biogenic alternative; rosin ester, reduced the average embedded carbon in our materials by an average of 81%, which when calculated against the amount of material we produce means a reduction of 22,000tCO₂e, or more than double our total annual operational footprint.

Working with our partners in the supply chain we were able to deliver this change at no additional cost and consequently applied this switch across our product range. This has enabled us to support our partners across the industry in delivering lower carbon highway schemes, whilst maintaining the same performance at no extra cost.

£65M of social and local economic value was unlocked in the UK by WJ Group in 2020



Jobs

£15m SLEV



Growth

£48m SLEV



Social

£73k SLEV



Environmental

£2m SLEV

WHAT DID THE PROJECT INVOLVE DOING?

WJ Group have two manufacturing plants, with a research and technical laboratory. Working with the sustainability team they carried out a massive research project to understand the true carbon footprint of our products, based on all raw materials used, emissions during transport and energy used in factory production. This undertaking was a significant challenge, involving creating a sophisticated database of all the materials we use and purchase across our supply chain.



Working with suppliers, or as was often the case through our own research, we identified and inputted the carbon footprint of each of these materials. They then calculated the emissions used in transport from each suppliers' location to each of our plants. This had to be worked out inclusive of transportation method to ensure it was correct. The emissions produced from our own factories was then calculated. This enabled us to create our Cradle to Gate Life Cycle Assessment Model that provides quick, efficient, and reliable at-scale carbon footprinting for all current and future products.

WHY DID YOU DO IT?

Reducing scope 3 emissions is often an overlooked part of reaching net zero, however this is generally the largest part of a company's carbon footprint. As we operate 2 production plants and manufacture vast amounts of road marking materials, creating an emissions hot spot and environmental challenge, we recognised that we could make a significant difference by understanding and reducing carbon here.

WHAT DID IT COST AND WHERE DID THE MONEY COME FROM?

The only cost for the project was time commitments from our employees. It is difficult to quantify as this was a large ongoing project carried out over several months involving multiple people working on this in addition to their normal work. However, when looking at the switch from the hydrocarbon resin to the rosin ester binder the cost was similar, so we were able to implement the switch without adding additional costs.

IF QUANTIFIABLE, WHAT DID THE PROJECT ACHIEVE IN TERMS OF SUSTAINABLE DEVELOPMENT, ECONOMY, ENVIRONMENT AND/OR EQUITY?

Using the carbon footprint model, we were able to determine that switching from a hydrocarbon resin to a biogenic alternative reduced the embedded carbon in our materials by an average of 81%, which calculated against the amount of material we produce equals an approximate reduction of 22,000tCO₂e, or more than double our annual operational footprint.

Our 2020-21 social value report produced by the Social Value Portal verified that our 29,034tCO₂e decarbonisation efforts created a social value of £2,013,479, mostly coming from the reformulation of our products.

WHO AND WHAT BENEFITED?

The reformulation of our products delivers benefits to our clients across the industry and more importantly to the UK government as much of our work is funded via central or local government. Below are two examples of how much we have been able to reduce carbon in 2 different schemes.

In the Midlands working with Kier and Birmingham Highways, we generated a saving of 515.5tCO₂e/71% when accounting for our operational footprint over 9 months. On the M1 J13 – 15 we laid 830.15 tonnes of materials with a carbon saving of 1100.65tCO₂e. Some of this scheme was implemented before our switch so the saving had the potential to be larger.

Moreover, switching to a bio-based resin over a hydrocarbon resin is key to both reducing carbon but also to improving natural habitats. Hydrocarbon resin is derived from the fossil fuel industry and is thus a non-renewable resource and requires the degradation of the environment to procure. The bio-based resin we use is derived as a waste product from the paper industry or pine trees.

For every tree that is used to make the resin, two are planted. This leads to an increase in tree coverage, helping to further remove carbon as well as providing natural habitats for wildlife. This process is far more sustainable, using renewable materials and supporting natural habitats and biodiversity.

LONGER TERM BENEFITS?

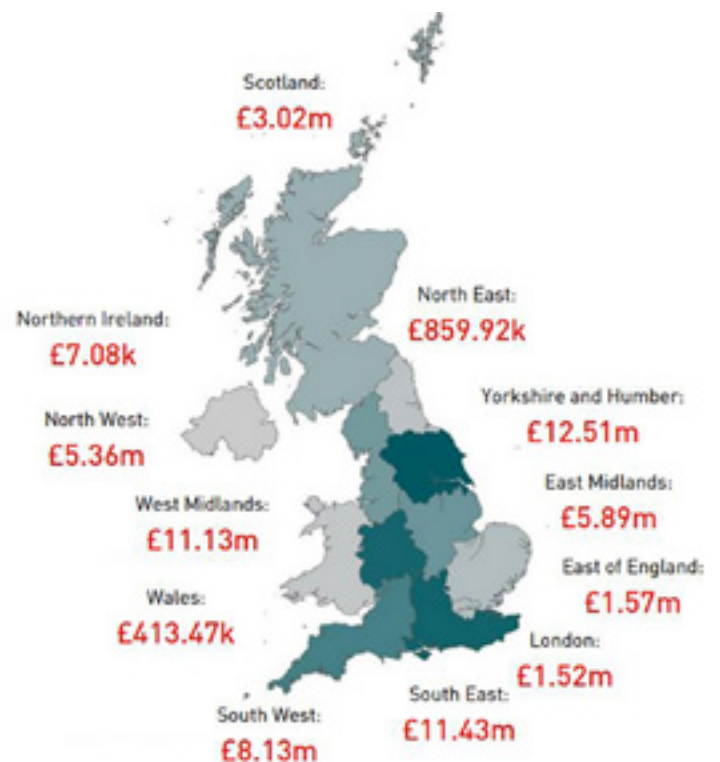
This is a permanent change and continues to deliver low carbon thermoplastic road markings leading to a significant and sustained carbon reduction across all schemes.

Our Delivery

Regional Delivery

Map 1. Social and Local Economic Value per Region 2020

WJ Group has delivered socio-economical benefits to the whole of the UK with the majority being produced in Yorkshire and The Humber, with a total of £12M of SLEV created in the area, shortly followed by the West Midlands and the South East with both delivering around £11M of SLEV.



WAS THERE ANYTHING INNOVATIVE ABOUT THE PROJECT?

This is the first time that we are aware of a road marking manufacturer has developed a Cradle to Gate Life Cycle Assessment Model that enables them to reformulate their products not only based on cost and performance but also taking account of the embedded carbon.

CAN OTHER ORGANISATIONS/ COMMUNITIES BENEFIT FROM IMPLEMENTING YOUR METHODS?

Yes, we have created a process that others can follow to implement for their own products and we have been giving presentations to highlight how others can achieve this.

Additionally, working with National Highways and WSP, we have collaborated to alter the specifications to mirror this change for temporary markings on all smart motorway alliance projects ensuring that all road marking materials use a bio-based resin.

By implementing this into the specification it ensures that all future work conforms to this

standard at a minimum and helps us all works towards National Highways objectives of being net zero in maintenance and construction emissions by 2040.

WHAT DID YOU LEARN FROM THE PROJECT AND ARE YOU PLANNING ANY FURTHER DEVELOPMENT?

By learning the true carbon footprint of each of the raw materials in our products, we can further look at reformulations of our products, varying the levels of the different components or by switching materials for lower carbon alternatives. We are now looking at how we can continue this process to eventually deliver a net zero thermoplastic road marking product.

Our product carbon footprint calculator has been independently verified to PAS 2050:2011 and ISO14067 (2018) by Lucideon, meeting the specifications and standards requirements for quantifying and reporting. We have also won additional awards for this scheme with National Highways, the smart motorway alliance and other industry bodies. Some for our overall strategy, others for the initiative in reformulating our materials.

Social value is embedded within the road marking sector, as road markings enable the safe and efficient use of the UK road network, helping connect people across the country. They are particularly important for elderly and vulnerable road users, who rely on them more heavily for guidance and safety to feel confident using the network to maintain their social connections.



YEALANDS WINE GROUP YEALANDS BIODIVERSITY PLAN

Objectives of the plan include: To demonstrate leadership across the winemaking industry, driving tangible actions in response to climate change – demonstrating winegrowing can co-exist with nature. To create a healthy and resilient ecosystem where our vines thrive To improve water quality through restoring waterways, protecting, and enhancing wetlands, To protect sensitive and erosion prone land (slopes and coastal land), through the planting of over one million native trees, To create an eco-sourcing hub for the local ecological community To develop meaningful visitor experiences (sharing with the public, industry, and educational institutions). Creating a healthy and resilient ecosystem where our vines thrive

In addition to the physical development of a 30 year biodiversity plan for the company, activity has commenced on site with the goal to create a vibrant and resilient farming operation. Restoring waterways, wetlands, soil health and protecting sensitive natural areas, are some of the key

outcomes. Recognising the potential to take the learnings and benefits well beyond our vineyard boundary, we have established community, educational and consumer initiatives to drive awareness and action on climate change.

INTRODUCTION

Yealands Estate Wines located in Marlborough, New Zealand was established in 2008 with the vision to lead the world in sustainable wine production. Recognising that as a primary producer at the “bottom of the world”, our very existence relied on protecting the environment, Yealands was certified Carbon Zero (neutral) from inception - the first in the world to do so. In 2019, as part of our “maturing” approach to climate action, Yealands moved its’ focus from carbon reduction to carbon elimination, aligning with the UNs’ “Race to Zero” campaign – making a commitment to reduce emissions by 50% by 2030, and becoming carbon positive by 2050.

Sustainability at Yealands



Renewable energy production – prunings, wind & solar



Cover crops between vine rows



Vineyard posts: alternatives to treated timber



Support for community initiatives



Toitū carbonzero certified



Purpose built Grape Marc facility



Native vegetation restoration



Staff sustainability program

YEALANDS
WINES



Station Creek Progress - June 2022

Progress has been steady, and to date we have achieved a -34% reduction in GHGe intensity since 2018. The mindset change (from reduction to elimination) resulted in a notable change in approach, resourcing, and investment. The ability to move beyond fiscal periods allowed Yealands to move from “specific emission reduction” initiatives to a more holistic, long-term approach, delivering improved and more widespread environmental impacts.

THE YEALANDS BIODIVERSITY PLAN

The Yealands Biodiversity Plan (Plan) is one such initiative – with implementation spanning over 30 years, the plan includes over NZ\$4m in direct capital investment, and has far reaching, and long term, (intergenerational) benefits. Commencing 2019 and developed in conjunction with Landscape Architects (Wildlab), our local regional authority (Marlborough District Council), and iwi (Māori ancestors of the land), the emphasis was on creating a healthy and resilient farming ecosystem, developing an asset for future generations.

Objectives of the plan are to:

Demonstrate leadership across the winemaking industry, driving tangible actions in response to climate change – demonstrating winegrowing can co-exist with nature.

Improve water quality through restoring waterways, protecting, and enhancing wetlands,

Protect sensitive and erosion prone land (slopes and coastal land), through the planting of over one million native trees,

Create an eco-sourcing hub for the local ecological community

Develop meaningful visitor experiences (sharing with the public, industry, and educational institutions).

Create a healthy and resilient ecosystem

The issue:

Traditional viticulture operates as a monoculture, optimising land for maximum production, often

moving waterways, removing vegetation, and destroying natural habitats for flora and fauna. Wine production can also be a highly water and energy intensive production process, has the potential to deplete soil resources, and create a large global footprint with winery, bottling operations, packaging, and freight.

OUR WHY

Fundamentally, we believe by improving biodiversity, we are creating a healthier ecosystem that is ultimately more resilient. Less intervention, a significantly reduced footprint, and in our mind an infinitely better end product - consistently.

returned a sizeable portion of the primary waterway running through our vineyard (Station Creek) back to its' original watercourse (removing vineyard, developing the channel) and planting over 10,000 native trees.

We have a further 3 years work to complete the Station Creek enhancement (the area covering 17 hectares). Within the vineyard, we have progressively planted wildflowers and legumes inter row and developed "bug banks" for insects to thrive. This in itself has reduced diesel associated emissions by 35%, reducing mowing, but also improving soil carbon (with associated water holding benefits), microorganism activity and structure.

Biodiversity Within Vineyard

Wildflowers, Legumes, development of "bug banks" and butterfly friendly habitats



We are also acutely aware, that not taking action is not an option. We collectively have a limited window to respond to climate change and waiting for someone else to make the move is not leading or being accountable for our own actions. Grape vines are one of the first indicators of climate change and small shifts in climatic conditions (particularly sun and heat), significantly impact the characteristics of the wine we have become famous for. Implementation

The plan took over a year to develop in conjunction with professionals, local authorities, and iwi, covers over 270 hectares, and has a 30-year timespan. After 2 years of the implementation phase, we have

The addition of a butterfly friendly habitat (Butterfly Gully), the first in the country to be certified, is further evidence of meaningful progress.

The plan has also necessitated further company resources to be developed, notably a nursery propagation facility, staff education and the wider engagement with community / stakeholders. The transition from sourcing native trees from suppliers to eco sourcing (with the goal to become an eco-hub for the local ecological district) has added complexity but aligns with our ambition to restore the land to as close to its' original natural state as possible.



Butterfly Gully

INFLUENCING OTHERS BEYOND OUR VINEYARD BOUNDARY

In addition to the extensive work we undertake educating schools, tertiary, industry groups and stakeholders, we have introduced a number of initiatives to increase the impact of our work beyond our vineyard boundary;

- Yealands Marlborough Sustainability Initiative – an annual contestable fund for not-for-profit organisations, to support community initiatives focused on improving biodiversity across Marlborough.
- Cadet programmes for university graduates
- Founding member of the International Wineries for Climate Action – driving an industry response to climate action.

In the last year we have focussed on increasing the connection between our biodiversity actions and the consumer, leveraging our ambition (and activity) to elicit a meaningful consumer response.

After extensive research and work, our solution has been to showcase the flora and fauna of our

vineyard on the wine label – letting nature be the champion. This not only creates standout on shelf, but a shortcut for consumers to do good by the planet.

WHERE TO NEXT?

Whilst huge progress has been made in a relatively brief period, we recognise that we are still very early into our 30-year regenerative plan. We have 3 more years of waterway regeneration work to complete, followed by six hectares of coastline protection, forty-seven hectares of wetland enhancement, and over 176 hectares of erosion prone to protect.

The work we are doing in the vineyard and surrounds will continue to be amplified through community, trade, and industry activity, in addition to the visible connection with consumers on shelf. Whilst we are very much in the infancy of our biodiversity plan, we recognise the resulting benefits will be evident well after we have farmed the land.

The ability to influence other wine producers and consumers into action, provides a great deal of satisfaction and the motivation to continue.



YEALANDS
WINES
MARLBOROUGH
Sustainability
INITIATIVE

In association with
 

Six environmental groups in Marlborough awarded grants by Yealands

Six environmental groups will receive grants totalling \$46,600 by the Yealands Wines Marlborough Sustainability Initiative to support their inspiring efforts to protect and restore our local environment.

The recipients of funds are:

- ⇒ Kaipupu Wildlife Sanctuary: Penguin of Picton Project
- ⇒ Waimea Valley Ecological Restoration Society: Old Man's Beard Eradication
- ⇒ South Marlborough Landscape Restoration Trust: Widing Conifers Project
- ⇒ Tui Nature Reserve Wildlife Trust: Kakariki Breeding Programme
- ⇒ The Marlborough Sounds Restoration Trust: Widing Pine Control Project
- ⇒ Picton Dawn Chorus: Garden Trap Sacration Programme

Congratulations to all these groups.

Next round opens August:

Applications are called for on a six-monthly basis and another \$50,000 is available for allocation in 2020.

The next round of applications will open on August 1, 2020 and close on August 31, 2020.

For more information on the Yealands Wines Marlborough Sustainability Initiative, please visit: <https://yealands.co.nz/marlborough-sustainability-initiative>

CSR World Leaders Volume 27

A Work of Reference

A selection of International CSR Excellence Award-winning papers, demonstrating corporate social responsibility programmes at their best.

www.csrawards.co.uk



**THE INTERNATIONAL
CSR EXCELLENCE AWARDS**

for companies that have a heart

First published: 2023

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for companies that have a heart

Setting the standard...

The CSR Yearbook is a comprehensive global resource on corporate social responsibility best practices.

It is published by The Green Organisation in tribute to the environmental endeavours and generosity of our CSR World Leaders.

These are the companies, councils and communities who have won the International CSR Excellence Awards for their environmental efforts, and who have taken their commitment to the next level by helping others to help the environment.

They are assisting us in publishing their award-winning papers in The CSR Yearbook, and we distribute this

valuable work of reference free of charge to environment professionals all over the world.

By helping others to follow their environmental lead and learn from their experiences and successes, they fully deserve the title of CSR World Leaders.

Not only do they allow us to publish their case histories, but they welcome any followup inquiries. Each CSR World Leader has a contact name and number shown in the Index, and any of them will do all they can to help others help the environment.



Editor's Note

In the interests of accuracy, these International CSR Excellence Award-winning papers are published here in their original form – basically as provided by the entrants.

As many of the papers are of a technical or specialist nature, it was decided that the experience and expert knowledge of the contenders should not be compromised by the grammatical priorities and

consistency of style that usually dominate the editing process.

Our priority is to communicate the aims, methods and achievements of our winners as they wish them to be presented. To this end, the contents have been only lightly edited and we ask for your tolerance of any grammatical shortcomings that might result.

The International CSR Excellence Awards

www.csrawards.co.uk

INDEX

A

AD CONSTRUCTION GROUP

Page 13

AD is a powerhouse of sustainability, wholeheartedly devoted to delivering exceptional, top-notch projects for public sector partners. Their commitment goes beyond excellence, encompassing apprenticeships, training, local employment, supply chain engagement, sponsorship, community involvement, and impactful investments—a testament to their unwavering dedication to a better future.

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C

COOPERVISION

Charity Raising

Page 21

CooperVision is a global company that manufactures contact lenses for the worldwide market, and their CSR policies are equally far-sighted; from providing free eye-care to thousands of Ugandans to helping the homeless in their home county they saw the needs and responded effectively.

EMMA PURCHASE

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CR CIVIL ENGINEERING

Page 24

It is the policy of CR Civil Engineering Ltd to deliver the highest level of service to their customers, employees and other key stakeholders. As a responsible organisation they are committed to the following:

- The communication of strategies, objectives and targets to customers, employees and key stakeholders to help drive continuous business improvements within the organisation, supply chain and customer base.
- The fulfilment of corporate responsibilities in relation to the environment, established business values, moral expectations, professional and legal standards.
- The review of all feedback received from customers, employees and key stakeholders and open dialogue with these stakeholders to ensure that they fulfil the requirements of this policy.

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D

DEILIGHT CONSULTING (UK) Ltd

Project Speak Up

Page 30

As a gay mixed-race inner-city boy from divorced parents and a Jehovah's Witness background, Ian Clarke was never likely to have an easy life, yet his skills and ambition drove him to a very high level in the banking world. Despite this his ethics would not allow him to play it safe and he has instead focussed his energies on supporting and promoting minority-groups in business and calling out racist and homophobic actions of global corporations.

IAN CLARKE

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**DR MGR EDUCATIONAL & RESEARCH
INSTITUTE**

Energy Awareness Club

Page 34

This institute has spent the last 7 years creating and promoting CSR initiatives that have directly benefited over a million people in India and elsewhere. They have provided education and materials that have enabled huge sustainability gains matched by real-world cost savings for poor and rural communities.

Dr. L RAMESH

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E

**EDMONTON GREEN SHOPPING
CENTRE**

You Care, We Care, Edmonton Cares

Page 38

This shopping centres philosophy of “You care, we care, Edmonton Cares” has seen help and benefit going to several groups, charities and schools, which helped a large cross section of the community including 77 local organisations and charities in 2021 and the aim to increase this year on year.

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ENDRESS+HAUSER

Eco Vadis

Page 42

Endress+Hauser takes an active position in our local area to partner with like-minded organisations and support children in education with learning about sustainability measures. They proactive look to reduce their carbon footprint and avoid harm to the environment both right now and into the future. They invest in benchmarking audits and actively pursue any recognised room for improvement.

MAX CLARKE

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E

ETIHAD RAIL

Sustainable Rail

Page 47

Modern technology has allowed the development of its rail network to offer a reliable transport solution that generates up to 80% less CO2 than road-transport alternatives. Each train removes the need for up to 300 trucks, and the sustainable design has brought costs down significantly.

SULAIMAN AL HAMMADI

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G

GENQUIP GROUNDHOG

Unisex Solarloo

Page 54

The Genquip-Groundhog Unisex SolarLoo was created in response to the need for quality unisex welfare systems serving the construction industry. They have manufactured this unit to operate with minimal impact with very low CO2 output and water-use including veg-oil fired water-heating technology.

PETER BEACH

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GOPLASTIC LTD

Outdoor Street Furniture

Page 58

This company produces street furniture, play equipment and equine materials made from 100% recycled plastics. Their products have many community benefits include low-impact installation, visual and practical enhancement, zero maintenance and long life. Beyond all that, each ton of recycled plastic saves almost 13 tons of CO2 compared to new plastic.

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H

HORIZON THERAPEUTICS

Not Just Survive But Thrive

Page 64

Horizon partnered with Gift of Adoption (GOA) in 2019 to develop the #RAREis Adoption Fund, which will help more than 35 children with rare diseases join their new families, who will love and care for them (over three years). The RAREis Adoption Fund delivers financial support to families that need help covering the cost of adopting children with rare diseases.

IZABELA TYSZKA

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K

KING POWER INTERNATIONAL CO.LTD

King Power Core

Page 69

King Power have great belief in the people of Thailand, and want to improve their chances in life through various CSR initiatives. The “Sport Power” scheme is creating 100 artificial sports pitches across the country to benefit the youth nationwide.

SUPANNEE TANIAM

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KINGDOM HOUSING ASSOCIATION

Kingdom Provides More Than a Home

Page 74

While many Housing associations earn negative press, Kingdom, with their philosophy of “More Than a Home” make great headlines. A strong community network has seen the free provision of hundreds of laptops, cost-saving gifts to their tenants, assistance funds and community workshops all of which support and strengthen the communities they care for.

BILL BANKS

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P

**PERTAMINA REFINERY UNIT 111
PLAJU**

Community Commitment

Page 80

The program involved 15 districts, benefiting over 750 people and achieving social and environmental impact. It reduced 33,600 tons of CO2 emissions annually and promoted urban farming for food security and green areas. Recognized nationally, it exemplifies sustainable collaboration between the company and local residents, fostering self-leadership and human capital development. Pertamina RU III Plaju aims to transform individuals into emerging leaders, going beyond traditional CSR efforts.

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POWER GRID CORPORATION OF INDIA

Improving Rural Livelihoods

Page 84

The flagship project “Improving Rural Livelihoods and Protecting Environment through Integrated Watershed Management” focuses on sustainable development in Kurnool, Andhra Pradesh, Kudgi, Karnataka, and Kalahandi, Odisha. It addresses multiple SDGs, improves crop productivity, and has a positive impact on communities.

DINESH RAJORIA

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P

**PTT EXPLORATION & PRODUCTION
PLC**

H.T.M.S. Underwater Learning Site

Page 90

Tourism and marine artifact trade has seen the rapid decline of Thailand's coral reefs, but policing these areas is completely impractical. PTT have instead taken a provision and education approach, using 2 WW2 battleships to promote new coral growth and to provide a diving venue that is used to teach divers the importance and benefits of a healthy marine ecosystem.

NUANPHEN SUK-ARAM

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S

SAVIENT Ltd

Page 96

At Savient, the team is passionately committed to making a difference not only within their workplace but also in the community. By prioritizing treating people with respect and kindness, they empower them to achieve remarkable feats. This approach fosters exceptional bonds with the stakeholders, resulting in flourishing business connections and thriving community relationships.

SARAH JAMES

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STONE TECHNOLOGIES

Page 101

Stone Technologies takes immense pride in actively supporting impactful local and national charities, bringing meaningful change to the communities their staff call home. Furthermore, they go the extra mile by running programs that offer work experience opportunities and valuable staff benefits, fostering a culture of giving back.

ALISON HODGENS

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AD CONSTRUCTION GROUP

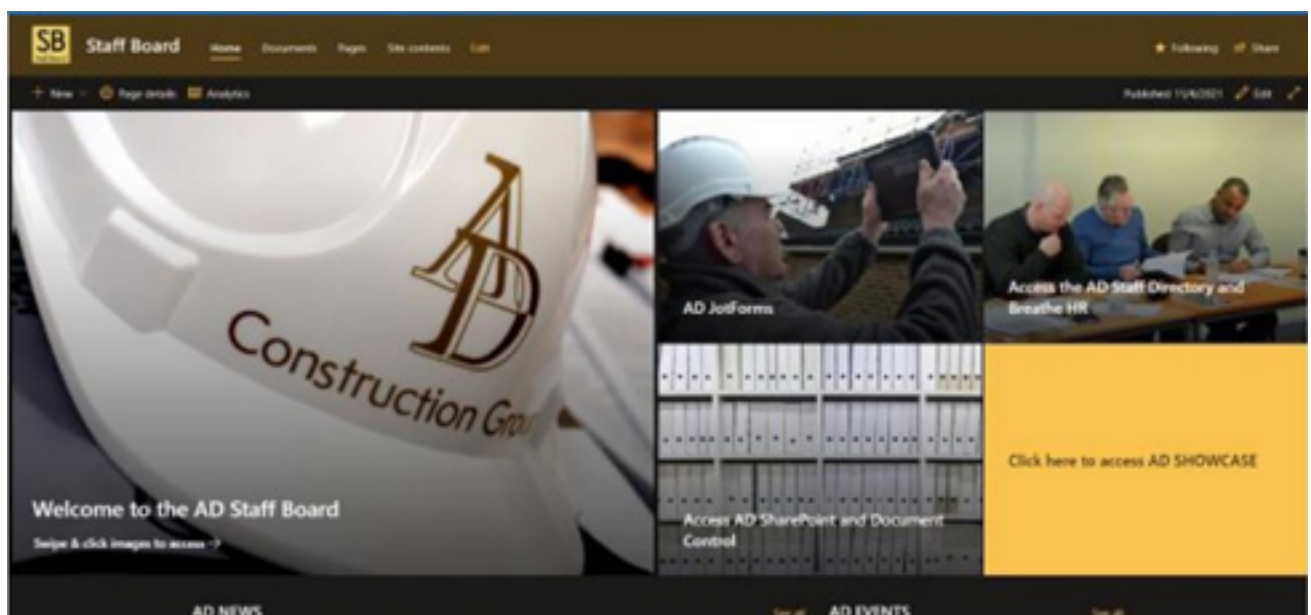
This organization is committed to the United Nations' Sustainable Development Goals (SDGs) and integrates them into their sustainable, social value, environmental, and governance activities. They strive to create value beyond their contractual obligations by providing apprenticeships, training opportunities, local employment, supply chain engagement, sponsorship, charitable giving, community engagement, and investment. The company has specific programs in place, such as Time Bank and Community Works Fund, to deliver on their sustainability and social value commitments. They also focus on education, skills development, support for local businesses, workforce training, community events, and inclusion initiatives. The organization holds various memberships, qualifications, and accreditations related to sustainability, safety, training, and employee support.

LEADERSHIP:

- Claire Toomey-Robinson serves as the Head of Marketing and Communications and leads

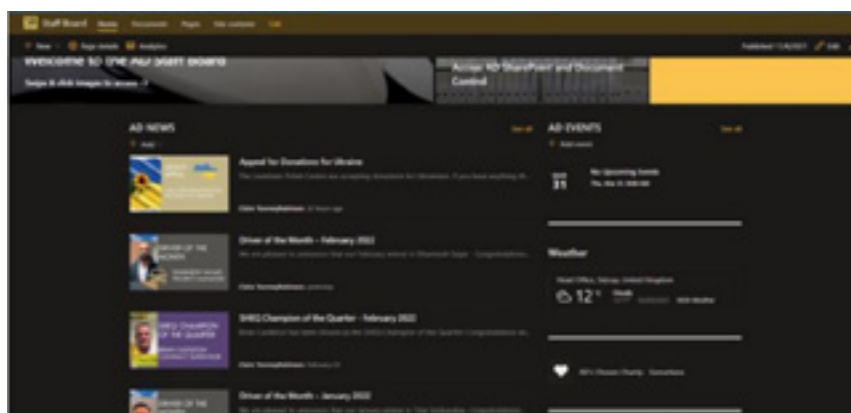
the implementation and communication of sustainable practices, social value offerings, CSR plans, and commitments. She oversees the planning, monitoring, reporting, and promotion of social and ESG activities.

- Richard Gordon, as the SHEQ Director (Safety, Health, Environment, Quality) and Environmental 'Green Champion,' ensures sustainable and safe working practices. He monitors Carbon Reduction Goals, manages training and development plans, and leads health and wellbeing initiatives.
- Monique Ferreira holds the role of HR Officer and coordinates personnel governance, policy, and employment best practices. She oversees training and career support for staff, community groups, and schools. Monique also manages apprentice and trainee schemes and leads fair recruitment processes.
- Liam Bartlett, the Buyer and Purchasing Manager, is responsible for implementing and ensuring compliance with the Sustainable



Procurement Policy.
He manages the supply chain partners and subcontractors, including reporting on environmental and carbon data.

All staff are responsible for adhering to the core VICTOR Values and Total Sustainability commitments.



Policy references include various policies related to sustainability, human rights, privacy, data protection, anti-bribery, fair payment, recruitment, equality, diversity, safeguarding, mental wellbeing, and environmental practices.

These leaders and policies collectively support the organization's commitment to sustainability, social value, and responsible business practices.

AD's environmental initiatives focus on reducing energy and fuel consumption, minimizing waste through recycling, using eco-friendly products, promoting energy efficiency, protecting the natural environment, improving biodiversity, and integrating sustainability into the supply chain. They follow an AVOID-REDUCE-SWITCH-OFFSET approach for carbon reduction, implement ISO 14001 management systems, and prioritize actions such as energy-efficient lighting, solar PV, water conservation, green fleet policies, and cycle-to-work schemes. These efforts contribute to AD's overall sustainability goals.

AD implements various measures to address raw material sustainability, particularly focusing on plastic waste, paper reduction, packaging, paint recycling, construction materials, and waste removal. Initiatives include awareness campaigns, provision of reusable water bottles, use of digital forms, sustainable procurement practices, reuse of materials, waste management partnerships, desk bin elimination, recycling facilities, proper waste

disposal, and environmentally friendly cleaning practices. These efforts contribute to waste reduction, recycling, responsible sourcing, and resource conservation.

AD's Carbon Zero Heroes (Net Zero Campaign) Promoting engagement and Behavioural change within our workforce via awareness campaigns, policies and training. Our 'Carbon Zero Heroes' are an environmental strategy group of trained green champions - comprising of staff from all parts of the business. They ensure that environmental initiatives are developed, innovated, driven throughout the business, monitored, data collected and reported, and continuous improvement implemented and delivered.

AD implements several measures to reduce business travel, including the use of virtual meeting platforms like MS Teams and Zoom, consideration of public transport options, holding meetings in accessible locations, implementing a cycle-to-work scheme, providing facilities for bike storage, promoting car sharing, incorporating hybrid and electric vehicles in the fleet, encouraging green driving practices, ensuring regular fleet maintenance, and monitoring fuel data. These initiatives aim to minimize the carbon footprint associated with business travel while promoting sustainable transportation alternatives.

SUPPLY CHAIN & PROCUREMENT (SCOPE 3)

- Sustainable Procurement
- Ethical Procurement
- Local suppliers (to reduce transport carbon)
- Environmentally friendly / innovative products and purchases
- Whole Life Costing Considerations
- Environmental performance embedded in supplier selection and monitoring

WASTE REMOVAL AND RECYCLING (SCOPE 3, BUT WITH ABILITY TO CONTROL / REDUCE USAGE)

- Suez - Waste Management partners collect waste and monitor the statistics of the diversion of waste from landfill. Presently 95 - 98% of operational waste is diverted from landfill due to these partnerships and specialist services.
- Our paint tins are recycled via Dulux re-paint projects and the tin recycling scheme.
- Desk bins have been eliminated from the office forcing good practice for the proper disposal of items in an appropriate manner. Banks of bins for the separation of waste have been introduced, to make recycling and sorting easier and reducing the risk of cross contamination.
- All staff have been communicated with via a marketing campaign about waste and its

Posted by Claire Toomey • 3/7/2022

...



AD Construction Group
1,047 followers
1d •

It is National Careers Week [#NCW2022](#) and just this morning AD inducted a new apprentice and a new site supervisor for our growing teams. If you are looking for a career in construction and want to speak to us - feel free to get in touch and AD will offer you the advice you need to achieve your career goals. [#careers](#) [#construction](#) [#career](#) [#nationalcareersweek](#) [#apprenticeship](#) [#recruitment](#) [#training](#)



Mark Venn-Dunn and 2 others

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Most relevant ▾



Damian K. • 3rd+
Director at DK Skills & Development Ltd

1d ...

Having visited many a time, it's clear from speaking with people at AD, they genuinely do invest in their workforce - especially when it comes to promoting too.

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AD Construction Group **Author**
1,047 followers

47m ...

Thank you Damian. Providing training and investment for our staff, their career aspirations, and their personal development - is and has always been very important to AD.

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proper disposal to highlight the matter and raise awareness. Waste data was initially monitored via a desk bin survey and data collected on the waste produced and where it went prior to the introduction of the new system - which should see a huge impact on the proper disposal of waste items into appropriate waste disposal streams. (i.e., increase in recycled waste, reduction in landfill / general waste when the data is collected and analysed as part of our ongoing monitoring and reporting, waste collection bin size requirements and scheduled deliveries will

also be taken into account once any increases / decreases of required collections are analysed.)

Employment and Skills Plans (ESP) / Employment, Education and Skills Plans (EESP) A dedicated Employment and Skills Plan is managed by HR. The plans provide local employment, training opportunities, apprenticeships, upskilling, skills workshops and work experience for our staff and the local community.

AD IS INVESTOR IN PEOPLE (IIP) ACCREDITED.

- Training Opportunities
- Work Experience / Internships
- Employment Opportunities
- Apprenticeships
- Kick Start Scheme / Workplace Ready
- Addressing the Industry Skills Gap
- Careers Events
- AD Mentor Scheme
- AD Pathways (Succession and Career Planning and Development)
- Personal Development Plans

• Talent Management

AD prioritizes the health and wellbeing of its employees by implementing various initiatives. These include providing canteen facilities, a gym, showers, free flu vaccinations, and other health-related provisions. AD also has an Employee Assistance Group (EAG) and a partnership with Samaritans to offer confidential support to staff members. The company encourages healthy living through campaigns promoting weight loss and fitness, with donations made to charity based on participants' progress. Wellbeing and mental health surveys are conducted periodically, and anonymous feedback is collected through employee pulse surveys. AD values recognition and has an in-house awards scheme to acknowledge excellence and engagement. Social events and activities are organized by the Social Committee to foster morale and inclusivity. The company holds off-site "Away Day" events for team building, employee consultation, and feedback. These efforts aim to enhance employee satisfaction, productivity, retention, and overall wellbeing while promoting a positive and sustainable work environment.

AD upholds a range of policies and practices to ensure ethics, crime prevention, justice, and fair trade within the organization. These include policies addressing modern slavery and human

See evidence for staff statistics in relation to numbers of trainees etc. AD currently has 12% of staff as apprentices / trainees which is well above the industry benchmark and above the 5% club target. AD will be applying for old membership of the club in March.





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trafficking, anti-bribery and money laundering, privacy, data protection, and whistleblowing. AD also follows sustainable procurement policies and fair payment practices for staff and supply chain partners. To promote equality, diversity, and fairness, the company has an employee handbook containing various policies, a dedicated FIR control, and is a signatory to the People Matter Charter. AD provides safeguarding policies, recruitment policies for equal opportunity, and offers training on equality, diversity, and FIR to management staff. Social mobility initiatives include work experience placements, apprenticeships, educational support schemes, and recruitment programs for ex-military personnel. Leadership is guided by the VICTOR Capability Framework, emphasizing values, innovation, communication, teamwork, optimization, and responsibility. The company implements a mentorship scheme to support personal and career development. Communications are facilitated through StaffBoard, an in-house communications portal, as well as physical displays on sites for important information and notices. These comprehensive measures ensure ethical conduct, inclusivity, and effective communication throughout the organization.

AD prioritizes governance, inclusion, and employee participation through strategy groups, committees, away days, and open-door policies. They offer a wide range of employee benefits, training, and career progression opportunities. AD contributes to the local economy by creating jobs, supporting apprenticeships, using local suppliers, and investing in SMEs. They also engage in social initiatives like supporting charities, promoting diversity, addressing social issues, and safeguarding vulnerable individuals. Overall, AD demonstrates a commitment to responsible practices, employee well-being, economic growth, and community development.

Community improvement, investment and benefit (including work opportunity and supply chain etc.) and philanthropy are so thoroughly entwined in the delivery of ethical and responsible practice and Social Value as a whole for AD, in part due to

the fact that working with public sector organically creates and requires a high level of community benefit demand and best practice.

AD actively participates in job fairs, careers events, and educational sessions, collaborating with schools, government agencies, and local authorities. They guarantee interviews to candidates recommended by their clients. AD also recruits from employability programs and actively promotes career opportunities during National Careers Week. Their website provides access to work experience, internships, apprenticeships, and vacancies, which are also advertised on job boards. AD emphasizes mentoring, personal development plans, and extensive training schemes to support staff growth. They have inclusive onboarding processes, including induction training, shadowing, site inductions, and safety training. Feedback mechanisms like surveys and suggestion boxes are in place, along with strategic management groups, committees, and employee assistance programs. Whistleblowing policies ensure a safe and transparent work environment. AD regularly analyzes employee statistics for performance evaluation, benchmarking, succession planning, and identifying areas for improvement. They recognize outstanding employees through various awards schemes focusing on SHEQ, safe driving, longevity, and special achievements.

AD actively collaborates with local schools and educational providers, extending their reach across various boroughs where they have contracts. They engage with organizations like L&Q, Hyde Housing, Orbit, PA Housing, and SHG to benefit communities throughout Southeast England and London, including home counties. AD's involvement in community projects, volunteering, and school assistance extends to areas such as the Isle of Wight. They establish direct links with local authorities and councils like Islington, Lewisham, Saxon Weald, and Southwark, meeting their specific network and work delivery requirements. Apprentices and trainees come from diverse locations depending on the site and contracts, with

support provided by local schools and educational providers. AD collaborates with the L&Q Academy and Bexley Careers Service for recruitment, training, and school visits. They have a significant number of apprentices/trainees, with 12% of staff in these roles, surpassing industry benchmarks and exceeding the 5% club target. AD participates in career days and training sessions organized by the Construction Youth Trust and attends recruitment and apprenticeship events like the one in Bexley. They have successfully recruited candidates recommended by clients, with four out of six candidates from L&Q joining the company in the past four months.

AD demonstrates its commitment to philanthropy and community support through various avenues. Every two years, they choose a corporate charity to formally support through fundraising activities, donations, and assistance, often aligned with health and wellbeing sponsorship challenges and events. Additionally, AD continues to support other charities and responds to requests for support from various organizations. They actively engage in social value activities requested by clients, benefiting charities, local community groups, fundraisers, and causes. These efforts are reported through client social value plans as part of their overall commitment as a public sector delivery partner. The intertwining of community improvement, investment, and philanthropy is deeply ingrained in AD's ethical and responsible practices. The evidence provided includes philanthropic and community support, workplace initiatives, and their CSR register, showcasing the wide-ranging impact across different sub-sections of this pillar. From 2019 to 2022 (including the challenging times of the COVID-19 pandemic), AD has contributed £309,886.11 and dedicated 8,080 hours to philanthropic endeavors. Their support extends to food banks, providing donations, creating food pantries, and assisting with Christmas food and gift parcels for those in need, as well as supporting initiatives for the homeless.

AD operates a Time Bank system for managing volunteer days and hours. Staff contribute one hour

each for social value projects. They can also request time off to volunteer independently. Fundraising activities for charity partners occur during work hours, while major challenges take place on weekends.

Corporate partnerships with charities benefit both parties. AD selects a charity partner every two years, with most fundraising efforts focused on the chosen charity. The current partner is the Samaritans, supporting staff and the community during the COVID-19 pandemic.

Staff members like Laura Adams and Simon O'Connor engage in various volunteering activities, from supporting local causes to international charitable work.

Overall, AD values volunteerism and actively supports charitable endeavors.

AD donate time and expert advice to charities and VCSE's, SME's, our supply chain members and our clients. This is logged as social value where appropriate. This is complex to report on given confidentiality and data protection, however an example is numerous HR advice sessions and careers events, support with marketing for a supply chain partner with a micro sme in order to promote their unique and new method of building cleaning, health and safety advice and support for supply chain members to achieve Constructionline and CSCS cards etc

We regularly update our policies to reflect new developments and comply with regulations. Our focus is on achieving the United Nations' Sustainable Development Goals (SDGs) and incorporating them into our sustainability plans. We report our activities to clients using their preferred scoring systems. While we haven't committed to specific scoring mechanisms yet, TOMs scoring is gaining popularity. We are exploring CSR accreditation to comprehensively review our sustainable practices and drive continuous improvement.

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COOPERVISION CHARITY RAISING

CooperVision, Hampshire holds numerous charity raising events each year for many deserving causes. Monetary donation is typical, but sometimes it may be a food donation, as explained below. We always try to support local community-based charities as these are the ones that we can really make a difference to.

BACKGROUND

CooperVision is a global company that manufactures contact lenses for the worldwide market. In the UK, all manufacturing, packaging, and distribution takes place at our sites within Hampshire, which is the specific location we have based this award entry on.

CHARITY EVENTS

CooperVision recognises the importance of giving back to the community as a core part of our values. One area we do this is in charity donations, which is something supported by all our staff and stakeholders. Every two years, staff at the manufacturing and packaging/ distribution sites will nominate a chosen charity that all fundraising over the next two years will be donated to. Our manufacturing sites currently donate to Southampton Children's Hospital and

our packaging/ distribution sites chose the Hannah Chamberlain Foundation (both local charities). Over the last year there have been several fundraising activities, the most popular being the Easter and Christmas Raffles. CooperVision buys enticing prizes for these and asks any key contractors that we work closely with whether they would make a prize donation. There are some big prizes, including 50" TVs and luxury hampers, so a lot of our fundraising comes from these raffles. Other activities this year have included; charity jumper days, and the Euro's/ Champions League Competitions. From these events, £5322 was raised for the Hannah Chamberlain Foundation, and £12000 was raised for Southampton Children's Hospital. During Easter last year, £2351 was additional spent on Easter Eggs for the Children's Ward at Southampton Hospital and tins of Roses Chocolates were bought for the Hospital nurses. The pallet of goods was bought directly from Cadbury and after a week's quarantine, they were sent to the hospital for distribution, which was very well received. It was a simple but effective initiative that brought smiles to faces.

CooperVision has two staff forums where staff can either ask for a donation to a specific cause that they care about, or request £50 sponsorship for a charity event. This is a really good way of supporting those small, community-based charities





that aren't so well known about. In the last year, £10,000 was distributed to charities ranging from; Stop Domestic Abuse, to local children's football teams to help them buy some kit (spreadsheet of donations supplied). There were only two sponsorship requests in the last year but £100 was sent to the Earl Mountbatten Hospice. This shows that we have room to improve the promotion of this so more staff are aware that they can submit a funding request. Every September we also raise money for OGS (Optometry Giving Sight) as we are a sight improving business. OGS raises money for sight tests and eye treatment in countries where this isn't normally available. Before COVID, we would also hold a nomination event for a staff member to be sent out to a selected country to help with the OGS program, such as witnessing the eye tests happening and helping to co-ordinate it. A few years ago, when a UK staff member was sent to Uganda, she witnessed entire villages lining up for eye tests as this was just not something they are normally offered. These tests can help detect eye issues, identify those that need treatment to prevent blindness, and issue glasses to those that need them. This year £2480.50 was raised collectively at our Hampshire sites from bingo events, fancy dress, sweets and cake sales.

From all CooperVision sites, a Global total of \$145,204.00 was donated to this brilliant cause. Each Christmas staff receive a thank you hamper, or they can choose to have the monetary value sent to our chosen charities instead. This year there were 25 Hampers spare, and these were donated to a local Food Bank in Gosport. At times when prices are

increasing and there are ever growing people relying on food banks to feed their families, donations to these banks are pivotal. In January this year we also held a 'personal IT collection'. This was a chance for staff to bring in any old laptops, computers, printers, mobiles phones, etc, that they no longer wanted, working or not, for donation to Jamie's Computers. This is a local charity that recycle electronic equipment. If the item doesn't work then they will break the parts down for full recycling. If the item does work, then they will wipe the data at the highest of security levels, and then sell the items on. Any profits raised are donated to Hampshire's largest homelessness charity. This year, staffs donations from home allowed £540 to be raised for this charity and it now something we will look to do annually.

And finally, each year we celebrate Earth Day and World Environment Day through various initiatives and competitions to get staff engaged. Last year we held a 'Bingo' style competition. Voucher prizes were offered to the winners, or they could opt to donate the value of their prize to the National Trust for planting trees. One of our £50 winners did just this, which was very admirable, and enabled 10 trees to be planted.

CHALLENGES

We would normally do more fundraising in a year but with COVID limiting close contact and many staff working from home, a lot of our 'usual' events and initiatives have not been possible, such as the 'family fun day', Macmillan's coffee morning, and

Pink and Blue Day. The challenge was to raise as much money as possible through online methods and to make it as engaging as possible. I believe we achieved this as we have managed to make some sizeable donations to some very deserving causes.

BENEFITS AND THE FUTURE

Many charities have been able to benefit from either monetary or food donations over the past year due to CooperVision (Hampshire's) efforts. The individual charities also benefit from awareness being raised about their cause as all staff will hear about the charity being supported and what they stand for, which is especially useful for the smaller charities that aren't so well known about. The past year has been challenging with the pandemic, which has limited the events we can put on, but the aim is to raise more money each year than the previous year and to build on our successes, continually learning what works well and what doesn't. Many staff can get involved with each activity, as volunteers are always being requested, and each staff member has the chance to have their voice heard and to make suggestions on the events and activities being run, which helps with staff engagement.

Note: I could not upload most of my evidence as it said format not allowed (word files, excel files and a png file). I have only been able to upload one photo from our event with Jamies Computers, which shows the driver collecting.



CR CIVIL ENGINEERING

CR Civil Engineering Ltd collects sustainability data from various activities, aligning with ISO 14001:2015 accreditation. They collect data on water, diesel, gas oil, petrol, AdBlue, electricity, special waste, general waste, metals, materials from site, recycled construction materials, telematics data, and solar energy. This data informs their KPIs and objectives.

To improve efficiency and reduce waste, CR Civil Engineering annually services heaters and boilers, checks room thermostats, and ensures computers and equipment are switched off after hours. They have motion detector LED lighting, waste segregation policies, and instant hot water dispensers to save energy and water. They have also installed solar panels on their head office roof, saving carbon emissions.

CR Civil Engineering actively proposes energy-saving initiatives to clients, such as solar-powered welfare units, use of recycled materials, warm mix bituminous mixtures, sustainable timber sourcing, responsible disposal, and packaging material return policies. These practices are implemented across all their sites, benefiting stakeholders like Highways England, Tier 1 Contractors, Local Authorities, Schools, and Colleges.

The company focuses on improving water and natural resources sustainability as part of their annual improvement plan. They assess risks and opportunities considering customer demands, establishing a sustainability program with targets for staff to strive towards. Water usage is monitored through regular readings and audits, encouraging employee participation. Rainwater collection reduces on-site plant water usage.

To reduce oil and gas dependency, staff are educated on minimizing idle time and reducing vehicle movements. Online meetings are encouraged to minimize travel. The company avoids purchasing non-recycled plastics and adopts a zero-waste policy. Their in-house recycling facility generates recycled materials and saves carbon emissions.

Older red diesel-operated plant is replaced with low Sulphur diesel equipment. A dual-purpose fuel bowser with recyclable steel tanks is used for refueling. Advanced software allows efficient fuel monitoring, resulting in cost savings. Ethical sourcing practices and environmental impact considerations are priorities in procurement.

Overall, the company strives for sustainability in water usage, resource consumption, waste management, and procurement practices.



The pandemic has highlighted the drawbacks of extensive travel for meetings, including safety concerns, costs, and carbon footprint. To address this, the company has implemented technology for online meetings across all sectors. Meeting rooms have been adapted for online capabilities, and staff have access to Teams and Skype on various devices. Virtual meetings allow for increased productivity, reduced travel expenses, and minimized environmental impact.

For circumstances where face-to-face meetings are necessary, the company has introduced policies to optimize scheduling and reduce employee travel. Meetings are organized in the same area on the same day, venues are chosen based on attendees' locations and accessibility to public transport, and routes are planned using software or in-car navigation systems.

Home working options have been enabled, leading to increased staff productivity and cost savings. Electric car charging points have been installed at all sites, and the company car and vehicle policy now prioritizes hybrid or all-electric vehicles. This shift benefits staff through reduced personal tax contributions. The Transport Manager and team follow strict calibration and maintenance

procedures, conforming to legislative requirements and environmental targets. Sharing transport to and from sites is encouraged to minimize fuel usage.

The company continually assesses its carbon footprint, beginning at the planning stage, proposing methods to reduce costs, waste, and energy consumption. They prioritize the use of site won materials, regional supply chain partners, and low carbon procurement practices. Utilizing lodgings instead of long-distance travel further saves fuel and reduces vehicle movements.

CR Civil Engineering maintains a strong relationship with its supply chain, emphasizing open and honest treatment, repeat work, safety, and environmental performance. Robust procurement ensures the capability and financial stability of suppliers.

Pre-selection criteria include company accreditations, CIS information, financial standing, insurance details, safety standards, risk assessments, training records, plant availability, sustainability policy, and equality credentials.

On-site monitoring and monthly reviews by HSQE & IMS Managers ensure adherence to safety and quality procedures. Contract Managers establish



scheme-specific HSQE Plans, and subcontractor selection follows the Purchasing & Supplier Approval Procedure.

Subcontractor performance is regularly reviewed, and audits capture best practices and lessons learned. Non-compliance leads to corrective action plans, and repeated infringements result in removal from site.

CR Civil Engineering reduces product miles by sourcing local supplies, supporting local businesses, and enhancing service quality. The company is a member of the Construction Supply Chain Payment Charter, promoting fair payment practices.

CR Civil Engineering implements a waste management policy to minimize waste and promote efficient resource use in alignment with ISO 14001. The company aims to divert at least 99 percent of its waste away from landfill by reusing, recycling, composting, or utilizing energy recovery methods. Waste segregation and secure storage are followed before removal by licensed waste carriers. Third-party contractors are chosen based on their waste carrier licenses and appropriate disposal locations. Waste removal is documented using controlled waste transfer notes (CWTNs) and, for hazardous waste, hazardous waste consignment notes (HWCNs). The company adheres to the Waste (England and Wales) Regulations 2011, adopting practices to prevent waste, facilitate reuse and recycling, utilize recovery methods, and ensure responsible disposal when necessary.

CR Civil Engineering Ltd prioritizes employee welfare, charities, and communities. They actively promote apprenticeships, having trained 42 apprentices, with 25 continuing their careers at the company. They plan to recruit 8 more apprentices this year, offering above-average wages and supporting neurodivergence. The company is accredited by the 5% Club, an industry charity investing in young people.

They have a CREATE Scheme that allows junior employees to rotate between departments, gaining insights into operations and interactions. Work experience is encouraged to promote careers in construction, and they participate in career events and conduct mock interviews in local schools. Several work experience placements have transitioned to apprenticeships within the company.

CR Civil Engineering values diversity and inclusion, working to FREDIE standards (Fairness, Respect, Equality, Diversity, Inclusion, and Engagement) and being supply chain verified by the National Centre for Diversity. Managers undergo unconscious bias training, and Wellness Champions are Mental Health First Aiders with the same training. They are Disability Confident employers and members of the Armed Forces Covenant. They collaborate with a local homeless charity, providing training and work placements to help homeless individuals find employment. They also work with the Department of Work and Pensions, offering a two-week work experience with potential permanent roles.

CR Civil Engineering Ltd prioritizes employee health and wellbeing, offering a range of benefits to all employees, including:

- Company vehicles and fuel allowance, such as site vans or company cars.
- Company bonus, including a Christmas bonus and end-of-year profit share bonus where possible.
- Childcare voucher scheme.
- Promotion opportunities and a progression plan.
- Gift vouchers bonuses during Christmas, in addition to cash bonuses.
- Employer loans with 0% interest and affordable repayment plans.
- Activity sponsorships for employees' children's sports teams or their own team sports.

- Health-care cash plan.
- Critical medical plan.
- Death in service cover.
- Accident insurance.
- Employee Assistance Program (EAP), offering private GP services and both online and face-to-face counseling.
- Access to legal and financial advice.
- Matching pension contributions up to 5%.
- Personalized mental health treatment, covered by the company where necessary.
- Flexible working hours for office staff, while site staff hours are driven by client requirements.
- Extensive training opportunities, from NVQs to university degrees, with the company covering the costs.
- Above-industry-average maternity and paternity leave and pay scheme.
- Career opportunities and good working conditions.
- Company Relationship Champions (CR Champions) and an open-door policy.
- Occupational health and safety measures, including medicals every two years or more frequently if needed.
- Industry-specific medicals and occupational health support for affected individuals (e.g., Hand Arm Vibration Syndrome monitoring and regular medical checks).
- 65 First Aiders and 55 Mental Health First Aiders, with a goal for all employees to have awareness training.
- Annual Family Fun Day with activities like bouncy castles and competitions, open to all employees and their families.

- Annual Bonfire and Firework display and party, open to all employees, friends, and family.
- Fully funded Christmas party for all employees and their partners.
- Annual Company Awareness Day, where employees attend a day filled with information about the company, work processes, guidance, health, and safety.

CR Civil Engineering Ltd prioritizes training and development to ensure employee competency and safety. Here are key points about their training initiatives:

- **Training Centre:** The company has its own Training Centre with employed instructors and assessors. It is accredited by recognized training bodies in the industry.
- **Plant and Machinery Training:** Employees receive training in various types of plant and machinery, holding numerous CPCS plant categories.
- **Health and Safety Training:** NEBOSH Health and Safety Training is offered to managers, and all managers and team leaders have a minimum requirement of IOSH Managing Safely.
- **Training Database:** A cloud-based training database provides employees with up-to-date skills and qualifications information through QR codes.
- **NVQ Opportunities:** Employees have the opportunity to pursue NVQs from Level 2 to Level 7 in their respective fields.
- **Online Learning Platform:** An online platform with over 5000 courses is available for employees to enroll in courses of their choice.
- **Wellbeing and Mental Health:** The company aims to have all employees complete the MHFA England's half-day awareness course. They have First Aiders and Mental Health First Aiders among their staff.

- **Company Relationship Champions:** A team of Wellness Champions offers support and promotes two-way communication within the company.
- **Wellness Rooms:** The head office has a wellness room, with plans to have them in all offices by the end of 2022.
- **Initiatives and Frameworks:** The company has signed initiatives such as the MIND time to change pledge and the Building Mental Health framework.
- **Communication and Engagement:** Monthly newsletters, toolbox talks, and staff spotlights facilitate communication and employee involvement.

CR Civil Engineering has implemented various activities to improve customer care and has seen positive impacts on business performance. Here are the key points:

- **Reduction in Absences and Resignations:** In 2020, non-COVID related absences decreased by 62% and resignations reduced by 1.17%.
- **Promoting Good Customer Care:** The company actively promotes the importance of customer care through initiatives such as the Annual Company Awareness Day, staff idea contributions, inductions, toolbox talks, and employee involvement in the Considerate Constructors Scheme.
- **Empowering Staff:** Compliment letters are shared with everyone on site to foster a sense of pride, and staff are provided with feedback and involved in mitigating actions when complaints or claims arise.
- **Training and Certification:** Staff undergo online training modules on customer care and vulnerable road users through the Considerate Constructors Scheme.
- **Recognition and Awards:** CR Civil Engineering has received awards from the

Considerate Constructors scheme, including “Most Considerate Constructor,” Gold National Company Award, Bronze Award, and Certificate of Excellence.

- **Governance and Review:** The Business Director oversees and regularly reviews these customer care activities at the board level.
- **Social Commitment Award:** The Business Director recently won the Social Commitment Award at the East Midlands Chamber Enterprising Women Awards.

CR Civil Engineering is committed to investing in and benefiting the local community. They actively engage with the community to determine their needs and provide support in a constructive manner. Their efforts include financial investments through sponsorships and charitable donations, totaling £75,000 in local sponsorships and £65,000 in charitable donations over the past 5 years.

In addition to financial contributions, CR Civil Engineering invests their resources, including manpower, time, and equipment, to complete community improvement schemes. They have undertaken various Corporate Social Responsibility (CSR) projects, such as providing new footpaths, creating a golfing hub, building an outdoor learning environment, and constructing a memorial garden. These projects have been done free of charge to the community, showcasing their commitment to making a positive impact.

Community engagement and respect are prioritized by the company. They establish mutually beneficial relationships with communities and ensure that their staff adheres to The Considerate Constructors Scheme’s Code of Considerate Practice. They also show respect by supporting local businesses and addressing disruptions caused by their construction projects. For example, they used a local church car park for storage during COVID-19 restrictions and later laid fresh gravel as a gesture of gratitude to the residents.

During the COVID-19 pandemic, CR Civil Engineering offered their services free of charge to a local charity that experienced flooding and unstable grounds. This act of support demonstrated their care for the community and earned praise from the charity.

Overall, CR Civil Engineering's community involvement and responsible approach to construction align with their Corporate Social Responsibility Policy and have earned them recognition and awards from organizations like the Considerate Constructors scheme.

CR Civil Engineering has a robust Corporate Social Responsibility (CSR) policy that is integrated into their core business values and commitments. Their CSR policy, known as F.R.E.D.I.E., focuses on fairness, respect, equality, diversity, inclusion, and engagement. The company donates 1.5% of net profit each year to charitable causes, employee support, community initiatives, and environmental projects. Their CSR targets encompass areas such as health and wellbeing, education, gender equality, decent work, and community economic growth.

By actively promoting opportunities and engaging in charity projects, CR Civil Engineering boosts staff morale, increases employee engagement, and enhances teamwork. This has resulted in improved workplace productivity, performance, and staff retention. The company promotes their support for chosen charities and community groups through case studies, accreditation logos, and social media platforms.

CR Civil Engineering supports the Lighthouse Construction Industry Charity, which provides support to the construction community

and their families, and the Rainbow Trust Children's Charity, which assists families with seriously ill children. They also organize team fundraising events and engage in local projects. Examples include providing footpaths, donating materials for sustainable use, creating a golfing hub at a special school, and constructing outdoor learning environments.

Additionally, the company collaborates with Falcon Support Services, a local homeless charity, by offering warehouse space, volunteer support, and work experience opportunities. CR Civil Engineering allocates 1.5% of their net profits to benefit communities near their works and strives to recruit locally, support SMEs, and engage with the local area.

Overall, CR Civil Engineering demonstrates a strong commitment to corporate social responsibility by actively contributing to charitable causes, engaging with the community, promoting employee involvement, and making a positive impact on society.



DEILIGHT CONSULTING (UK) Ltd

PROJECT SPEAK UP

Ian Clarke was a well-known London-born investment banker with a 15-year career spanning 2 continents. But in 2021, and at his own initiative, he gave it up to author a report and wider DE&I change initiative he dubbed 'Project Speak Up'. As press across 120 countries and 16 languages reported this one-man effort, Ian was lobbying his senior leadership at Europe's largest bank for a 'cost-neutral' change in DE&I strategy to a he says would have protected marginalised colleagues and boosted representation. After resigning to become the worlds first declared banking whistleblower on race inclusion, HSBC agreed to his plan. Ian has made my strategy, supporting documents, project report, interview and press all available via the Project Speak Up microsite. Here, he has created and demonstrate a new model for effecting change from within firms that people similarly motivated to do the right thing can replicate. And (hopefully) improve on, in order to reduce the personal risks he has had to face. "I've lost my home in NYC, my boyfriend, my salary, my earning power, my livelihood, my hopes and my dreams", said Ian. "But I did the right thing. I reported evidence of crimes I was aware of – something every employee is obliged to do and yet nobody else other than me as yet appears prepared to. We must make this easier and more accessible for people to report racist behavior, otherwise we can never move the dial on race inclusion". Now he's setup his own commercially-focused London-based DE&I Consultancy, in order to help amplify Project Speak Ups legacy and use his story and empathy to help other banks and industries navigate their DE&I journeys with more success. Deilight Consulting (UK) Ltd is a diverse-owned and managed, commercially minded London-based D&I* consultancy practice founded in September 2021. For people and firms – large or small – we offer DE&I workplace training, public speaking, assessment and advisory services, covering the full range of protected characteristics. We know business as much as we



know people. Our people didn't learn this, they live it. We're made up of business leaders, 'people' people, do-gooders and trailblazers. Through our complex intersectionality and extraordinary work and life experiences, we bring world-class empathy, intelligence, confidence and cheerleadership to help firms - large and small - make good on their ESG promises by helping them match words with meaningful actions. Because its commercial, not just correct.

I was born in London in 1985 to a black Jamaican father and a white English mother. My working class parents separated before his birth, so I was raised initially by his mum in a single-parent council house just 200m from Buckingham Palace. She later

went on to marry Henry – a decent, stable black Ghanaian man who adopted me as his own. He gave me a strong work ethic and, at 13, the confidence to leave the religious cult (Jehovah's Witnesses) I had been raised in. The first in my family to ever attend university, where I first came out as gay, I majored 1st class in BSc Psychology, then 2:1 in BSc Financial Markets and Management. In 2007, I was 1 of 90 candidates selected from 40,000 applicants to join HSBC's fast track Executive Management scheme, and the only one with black ethnicity. I rose quickly from Retail Branch Manager to land my Director/Vice-President grade in Global Transaction Banking (part of the Investment Bank) at just 29. During that time I completed my 2nd degree (Financial Markets and Management) and several professional certifications from chartered industry bodies. Top salesman globally in 3 of my 7-years in Transaction Banking as Vice-President of Global Banking Sales, I was responsible for global sector

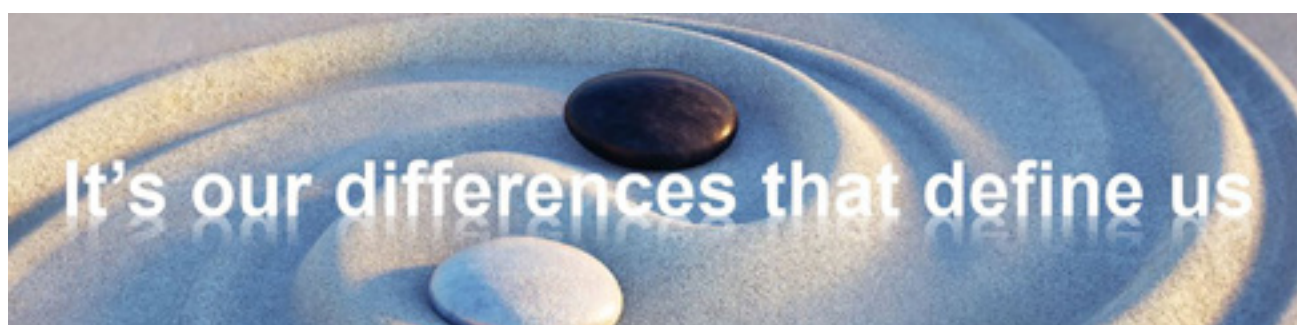
innovation and customer content. My time was split between London and New York, advising the world's biggest companies how to structure complex multinational banking solutions and integrate new banking technologies. I was also poster boy for diversity at Europe's largest bank. In my spare time, I set up 3 Employee Resource Groups (ERG's) and helped lead 4 ERG's. I sat on 2 Diversity, Equity and Inclusion (DE&I) committees, I was a prolific panel speaker, I presented DE&I events and moderated DE&I training classes. I mentored graduates, welcomed interns and raised thousands for charity in the bank's name. I put my heart and soul into gentle gradual change over 15 years. But in the end, nothing worked. I watched as one-by-one the seats of my black, LGBT and younger friends emptied around me, replaced ubiquitously with white men, as discriminators operated with impunity to purge our firm of uniqueness. It was time for a different approach. In December 2020,

This rising talent at HSBC shares his thoughts on career advancement and equality. He is a shining example of the progress in our industry and he offers unique insights on the dialogue around diversity, inclusion and representation in finance.



I meticulously researched every major Whistleblower in recent history, their tactics and outcomes. I made a plan, including 'what-if' scenarios, and broke up with my boyfriend so I could shield him from what was to come. Project Speak Up: 'In the end, we remember not the words of our enemies but the silence of our friends' In 2021 – my 15th year at HSBC – and on my own initiative, I authored a report I titled 'Project Speak Up', cataloguing the state of diversity, the systems of oppression, the stories of the marginalized and my 12 cost-neutral recommendations to help fix the situation plus generate \$bn's in brand equity. Working 21hrs a day for 6mnths, I interviewed 100 staff about their experiences, gathered and cross-checked data, and attended senior management briefings. Everything pointed that HSBC was verifiably the most racist major banking institution in the world, on every measure – the only bank with a board 100% white - one supreme race. Every senior manager I consulted shut me down ("that's not racism, it's just ego's" etc.). The report grew to a 45-page dossier as I added evidence to counter their objections. Mysteriously it was deleted from the server, then I received a call from the Head of HR threatening me with 'consequences', before suddenly it all went quiet. Knowing I was about to get fired, I rushed it finished, delivering it to the Group CEO along with 400 senior executives in July 2021. Project Temple: 'Life's most persistent question is, what are you doing for others?' The report quickly leaked to the press, emblazoned with my name. Articles filled the financial papers of my efforts to effect change from within and I became somewhat of a hero within the bank too. With this scrutiny and popularity, senior management had no choice but to engage me. The

bank rallied around my DE&I agenda, as I flew to London to negotiate my ideas with headquarters filled with renewed hope for progress and employer pride. But as dust settled and press subsided, the bank scraped my project and most of its initiatives. I declined a promotion to become HSBC's joint-3rd most senior leader of black ethnicity globally in exchange for silence. Instead, I was instructed to abandon my multi-\$bn DE&I strategy and return to my \$35m sales role in the USA, to be forcibly relocated to San Francisco, my bonus zero'd, my boss switched to one of the offenders I had named to HR as racist and ultimately managed out of the company. I was in advanced talks to join Standard Chartered's leadership team, but I couldn't abandon so many colleagues counting on me to champion their interests. I had one step left in my 'what-if' plan. Project Lightning: 'Lightning makes no sound until it strikes' In August 2021, my 15th year at HSBC, I sent my letter of resignation and cover email to the CEO, copying over 1,000 bankers across 2 continents. My subsequent interview with Reuters International was screened on TV news from Sydney to San Francisco, and articles about my single-handed efforts were printed in 16 languages and 120 countries worldwide. Between my report and resignation, HSBC's share price fell \$36bn, 9 white male executives I'd named as racists were fired or took early retirement, the FCA launched a root-and-branch investigation, the bank agreed to implement my DE&I plan in full and it also appointed not 1- but 3 black directors onto its Americas board - the first black board members of any major European institution ever in history. I did all that, for zero reward. I lost my \$200k salary, and - blacklisted from all global banks – I haven't earned a penny ever since. But I'd still do it again.



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Ian Clarke

Founder, Emitter of Light, Titan of Change

Inspiring a common identity and thinking differently, Ian uses *Sapience* and *Clarketech* to create Change. Clocking 7 world records for *Change*, his insight and authority on *The Human Experience* comes from *Authenticity* and *Uniqueness*.

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DR MGR EDUCATIONAL & RESEARCH INSTITUTE ENERGY AWARENESS CLUB

Dr. M.G.R. Educational & Research Institute initiated Green9 EnSav Club (Energy Awareness club) in the Year 2015 and contributed towards UN SDG7 (Affordable and Clean Energy). The main objective of the club is to conduct CSR Activity across the state under theme energy conservation for the residents, community, village, Industry, Commercial Building and General Public.

The following are the initiated projects

- Energy saving Village Adoption Project
- Cycle Rally for Energy Conservation Awareness
- Implementation of Tree plantation in school campus activities
- General Public Awareness (One unit save /day)
- MGR Vision 10MW Energy Conservation Project
- Energy 99challenge project with IGEN
- Home Energy Conservation Energy Saving Green9 Mantra research
- Energy Audit with Industry Which help us to provide quantitative and Qualitative output conservation towards targets of SDG Goal 7.

The club's outcome as on August 2021 was 56 events, public awareness to over 1M people, completion of 5 projects and 4.55M units saved annually. The club recounts with pride the numerous awards received over the years such as Dr Abdul Kalam Award in 2018,

Sir William Lawrence Bragg Researcher Award, Kailash Satyarthi Awareness Award, Green 9 Energy Ambassador of The Year and also Seem National Energy Management Awards 2019 from Society of Energy Engineers and Managers. The expected outcome will be,

- Saving 182500 units annually.
- Saving 51894 units/year through replacement of 40w bulbs with 9w LED bulbs.
- Saving nearly 67462.2 Kg of Co2 complying with SDG 7 Goals.

EnSAv (Energy Saving Awareness) club was established by GREEN 9 (Energy Efficient Research Group) at Dr. M.G.R Educational and Research Institute by our honorable president Er. A.C.S. Arun Kumar in the year 2017. EnSAv Club focuses on bringing about a first-hand realization of the energy crisis and scarcity of natural resources in the country. With the increasing demand for energy, effective management and conservation of the same has become the need of the hour.



Dr. M.G.R.
EDUCATIONAL AND RESEARCH INSTITUTE
DEEMED TO BE UNIVERSITY

President: E.N.R. High Road, Madhavaram, Chennai-60, Tamil Nadu, India.

**INDUSTRY INSTITUTE PLANNING CELL
& DEPARTMENT OF COMMERCE**

In Association With Global Talent Track Foundation

Life Skills Training - Barclays Bank CSR

Training details:
It is free of cost CSR Training conducting by Global Talent Track Pvt. Ltd. in PAN India. An expert from the corporate will guide you and will give you an idea to set your career platform during this training.

Benefits:

- ❖ Gain knowledge about corporate culture and expectations.
- ❖ Increase your profile weightage.
- ❖ Grab the E-Certificate

MODE: VIRTUAL

Prof. Dr. C. Balakrishnan
Dean-Campus
Placement/Industry Institute
Planning Cell

**DATE: 21/09/2021 TO
26/09/2021
TIME: 9.30 AM TO
1.30 PM**

Prof. Dr. C.B. Senthil Kumar
Head-Commerce

Recognizing the immense value of the Professional Students can bring the initiative and taking due consideration of this urgent need, GREEN9 started Energy Saving Awareness Club (EnSAv Club), to propagate efficient usage of energy and to educate the society on climate change issues in the fore coming years. Energy Saving Awareness Club allows the student to showcase their talents and concern towards energy conservations and importance of implementing renewable sources. As students, parent and teachers are being sensitized towards “Energy Conservations” issues that confront each one of us today. Club was launched, with a motive to engage students, the future of our country, increasing awareness and taking their first steps in Energy Conservation. Today along with energy conservation, we are sensitizing students about resource scarcity, and effects of CO2 emissions. The main objective of the club is to conduct CSR Activity across the state under theme energy conservation for the residents, community, village, Industry, Commercial Building and General Public. The following are the initiated projects a.) Energy Saving Village adoption project : We MGR Green9 EnSAv Club the club has started “KALAM-MGR ENSAVER VILLAGE PROJECT” and has mapped KRSA WELFARE ASSOCIATION, Thiruverkadu to bring out its village adoption project with 500 houses.

The objective of the project in connection with UN SDG 7 Goals is as follows:

- To create energy saving awareness among the residents of the village and implement the 9 mantras of saving one unit per day at home.
- To replace one 40w fluorescent light with 9w LED in every residence of the village.

Through implementing the above two actions, the club ensures to create energy saving awareness among the village residents and to help them provide valuable and beneficial outcome in a short



period. Once the project is successfully executed, the village will be declared as KALAM -MGR ENSAVER VILLAGE.

The club also takes extreme delight in informing that the project has received global recognition with # ACT4SDGs & indexed with UNITED NATION SDG ACTION CAMPAIGN

The global recognition link is given below: https://www.act4sdgs.org/profile/mgr_igenensavclub

- Day 01: We MGR Green9 EnSAv club Successfully completed your 1st day of village campaign on 10th October 2021 at KRSA welfare association , Thiruverkadu. During the First day of campaign , we created awareness to nearly 40 Resident of village on “how to save one unit per day” and also shared information about the energy wastage in Day to Day life .
- Day 02: We MGR Green9 EnSAv club Successfully completed your 2nd day of village campaign on 27th October 2021 at KRSA welfare association, Thiruverkadu. During the third day of campaign , we created awareness to nearly 55 Resident of village on “how to save one unit per day”
- Day 03: MGR Green9 EnSAv club Successfully completed your 3rd Day of village campaign on 29th October 2021 at KRSA welfare association , Thiruverkadu. During the Third day of campaign , we created awareness to nearly 45 Resident of village on “how to save one unit per day” and also shared



information about the energy wastage in Day to Day life . During the campaign, general public clarified their doubts regarding the electricity consumption. To start this initiative we dispersed energy efficient LED bulb to the resident of the village.

- iv) DAY 04: MGR Green9 EnSAv club in association 1st Year E& T Successfully completed 4th Day of village campaign on 14th October 2021 at KRSA welfare association, in around Thiruverkadu. During the fourth day of campaign, we created energy conservation awareness to nearly 60 Resident of village on “how to save one unit per day” and also shared information about the energy wastage in Day to Day life. To start this initiative we doled out energy efficient LED bulb to the resident of the village.
- v) DAY 05 MGR Green9 EnSAv club joined hands with Department of Civil Engineering successfully completed 5th day of Village Project campaign on 23/12/2021 at Thiruverkadu KRSA Welfare Association. A colossal drive to spread energy conservation Awareness among the public through energy savings mantras. Along with the students, we EnSAv club created energy awareness to nearly 60 houses and distributed Energy efficient LED bulbs to all the residents in & around the association.

After successful implementation of the project at KRSA welfare Association, the outcome will be,

- Saved nearly 91,250 units annually
- Saved 92.256 units /year through replacement of 40w bulbs with 9w bulb
- Saved nearly 1,18,625 kg of Co2 complying with SDG7 Goals
- Saved nearly 62725.606 Ton of water

CYCLE RALLY:

The Institution of Engineers India – Tiruvallur Local Centre, 100 years old Engineering institution and Energy Efficiency Research Group (GREEN9) in association with Dr. M.G.R educational and Research Institute, NTPC Tamil Nadu Energy Company Limited (NTECL) and Petroleum Conservation Research Association (PCRA) celebrated Engineers day on 15th Sep. 2019 on the theme of “Cycle to Save Energy and Plant Tree” & “Promote Engineering for Change”. The rally was well received well by the members of the village, headed by President Mr. M. Jayasankar, President, and Initial agriculture corporative society. The Shawl was presented to Er. N. Nareshkumar, Dr. L. Ramesh, Dr. J. Balamurugan and Er. Gokul, Scientist, ISRO, Mr. M. Jayasankar, President, Initial agriculture corporative society headed the rally from

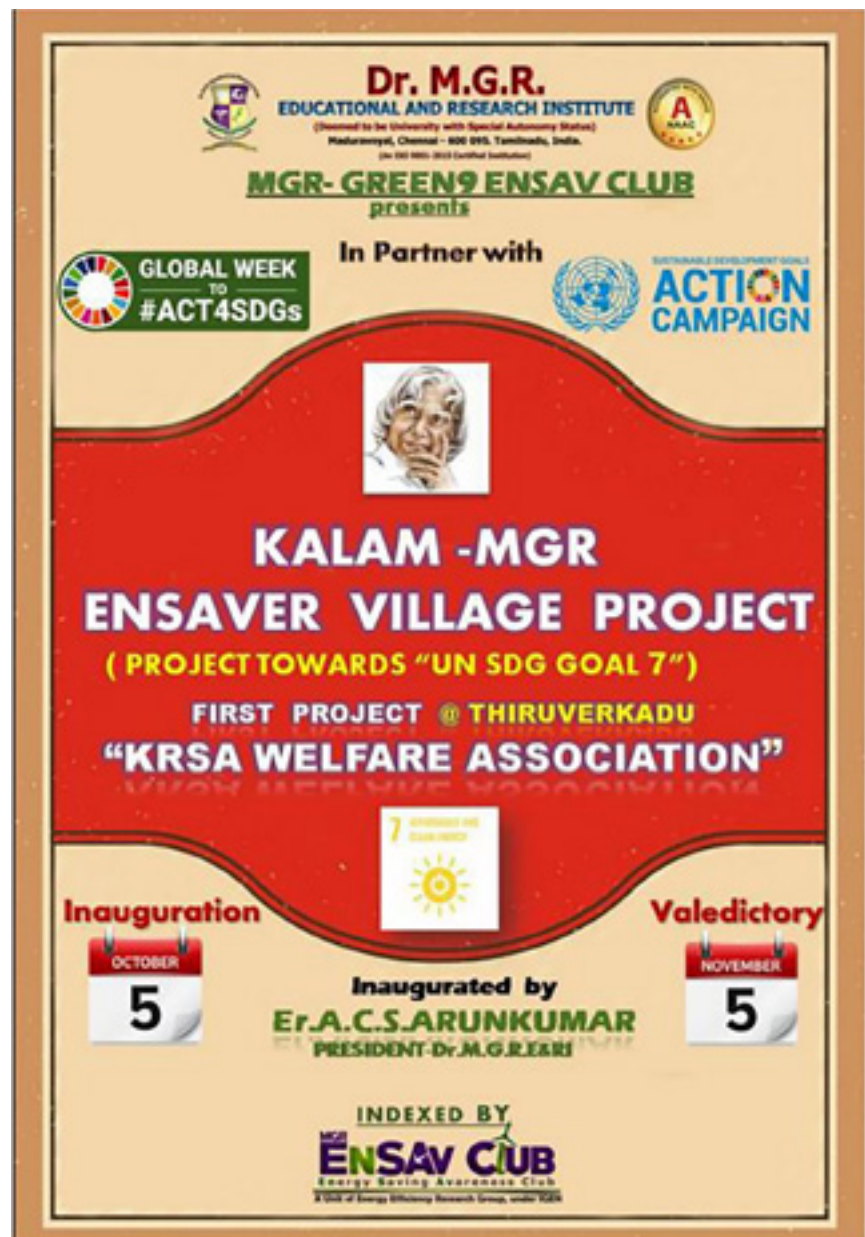
the village entry point, travelled around the village and finally arriving at the venue welcoming by a large gathering by all the village members.

EVENT OUTCOME:

- Trained 15 Village Volunteers' on "How to save One Unit per Day"
- Created Save One Unit per Day awareness to 600 Houses in the Village
- Around 2500 public was known the 9 mantras of Save One Unit
- 300 Public was trained How to Conserve LPG in Kitchen
- 26 members who have various health issues were given treatment Without Medicine • 200 Houses were distributed LED bulbs which will instantly save 14,600 Units Annually
- 75 Trees were Planted and allotted member for maintenance

Implementation of Tree plantation in school campus activities:

We EnSAv club created awareness on tree plantation at Sri Mahaveer Jain School, Thiruvotriyur on 11-12-2022. The event was titled as "MGR OXYGEN EVENT". Through this event we created awareness to the school students on importance and benefits of tree plantation. we created awareness to nearly 60 students at school.



General Public awareness:

We MGR Green9 EnSAv club created awareness to general public on "How To Save one unit per day" due to lack of knowledge electricity consumption. We also campaigned about energy wastage to the general public during the awareness program. We have campaigned at several places such as Thirumullaivoyal, Mogappair, Maduravoyal. Through this awareness we campaigned to nearly 1M people and saved one unit per day individually.

EDMONTON GREEN SHOPPING CENTRE

YOU CARE, WE CARE, EDMONTON CARES

Edmonton cares is the overarching headline used for all community and charitable initiatives taken place by the onsite team in Edmonton Green Shopping Centre. As a shopping centre, at the heart of the community, we aim to connect and support

not just charities but local community groups and organizations. We want to work energetically to involve the local community and contribute to local community development. We take our responsibility of being a “community” centre very seriously and



view our community as our partners and aim to build lasting and sustainable relationships which can aid those in need over a period of time rather than a one-off occasion. We strive to deliver a unique charitable program of fundraising activities with each project being planned and delivered at a local level in conjunction with a local partner and driven by local needs and concerns.

The onsite Management team comprises of four key team members and together they run the shopping centre which sits at the heart of the community. Edmonton Green shopping centre in Enfield, North London first opened in 1967 and the site stretches over 26-acres and houses over 120 retailers, a leisure centre, offices, residential also encompasses a market. Situated adjacent to Edmonton station, the centre stands as a welcoming gateway to the borough - a fact that makes the management teams

work to involve the community in the life of the centre critical. As a shopping centre who puts the community at the heart of everything they do, the team always aims to try to support local families and organisations. To understand the needs of not just the local community but the organisations that operate within it, the team reached out to various community groups and forums based in Edmonton to find out who was in need and what sort of support they needed. With the continued Covid crisis it was quite apparent that everyone was impacted in some way, so the team took it upon themselves to help by creating the "You care, we care, Edmonton Cares" Community Response plan. The plan was put together to look at ways in which the team could respond to those in need of help and to directly impact the lives of those within Edmonton Green. It was important to ensure all branches of the community were touched and to unite these groups to achieve the overall goal of supporting all community groups of Edmonton. The team quickly set about reviewing local organisations who were



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Local charities and organisations eligible*
T+C's Apply



reaching out for help via our local partners and soon identified several groups, charities and schools which helped a large cross section of the community but where in need of help. One of the centres key principles is to see the community as an asset, not a customer base. Community Groups and local Charities are included in events and event planning, which ranges from straightforward fundraising to donation initiatives. The “You care, we care, Edmonton Cares” seemed to be the perfect project we could partner with multiple organisations to achieve our ambition of helping support as many families as possible within Edmonton while engaging with local community groups to increase the appeals exposure and coverage. The team set up a Free space within the centre complete with stand, barriers and advertising boards so local organisations can have the space to engage, fundraise or just raise awareness of their organisations and how they can help. WE coupled this with a free advertising package for social media and proved extremely popular with the space getting fully booked up for the few months and return bookings made due to the success and impact. Over the course of 2021 the onsite team have donated over 146 hours of time to run events and taking part in local initiatives. They have helped 77 local organisations and charities which is 53 more than the previous year and managed to raise over £14,000 for local good courses and charities. The team have already looked at a timeline for the 2022 initiative allowing more time to maximise awareness within the local community and increase. The team are looking to create a local working party to aid in future delivery and communication of support projects and are working on having a retailer, a customer, and a

service partner on board to help deliver and increase community partnership. A key learning point for the team was that community engagement is a process, not an event. Crucially, the team recognises that such engagement cannot just be a “one-off”. They have learnt that involving the community, listening to what it has to say, understanding its needs, and seeking to meet them are essential for an initiative to be successful. The on-site team are committed to ensuring all these conversations are always welcome.





IN 2022 WE:

- Supported over 30 charities and community groups
- Donated £23,750 to support our local community



- Provided nearly £4,000 worth of promotional space in the centre free of charge
- Over 70 hours volunteering

**EDMONTON GREEN ARE PROUD WINNERS OF
'COMMUNITY COMMITMENT' AND
'CHARITABLE GIVING' CSR AWARDS**



edmontongreencentre.co.uk

ENDRESS+HAUSER ECO VADIS

ABOUT SUSTAINABILITY

Sustainability is the continuing commitment to act responsibly by integrating social and environmental concerns into business operations.

Sustainability goes beyond regulatory compliance to focus on how companies manage their economic, social and environmental impacts, as well as their relationships with stakeholders (e.g. employees, trading partners, government).

ABOUT THE ASSESSMENT

The EcoVadis methodology framework assesses companies' policies and actions as well as their published reporting related to the environment, labor and human rights, ethics and sustainable procurement.

Our team of international sustainability experts analyze and crosscheck companies' data (supporting documents, 360° Watch Findings, etc.) in order to create reliable ratings, taking into account each company's industry, size and geographic location.

ecoVadis

ENDRESS+HAUSER AG (GROUP)

has been awarded a
Platinum medal
as a recognition of their EcoVadis Rating

- MAY 2021 -



You are receiving this score/medal based on the disclosed information and news resources available to EcoVadis at the time of assessment. Should any information or circumstances change materially during the period of the scorecard/medal validity, EcoVadis reserves the right to place the business' scorecard/medal on hold and, if considered appropriate, to re-assess and possibly issue a revised scorecard/medal.

Valid until: May 2022
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ABOUT ECOVADIS

EcoVadis provides the leading solution for monitoring sustainability in global supply chains.

Using innovative technology and sustainability expertise, we strive to engage companies and help them adopt sustainable practices.

ENDRESS+HAUSER AG (GROUP) has been awarded a platinum medal in recognition of sustainability achievement!

To receive this medal, companies must have an overall score of 73-100.

OVERALL SCORE 99th percentile 76/ 100

ENVIRONMENT Weight 80 / 100

LABOR & HUMAN RIGHTS Weight 80 / 100

ETHICS Weight 70 / 100

SUSTAINABLE PROCUREMENT Weight 70 / 100

The EcoVadis assessment allows companies to demonstrate their commitment. Leverage a unique communication tool. Companies with an EcoVadis Scorecard avoid audit fatigue by sharing one assessment with all requesting customers.

CORRECTIVE ACTION PLAN IN PROGRESS

The Corrective Action Plan is a collaborative feature designed to support companies' performance improvement. It enables companies to build an improvement plan online, communicate planned and completed corrective actions and share feedback.

ENDRESS+HAUSER AG (GROUP) has a corrective action plan in place and is working on improving their sustainability management system.

2. ASSESSMENT BENEFITS

1. Customer Request Procurement, CSR, EHS, and Sustainability leaders in enterprises looking to monitor sustainability risk in the supply chain request an EcoVadis assessment for their trading partners.
2. Questionnaire Based on a company's specific sustainability risk factors, a customized questionnaire is created. It contains 20 to 50 questions tailored to the industry, size and location.
3. Document Analysis Companies are required to provide supporting documentation for their answers to the questionnaire. These documents are reviewed by our analysts.

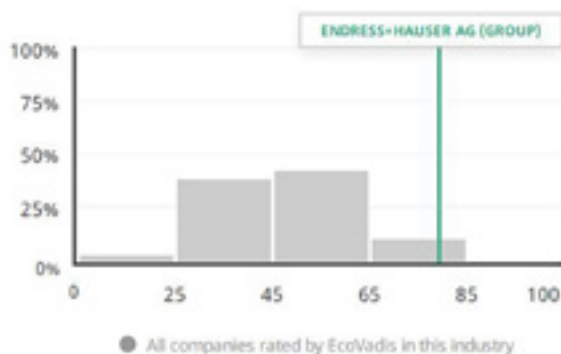
1. SUSTAINABILITY PERFORMANCE OVERVIEW

Score breakdown Sustainability performance

Score breakdown



Theme score distribution



Theme score comparison



- Public Information Company information that is publicly available, most often found on the company website, is also collected as evidence of their sustainability performance.
- 360° Watch Findings 360° Watch Findings comprise relevant public information about companies' sustainability practices, identified via more than 2,500 data sources. They can have positive, negative or no score impact.
- Expert Analysis Our analysts combine all these elements to produce one unified scorecard per company.

The 21 issues or criteria are based upon international sustainability standards such as the Global Compact Principles, the International Labour Organization (ILO) conventions, the Global Reporting Initiative (GRI) standard, the ISO26000 standard, and the CERES principles.

1. ENVIRONMENT OPERATIONS

Energy consumption & GHGs
Water Biodiversity Local & Accidental
Pollution Materials, Chemicals & Waste

2. PRODUCTS

Product Use

Product End-of-Life
Customer Health & Safety
Environmental Services & Advocacy

3. ETHICS

Corruption
Anticompetitive Practices
Responsible Information Management

4. LABOR & HUMAN RIGHTS HUMAN RESOURCES

Employee Health & Safety
Working Conditions
Social Dialogue
Career Management & Training

5. HUMAN RIGHTS

Child Labor,
Forced Labor & Human Trafficking
Diversity, Discrimination & Harassment
External Stakeholders
Human Rights

6. SUSTAINABLE PROCUREMENT

Supplier Environmental Practices

Supplier Social Practices

Because the questionnaire is customized by industry, size and location, not all 21 criteria are activated for every company and some criteria are weighted more heavily than others.

Non-activated

If certain criteria are not activated, then the specific associated issue is not relevant or has very low sustainability risk for that company.

Medium

Medium importance criteria are the issues some sustainability risk is present but not the most pressing.

High

High importance criteria are the issues where the company faces the greatest sustainability risk.

Risk countries only

Criteria classified as Only in Risk Countries are activated only if the company has significant operations in one or more countries identified as risky.

B. Qualitative Information: Strengths & Improvement Areas Qualitative information provides more details and insights into a company's score. For each theme, the company is assigned strengths (elements of their sustainability management system that are positive) and improvement areas (elements of their sustainability management system that need to be improved).

The strengths and improvement areas are divided according to the three management layers (Policies, Actions, Results) and are also classified by priority. All improvement areas are automatically added to the company's Corrective Action Plan. They are pre-organized by priority.

The Corrective Action Plan is a collaborative feature designed to support companies' performance improvement. It enables companies to build an improvement plan online, communicate planned and completed corrective actions and share feedback.

7. ENVIRONMENT

This theme takes into account both operational factors (e.g. energy consumption, waste management) and product stewardship (e.g. product end-of-life, customer health and safety issues).

Environment Score Breakdown

Environment: Activated Criteria Because the questionnaire is customized by industry, size and location, not all 21 criteria are activated for every company and some criteria are weighted more heavily than others.

Environment: Strengths & Improvement Areas

The Corrective Action Plan is a collaborative feature designed to support companies' performance improvement. It enables companies to build an improvement plan online, communicate planned and completed corrective actions and share feedback.



Creating a sustainable future

Discover more at
endress.com/sustainability

Distinct goals, strong values and a long-term focus characterise the development of Endress+Hauser.

As a family company, we want to combine economic success with ecological and social progress. Our work and our products create sustainable benefits.

We are convinced that this will pay off – for people, the environment and the company.

ETIHAD RAIL SUSTAINABLE RAIL

Etihad Rail has been given the mandate of developing the rail industry in UAE and of delivering a world-class rail network and services to accommodate the requirements of the UAE's future transport needs as the guardians of this mega project through which passengers and cargo goods will reach all parts of UAE, ER recognizes its role in promoting and supporting the nation's ambition of developing a vibrant and diversified economy based on long-term economic and sustainability strategies.

ER commits towards establishing the environmental sustainability initiatives and objectives through the operation and development of the UAE rail network in accordance with principles of sustainable development, recognizing that the success of our organization is enhanced by environmentally, socially, and economically responsible business

conduct. This commitment to sustainability management is aligned with Abu Dhabi's 2030 vision and is firmly bound with ER's vision and mission for the future, which is to develop and operate safe, sustainable, and cost-efficient rail-based transport solutions, connecting the UAE and serving clients, industries, and society with passion.

ER promotes sustainability through its services, program, and operations and has an impressive track history of environmental stewardship and innovation. ER offers cutting-edge impacts and benefits: faster, safer, more reliable, and more environmentally sustainable services than current transport alternatives. ER places the highest value on conservation of resources and operational efficiency, completing several energy-efficiency initiatives throughout the network. These efforts

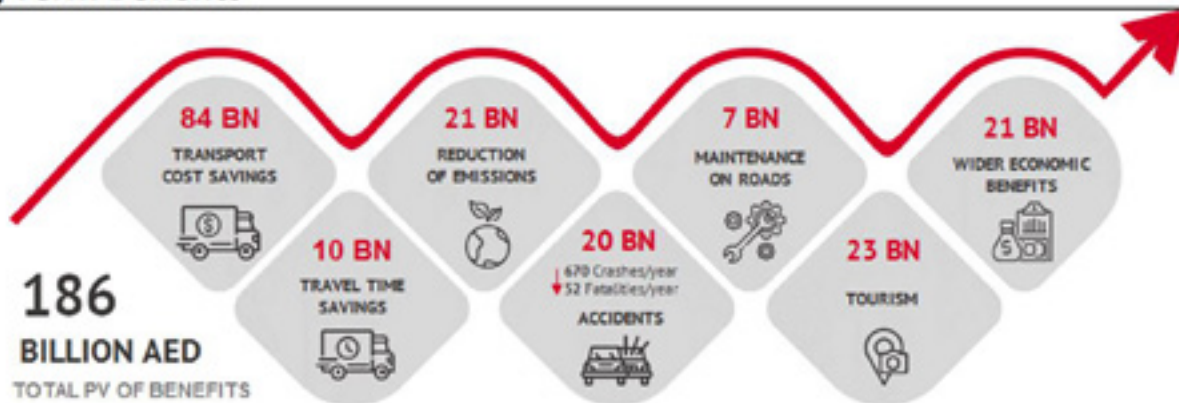
UAE Vision



Rolling Stock



Long Term Benefits



reflect the company's overall management approach to find and incorporate practical and cost-effective solutions to transportation and financial challenges that benefit both the environment and the community we serve. In line with our sustainability strategy, ER and Environment agency – Abu Dhabi has started a collaboration to ensure the preservation of UAE's environment and natural heritage during the planning and construction of ER project.

Sustainability is central to ER's mission to provide the best possible rail transportation services and improve regional mobility and quality of life in UAE. Advancing sustainability in all facets of business - including service planning, rolling stock and fuel selection, facility operations, design, and construction, and customer service - ensures that ER is well-positioned to adapt to future environmental, economic, and social challenges.

ER has developed a sustainability plan that is derived from the corporate strategy which states that ER will provide a safe and sustainable freight and passenger transport railway system in the UAE through innovation and continuous improvement of technologies and practices. ER has developed goals and objectives in line with ER strategic themes and objective "Building a competitive and sustainable Network" to ensure that the environmental sustainability initiatives will be achieved in line with the corporate objectives:

- Review and evaluate all-new programs and projects to ensure their balanced, holistic, and measurable addressing all three sustainability pillars: environmental, economic, and social
- Incorporate language that supports ER's sustainability initiatives within all new leases, and contracts
- Adopt the 'Estidama' standards set forth

by the Abu Dhabi Urban Council as guiding criteria for achieving sustainable design and construction practice in the development and remodeling of the rail network and rail facilities

- Minimize the environmental impact of the organization's operations
- Ensure compliance with all local and national relevant laws, regulatory and other requirements Rigorously monitor ER's progress against meaningful goals and targets
- Foster a culture of sustainability through ER's relationships with customers, partners, tenants, contractors, and suppliers, and participate actively in local and regional sustainability partnerships. This commitment to sustainability management is fully aligned with Abu Dhabi's Vision 2030 and is firmly entrenched in the company's vision for the future, which is to connect regions and integrate industries through rail-based transport safely and sustainably Our philosophy aims to ensure that future generations can benefit from rail and the valuable opportunities it offers. The project is special because a fully loaded train would remove up to 300 trucks from the UAE's roads:

SHORT TERM:

- Potential enhanced land value (the land around the railway): AED23Bn over the next 50 years
- Reduce the cost of a trade
- Reduce material transportation costs and time
- Employment creation & Emiratization is also sustainable in nature

LONG TERM:

- Use sustainable materials which can stand high temperatures and humidity, ensuring a long design life

- Estimated tourism benefits: AED23Bn over the next 50 years
- A large but sustainable increase in population at the carrying capacity of some areas of the UAE
- 70 - 80% less CO2 emissions than trucks
- Improved air quality, as one loaded train would remove 300 container trucks from UAE road network
- Reduce greenhouse gases by more than 22 million tons annually: the equivalent of 375,000 vehicles
- Estimated total benefits of emissions savings: AED24Bn over the next 50 years
- Projected savings from road maintenance: AED8Bn over the next 50 years.

Contributing to the UAE Economy Freight Cost Savings:

Direct economic benefits include freight cost savings, business travel time savings, along other economic remunerations. These economic benefits will support businesses, commuters, and other travelers across the region. The project will also contribute to tourism and the wider UAE economy. The cost savings made by businesses that transfer their freight carriage to rail will enable them to be more commercially successful and therefore further contribute to economic growth.

Increased Inward Investment: Analysis shows that the economic benefits that ER will bring are shared across all seven Emirates. It will support exports as well as increase inward investment. It will also provide employment opportunities and increase the incomes of business and property owners, as well as their employees.

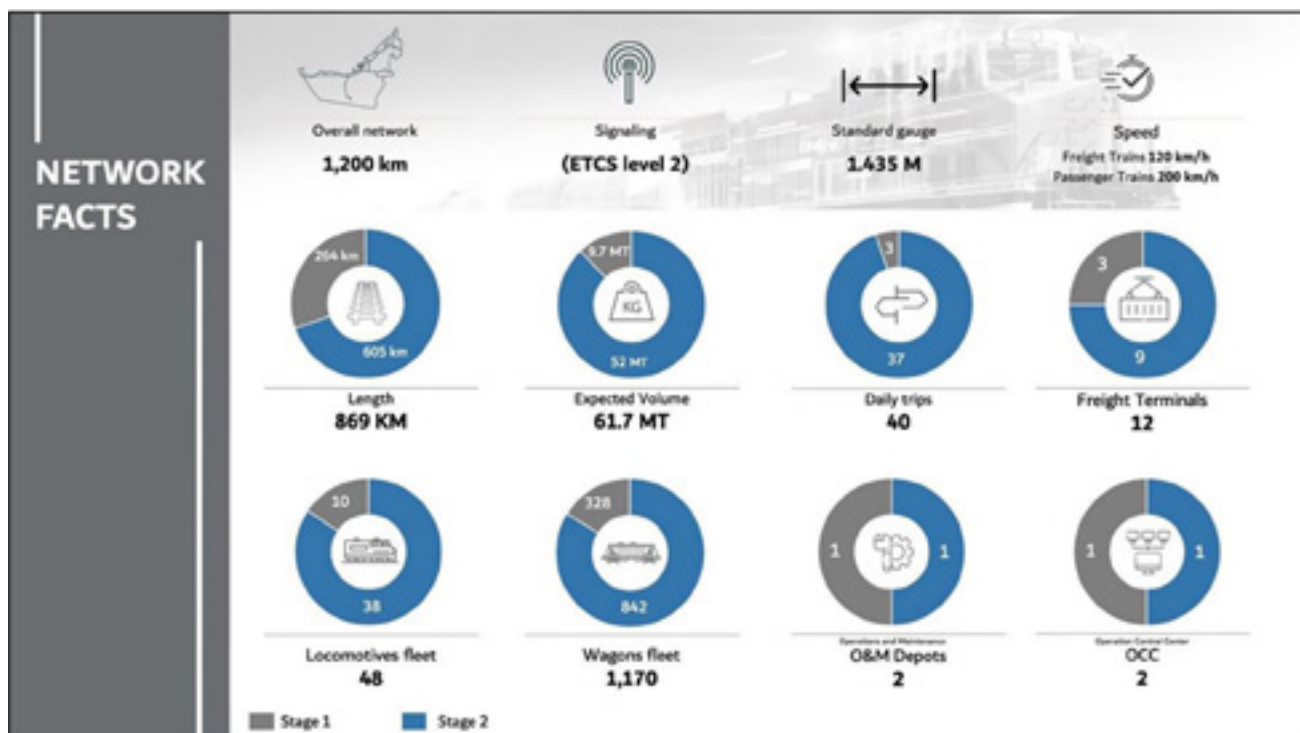
Extending Geographic Markets: The enhanced connectivity that ER will deliver will effectively bring businesses closer together, facilitating more efficient trade, extending geographic markets, and making a greater labor force available. Rail transport lowers

the cost of trade and improves the market position of existing industries, promoting their growth, and leading to economic diversification through the creation of new transport infrastructure and its related ecosystem.

Freight Facilities: ER will manage the handling of the UAE's freight and cargo through world-class freight facilities, supporting import and export services and developing comprehensive delivery processes for freight forwarders and other stakeholders including ports.

Rail Industry: Each year the rail freight industry carries goods valued at billions of US Dollars ranging from steel, cement, and construction materials. To date, only a small portion of goods exported from the UAE are transported by rail, but with a national network in place as Stage Two comes online, rail will be well placed to provide long-haul consumer services; this sector has seen steady growth in the past years and the industry predicts that rail freight will dramatically increase with consumer traffic growing fourfold.

Road Congestion & Maintenance: Rail freight has a major role to play in reducing road congestion, lowering the risk of collisions, road damage, and pollution. ER is actively campaigning to have the right policies in place and will provide the necessary infrastructure and terminals to accommodate more freight traffic as it is transferred to rail. Multiplier Effect on UAE Economy Located in the heart of the Middle East, with one of the world's richest cities as its capital, UAE possesses a fast-growing economy and has been increasing its international status as a global and strategic hub for commerce and travel. To meet the needs of the UAE's robustly growing economy, ER is committed to providing world-class rail transport infrastructure for passengers and freight coming into and out of UAE Major enhancements are being undertaken at ER's new phase 2 rail network which, together with services provided by ER, are expected to augment the company's positive economic results and further support the economic development of UAE with approx. 21 billion (AED).



Contributing to UAE Environmental Protection

Nature Conservation: ER works closely with the Abu Dhabi Authority for Tourism and Culture (TCA) and Environment Agency-Abu Dhabi (EAD) to ensure that the UAE's natural environment is preserved. Reducing or eliminating risks to the environment is an essential part of the construction and operational strategy. While the railway was designed and built to have minimal impact on the region's unique flora and fauna, ER has developed and implemented an ongoing environmental protection plan.

Culverts and underpasses: Several culverts and small underpasses are being built throughout the alignment. These consist of Small Underpasses (SUPs), Camel Underpasses (CUPs), Road Underpasses (RUP), Reptile Culverts (RCU), and Gazelle Underpasses (GAZ) Many gazelle underpasses have been combined with SUPs and CUPs.

Tree Management: All healthy mature, native, non-irrigated trees are transplanted prior to any construction to a location agreed with the plantation owners. For example, all-natural Al Ghaf trees are identified and clearly demarcated. Disturbance to these specimens will be avoided where possible. Where disturbance is unavoidable, the specimens will be carefully removed and replanted in an alternative suitable location before works commence in the area. Trees existing within the construction corridor are tagged, removed, and translocated to a suitable alternative site as agreed with the owners. A tree management plan ensures that trees are well looked after. Surveys are conducted for the possible removal of sensitive specimens of small mammals and reptiles, and demarcation and avoidance of floral specimens and Dhub (lizard) habitats. Culverts are provided to allow free movement of Mountain and Sand Gazelles, Dhubs, Desert Monitors, and other snakes, geckos, lizards, and large and small mammals and reptiles.

Climate Change: ER will monitor, manage, and minimize impacts on climate change by effectively

removing many trucks used for freight off the road. By June 2022, ER has transported more than 30 million tons of granulated sulphur for Abu Dhabi National Oil Company (ADNOC), the equivalent of nearly 2 million truck trips. One fully loaded train removes approximately 300 trucks from the road, producing 70%-80% less carbon dioxide emissions than the trucks required to transport the same tonnage. When Stage 2 becomes operational, these figures will be significantly higher.

Rolling Stock: For Stage 2 heavy haul mainline freight train operations, modern locomotives have been specified with engine efficiency and emission standards according to the best-proven technology available at the time of procurement. As a further measure to minimize engine emissions and fuel consumption, mainline freight train service locomotives will be supplied with a "low idle" feature to reduce engine idling speed and fuel consumption, as well as an automatic engine control system that shuts the engine down when the locomotive is not used for an extended period. Reuse of 'grey water' from the train wash facility is re-purposed for irrigation.

Locomotive Emissions: While trains are one of the most environmentally friendly modes of transport, ER has taken additional action to minimize the railway's environmental impact, such as implementing the United States Environmental Protection Agency's standards for engine emission levels. Under these measures, all the engines used on the railway meet a Tier 3 emission level, which regulates the locomotives' emissions of nitrogen oxide, sulphur oxide, volatile organic compounds, particulate matter, and carbon monoxide.

Contributing to UAE Society Developing Al Dhafra Region: As the railway network connects more areas within the UAE and GCC, various industries and communities will expand as a result. The region will experience more economic, social, and cultural growth in the form of job opportunities and industrial diversification.

Noise Control: ER and ER recognize the importance of being a good neighbor and are committed to keeping noise from trains to a minimum as the network has no level crossings (all traffic crosses the track over bridges and through tunnels), horns will only sound in emergencies. In addition, the railway utilizes the best noise reduction technology to minimize the sound of passing trains. Ballast Mats are used on bridges to reduce noise, vibrations and degradation of ballast.

Crossing Points: Crossing points have been designed to allow for the smooth flow of traffic on both the railway and roads, and with as little disruption to the surrounding wildlife as possible. Stage One includes 20 over-bridges, 2 under-bridges, 10 road underpasses, and 18 smaller underpasses. To cater to native wildlife, the railway also features 10 camels, 22 gazelles, and 78 reptiles' underpasses. For convenience, crossings are spaced at a maximum of 6 to 7 kilometers. Stage 2 will see this commitment to animal welfare carried through along the entire network.

Job Creation: The railway is bringing beneficial changes to Abu Dhabi Emirate due to increased

employment and improved access to community facilities for the projected increased population. When complete, the network will provide a sustainable and efficient mode of transport for public and commercial uses. The project will provide a sustainable and efficient mode of transport for both the workforce and industrial products. This will in turn promote tourism in Abu Dhabi.

Connect Cities: The railway will connect rural areas to cities, improving connectivity and generating wider economic benefits for these areas. The value of time saved due to reduced road delays by car, bus, taxi, and freight users who will shift to the rail network, accounting for station-to-station road and rail time and distance is equivalent to AED 96Bn over the next 40 years. A reduction in the rates of accidents can be expected as the railway will lead to a lower number of kilometers traveled on the roads, hence fewer road accidents per year on the UAE's Road network, saving an estimated AED 199Bn over the next 40 years.

Reducing Highway Traffic: The rail network will ultimately provide services for both freight and passengers, with social benefits including lower-



cost transportation, faster journeys than highway alternatives, and reduced levels of highway traffic by offering a time and cost advantage over trucks when compared with the no-rail scenario option for freight transportation, the ER network will attract container and bulk freight cargo that is currently transported by trucks.

The UAE's progressive economy is synonymous with an evolving landscape. ER's strategy is to build a railway network that caters to the needs of customers, both today and tomorrow, ensuring sufficient capacity for anticipated traffic and infrastructure growth. Planners, designers, and engineers are required to future-proof projects of this magnitude from the outset, in order to mitigate the risks of significantly higher costs in the future as a result of network changes. Part of this future and sustainability proofing includes securing a rail alignment that will enable future expansion capability and possible future electrification of the railway. ER has a clear strategy and business model which will ensure railway suitability in a commercial manner.

The following are the main stages to sustain this project:

- Stage 1 business as usual with cost and operations optimization and innovation with requisite business development and customer experience enhancements aligned with ADNOC key account management for sustained high levels of satisfaction
- Stage 2 freight network and services development and launch core rail operations
 - Maturation and diversification of Stage 2 freight operations and maintenance capabilities and future growth and expansion of the network in subsequent stages on commercial principles
 - Secure commercial agreements with prospective Stage 2 customers in advance of the commencement of operations to optimize start-up capacity and financial performance
 - Cautious diversification into initial passenger services leveraging investments in freight network and based on sound business case with a clear route to alternate (non-government) financing
- Secure bilateral agreement between UAE and GCC countries for strategic network expansions, connections, and cross-border services

GENQUIP GROUNDHOG UNISEX SOLARLOO

The Genquip-Groundhog Unisex SolarLoo
Genquip-Groundhog is a partnership between two long-established privately-owned companies that have been engaged in business together for over 30 years. The partnership specialises in the manufacture and marketing of environmentally slanted construction temporary accommodation units and site welfare provisions. The first Groundhog mobile welfare unit left the production line in 1987. Genquip-Groundhog remains completely in tune with the modern demands of the construction rental marketplace. Their active participation in trade shows throughout Europe brings them very close to users of their products. Through this, and a targeted marketing research campaign, Genquip-Groundhog became aware of the requirement for unisex on-site toilet facilities that lowered fuel costs, reduced emissions, and managed water usage. Genquip-Groundhog is a five-star Considerate Construction supplier which serves to improve the image of the construction industry whilst simultaneously encouraging young people, and especially more women, into the

industry. Having safe, comfortable, and sustainable welfare facilities helps with this aim. Genquip-Groundhog placed carbon emission reduction, lower fuel costs, and empowering the use of renewables at the heart of Unisex SolarLoo. Following intensive designs and development a prototype was delivered to a rental organisation for evaluation. After completing their tests, the unit was sent to the site. After six successful weeks on-site and with only minor adjustments required the Unisex SolarLoo was launched onto the open market. Genquip-Groundhog considers the Unisex SolarLoo to be a worthy contender for a CSR award for two important reasons. Firstly, the reduction in carbon emissions is a high priority for construction site managers and secondly, there is the planned increase of diesel fuel duty. The Unisex SolarLoo emanates ultra-low pollution and the warm water and heater are powered by a Hydrotreated Vegetable Oil (HVO) enabled fuel system.

The Genquip-Groundhog Unisex SolarLoo
Background Genquip-Groundhog operates from a modern, state-of-the-art manufacturing facility is based in South Wales. The production lines and offices are powered partially by recently installed solar panels. In addition, Genquip-Groundhog has engaged a consultant to draw up a carbon reduction plan, which will be fully implemented when completed. Genquip-Groundhog placed carbon emission reduction, lower fuel costs, empowering the use of renewables, and introducing safe female welfare facilities at the heart of the Unisex SolarLoo. Genquip-Groundhog is a five-



star Considerate Construction (<https://www.ccscheme.org.uk>) supplier which serves to improve the image of the construction industry whilst simultaneously encouraging young people, and especially more women, into the industry. Having safe, sustainable, comfortable welfare facilities helps with this aim. The company is also a member of Confor (<https://www.confor.org.uk> which is a membership organisation that promotes sustainable forestry and wood-using businesses. Genquip-Groundhog places a huge emphasis on client training. These training sessions ensure that all of their units are safely installed and used in accordance with all health and safety considerations. Training courses are held in the dedicated training room at the Groundhog manufacturing plant, or if necessary, on a client's premises or on-site. The partnership has also developed a 'Virtual Showroom' (<https://youtu.be/9xAhgPG6iVw>: <https://www.groundhog.co.uk/videos.php?VSRT>) . A viewer can access the showroom with just one click. The viewer is greeted by an actual Genquip-Groundhog employee who explains how to navigate the many showroom sectors and what they can expect to discover. There are display boards of each of the Genquip-

Groundhog products which are 'clickable' and will instantly display all the features and benefits of the product. Genquip-Groundhog believes that their 'Virtual Showroom' will give a potential purchaser the freedom to navigate their products from their office desk, without having to make a physical, expensive journey to the Genquip-Groundhog physical showroom. A workshop manager can also view the parts that make up the units and correctly order new parts as and when required. The Unisex SolarLoo The HSE 'provision of welfare facilities during construction work' information sheet states that men and women may use the same toilet if it is in a lockable room, and partitioned from any urinals. However, Genquip-Groundhog went further than these guidelines and included male and female separate toilet facilities incorporated into one building. The Unisex SolarLoo is a combined male and female toilet system that is designed for use on construction sites. This brand new product follows the original Genquip-Groundhog Unisex Solar Hybrid Toilet, which featured a small fuel-efficient diesel generator as a backup should extra power be needed. However, Genquip-Groundhog engineers soon discovered that the generator was being started

very infrequently, and with the advances in battery power, a decision was made to dispense with the use of a generator completely. The Unisex SolarLoo now operates solely from renewable power. The Unisex SolarLoo female area features a low flush eco-toilet with a 400 litre waste tank. The male compartment also has a low flush eco-toilet and two 1200mm waterless urinals. Also included is a 1200mm stainless steel washbasin with two warm water taps. Both female and male users of the Unisex SolarLoo benefit from warm water supplied by an onboard heating system administered by the latest



Webasto Thermo top system that is designed to protect the engine and save fuel. The compact Thermo Top water heater pre-heats the engine to the starting temperature. This considerably reduces the load on the engine caused by a cold start and thus increases the life span and operational readiness of the engine. The Thermo Top heater will operate from Hydrotreated Vegetable Oil (HVO) fuel. HVO fuel is a renewable diesel alternative based on vegetable oils, grease, and similar residue. The Unisex SolarLoo also features 12V LED lighting fitted with a PIR motion sensor (PIR stands for passive infrared) which is a device that detects movement, and therefore the lights are only switched on when a person is in the vicinity. There is a convenient and hygienic liquid soap and paper towel dispenser. The HSE information sheet confirms that men and women can share sinks used for washing hands, face, and arms. During the design stage of the Unisex SolarLoo, all Genquip-Groundhog employees were encouraged to offer up their input in order that this new product was fully embraced by the complete Genquip-Groundhog team. Non-Road Mobile Machinery (NRMM) One of the construction's largest contributions to air pollution is emissions from NRMM. NRMM is defined as; any mobile machine, vehicle, or transportable equipment that does not carry passengers or goods on the road and is installed with a combustion engine. Examples of NRMM include dumpers, excavators, compressors, telehandlers, and (importantly) generators. In Greater London, there are strict emissions standards for NRMM. Registering plant on the NRMM register is a mandatory requirement in London. Elsewhere, sites may still choose to have an inventory of on-site plant. For projects outside London, meeting with low-emission standards is always considered to be best practice



Sites are seeking alternative fuels to reduce the presence of diesel plant. Contractors are being encouraged to explore more sustainable methods of powering equipment on site, such as battery and/or solar power. In addition, the use of 'red' diesel will, in April 2022, be strictly limited to vehicles and machinery used in agriculture, horticulture, fish farming, and forestry. Construction firms will have to pay full pump prices for their diesel, which means there will be a significant increase in fuel costs. However, site welfare facilities need power, and this power is usually in the form of a diesel generator. HSE law requires that these facilities are always available, which usually means that the generator will be constantly running throughout the day and if night security is needed, throughout the night. This incurs burgeoning fuel costs, increased servicing intervals, and unacceptable carbon emissions. In addition, water conservation is becoming an important issue when running welfare facilities on site. Uniquely, the Genquip-Groundhog Unisex SolarLoo is powered by a combination of a highly efficient 130amp power Absorbent Glass Mat (AGM) battery, which is charged via a 2-panel solar system with a built-in controller. It emits zero emissions, zero noise, and



therefore provides clean power throughout the day - no harmful carbon emissions and no noise pollution. The Unisex SolarLoo is fitted with a rainwater harvester that collects rainwater and utilises it for WC flushing, saving on the amount of fresh water needed to operate the toilet systems. It has steel profiled panels to sidewalls and roof, plus steel personnel doors to three separate areas (Toilet areas and generator/service area). The Unisex SolarLoo was immediately taken up by a major hire firm supplying a rail contractor. Rail contracting regulations have made it mandatory that toilet facilities have to be sited at regular intervals. A mix of male and female workers was engaged in this project, so the Unisex SolarLoo alleviated the requirement to have separate units (at additional costs and space). As the project progressed, the Unisex SolarLoo needed to be re-sited. The contractor commented that units were easily moved by utilising their trailer systems, which were safely

and easily attached via conveniently placed forklift pockets. Although the Unisex SolarLoo is designed to provide quality welfare facilities for all types of construction assignments, Genquip-Groundhog was delighted that the Unisex SolarLoo was delivering what was needed to this highly regulated trackside project. Unisex SolarLoo is just one product in a complete range of temporary accommodation units manufactured by Genquip-Groundhog, that utilise modern technology that champions the use of hybrid, battery, and solar power as a primary source. (www.groundhog.co.uk). Where, in some instances, a combustion engine is the only source of power, Genquip-Groundhog endorses the use of Hydrotreated Vegetable Oil (HVO) fuel. HVO fuel is a renewable diesel alternative based on vegetable oils, grease, and similar residue. Using HVO fuel can reduce CO₂ emissions by up to 90% when likened with fossil-fuel diesel. HVO is compatible with the Groundhog 6kVA and 9.8kVA generators.

CONCLUSION

To summarise the Genquip-Groundhog Unisex SolarLoo:

- is inclusive – male and female facilities in one unit
- helps to encourage females to enter the construction industry – with safe welfare facilities
- is sustainable – emitting zero emissions and zero noise – benefits the wider environment
- is backed –up with comprehensive training for safe operation
- eliminates all fuel costs – cheap ‘red’ diesel will not be available for construction site use after April
- is the modern way to provide fully compliant site welfare facilities

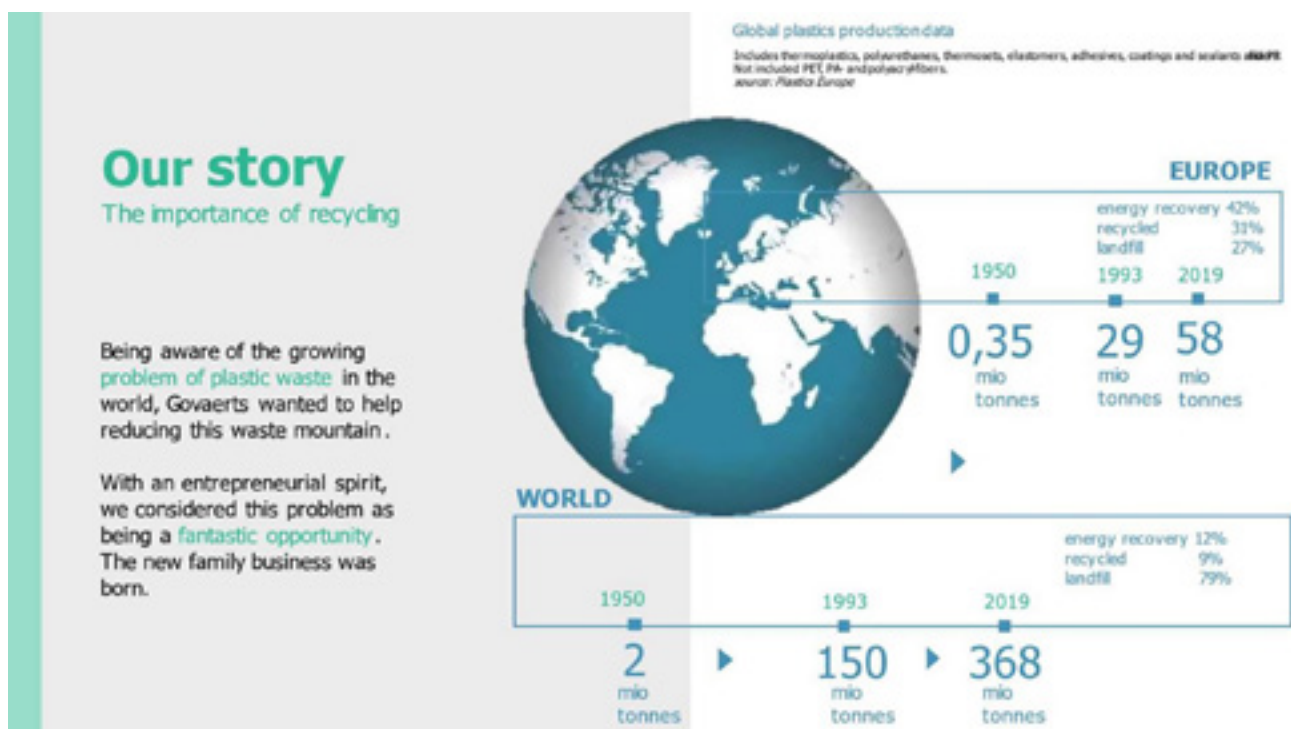
GOPLASTIC LTD

OUTDOOR STREET FURNITURE

Long before today's renewed focus on green credentials, GOplastic has been providing environmentally-friendly sustainable Outdoor Street Furniture made from 100% recycled plastic ranging from benches, planters, litter bins, children's playgrounds and many more products. The products are an ideal and literal example of our cradle-to-cradle philosophy, and since 2005, GOplastic have been serving the housing, education local authority

THE PRODUCTION PROCESS;

- raw materials are 100 % recycled material (bottle tops, plastic bags and packaging film) and end products are 100% recyclable again
- All power used in manufacturing is 'green' and cooling water is re-used
- The end product is high quality



and equestrian sectors. Proving that there is durable solution for the ever growing plastic waste stream, the ultimate vision of the company is to always protect the environment Setting itself apart from more traditional designs. GOplastic is at the forefront of cutting-edge design and offers credible high-quality alternatives and a wide-ranging choice to the discerning architects / specifiers who are looking for contemporary pieces for their projects.

INNOVATION:

- Modern and Contemporary design
- Where original recycled products tended to be brown or black colours, GOplastic has successfully accomplished its' vision to bring unique designs with more colour into the materials which are now in demand in schools, academies, hospitals and a specifiers choice.

- The latest innovative product combines two green technologies - a recycled plastic bench with solar panels incorporated that captures the sun's energy and provides smart and mobile phone charging.
- GOplastic have provided good-looking solutions for the recent requirements for traffic barriers in city centres that successfully conceal the purpose and are a marked improvement on the concrete barriers installed elsewhere

QUALITY:

- Products tested by independent specialists
- 10 year guarantee on the material

RAISING AWARENESS:

- Free CPD sessions provided to organisations that provide information on the recycling and waste statistics and the LA targets in their local area

SUSTAINABILITY:

Apart from the recycled nature of the material, the finished product has a long lifetime. No rotting or splintering, the products are maintenance-free and should never need replacing or repairing

Head Office: Tel: 02922 801294 Email: sales@goplastic.co.uk www.goplastic.co.uk

1. CORPORATE SOCIAL RESPONSIBILITY

GOplastic was formed in 1999 in Newhaven East Sussex as a partnership specifically to attempt to change the concept of timber as the only building material of choice for stable construction in the equestrian industry. This was successfully achieved (with over 45,000 boards per year now sold into this market) GOplastic's target was then to introduce

recycled street & park furniture, bollards, decking, fencing and profiles for various applications into a wide sector within the UK, and our vision was to supply only 100% recycled products. There are no office buildings for GOplastic. Home-working has always been the normal working practice for the staff at GOplastic long before the pandemic forced companies to adopt this arrangement. Part of our responsibility target is to spread the word and CPD seminars are delivered to companies at national level to raise awareness of the green agenda

2. INNOVATION

GOplastic customers are not only delighted by the excellent quality, standards and choice of eco-friendly products, but also by the innovative contemporary designs proven track record of excellent customer service, from Sales promotion to the point of sale, subsequent ordering through to delivery. Their friendly, flexible, accommodating customer care combined with their passion for their recycled, sustainable products and conserving the environment is obvious to their customers. Sectors The GOplastic team constantly strive to encourage Local Authorities, Housing Associations, Schools, Colleges, Universities, Hospitals, Stable Manufactures, Construction Companies and Architects to use a sustainable eco-friendly alternative to wood thus encouraging the recycling of plastics (giving it a second life), helping any organisation with obligations they may hold around sustainability and supporting recycling by using products with a high recycled content, and in our case products manufactured and supplied with 100% recycled materials content. Solutions The product which is available in an assortment of colours, has the natural of texture and appearance of wood but without the disadvantages of requiring treatments, perishing or causing injury by splintering and can be effortlessly installed. Housing Associations and local authorities specify the following made from 100% solid recycled materials: Significantly reducing cyclical maintenance costs.

- Bin Bay Panels
- Fencing
- Gates
- Designer Street Furniture including planters and benches
- Decking for courtyards and balconies

The splinter-free, rot-proof, maintenance-free, everlasting and durable nature of this product means that there is no need for cyclical maintenance or major replacement programmes which result in a considerable economic benefit for both the Housing Provider and the tenant. In addition, use of the recycled product can help organisations meet their sustainable obligations in their built environment. GOpastic Ltd stands out from its competitors by specialising solely in quality and stylish recycled, environmentally-friendly alternative plastic products with a vast and unique product range. Enabling its customers to both significantly reduce their maintenance costs and gain the sustainable, environmentally-friendly advantage. The quality, innovative and contemporary design of the Goplastic products is what makes us a leader in the UK market of recycled plastic products. We supply a great diversity of profile sizes and these are available in seven different, UV stabilised solid colours.

3. THE STREET FURNITURE

Range includes the European Ovam Eco Design Award winning 'Canvas Bench. Supplying products made from recycled materials into various UK sectors (Housing, Education, Health),

has, partly by coincidence helped GOpastic Ltd demonstrate an effective, economical and strong social responsibility.

4. SOCIAL BENEFITS

Purchasing recycled-content products is an easily actionable step that organisations can take to demonstrate the delivery of policy on sustainability. Purchases stimulates demand for recycled raw materials, closing the loop and diverting material from landfill. Recycled plastic materials are completely inert and will not leach any chemicals into water or soil, even in wet environments. (Source WRAP)

Our business

A sustainable vision



5. ECONOMIC BENEFITS

Setting aside environmental concerns, the economic success or failure of plastics recycling relies on two variables:

- The cost of the raw materials used to make virgin plastic, petroleum and natural gas.
- The cost of recycling versus the cost of disposal, which fluctuates based on a city's proximity to recycling centres.



There are enormous economic and social benefits in the recycling industry, moreover there are great opportunities for social enterprise with open and closed loop recycling.

Closed Loop Recycling: Closed loop recycling is the process by which waste is collected, recycled and produced to make something new. Effectively, the waste does a full circle without having a negative impact on the environment.

Open Loop Recycling: Open loop recycling refers to recycling a product into a different product. Often plastic water bottles are recycled into sleeping bags, fleece jackets and other products.

6. MEASUREABLE IMPACT / BENEFITS:

The chart below indicates the whole life cost savings of a typical bin bay installation. The initial outlay for recycled plastic bin bays estimated 15 to 25% more than the initial outlay for timber materials. Ongoing maintenance of the timber and part replacement after 5 to 7 years increasing yearly. The recycled material outlay, maintenance free with no ongoing up keep or cyclical costs required. Savings are achieved with a benefit to clients, contractors and tenants. These measurable achievements demonstrate a

positive impacted on communities with recycled bin bays, fencing, decking, and street furniture products, while improving the aesthetics of a neighbourhood and reducing maintenance costs. The importance of recycled plastic will continue to increase, not only because it is the most cost effective alternative to wood and other traditional building materials with its obvious practical maintenance-free advantages, but also because it reduces the production of the greenhouse gas associated with the high energy consumption needed to produce concrete, steel and virgin plastic. It also helps reduce the use of wood, preserving forests, the lungs of the planet, which remove a major greenhouse gas, carbon dioxide, from the atmosphere. Bin Bay Solutions

- 100% recycled plastic panels are extremely robust, will not splinter, crack or rot and can be jet- washed without harm to the material.
- Louvre style boards allow air to circulate, preventing a build-up of unpleasant smells around the bins.
- Panels are pre-assembled and available in various heights and widths.
- Natural colours (brown, green, grey) blend in with the environment.
- Powder-coated ground sockets complement the panels.

- Communities benefit from this kind of bin bay installation as their communal areas are easily kept clean, tidy with little disruption due to a very short install time. Within the housing sector our Normandy Bin Bay Panels have significantly reduced the maintenance costs for local authority housing departments and housing associations. Picture below: Normandy Bin Bay Panels used by Stoke City Housing & New Vision Housing in Woking. Street Furniture Designs to create and meet the requirements for a contemporary feel in modern city architecture GOplastic's excellent bench designs offer a truly pleasing alternative to more traditional materials such as timber and concrete. The innovative designs were recognised in 2008 by winning the Ovam Eco Design Award (European Award). The award winning Canvas Bench has proved a popular choice and has been specified by architects on numerous school, college and University new builds and re-furbishment projects. Award Winning Canvas Benches.

7. MOVING FORWARD

- CPD (Continual Professional Development) "The Economic Value of Recycled Products"
- Solar Smart Bench (Unique design and the first ever Solar Smart bench made from recycled material. Harnessing the sun's natural energy via a panel, this bench provides charging of

mobiles and other devices. This has been a recent project and the product is now available. Further advances are being worked on with this technology with a prototype bench that provides lighting and Wifi

- We will continue to work from home and have always done so lowering our carbon foot print wherever possible, and working from home to reduce travel has always been a standard practice for us at GOplastic Ltd.
- Only 100% recycled materials used
- Whole life costs (WRAP) 40 years life span

To ensure these products are continually supplied into specified UK sectors we've written a CPD presentation entitled "The Economic Value of Recycled Products". This is presented to architects, specifiers, local authorities and mixed discipline practices as a learning document, and is geared towards those with an obligation to gain CPD hours and a desire to specify environmentally friendly alternative products. The CPD content covers the following topics:

- Considerations & Costs
- Benefits of recycled products
- What is being recycled?
- Whole life costs
- Manufacturing processes

Picture below: Normandy Bin Bay Panels used by Stoke City Housing & New Vision Housing in Woking.



- Why specify recycled products?
- CO2 Information & Combatting Climate Change
- Case Studies & Product Applications

A unique Solar Range: Goplastic partner with Solar Capture: Solar Capture have added: "At Solar Capture, our vision is set on making renewable solar energy accessible to everyone. We want to empower generations to use clean renewable energy as a means of powering the future. Through a balance of collaboration, cutting-edge technology and honest business application we can, and we are making great change. And we want you to be a part of that. With a range of solar products that have been well received in the traffic/ rail and offshore industry we design fully integrated solar solutions that can be used to power remote applications. Our products are recognised as innovative and reliable: "We have recently designed a solar charging smart bench. The Solar Smart Bench 6180 is made from recycled plastic and has a built in solar module that powers phone charging and can extend WIFI" "The idea behind this product was to encourage more outdoor activity, health and fitness, safety and shows a commitment that we are making an effort to use alternative sources of energy". "This product is being installed in a number of National Trust sites as well as several high streets. There are many opportunities to work with GOpastic to integrate solar into more of their street furniture products". (Solar Capture)

8. INTERNATIONAL:

As well as distributing recycled plastic products into many UK sectors, there are also ongoing opportunities for GOpastic to supply internationally. We have supplied recycled street furniture products to Chile, Pechersk School International in the Ukraine and Jersey in the Channel Isles and this is another avenue we will pursue for future growth and development. A word from our supplier: ONCE IS NOT ENOUGH the importance of recycling. Recycling waste today is still a choice. Tomorrow it

will be a necessity. For several years now, we have been proving that a durable solution for the growing plastic waste stream does exist. With continuous growth for more than 50 years, global world plastics production has risen from 2 million tonnes in 1950, to 368 million tonnes in 2019. This is a striking figure... European production alone accounts for about 58 million tonnes of this total amount. 25 million tonnes of plastics ended up in the waste stream in 2012 of which 6.6 million tonnes were used in recycling. We are pleased to take part in this cycle, with durable and recyclable products as a result. We always aim to be at the forefront of innovation when it comes to product development, design and manufacturing processes. We are constantly looking to meet our customer's needs and to adapt our products to the latest requirements. Our street furniture range is a visible and clear example of how we invest in updating our business. We are cooperating with a fine selection of product designers. (Govaerts Recycling) (Govaerts Recycling)

9. USEFUL & INTERESTING STATISTICS:

- The Waste & Resources Action Programme (WRAP) state that statistics show a 40 year life span for recycled plastic products. (Please see editorial also submitted)
- 12.7 tonnes of CO2 emissions are saved for every tonne of plastic waste prevented. (N.I.S.P.)
- There are nearly 1000 plastic bags used in every square metre of recycled plastic decking.
- One Canvas Design Bench = 3200 bottles or 4000 plastic bags
- Our supplier produces over 14,400 kilometres of recycled profiles each year.
- They have recycled over 3 billion bottles since 1995.

For full details of our product range please visit the website www.goplastic.co.uk Company Reg. No: 5766155 VAT No: 737230053

HORIZON THERAPEUTICS

NOT JUST SURVIVE BUT THRIVE

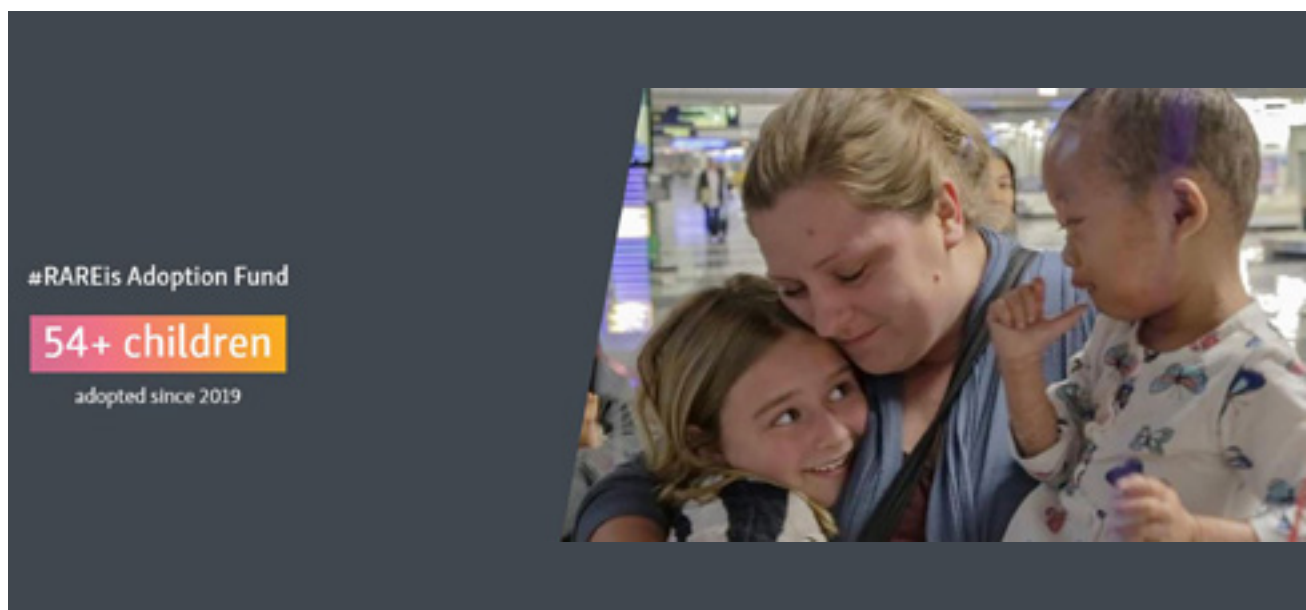
At Horizon, we want all children with rare diseases – including those waiting for their forever homes in orphanages – to not just survive, but to thrive. That is why Horizon partnered with Gift of Adoption (GOA) in 2019 to develop the #RAREis Adoption Fund, which will help more than 35 children with rare diseases join their new families, who will love and care for them (over three years). The RAREis Adoption Fund delivers financial support to families that need help covering the cost of adopting children with rare diseases. Horizon is expediting the transition out of domestic foster care and global orphanage systems for children with rare diseases and raising awareness about how challenging rare diseases can be to diagnose, manage and treat. This focus on children with rare diseases is uncommon, and demonstrates a holistic approach towards improving life outcomes for these children.

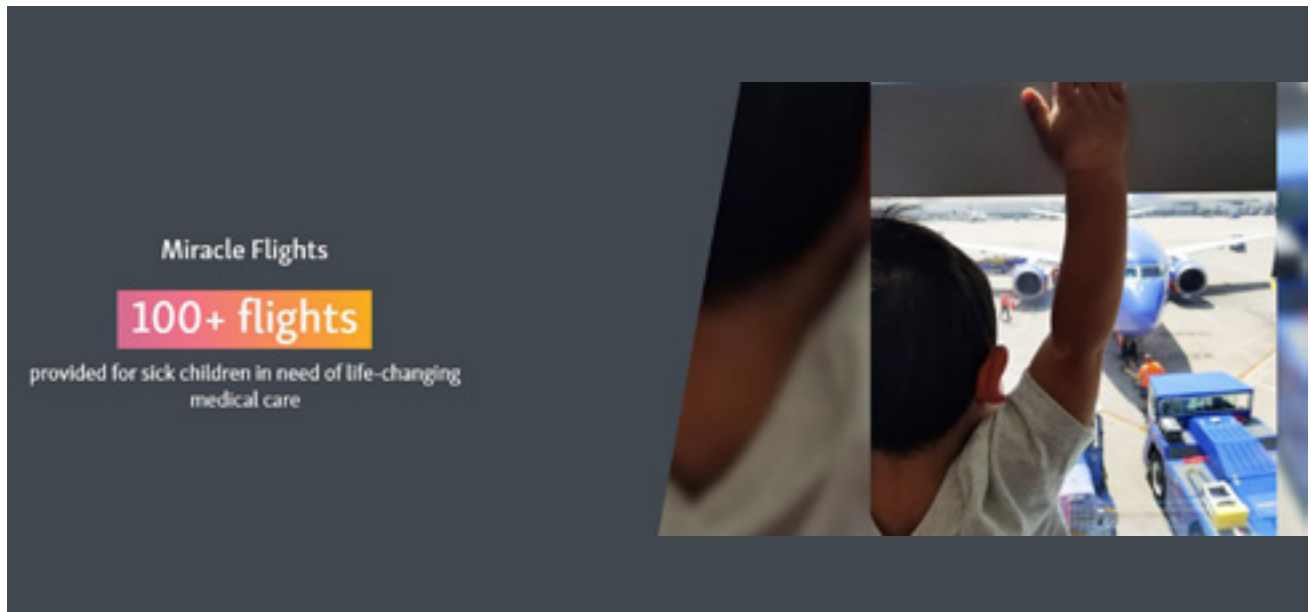
Many of us at Horizon know a patient, are a patient or have been deeply moved to action through a patient story. This deep appreciation fuels every decision we make and shapes who we are. From the medicines we develop to the communities we

support – for us, it's personal. Changing the odds in rare disease means delivering on our promise to bring meaningful therapies to patients, their families and the physicians who care for them. Horizon's impact, however, goes beyond its medicines. Showing up for children with rare diseases includes supporting families in extending their love and care, as well as increasing access to therapies.

COMMITMENT TO STAKEHOLDERS

At Horizon, we want all children with rare diseases – including those waiting for their forever homes in orphanages – to not just survive, but to thrive. That is why Horizon partnered with Gift of Adoption (GOA) in 2019 to develop the #RAREis Adoption Fund, which will help more than 35 children with rare diseases join their new families, who will love and care for them (over three years). There are over eight million orphans and vulnerable children in institutions globally, many of which are unable to be cared for because of financial constraints or poverty. A serious medical condition





further diminishes the already low odds of being adopted, and compounds their daily struggle to just survive. Although 25% of Americans consider adoption, only 1% complete the process. The high cost of adoption (avg. \$36,000) is cited as the primary barrier. Not being adopted into a loving home is tragic for many reasons: only 2% of children who age out of foster care will obtain a college education, 80% of the prison population is comprised of adults who were in the foster care system, and an estimated 1/3 of children that age out of foster care end up homeless. Within this population of vulnerable children, there are even more challenges for children with severe medical issues, like rare diseases. Partnering with GOA, specifically, allowed Horizon to ensure our support was having the greatest reach. GOA focuses on at-risk adoptions and adoptions for children with significant medical conditions. Approximately 35 percent of all adoptions completed through GOA are for children with medical needs and almost 45 percent of those are for children with rare diseases (2015-2017). GOA grants are awarded through a rigorous grant selection process that triages the greatest need. To be qualified for a grant, families must have an approved home study from an accredited and licensed agency and must

demonstrate financial need. GOA's grant selection committee evaluates a number of factors, including the qualifications of the applicant, the imminence of the adoption, the financial needs of the applicant, the perseverance shown to complete the adoption, and the circumstance of the child(ren) they are adopting. Continuous Improvement Initially, Horizon invested \$25,000 to seed the program. It quickly became clear that the need was far greater, so Horizon expanded its support to \$50,000 annually. Following an initial three-year commitment to the RAREis Adoption Fund of \$150,000, Horizon intends to maintain its support at \$50,000/year, allowing the Gift of Adoption team to maintain a placement pace that is aligned with their capacity. The RAREis Adoption Fund delivers financial support to families that need help covering the cost of adopting children with rare diseases. Horizon is expediting the transition out of domestic foster care and global orphanage systems for children with rare diseases and raising awareness about how challenging rare diseases can be to diagnose, manage and treat. This focus on children with rare diseases is uncommon, and demonstrates a holistic approach towards improving life outcomes for these children.

CSR BENEFIT

In addition to the lives that have been transformed directly so far, the #RAREis Adoption Fund has had residual effects on employees. Employees raised an additional \$5,000 in the weeks leading up to the official launch of the program, furthering the personal commitment to this community. All donations are eligible for company matching, doubling the impact of employees' personal giving. Seven Horizon employees have joined Gift of Adoption Fund chapter boards across the country, including in Boston, MA; Chicago, IL; Seattle, WA; and Washington, DC. Employees serving on boards leverage their shared network and collaborate on fundraising. Further, the families assisted by the fund receive more than just financial support. They are connected to patient advocacy organizations and Horizon's #RAREis™ community platform. Launched in 2017, #RAREis elevates the voices, faces and experiences of those living with or caring for someone with a rare disease. #RAREis is anchored by a community website, Instagram page and Facebook page that showcases photos, stories and resources for people touched by rare disease. Once a grant is awarded from the #RAREis Adoption Fund, the family is notified and asked to submit feedback which is shared on a quarterly basis with Horizon. Horizon is then able to help with specialist referrals, connections to Miracle Flights, etc., going above and beyond funding to ensure the child receives the medical treatment needed. Not only is Horizon bringing these children home, but they are able to watch them thrive in their new families.

SOCIAL BENEFIT

For us, success is measured by the numbers that matter most – the number of lives we touch, the number of lives we change and those we work tirelessly to help save. For the RAREis Adoption Fund, we count the number of smiles from children brought into their forever homes, the number of new memories created between siblings and the countless manifestations of sacrificial love from

parents. Children awaiting adoption, particularly those with significant health challenges, are aware that the odds aren't in their favor. Each case where a child is brought into their forever family is a life transformed; each family defying the odds. Children who join a loving, supporting home, are given access to the specialized care they need to live up to their full potential. In providing \$150,000 over three years, the #RAREis Adoption Fund will connect over 35 children living with rare disease to their families. The fund ambitiously sets out to address the many critical needs within a rare disease family – diagnosis, specialized care and complex treatment, and the intensified biopsychosocial needs that accompany caring for a child with a rare disease.

MEASURABLE IMPACT

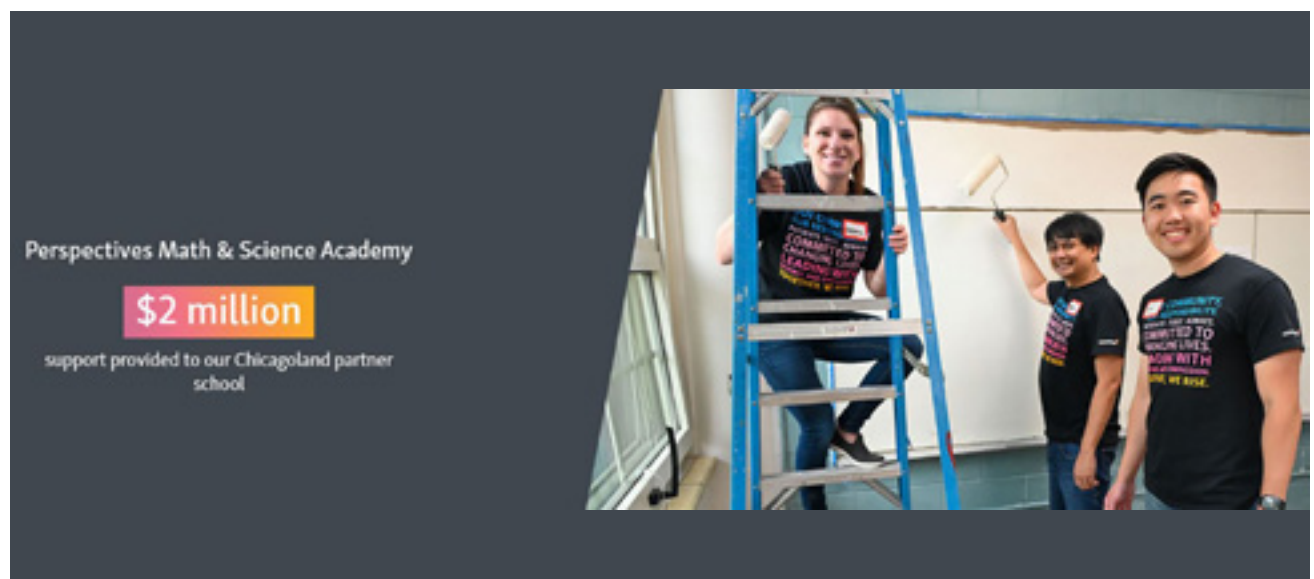
The children brought home to date are all receiving lifesaving treatment, including:

- Nora, adopted from China at the age of 3 with Ichthyosis, which is a rare skin condition that causes skin to grow rapidly, causing it to heal quickly, but also causes issues for skincare and nutrition. Nora's parents know how to treat her disease since their 7-year-old daughter has the same condition.
- Avery, adopted from the U.S. with SMA. Avery has received the brand new one dose treatment for this disease and her parents hope that she will live a long and healthy life.
- Kambale, adopted from Uganda with Brittle Bone disease. Kambale's parents have been sending funds to Uganda to care for him for six years and are now adopting him. They are intimately familiar with his condition and have already lined up the specialists for surgeries he needs to be able to walk on his own.
- Mia, with Spina Bifida and kidney disease, adopted at the age of 13 from China. Mia is now on the list for a new kidney, an option not available to her in China.

Promotion As many as 30 million people in the United States are living with a rare disease today, and 50% of rare diseases affect children. Horizon partners with rare disease patient advocacy organizations such as Global Genes and the National Organization for Rare Disorders (NORD) to help spread the word about all of Horizon's initiatives that are benefitting rare disease patients. The first family who received a grant from the #RAREis Adoption Fund was greeted upon their return from China at 6am on a Saturday morning at O'Hare airport in Chicago by a group of Horizon and Gift of Adoption employees. One Horizon employee said that it was the best experience of her life. Horizon followed this family, the Miller Family, to capture the emotion behind the tremendous impact this adoption fund had on their lives. The video highlights the excitement the family felt in anticipation of bringing Nora home from China, the moment Nora meets her sisters for the first time, and the family's celebration of all four of Nora's birthdays, including the ones she had before joining her forever home. This video captures why this adoption fund is so important:

Nora and the Millers' lives will be immeasurably changed for the better, and we are so proud to have played a supporting role in making it happen. The video can be viewed here: <https://www.youtube.com/watch?v=Htc79mEykhM>

Horizon also organized collaboration between GOA and Sing Me a Story, a nonprofit organization that utilizes the power of song to tell the stories of children in need, including those living with rare diseases. A song was written by Francis, a GOA grant recipient with WAGR Syndrome, and performed live at a Global Genes conference. The #RAREis Adoption Fund was also featured in national and local media articles in Good Morning America, BLOOM Blog, Chicago Ideas Blog, Global Genes RAREcast podcast, Lake Forest Leader and the Illinois State Journal Register. The fund exemplifies Horizon's unique commitment to the rare disease community, its leadership in corporate social responsibility and its employee commitment to support children with rare disease who need loving families.





Going to

incredible lengths

Horizon Therapeutics is proud to be recognized as a CSR World Leader.

Horizon is a global biotechnology company focused on the discovery, development and commercialization of medicines that address critical needs for people impacted by rare, autoimmune and severe inflammatory diseases. Our pipeline is purposeful: We apply scientific expertise and courage to bring clinically meaningful therapies to patients. We believe science and compassion must work together to transform lives.



horizontherapeutics.com

KING POWER INTERNATIONAL CO.LTD

KING POWER CORE

King Power believes that Thai people are as great as anyone in the world, and this has sparked the idea behind “King Power Thai Power”, a CSR project which aims to inspire Thais to go further and achieve international success in various aspects, from sports to music and community.

Over the past three years, there have been many projects under King Power Thai Power, reaching all the 77 provinces in Thailand in more than 3,000 communities. For sports, King Power has given away a million footballs through “Million Footballs, Million Power, for Thai Youth Dreams”, and there were also “100 Football Pitches for Thai Youth Power” and the “Fox Hunt” to find rising stars in football who will receive scholarships and training in Leicester City Football Club in the UK.

For music, King Power has ignited the passion of Thai musicians by supporting the “Thailand International Wind Symphony Competition” for the third consecutive year in order to allow Thai youth and music lovers to showcase their skills and achieve international success.

For community, to show the world that Thailand has many great assets, King Power has joined Thai communities to highlight their local legacies and unleash their creativity for the world to witness.

Additionally, King Power Group also partnered with the Ministry of Tourism and Sports to support Thai communities through “King Power Thai Power: Sukha Suk Jai” to offer universal design

toilets for communities in tourism areas. These toilets are designed for men, women and those with disabilities, and they are clean and safe for all.

These are some of the examples of how King Power has committed to bringing together the power of Thai people to go further and become even greater than ever.

THE POWER OF MUSIC TO SHOW THAI'S TRUE TALENTS

“What we lack in Thailand’s music industry is not talents, but opportunities to take our talents to reach their full potential.”

That was part of the speech by Dr. Narong Prangcharoen, Dean of the College of Music,



ประกาศรายชื่อผู้ที่ได้รับทุนการศึกษาจาก คิง เพาเวอร์ และ De Montfort University เพื่อศึกษาต่อระดับปริญญาโท จำนวน 7 คน

1. Fareeda Tanee	5. Pornapa Ongtrattanasenee
2. Jetarin Chokchaipermphol	6. Swiss Dechprechachai
3. Karnwajee Hirunnopcharoen	7. Yamonporn Saengnin
4. Patawee Puangchit	

www.kingpower.com KingPowerOfficial 1631

Mahidol University, and he was delighted when King Power, who also believes in the power of Thai people in music, joined the Thailand International Wind Symphony Competition (TIWSC), the ultimate music competition with a royal trophy from His Majesty King Maha Vajiralongkorn, which is now in its third year.

“There was a competition like this in Thailand, but due to budget limitations, it was put on hold for several years. King Power was committed to inspiring Thai musicians, and discussed with Mahidol University, who is ready to support music skills, to bring the competition back once again. There were some changes to the name and criteria to make this more than just a competition, but a big wave in our society.”

Another special highlight that has never happened before is the change in categories in the competition. There are now four categories: Class A is wind symphony, open division. Class B is wind symphony, student division. Class C is small wind ensemble, open division. Class D is small wind ensemble, student division.

“We have open division because we want to give

freedom to people to showcase their music skills, regardless of their gender, age, or nationality. As long as they love music, they can showcase their skills. This is the only competition in Thailand to be open like this.

“In the first year of the competition, I teased the winning team that they were even older than me. I was really impressed when they told me that they were not in the competition to win, but just to play music. To perform in the Prince Mahidol Hall was a once in a lifetime experience for them, and I think that’s the spirit of musicians. This is what Mahidol University and King Power want to see — for music lovers to come not just to compete but to enjoy music and create friendship. The atmosphere is very friendly, and it doesn’t matter who wins, as everyone is ready to congratulate each other. This is a competition where musicians not only achieve their dreams but also come together to form friendship through music.”

What makes this competition recognised by every party is its transparency and fairness. In each round, there are Thai and international judges, and in the final round, there are special judges who are famous and recognised in the music circle. Thai



musicians who make it to the final round also get a great opportunity to join a conducting workshop with world-class music gurus.

Dr. Narong also added that the competition does not end when the winner is announced, as each year there is only one winner. Those who do not win are also inspired to keep improving themselves. “Even if you win this year, next year you might not win again, because each band has to keep improving. Sometimes, it is hard to convince musicians that they have to keep improving, but being in a competition like this stimulates them to go further and know where they stand. If you lose this year, you can look at the winner and try to be even better than them, just like athletes who have to set a new record.”

The goal of the competition, according to Dr. Narong, is to elevate its status to an international level. “Within 3-5 years, this will be a competition that international musicians want to join. Over the years, there are about 10-15% of foreign participants. Thai youth or musicians do not have to spend over a million baht to enter a competition overseas. In the future, our competition will be globally recognised. This will help bring fame to Thailand and generate income for the country as well.”

Dr. Narong added that Thai people are talented and can compete internationally. They only need support from the government and big companies. “I believe that when Thais really put their mind to it,

they can succeed. King Power has opened up new opportunities, and I believe that we will see more and more Thais on an international level.”

MISTAKES ARE THE GREATEST TEACHERS

Prince Mahidol Hall was filled with a loud round of applause as soon as the winner of TIWSC was announced, and that sound still echoes in the mind of the 80 members of Suranaree Girls Wind Symphony, an all-girl band from Suranaree Witthaya School.

They were overjoyed by their success, which was a result of their hard work and dedication. The band from Nakhon Ratchasima achieved their dreams, thereby showing the world that girl power can be amazing.

Apivut Minalai, the conductor of the Suranaree Girls Wind Symphony, said that the band was formed in 1983, but changed from a marching band to a concert band in 2015 because the school wanted to take the students’ skills to the next level. The members of the band are students in Grade 7-12 who are passionate about music.

“When they practice, I never pressure them that they have to win, because winning doesn’t matter as long as you try your best. I think it’s good to send our students to competitions because they get to showcase their skills, otherwise it’s almost impossible for them to perform in a place like the



Prince Mahidol Hall. If they were to have their own concert, there's a lot of expenses and steps involved, and there's no guarantee that a lot of people will attend. Having a competition like this is a golden opportunity and makes them want to try their best."

On their victory, Apivut said it's a result of every team member's hard work and dedication. They had learned from their previous mistakes and experiences to improve themselves. "In the previous year, we won the Gold Class classification, which is for those who score more than 85, but we were not the winner. We took home the loss and used that as a fuel to keep practicing and getting better. Eventually, we made our dream come true and won in the toughest competition."

From the victory at the Thailand International Wind Symphony Competition 2019, the Suranaree Girls Wind Symphony went on to win many other prizes such as the Gold Medal Certificate.

"I always believe that Thai youth have a lot of potential but they do not get enough opportunities. King Power's support makes them see that they can make their dreams come true through music," said Apivut.

LOSSES ARE STEPPING STONES TO SUCCESS

Love for music does not fade with time, and "Big" Supat Hanpatanachai, a member of the Siam Saxophone Quartet (SSQ), always enjoys playing music in the band he established 12 years ago.

The SSQ has gained many experiences since its establishment in 2008. After just a year, it won in the Asian Symphonic Band Competition 2009, which paved the way for the band to perform in many countries like Slovenia, France, Japan, Croatia, Singapore and Canada.

The band members are now the third generation, but as a founding member, Supat has remained with

the band and is committed to elevating the status of Thai musicians to an international level.

"I've played music since I was little, and now I'm a music teacher. For me, a competition helps you realise your skills beyond winning. We've had many new band members, and now they are the third generation who have been with the band for three years now. Our band members must have a positive attitude towards music, and I believe that this mindset will lead to quality."

Thanks to his solid love for music and his constant practice, when he heard that there's a TIWSC, the SSQ was very excited.

"The first year we joined the competition, we didn't win, but in the recent year, the SSQ won the runner up prize in the Class C category in the open division. I also play with the Bangkok Saxophone Collective which was in the Class A category and won the second runner up prize. For 2020, we will try again. It doesn't matter if we win or lose — just getting to perform at the Prince Mahidol Hall, which is the most equipped music hall in Thailand and the only place designed for acoustic music, the ultimate destination for musicians, is a great opportunity. We will try our best because this is the biggest moment in music."

Supat, also known as Ajarn Big, also said that as a music teacher, he understands that musicians are under a lot of pressure when they are in a competition. It's not because they're afraid they will lose, but they want to do their best so they can see where their band stands. Whether they win or not is up to the judges.

"For me, I believe in the power of Thai people. We are great, and when we unite, great things are always possible, and success is within our reach. In music, over the years, Thailand's music has improved significantly, and the world is watching. Having support from big companies and having a big competition like this will help drive improvement even further," said the avid musician.

GLASSBLOWING: A LOCAL THAI CRAFT THAT BRINGS INCOME TO THE UNDERPRIVILEGED

An unexpected twist of fate turned Phop Thepasit into a disabled person at 25 years old. At first, he felt hopeless and thought life was over, but then he realised that there's much more to life when you stop thinking only about yourself. He got up once again to live his life and now he's a representative of the underprivileged to show the world that Thais are great at glassblowing.

"When I decided to give it another shot, I learned more than 30 different things, from making roses from dough to making inhalants, fancy candles, salted egg, banana fritters, gel lamps and bags. I didn't make a lot of money, but I discovered that things that are hard and time consuming do not have a lot of competitors. So, I learned glassblowing because I've always loved art and I have some background in traditional Thai art."

He admitted that glassblowing requires a lot of skills, patience and carefulness. Even with protective glasses and gloves, he must be very careful because the fire is as hot as 180 degrees Celsius in order to melt the glass.

"One time, I spilled a bit of melted glass on my leg. I count myself lucky that I'm partially paralysed, so I didn't feel anything, but I noticed the smell. If not, it would have been a big problem because the heat could really damage the skin. I feel that glassblowing requires a lot of skills. To me, glassblowing is like life — if you are too fast, the glass can break. You have to go slow so that it can bend and stretch. If the heat is too much, the glass cannot be shaped as you want it to."

Although there are not many competitors, the business has not been easy either. He did not know how to grow his business, and while the government's support in sharpening skills and offering tools did help, what he really needed was an opportunity to penetrate the market.

"At the time, the government supported Thai crafts to enter the Asean market, and King Power served as the driving force to get the products showcased internationally. At the time, there were many glassblowing businesses, but King Power saw that we were fitting because our price is reasonable and our products represent Thainess. We use gems and crystals to add value to our products, and we use Thai elements like the national Thai flag, tuk-tuks and elephants to make our products more interesting. We produce elephants in various poses, and we also dress them up, which makes our products different from others in the market."

With King Power's support, he said his business had grown significantly. In the past, he had to produce his products and wait for people to buy them, but now he knows for sure that they will be purchased. They are available at King Power Duty Free throughout the year, and they are bought by Thai and international customers. Having a definite market helps him and his friends in the Disabled Cooperative have a steady source of income and save money in ordering raw materials. For instance, instead of buying 10 kg of glass sticks, he can now buy 100 kg, which means a better price. King Power also helps improve packaging to meet the needs of international markets.

Phop is determined to come up with new products to make his offerings more interesting, from the Royal Barge to seasonal items such as cupid elephants for Valentine's Day. New items will be introduced every three months. "King Power believes in Thai people, including those with disabilities who are underprivileged. This is amazing because while we stand up for ourselves, we will need support and opportunities. We don't have to be recipients — we can be givers who can take care of our family and contribute to our society," said Phop, who is now the president of Thai Disability Product Service Cooperative.

KINGDOM HOUSING ASSOCIATION

KINGDOM PROVIDES MORE THAN A HOME

KINGDOM PROVIDES MORE THAN A HOME

Kingdom Housing Association, like many other organisations, has experienced an unprecedented few years due to the Covid-19 pandemic but this has only increased our dedication to our Corporate Social Responsibility. Our mission at Kingdom is to build strong, sustainable communities and to provide More than a Home.

We have found different ways to support and assist our communities including;

- The Kingdom Coronavirus Assistance Fund, to support tenants and customers experiencing financial difficulties as a result of COVID-19. We have supported 507 families to a value of £111,105 with each application averaging approx £220.
- Chief Executive Small Gift Fund - Staff from across the organisation have enjoyed sending small treats to our tenants over the last year. We sent out an amazing 489 gifts.
- Tenant Support Services - Over the last year our housing team has collectively engaged with 1106 customers, and secured over £659,000 of benefits for our customers since April 2021.
- Connecting Scotland Funding, where iPads and Chrome books have been secured, we have received 271 electronic devices that we have distributed to the most vulnerable members of our society.

Bill Banks, group chief executive with Kingdom, has been looking back over the last six months to review the organisation's response to the pandemic and identifying changes to the way services have been delivered and to how tenants have been supported.



CHARITIES AND COMMUNITY GROUPS WHO HAVE ACCESSED FUNDING DONATIONS THROUGH OUR CHARITABLE AND COMMUNITY INITIATIVES FUND.

We have donated over £55,000 to help support these groups. Delivering Community benefits through investment programmes, services and projects. Our community benefits strategy is to add social value, including what can be delivered as part of our development projects, to provide sustainable benefits in the longer term.

CONTRIBUTING TO CLIMATE CHANGE OBJECTIVES.

We have plans to plant 400 trees to help offset the carbon footprint of our transport fleet. Charging points for electric vehicles are being installed at Kingdom's offices.

The initiatives Kingdom facilitates and delivers demonstrates our Corporate Social Responsibilities and ultimately meet our objective to provide More than a Home.

Kingdom Housing Association, like many other organisations, has experienced an unprecedented few years due to the Covid-19 pandemic but this has only increased our dedication to our Corporate Social Responsibility (CSR).

Our mission at Kingdom is to build strong, sustainable communities and to provide More than a Home.

We work closely with local communities to support and facilitate the development of community benefit projects, with a focus on:

EMPLOYMENT & SKILLS

Environmental projects - Resident and community projects Education and schools initiatives

Public art - Financially, the current pandemic has been very challenging for many of our tenants, customers and communities.

Kingdom Housing Association's long track record of supporting local community groups and clubs has continued with the latest grant as part of its Community Benefits Programme.



We have found different ways to support and assist them including;

The Kingdom Coronavirus Assistance Fund, to support tenants and customers experiencing financial difficulties as a result of COVID-19

Chief Executive Small Gift Fund Tenant Support Services Connecting Scotland Funding, where iPads and Chrome books have been secured to distribute to vulnerable and eligible people in our communities

Charities and Community Groups who have accessed funding donations through our Charitable and Community Initiatives fund

Delivering Community benefits through investment programmes, services and projects.

CONTRIBUTING TO CLIMATE CHANGE OBJECTIVES

Coronavirus Assistance Fund In April 2020 and April 2021, Kingdom's Board of Management created a £100,000 Coronavirus Assistance Fund each year to assist tenants and customers experiencing financial difficulties as a result of Covid -19.

As the pandemic continued the Board of Management felt it was important to increase the funding each year. So far we have supported 507 families to a value of £111,105 with each application averaging approx £220.

The fund is available to people whose household income has been directly impacted as a result of the coronavirus pandemic. The fund is available to Kingdom Housing Association tenants, Kingdom Initiative tenants, sharing owners or individuals who are supported by Kingdom Support and Care.

Staff at Kingdom Housing Association have raised £1,300 for the Cottage Family Centre Christmas Toy Appeal, helping to make Christmas magical for local families.



Leigh Brown, service co-ordinator at Kingdom

All we needed people to do was demonstrate that their household income had been directly impacted by the coronavirus pandemic, provide details of any changes in their employment situation and provide an indication of what the grant will be used for.

CHIEF EXECUTIVE SMALL GIFT FUND AT KINGDOM,

We have an employee recognition scheme where staff nominate colleagues or other teams for actions and behaviours they have demonstrated that fit with our Values. As part of the scheme the staff can nominate a charitable donation and receive gift vouchers as prizes and this year they all agreed that the donations and vouchers should be used to buy the small gifts for our tenants.

Staff from across the organisation have enjoyed sending small treats to our tenants over the last year. We sent out an amazing 489 gifts and the feedback from our tenants has been very rewarding.

Here's a small selection of some of the comments:

"Almost in tears here. I just received a wonderful bunch of flowers. No one has ever sent me flowers in my entire life. I'm totally overjoyed. Been a long

time since I've had this extra smile."

"I had an amazing gift of an amazon voucher nominated by a Kingdom member of staff. As a nurse who has worked throughout this pandemic, this has made me smile so much today and I cant believe the kindness people show and have for others".

"Thank you for the afternoon tea delivery - what a lovely surprise, I really enjoyed it - a fantastic gesture".

TENANT SUPPORT SERVICES

The rising cost of living, combined with the impact of the pandemic on the mental and physical health of our most vulnerable service users, means that there continues to be a great demand for help across our services. This demand has been particularly prevalent in the area of energy advice, with more customers than ever before seeking crisis support due to an interruption to their energy supply.

We recognised that many of our tenants were even more vulnerable due to the restrictions and we immediately introduced a system of welfare calls and visits to people who we knew required support, or were socially isolated in their homes. Part of this was a staff initiative to visit tenants, to help with shopping and deliver small gifts to them to help brighten their day.

The tenants really appreciated the interest shown and the visits and contact has been maintained. Since the start of the pandemic we have enhanced all our advice, assistance, tenancy sustainment and energy advice services. Over the last year our housing team has collectively engaged with 1106 customers, recorded over 3000 case notes, and secured over £659,000 of benefits for our customers since April 2021.

It has also provided 786 non-financial outcomes in areas like welfare advice, form filling, and advocacy.

Kingdom employs a dedicated energy adviser who can support tenants with advice and assistance, this has been particularly important throughout the pandemic and more so now with increasing energy costs.

Various support initiatives have been introduced to support tenants and provide measures to address fuel poverty, including projects such as;

- Warmer Winter Packs
- Fuel Bank Vouchers
- Pressure Cooker Scheme
- Energy Hardship Fund.

A customer who received assistance from Kingdom said; “Myself and my family got Covid and unfortunately I’ve been left really weak, so this was such a nice surprise! I appreciate the support I’m able to get with budgeting and fuel top ups. Due to us all being at home, the gas/ electricity is through the roof! Many, many thanks again - I’m so happy to be part of a nice Association that recognises good community spirit”.

The pandemic has financially impacted on many social rented tenants resulting in them building up significant rent arrears. Through funding available from the Scottish Government we have been able to secure almost £100,000 in funding support to pay tenants rent arrears, which helps reduce their debt and address their financial stress, it aids health and well-being and ensured their tenancy sustainment.

CONNECTING SCOTLAND FUNDING

We have received 271 electronic devices that we have distributed

to the most vulnerable members of our society. The provision of mobile devices through the Connecting Scotland Fund helps people access banking, shopping and other online services, as well as facilitating social interaction with friends and family.

One of the tenants who received a new Chromebook said, “I really don’t think people realise what a difference this will make for us. It’s just fantastic”.

COMMUNITY INITIATIVES FUND

Kingdom’s Community Initiatives Fund has been in operation since late 2017 and donated over £55,000 to help support community projects submitted by tenants, residents in the community, clubs, schools, voluntary groups and others who are promoting community projects.

Our tenants, residents and community projects could qualify as well as projects delivering training and employment schemes.

Education and school initiatives, public art initiatives and activities aimed at improving energy efficiency and the environment are all considered.

Kingdom Housing Association and Champion Homes have spread some extra festive cheer this year as they give back to the local communities surrounding their developments.



Kingdom is committed to building communities as well as affordable homes. The average donations are between £250 and £500, however they make a significant impact to the delivery of community projects and we are very pleased to be able to make these donations to help worthy causes.

The organisations receiving these donations are diverse and some examples of donations are;

SPORTS TEAMS, PURCHASING KITS AND EQUIPMENT

Community groups putting on christmas lights and firework displays

PUBLIC ART

Community Councils improving children's play area.

Buying books for local primary schools

Help support local families in crisis and aim to keep children in their homes and community and out of the care system during the Covid-19 pandemic.

Provide duvets/pillows/pots and pans which are new and are suitable for use for families who are in financial hardship

COMMUNITY BENEFITS

Delivering community benefits and sustainability are core objectives that contribute to Kingdoms Corporate Social Responsibility.

At Kingdom we have a large house building programme and we incorporate community benefits into the programme. The purpose of the community benefits strategy is to add social value, including what can be delivered as part of our development projects, to provide sustainable benefits in the longer term.

As part of the new housing supply strategy we prioritise the following community benefits;

Employment and Skills, such as; Creating apprenticeships to help increase levels of youth employment, Creating jobs for unemployed people, Providing work placements and training opportunities to unemployed people, to help them gain work experience to aid their job search, Providing work experience to students.

Supporting resident and community projects across a range of themes including;

Health and well-being initiatives, Capacity building and advice and assistance projects which assist residents and the local community to help address the challenges associated with such things as; welfare reform financial inclusion digital inclusion

Environmental projects, which contribute to sustainability objectives, particularly in the following areas; Housing quality and renewable technologies as part of the new build standards, Energy conservation and fuel poverty, promoting environmental awareness and energy efficiency with tenants, Environmental and amenity improvements.

Education initiatives, through developing business partnerships with schools and colleges which contribute to their curriculum and help to promote an integrated and inclusive society. Community arts projects which provide value to local communities such as; Local arts and crafts projects, Public artwork, as part of the redevelopment project, Photography, design and media projects.

COLLABORATIVE WORKING

Many of our CSR initiatives are delivered through collaborative working with others.

Recent examples include;

Working with contractors and developers to deliver

community benefits as part of our capital investment programme.

Joint working with a local primary school to develop and publish a Healthy Living handbook to improve health and well-being during the pandemic.

Consulting with local communities to develop public art projects including an art trail initiative as part of a regeneration project.

Partnerships with local employers to deliver employability projects such as phase 2 of our Naumann Initiative, where we provide support and a home to a homeless person and work with local companies who provide the jobs.

CLIMATE CHANGE

Kingdom continues to demonstrate our CSR commitment to tackling climate change. This is demonstrated through our new build specification and the investment in the improvements we undertake to our existing housing stock. We have plans to plant 400 trees to help offset the carbon footprint of our transport fleet. Charging points for electric vehicles are being installed at Kingdom's offices and proposals are being progressed for adding electric and hybrid vans to the fleet as part of a £50,000 commitment to investing in reducing our carbon footprint.

Landscape architects are asked to maximise tree planting and retention within the design specification and cycle storage is being provided for residents in common access flats.

RESOURCING

At Kingdom we resource delivery of our corporate social responsibilities through a range of methods including;

- Direct funding
- Securing grants

Contract Conditions and procurement practises

Collaborative working and joint funding

Managing and delivering added value services and projects in our communities

INVESTING IN THE WORKFORCE

The earlier examples demonstrate how we deliver on the above. At Kingdom our core customers are our social rented tenants and the initiatives above identify how we deliver benefits to both our core customers and the people living in the communities where we operate.

In respect of the added value services we provide to people in our communities, who are not tenants, this includes services such as;

Care and Repair; where we manage and provide an adaptations service to older and disabled people who are owner occupiers or private rented service tenants.

Small Repairs Service; where we provide small repairs to vulnerable older people.

Kingdom Works; our employability project, which builds the capacity of unemployed people, through providing training and securing employment with employers in the community. Kingdom embeds the delivery of community benefits across all our services and employs a range of dedicated staff members and teams to deliver sustainable tenancy services and added value projects.

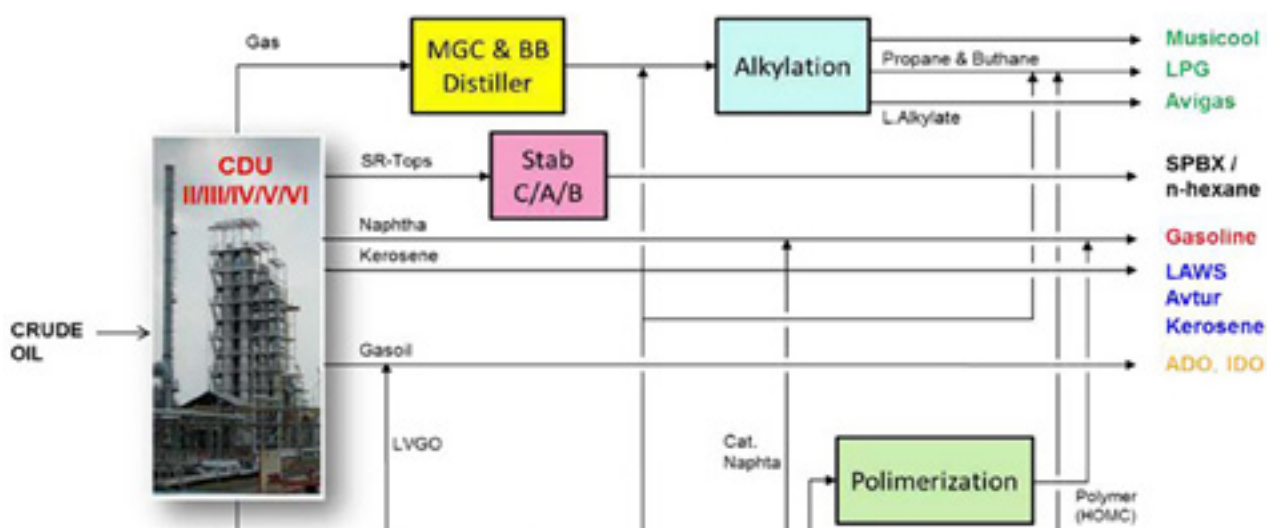
The initiatives Kingdom facilitates and delivers demonstrates our commitment to supporting our customers and communities, allowing us to deliver on our Corporate Social Responsibilities and ultimately meet our objective to provide More than a Home.

PERTAMINA REFINERY UNIT 111 PLAJU COMMUNITY COMMITMENT

“Fighting Climate Change Initiatives with Local Communities” is a regional program to increase the involvement of the community and other stakeholders to strengthen adaptation capacity to climate change impacts and reduce emissions, as well as to provide recognition for climate change adaptation and mitigation efforts. PT Kilang Pertamina Internasional Refinery Unit III Plaju (or Pertamina RU III Plaju) has fully committed as the Indonesia state-owned enterprises to bring the value in mitigating climate change that creates more impact socially for human beings, refocusing more broadly, this project involved both company and people in South Sumatera in a way to collaborate and partnership in creating this city clean, sustainable, and liveable in the aspect of nurture environment. The project is designed to provide a mutual benefit project on climate mitigation by Pertamina RU III Plaju to local people through collaboration. This program aims to bring several districts to transform the area to become more aware and adapt to climate change by creating several social innovations that focus on climate mitigation, for instance: a barrel water system that is integrated with fisheries, urban farming, recycling plastic waste into the creative and economical

product, organic compost or waste. disposal, and creating a green space.

This action has involved 15 districts, and more than 750 persons affected the social and environmental impact by contributing each stakeholder to be part of the program. Moreover, the program significantly increased the impact on climate mitigation by reducing emission around 33,600 ton CO₂ equivalent per year through providing food security and fulfilling the green area at the district level as urban farming. We produced the organic vegetables to implement mutual benefit for residents; this program brings recognition from the regional to the national level through an achievement from the mayor, ministry, and media coverage. The Ministry of Environment and Forestry of the Republic of Indonesia has recognized this program into best practice and sustainable solutions as a climate action through collaboration between the company and the local people. This program has designed the local people through self-leadership management that leads to the program in the future. Pertamina RU III Plaju wants to leverage the skill and the capability of local people as human capital in the city as the next emerging leader. Pertamina RU III Plaju





has dedicated the company to transforming people to be better, not only creating a CSR Program.

The initiative encourages community participation in climate mitigation efforts. PT Kilang Pertamina Internasional Refinery Unit III Plaju (or Pertamina RU III Plaju) is an Indonesian state-owned company that focuses on producing oil, gas, and petrochemical goods to meet national energy demand. Initiated in 2018, the program aims to avoid the detrimental effects of climate change on the environment of the company's nearby communities by implementing adaptation and mitigation measures. The initiative targets 15 communities around the company's Palembang, South Sumatera, Indonesia, location. Not only does the initiative include community people, but it also encourages more workers to participate in climate mitigation via volunteer programs. In addition, the local administration and academics were recruited to increase the initiatives' beneficial influence. The climate mitigation program has transformed holistically from the grassroots to the institution level through building human capital and nurturing the environment. This program has substance on how the local government could

deliver the policy administration to the district area with the solutions on protecting the earth together, for instances. The project implement two main strategies which are: Adaptation and Mitigation strategy. The adaptation strategy are focusing on mitigation and readiness for disaster relief by improving the local community by creating new crops for farmers and locals and installing eco-refrigerants for local stakeholders. And the mitigation strategy are recycling organic waste and non-organic in creating low carbon on farming by utilizing the organic soil, sustainable energy and developing vertical gardens. Pertamina RU III Plaju has a strong foundation in developing this program through following the methodological on Life Cycle Assessment and commitment from the whole officer, our strong value on sustainable solution and renewable energy has reduced carbon emission significantly. We have a huge goal in achieving net zero carbon, the company has a responsibility on Environmental, Social, and Governance through CSR Program which is beneficial for the local community in Palembang. On this note of the collaboration between company stakeholder and local community, This program has substance on

how the local government could deliver the policy administration to the district area with the solutions on protecting the earth together. The program is established by the local value that has been established for more than a decade with current innovations from the company. Since it began in 2018, the project has racked up a total cost of around 900 Millions of Indonesian Rupiah (approximately USD 60.000), which has been funded by the CSR fund allocation that the firm has set aside. This action leads to a huge impact by training human capital on current social innovation, mainly on protecting the environment. The climate mitigation program also utilized the pond, medicinal plants, and herbs as a core component in producing organic food and medicine, then transforming the habit of humans to become more eco-friendly. Furthermore, the program institutionalized the human behavior in qualitative, which means people are undoubtedly impacted socially and environmentally. Refocusing more broadly, the program has demonstrated on environmental, social, and economic impact, thus on the environmental impact the program has reduced carbon emission drastically 33,600 ton CO2 equivalent per year of based on the recycling organic and non-organic waste. The second one on social or community impact has developed 15 local heroes in the 15 villages that are actively involved in the project and encourage others to participate in creating sustainable solutions. Furthermore, on economic impact we saved 20% on energy saving in terms of electricity bills at the household level which means the community pays bills more cheaper than before the project. The initiative is beneficial to both the firm and the neighborhood that is immediately next to it. As far as the corporation is concerned, it has shown support for the net zero promise in the years to come to maintain contribution on Sustainable Development Goal 13 which is Climate Action. It results in an improved quality of life and

farming with development greenhouse for hydroponics



overall well-being for the community. The program is aiming on sustainable solutions by creating equilibrium between company and human being, the program itself is continuously expanding into different area in the city of Palembang and South Sumatera as well as this program is leading as best practices. Thus It is anticipated that the initiative will result in the climate change based industry initiatives maintaining its rapid expansion. As part of the long term benefit for local people, we have a huge goal in developing the hub or organization for local people that they could manage or as the front line to lead the project in the future. The new expansion of this program is creating the new hub and the system to invest human capital. Moreover, nurturing the local people in transforming local heroes. As the company we can see the future of the program in creating a hub and organization as the house for local people. At the company level, we are encouraged to create a next level of the CSR Program into optimum creating shared value program shifting. The program has a social impact holistically at the grassroot level from local people to the community level. Additionally, there is a possibility that the program may shift the focus of local community policies and choices, and some of the program's effects on policies can already be seen. The reduction of carbon emissions through the implementation of a collaborative program

between the company and the local community for the development of renewable projects and the procurement of renewable energy by corporations through the simplification of permitting and other administrative processes. To guarantee the initiative's long-term viability, we collaborated with technical staff, villagers, community leaders, and local governments to facilitate the exchange of technical information across all stakeholders. Critical to the success of the program are the key skills of each stakeholder. Leader of the community, helped as an expert partner on sustainable communities via their collectivism by guiding and persuading villagers on climate mitigation. This partnership assessed the program and people for increasing the output by

enhancing leadership management at the grassroots level, managing the quality of the climate mitigation program, and determining the number of potential beneficiaries. Pertamina RU III Plaju, an expert in the petroleum sector, provided technical competency benchmarks and best practices at the outset of this innovation's development. The project has received several awards at national and international levels: Become a winner in Leadership in Community Services and Corporate Social Responsibility in the 2022 *Communitas Awards* in USA, Appreciation from the Ministry of Environment and Forestry of the Republic of Indonesia to Supporters of the Climate Village Program in 2021, and Best practices as a sustainable village on the climate mitigation program at national level from 2018-2022.



POWER GRID CORPORATION OF INDIA

IMPROVING RURAL LIVELIHOODS

The basic intention is to bring forth one of our flagship projects “Improving Rural Livelihoods and Protecting Environment through farmer-centric Integrated Watershed Management” which focuses on alleviation of problems at grassroot level.

The project has been implemented in Kurnool, Andhra Pradesh and Kudgi, Karnataka and presently it is being implemented in one of the most backward districts of India, Kalahandi, Odisha with a sizeable tribal population. The project addresses multiple SDG's and focuses on sustainable and holistic development of tribal and economically backward section of society.

The overall goal to implement Integrated Watershed Management practices is to:

- i) Increase productivity and improve the livelihood and nutrition on a sustainable basis through scientific crop diversification using climate smart crop.
- ii) Disseminating knowledge of improved integrated water management practices for enhancing the impact through action oriented participatory, capacity building initiative using state of art learning.

Watershed development activities have been found to have significant impact on land and cropping pattern, groundwater recharge, and access to groundwater and hence, expansion in irrigated area. Also, environmental improvements in

water quality, habitat and physical changes have been noticed.

The project has shown considerable improvement in impact indicators i.e. Cropping Intensity, Cultivated Land Utilization Index, Cropping Diversification index and Irrigability Index. These factors prove that the strategy has generated significant impact on cropping pattern and diversification. Social IRR worked out to be 26%, which is higher than the long-term loan interest rate given by commercial banks, indicating the merit of investment in watershed initiatives.

Apart from the benefits the project has yielded, it has brought smiles on millions of faces.



ABOUT POWERGRID:

Power Grid Corporation of India Limited (POWERGRID), is a Public Sector Enterprise of Govt. of India which was incorporated on 23rd Oct 1989. POWERGRID is a listed Company, with 51.34% holding of Government of India and the balance is held by Institutional Investors and public. POWERGRID is responsible for coordination and development of Inter-State Electricity Transmission system of India.

The vision of the Company is to be “World class, Integrated, Global Transmission Company with Dominant Leadership in Emerging Power Markets Ensuring Reliability, Safety and Economy”. POWERGRID being one of the Largest Transmission Utility in the World is playing a strategic role in the development of Indian Power Sector and has proved its capabilities time and again to execute the large transmission projects on schedule.

POWERGRID owns and operates the inter-State transmission network of the country and transmission system availability is consistently maintained over 99%, at par with international utilities, by deploying best Operation and Maintenance practices.

BRIEF OF PROJECT:

From skilling farmers to providing livelihood means, company is playing a significant role in development of communities. With a mission to inspire and nurture, the company, has been giving a boost to development by undertaking projects in Healthcare, Education, Rural Development etc. The programme is being implemented by International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).



With a three-pronged approach, POWERGRID has undertaken establishment of ‘Model Sites of Learning’ in Kudgi – Karnataka and Kurnool - Andhra Pradesh. The farmer-centric programme is a five-year plan. It began in 2013-14 with the objectives of harnessing the potential of rainfed areas by adopting integrated water source management approach; enhancing water availability for diversifying livelihoods and capacity building training for farmers.

In recent past, State of Odisha has witnessed changes in rainfall pattern. Also, unavailability of progressive agricultural practices results in low net returns per hectare from the cultivated lands. Crop productivity of major crops in the region is well below the national average. Therefore, the project is presently being implemented at Kalahandi – Odisha.

The specific objectives of the watershed project are to:

1. Establish “Model Sites of Learning” in Kalahandi district of Odisha to harness the potential of rainfed areas by adopting an integrated water resource management approach;

2. Demonstrate and popularize science-led integrated and efficient soil, water and climate smart crop management practices to enhance crop productivity and improve rural livelihood in the targeted villages;
3. Develop the capacity of farmers in the region to improve rural livelihood through farmer-friendly knowledge sharing and dissemination to enhance stakeholders' awareness about climate smart water efficient and nutritious cereals and vegetables for cultivating and its integration in regular diet.
4. Improve nutrition levels, especially of women and children, through the consumption of more millet and vegetables. Brief of Need Assessment: India with a population of 1.3 billion, faces the challenging task of almost doubling food production with limited land and water resource availability.

Nearly 55 % of the population in India is dependent on agriculture and allied sectors for their livelihoods; and agriculture contributes only around 14 % to the nation's GDP. Indian agriculture is essentially small farm holder agriculture with majority of farmers owning less than 1 ha of land; and 83 % of farmers

representing small farming households.

Even in the best possible scenario of irrigation development, about 40 % of the additional food grains supply needed to match the future rise in demand, will have to be generated from rainfed agriculture in India. In a country like India, with an average rainfall of 1,100 mm yr⁻¹, there exists a problem of physical water scarcity in rainfed areas which can be counted as prime areas in terms of low agricultural productivity (1 to 1.5 tons/ha), poverty, food insecurity, and malnutrition.

Further, rainfed agriculture is prone to severe land degradation and is vulnerable to adverse climate change impacts. Individual farmers made huge private investments for developing and using groundwater resources, significantly enhancing the irrigated areas. Innovations in pumping technology along with free or subsidized power supply has accelerated groundwater extraction, resulting in overexploitation and declining groundwater resources to unsustainable levels in many parts of the country.

Groundwater is a major source of water in rainfed systems (62 % of irrigated area) and this resource



With many beneficiaries, Kurnool is now on the road to becoming a thriving community

is unsustainably overexploited. Productivity level in irrigated areas has reached stagnation and there is only scope is to enhance resource use efficiency. Whereas rainfed ecosystem holds the hope to meet future food demand as their current productivity level is much lower than the achievable potential.

Nearly 26 million ha area in the country which located in most upland region of the landscape is left fallow largely due to water scarcity and land degradation. These areas can be converted into productive landscape by adopting a range of landscape-based resource conservation technologies along with promotion of field scale-based climate resilient agriculture technologies.

Under the landscape-based resource conservation approach, a range of biological and engineering measures may be implemented to enhance the retention ability of the landscape and at the same time field scale-based interventions such as nutrient management, improved crop cultivars, conservation agriculture practices along with suitable mechanization, fodder development enhances resource use efficiency and generates and strengthens various ecosystem services.

Considering the above, it was contemplated to develop sites of learning at community watersheds. These sites will be treated with various landscape-based technologies following hydrology (water balance approach) and hydraulic principles. In addition, large scale demonstration of climate resilient technologies (e.g., earthen field bunding, laser land levelling, use of zero-tillage multi crop planter, mulching, raised bed, direct seeded rice, converting agriculture waste into organic manure, use of organic/biofertilizers, preservation and promotion of traditional crop cultivars, improved



crop cultivars, soil test based balanced fertilizer application, agroforestry, fodder development, need based mechanization, integrated crop management, etc.) will be integrated with landscape interventions.

The process and impact of both landscape and field scale climate resilient technologies will be monitored with science-backed state-of-the art instrumentation. This helps generate data on biophysical (soil, topography, land use), hydrological (rainfall, runoff, baseflow, groundwater, soil moisture and ET) and socio-economic (crop yield, production, cropping intensification, income, nutrition, migration) parameters. The data generated at the field and landscape-levels will help develop different decision support systems and these sites will serve as 'sites of learning' that can be used for capacity building of various stakeholders for planning, designing, execution, monitoring and impact assessment of climate resilient interventions.

Moreover, the database developed in this process will help in guiding state-level water policy and understanding trade-offs between upstream and downstream ecosystem services for achieving long term sustainability. The new knowledge and database thus generated will be shared with the development agencies, state line departments for policy formulation and scaling up.

IMPLEMENTATION STRATEGY:

In order to achieve desired impacts of rainwater harvesting and sustainability of interventions, we adopt following strategies.

- Integrated and holistic livelihood approach to benefit large number of stakeholders including small & marginal farmers, landless and women. This strategy enhances participation from all sections of the community and ensures sustainability of the system.
- By adopting science-driven rainwater harvesting through low-cost structures we address the issue of equity to benefit small and poor farmers in uplands and midlands.
- Gender inclusive interventions: Through income generating interventions we ensure that women (who constitute 50% of population) do benefit through tangible economic benefits from the interventions. Involvement of women not only ensures impact on livelihoods but also on improved family nutrition and development of family.
- Our approach is an inclusive market-oriented development where in farmers produce what market demands and through value chain get larger share in the price paid by the consumers. We adopt public private people centric partnerships.
- Community participation is an important pillar of our interventions and through active participation of the farmers we ensure that what farmers need is provided and not what the development agencies want to supply.
- Adopted demand driven technologies rather than the supply driven (target based) approach which most of the development actors adopt.

BENEFICIARIES:

Implementing Agency i.e., ICRISAT had identified 10 villages at Jaipatna Block, Kalahandi District in

Odisha, where watershed management has been implemented in FY2020-21. Details of these villages, along with their demography is as following: S.

No.	Villages	Area (Hectare)	Population	No. of Farm Ponds
1.	Gandaguda	128	443	4
2.	Karanjiguda	188	834	2
3.	Patiguda	192	555	2
4.	Kuhuriguma	114	567	10
5.	Kapurmal	509	1966	1
6.	Mundraguda	69	349	0
7.	Kotiadi	299	553	3
8.	Pipalguda	542	1985	8
9.	Mukhiguda	-	500	9
10.	Ranibahl	404	1249	13
	Total		9001	52

The watershed comprises an area of around 2500 ha and is home to more than 9000 people. Economic & Social Impact: The approach has an inbuilt economic incentive for farmers to participate while conserving natural resources on sustainable basis. The results are visible, measurable and resonate with the communities, parameters aligned with the government's vision.

The most important output of this initiative is integrated rainwater harvesting and its efficient use to increase impact on the wellbeing of rural families by empowering them to exercise more judicious use of the natural resources and harnessing maximum profit through increased crop productivity and incomes.

- Exemplar sites of learning for building system resilience;
- Improved green cover, carbon sequestration and controlled land degradation;
- Converted minimum 30% available waste/fallow land in to productive cultivation;
- Enhanced base flow availability for additional 2-4 months;
- Enhanced groundwater availability (minimum by 3-5-meter additional head);
- Ensured drinking water availability for human and livestock population throughout the year;
- Enhanced agricultural production and income minimum by 50%;



- Long-term data of various biophysical, hydrological and land use, crop production, income and social development for replication in similar ecology;
- Evaluation of complex hydrological components and ecosystem services;
- Enhanced capacity and awareness of farming community on best management practices.

ICRISAT has a long-standing experience with a unique position in the field of watershed management and has developed a watershed management approach for deep black soils with the components such as land preparation using the summer rains, use of broad-bed and furrow, dry seeding and grassed water ways to take out excess water from fields to alleviate waterlogging challenges.

Through its long-term experiments in the watersheds, it has demonstrated since 1976 that average productivity of rainfed agriculture in vertical areas with 800 mm rainfall can be as high as 5.2 tonnes per hectare as compared to 1.2 tonnes per hectare in the farmers management practices. The large yield gap (two to five folds) between the

farmers' crop yields and achievable potential need to be bridged through improved management practices (soil, water, nutrient and crop) along with cropping pattern and appropriate knowledge delivery systems to empower the farmers.

Comprehensive assessment made by ICRISAT-led consortium revealed watershed development is bringing about a revolution in rainfed areas with a mean benefit-cost (B/C) ratio of 2.0 with the benefits ranging from 0.82 to 7.30 and more than 99% of the projects were economically remunerative.

About 18 % of the watersheds generated a B/C ratio above 3, which is fairly modest.

Evidence regarding measurable impact/benefits and improvements have been elaborated and supported by measurable improvements.

FUTURE EXPANSION:

POWERGRID has already implemented 5-year long projects at 2 locations wherein financial implication to the tune of Rs. 180 million was incurred. Moreover, expenditure in ongoing project is nearly Rs. 36 million till date.

It clearly signifies the intention of taking-up similar projects in other locations of country. It is being contemplated to further scale up the project in 2 more districts with a total budgeted expenditure of nearly Rs. 200 million.

REPLICABILITY:

The project is replicable by conducting need assessment and suitably modification/ customization of project.

PTT EXPLORATION & PRODUCTION PLC

H.T.M.S. UNDERWATER LEARNING SITE

H.T.M.S. UNDERWATER LEARNING SITE:

New Home of Marine Life Climate change led to Ocean warming which consequentially caused coral bleaching and the inappropriate behavior of both skin diving and scuba diving also caused widespread of coral reefs damage. However, closing natural dive sites in order to allow coral reefs to recover naturally was not an easy option, as it would affect local communities' income and tourism industry in Thailand. PTT Exploration and Production Public Company Limited or PTTEP, has decided to initiate the H.T.M.S. Underwater Learning Site project with the goal to rehabilitate

marine ecology and biodiversity by reusing the WWII decommissioned battleships, namely H.T.M.S. Prab and H.T.M.S. Sattakut of which their histories are impressive for divers as wreck dive sites destinations. After engaging with stakeholders, the project has been implemented with 4 key objectives include

- 1) Create man-made diving sites,
- 2) Rehabilitate marine ecology & biodiversity
- 3) Rehabilitate natural coral reefs and
- 4) Generate revenue for local communities.





"H.T.M.S. Prab" and "H.T.M.S. Sattakut" are classified as Landing Craft Infantry (LCI) and 50 metres long. They were commissioned in 1947, played a part in landing operations, patrols and rescue operations for fishermen involved in accidents at sea, and served as teaching vessels for the Navy cadets going through navigation and weaponry courses until 2006.

The success of the project in 3 dimensions include environmental dimension by increasing marine living organism in the areas, economic dimension by boosting the local economy from tourism-related activities, social dimension by developing and enhancing skills, knowledge and motivations of the marine research. To date, the battleships had successfully changed their missions from defending the country's territory to protecting its natural coral reefs. They become new diving attractions resulted in saving the destruction of natural coral reefs and generate income about 1.8 million USD annually from tourism to local communities. Apart from the direct benefit to stakeholders, for PTTEP, the accomplishment of this project benefits to petroleum industry by creating positive public perception and understanding of man-made reef including the Rigs-to-Reefs approach. The project also helped increasing stakeholder engagement, building trust and gaining support from stakeholders and enhancing reputation as a good corporate citizen from public as well.

In 2010, Thai seas caused by the gradually rising of seawater temperature, reaching above 30.5 degrees Celsius. Coral reefs health is inherently tied to that of the marine ecosystem and the livelihood of humans depending on the sea for food and income from fishery and tourism. Closing off natural dive sites would affect the tourism industry and in turn cause local people to lose their jobs and income.

To respond the aforementioned crisis in the Gulf of Thailand, the man-made dive site concept was raised under the H.T.M.S. Underwater Learning Site project, one of PTTEP's CSR projects. At PTTEP, CSR project was initiated through 4 steps of strategic planning process.

1. Stakeholder Analysis: It found that - Climate change led to a warming ocean caused coral bleaching, - Divers' touching also caused damage to coral reef, - In order to help coral reefs to recover naturally, the natural diving sites were closed which affected the tourism industry.
2. Development of Strategic Projects: - After studying and engaging with stakeholders, 4 key objectives were defined:
 - 1) Create man-made diving sites,
 - 2) Rehabilitate marine ecology & biodiversity
 - 3) Rehabilitate natural coral reefs and
 - 4) Generate revenue for local communities. - And our key risks are
 - a. Lack of community support and
 - b. Lack of knowledge
3. Implementation & Monitoring: the project implementation can be described in 3 areas: Stakeholder Engagement, Preparation & Placement, Research Study
4. Constructive Evaluation PTTEP implemented the project with the aims to rehabilitate marine

ecology and to boost up the local economy by reusing the decommissioned battleships, namely H.T.M.S. Prab at Koh Ngam Noi in Chumphon province and H.T.M.S. Sattakut at Koh Tao in Surat Thani province, the world's famous scuba diving destinations, in the Gulf of Thailand, as a new home of marine life and biodiversity organisms.

To date, the battleships had successfully changed their missions from defending the country's territory to protecting its natural coral reefs. They become new diving attractions resulted in saving the destruction of natural coral reefs and generate income about 1.8 million USD annually from tourism to local communities.

STAKEHOLDERS ENGAGEMENT:

PTTEP's CSR project implementation creates positive relationships between the organization and its stakeholders, both external and internal. Realizing that creating a new home of marine life demands a huge investment, efforts, innovation and a collaboration with various stakeholders. To consider the most suitable structure for using them as a new underwater learning site, PTTEP has engaged several concerned parties including

1. Royal Thai Navy - the battleships owner,
2. Department of Marine and Coastal Resources and Department of National Parks, Wildlife and Plants Conservation - the governmental agencies for marine ecology and biodiversity,

3. Chumphon and Surat Thani Province Administrations - the provincial authorities of the target placement locations,
4. Faculty of Fishery of Kasetsart University - the expert in marine research study, and
5. Local tourism entrepreneurs and communities - the direct beneficiary of the program.

Apart from external stakeholders, this project is involved with different business units including PTTEP Management and the Board of Director to consider and approve the work program and budget, Corporate Governance and Sustainable Development (CGSD) Committee to govern and monitor the progress and effectiveness, Social Responsibility Department to implement the project and PTTEP Diving Club to participate in employee volunteering activities.

PREPARATION AND INNOVATION:

Man-made dive sites can be built whether from train carriages, planes or tanks. In Thailand ships remain the most popular. The Royal Thai Navy in 2003 laid H.T.M.S. Kram and H.T.M.S. Kut on the seabed in Chonburi province but there is no scientific research study. PTTEP recognized the importance of knowledge, skill, resources and environmentally impact. The company therefore conduct a feasibility study and location survey during the project preparation, then, to customize the battleships to ensure the safety and environmentally friendly impact. For the placement process, the battleships



were delivered to the locations in 2011, the H.T.M.S. Prab to Koh Ngam Noi, Chumphon province and the H.T.M.S. Sattakut to Koh Tao, Surat Thani province. After the sinking, PTTEP continuously support the construction of mooring buoys and their maintenance to protect the damage to natural coral reefs these areas. The research study had been conducted in collaboration with the Faculty of Fishery, Kasetsart University. The study is divided into three areas;

- 1) Environmental Impact: To study the impacts on conditions of the seabed including seabed soil, water quality, plankton and local sea creatures
- 2) Marine Ecology and Biodiversity: To study the changes of marine ecology and biodiversity on the ships, the research team has also developed the tools to facilitate long-term studies of living organisms and monitor sessile organisms. The quadrat (square iron grids) was innovated and used for the long-term study by attached to the ship's gunwale, to monitor sessile organisms including sea sponges, black corals or sea whips.
- 3) The Usage of the Wreck Dive Sites: To study the reduction the impacts on natural coral reefs including keeping record of the number of tourists and tourism revenue. The first research study had been conducting as soon as the ships were lowered to the seabed in 2011 and closely monitored for 3 years while the second study had been conducted during 2017–2018, and the research studies showed founding fauna, marine fishes and no significant impact on the seabed. Realizing the values of long-term ecological studies. The next research will be conducted in 2022.

IMPACTS AND BENEFITS:

Since 2011, the program has generated tremendous outcomes. In terms of environmental impact, the study in 2018 showed the increasing small fishes'

number from 10 species to more than 60 that reflected the increasing of marine ecology and biodiversity, developing new undersea attractions and expanding onto the large coral reefs area. These man-made diving sites helped reducing number of touching coral reefs for 16 million times since 2014 with no significant impact on the conditions of the seabed in every area studied. The benefits of long-term studies are also important for providing key insights in ecology, environmental change, natural resource management and biodiversity conservation. For economic, the battleships turned into popular diving sites among divers from around the world. From the research studied, 100% of the local diving entrepreneurs have been participated in the program and 98% of tourist are satisfied with the outcome generating from these man-made attractions. The increasing divers' numbers each year helped boosting community's economy from new diving activities, restaurant, accommodation and local tourisms. The study in 2018 showed the growing up number of tourists and divers at 37.7% at Koh Ngam Noi, Chumphon province and 18.8% at Koh Tao, Surat Thani province. These helped generating income to local communities, approximately 12.5 million USD or 1.8 million USD annually. For human capital development, the initiative generated benefit through funding for research studies, tools for developing and enhancing skills, knowledge and motivations of the research team consisting of Thai's professors and students from Kasetsart University, worldwide diving instructors, entrepreneurs, and tourisms experts. With their profession, these knowledgeable, skilled and resourceful individuals will spread their knowledge to others, adopting the same procedure to other new areas and generating more innovations to sustain the natural resources in the future. For PTTEP and public, the project helped sustaining social license to operate as a prudent E&P operator in Thailand, directly involved with marine resources. It also generated positive media exposure through activities with PR value of over 1.74 million USD, raising public awareness on marine ecology conservation and contribution to the company's reputation. The achievement of this

project benefits to petroleum industry by creating public perception and understanding of man-made reef which could be related to Rigs-to-Reefs, the practice of converting decommissioned offshore oil and petroleum rigs into artificial reefs.

EVALUATION METHOD:

Apart from environmental impact, marine ecology and biodiversity research study by Kasetsart University, Social Return on Investment (SROI) was conducted to evaluate the social result. With the project investment in 1.14 million USD, its result shows the satisfied outcome as 5.34:1 which means for every 1 USD invested in the program, created 5.34 USD in societal value or more than 5 times of investment.

WAY FORWARD:

These battleships will be in service for more than 50 years to help raising environmental awareness and encouraging humans to respect and protect the natural resources from the damage caused by human activities. The study on marine ecology and biodiversity will be continuously conducted from time to time to ensure the sustainability in marine ecology. PTTEP will continue supporting the construction of buoys and its maintenance, placing

around the diving sites, to protect the damage to natural coral reef from tourist boat anchoring and the underwater clean-up activities will be organized annually to raise awareness of marine conservation. The project is a part of inspiration of the company initiatives on Ocean for Life campaign to conserve and rehabilitate marine resources and marine ecosystem in a sustainable manner. The campaign aims to achieve the 3 goals that are

- 1) clean and friendly operation,
- 2) ocean health and biodiversity monitoring, and
- 3) ramp up CSR around the ocean. It believes that projects implemented under the Ocean for Life will not only restore the balance of marine ecosystem but also generate income and promote decent quality of life for coastal communities in 17 coastal provinces along the Gulf of Thailand. Aside, the projects support the United Nations Sustainable Development Goals (SDGs): Goal #14 - Life below water. Eventually, they will further improve Thailand's and global Ocean Health Index. On our business journey, aside from petroleum exploration in support of the country's development and uninterrupted consumption, PTTEP's another emphasis has always involved the harnessing of partnership in creating shared value and growth for society, community and the environment.

PTTEP Commits to Net Zero Greenhouse Gas Emissions by 2050

PTT Exploration and Production Public Company Limited (PTTEP) operates with consideration to create the right balance of business, social and environmental aspects. We take part in solving global warming issues and therefore set forth to achieve Net Zero Greenhouse Gas (GHG) Emissions by 2050 through our "EP Net Zero 2050" concept.

Exploring for Lower Carbon E&P Portfolio

Our exploration and production portfolio is managed to transform PTTEP into a lower-carbon organization. New projects with an emphasis on natural gas and greenhouse gas intensity are factored into the investment decision-making process.

EP

Production and Planet in Balance

We pursue the development of technology to reduce GHG emissions, energy and production efficiency improvement, application of renewable energy in operations, as well as emissions offsetting through the planting of trees in forests and mangroves to increase the natural carbon sink.

NET ZERO 2050



Scan to watch
EP Net Zero 2050 VDO



SAVIENT Ltd

Due to the nature of their business, the company primarily operates through remote work or client sites. They expanded from 6 to 20 employees within a short period and recognized the importance of employee engagement and a positive culture. To facilitate this, they rented office space in Hub8, a centrally located and energy-efficient building that promotes collaboration and growth within the cyber tech community. The company encourages employees to utilize Hub8's facilities and environmental initiatives, such as a cycle-to-work scheme and battery recycling. They also partnered with the Children's Air Ambulance for secure disposal and reuse of outdated IT equipment, reducing their carbon footprint and supporting charity. On their 5th work anniversary, they made a donation to the Woodland Trust, aligning with their commitment to creating, protecting, and restoring UK woodland. Despite the challenges of lockdown, they organized virtual social events and even had a special guest appearance from Daisy the goat, with proceeds supporting renewable technologies at Cronkshaw Fold Farm.

In early 2020, the company had 6 employees, but by the end of the year, they grew to 20—a remarkable achievement. Despite the rapid growth, they prioritized employee engagement and decided to provide office space at Hub8 in Cheltenham. This location offers a central spot, close to amenities, and is a hub for the regional cyber tech community,



fostering growth and collaboration. Sharing office space was financially beneficial since most employees work remotely or on client sites.

Hub8 is an energy-efficient building with features like HVAC and LED lighting to conserve energy. They use eco-friendly cleaning products, recycling bins, and disposable sanitary bins to reduce environmental impact. The company practices digital document management, uses locally sourced merchandise, and supports charitable initiatives such as Trussell Trust food banks and the Bumblebee Conservation Trust. They also plan to introduce plants in the office space to improve well-being and creativity.

Overall, the company's focus on employee engagement, sustainability, and community support contributes to a positive work culture and environmental consciousness.

We promote sustainable commuting through our cycle to work scheme and the use of bike stores at Hub8. Additionally, we've implemented a salary sacrifice electric vehicle scheme, and our first employee has ordered an electric car. Remote working has always been a part of our business practices, reducing commuting and office space needs. Our hackathon events have transitioned to virtual platforms, fostering collaboration and innovation. We prioritize employee well-being and staying active, as demonstrated by our CSR events supporting local food banks and the Bumblebee Conservation Trust. The positive feedback from our Managing Director and the team encourages us to continue these initiatives.

We prioritize environmental responsibility by implementing various initiatives. We have a battery recycling box and utilize recycling stamps to raise funds for Breast Cancer Research. Through our partnership with the Children's Air Ambulance, we securely dispose of outdated IT equipment while generating funds for charity. Our 5th work anniversary was marked by a donation to the Woodland Trust, supporting their woodland conservation efforts. We engage with local suppliers, such as M&M Marketing and Merchandise, to reduce marketing expenditure and support the local economy. Our finance support comes from

Pillow May Accountancy, which contributes to charitable initiatives. We minimize our environmental impact by relying on software as a service providers, including Amazon Web Services (AWS), Atlassian, and Microsoft, who prioritize sustainability. We also strive to deliver efficient solutions for our customers. Our IT equipment includes laptops with power-saving functionality, and we work with Lenovo, a company committed to social responsibility.

We have implemented a battery recycling box and recycling stamps to support Breast Cancer Research. Through our partnership with the



**VOLUNTEERS'
WEEK 2023**

Here at Savient we support:

- STEM outreach events
- Fundraising for local charities
- Helping out local causes
- Recycle, reduce and reuse
- Maintaining our CSR accreditation

SAVIENT 

Children's Air Ambulance, we dispose of outdated IT equipment in an environmentally friendly manner while generating funds for charity. Our collaboration with M&M Marketing and Merchandise allows us to support local suppliers and reduce marketing expenditure by purchasing eco-friendly merchandise. We promote physical and mental health by encouraging activity in the workplace and support the Bumblebee Conservation Trust by distributing wildflower seeds to our team members. We also express our appreciation for the NHS and care workers and provide support to the Fire Fighters Charity by donating recycled textiles to their clothes bank. Additionally, we plan to implement a crisp packet recycling scheme in collaboration with the Air Ambulance Kent, Surrey, and Sussex. We actively promote these initiatives within Hub8 and on social media to raise awareness and inspire others to implement similar schemes in their workplaces.

We prioritize training and development to maintain excellence in our industry. Our comprehensive training policy includes an induction program for all staff and a progressive scheme for skill development. We provide onboarding support, including 121 meetings with directors and training on health and safety procedures. Home working is standard, with assessments conducted to ensure ergonomic setups. Our intranet houses company policies, including diversity and inclusion.

Training remains a priority through monthly meetings, annual appraisals, and personal development planning. The Savient Academy, established in 2020, offers dedicated learning time for new hires. We focus on employee engagement with bi-weekly newsletters, social activities, and recognition programs like handwritten thank-you postcards. Our employee benefits include share schemes, salary sacrifice options, and up to a 5% performance bonus.

We value employee wellbeing, offering mental health awareness resources, an employee assistance program, and physical wellness initiatives. We actively participate in CSR events, hackathons, and

industry panels. We collaborate with educational institutions for apprenticeships, careers activities, and university awards. Our CSR efforts are promoted internally and externally.

We embrace a collaborative cyber tech community and have received recognition as a leading company. Our CSR initiatives include sponsoring sensory boxes, fundraising for children's hospitals, and supporting campaigns for children's education. We engage our team through their interests, such as eSports tournaments benefiting local charities.

In just one year, from January to December 2020, our team grew from 6 employees to 20, marking remarkable growth. We understood the importance of employee engagement and fostering a positive culture. We actively listen to our employees and allocate time for social events, community engagement, CSR activities, networking opportunities, hackathons, and monthly tech talk sessions. These sessions promote knowledge sharing and team development.

In April 2020, we hired an Innovation Director and organized our first virtual hackathon. We plan to host a face-to-face hackathon in September, with a focus on interactive and engaging activities to inspire STEM careers. We have expanded our networking within the Cheltenham Cyber community and participate in industry expert panels and business networking.

Collaborating with Gloucestershire College, we supported their students through activities like 'Ask Me Anything' videos and exploring marketing and business administration apprenticeships. We also partner with Worcestershire Local Enterprise Partnership, engaging in careers activities and supporting mock interviews and coding workshops for local schools.

Our achievements include being finalists in various awards, such as the West Midlands PA Awards and Gloucestershire Business Awards. We were recognized as one of the top Gloucestershire cyber

companies to watch. We actively participate in CSR initiatives, including sponsoring sensory boxes and fundraising for charities like No Child Left Behind and CPP.

Our team enjoys PC gaming, and we participated in an eSports tournament, raising funds for laptops for children through No Child Left Behind. We also support the CPP charity and organized a Savient family day, with a raffle benefiting Bristol Children's Hospital. Throughout the year, we plan various events, including a virtual baking lesson and supporting Macmillan's coffee morning.

We partner with Pillow May Accountancy, who contribute to Buy1Give1 international initiatives for every completed set of accounts. We have unpaid leave policies and are considering volunteering days. Our CSR plans for 2022 and beyond will be shaped based on employee feedback in our annual satisfaction survey.

We understood the importance of employee engagement and fostering a positive culture. As a relatively new company, we have actively engaged in CSR initiatives over the past 12 months, with the support of our directors and employees.

We prioritize listening to our employees and have dedicated time for social and community engagement, CSR events, networking opportunities, hackathons, and tech talk sessions. We are involved in various initiatives, such as STEM career events, the CyNam community, Cyber First, Gloucestershire College, University of Worcester, and Worcestershire Local Enterprise Partnership.

Our People and Operations Manager was recognized as a finalist in the West Midlands PA Awards for CSR and diversity. We also contribute knowledge and assistance to other professionals through workshops and panel interviews.

As our team continues to grow, we are exploring ways to provide financial support for our CSR strategy, such as allocating a percentage of sales to a charity fund or matching employee-raised funds. We value the impact of volunteering and have engaged in community gardens, animal rescue centers, and homeless shelters.

We plan to hold a CSR event during Christmas, pending the lifting of restrictions, and will use feedback from our annual employee satisfaction survey to shape our CSR strategy for 2022 and beyond. We will continue to provide time, knowledge, and financial support to causes that resonate with our employees.





Technology that works the way your business thinks

Here at Savient we are as proud of our CSR achievements as we are of our innovative software technology services.

Driven by a passion for excellence and innovation, we can help solve your problems, unlock the value in your data and transform your business.



Software consultancy



Software development



Software partnerships

Harness software technology for
a better business environment

SAVIENT 



STONE TECHNOLOGIES

We prioritize employee engagement and a positive culture, actively participating in CSR initiatives with the support of our directors and employees. We listen to our employees and allocate time for social and community engagement, including CSR events, networking, hackathons, and tech talk sessions. We are involved in various initiatives, such as STEM career events, the CyNam community, Cyber First, and partnerships with Gloucestershire College, University of Worcester, and Worcestershire Local Enterprise.

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As our team grows, we are exploring financial support options for our CSR strategy, such as donating a percentage of sales or matching employee-raised funds. We value volunteering and have participated in community gardens, animal rescue centers, and homeless shelters.



Pending restrictions, we plan to host a CSR event during Christmas and gather feedback from our annual employee satisfaction survey to shape our CSR strategy for 2022 and beyond. Our commitment remains providing time, knowledge, and financial support to causes important to our employees.

We actively monitor energy usage as part of ISO 14001 and comply with the Streamlined Energy & Carbon Reporting (SECR) requirements. Our goal is to reduce the intensity measure of tCO₂e per £1m of revenue year-on-year and achieve a net zero operating model.

Initiatives we have implemented include producing SECR disclosure reports, installing LED lights, assessing the viability of solar panels on our headquarters' roof, reviewing green energy providers, implementing automatic IT shutdown, transitioning from desktops to laptops, and using soft client phone systems to save electricity.

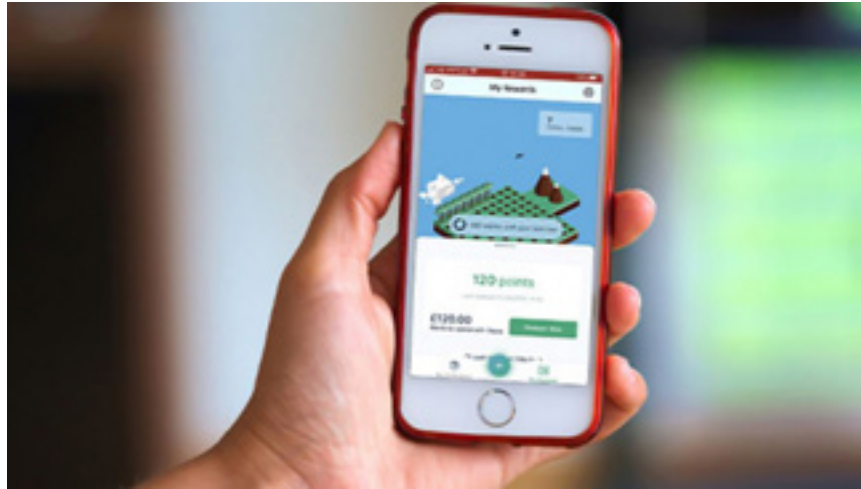
We regularly update our staff on performance and targets through our Team Brief communication. As part of our commitment to knowledge sharing, we participate in webinars, forums, and conferences to share our procedures and expertise.

Our SECR disclosure includes an annual sustainability report, compliance with regulations, and data on significant emissions from our Stafford facility. We monitor scope 1 emissions from natural gas consumption and transportation, as well as scope 2 emissions from purchased electricity generation using recognized standards.

At Stone, we use a minimal amount of water primarily for light domestic purposes. We are committed to efficient water usage and have implemented measures such as using sensor or automatic shut-off taps when replacing existing

ones. The water consumption from drinks vending machines has decreased as more employees work from home.

As part of our commitment to sustainable consumption and production patterns (SDG 12), we have set internal goals and measures to track our progress. While water consumption is not a major concern for us, we have identified packaging as an area for improvement.



To reduce packaging waste, we have implemented several initiatives. We are trialing new and innovative packaging techniques and materials for our own brand products to eliminate single-use plastic packaging. Additionally, we are replacing bleached packing boxes with unbleached ones and plastic packaging tape with reinforced paper tape

At Stone, we have a travel policy that limits expense reimbursement to employees with a defined business need. We prioritize efficient and eco-friendly practices for our vehicles, including selecting vehicles with lower carbon dioxide emissions. We use fleet routing software to optimize journeys and coordinate goods deliveries and recycling collections. Remote work during the pandemic reduced travel to the office, and we encourage remote meetings. We support sustainable commuting with bicycle racks, showers, and a possible 'cycle to work' scheme.

At Stone, we have a sustainable supply chain policy aligned with our goal of sustainable growth. We invest in sustainability in our partnerships, processes, and people. We prioritize comprehensive training for our team on various topics, including sustainability, ethics, and compliance. We focus on the total cost of ownership and quality materials in our supply chain, emphasizing longevity and reducing environmental impact. We actively seek partnerships with large enterprises to exchange best

practices. We have robust onboarding processes for suppliers, ensuring compliance with anti-bribery and modern slavery legislation and adherence to ethical practices. We engage in active monitoring and participate in workshops to make informed procurement decisions. We continuously improve our processes and address critical issues through root cause analysis. We engage with T1 partners such as HP and participate in sustainability assessments. We encourage customer participation in trade events to promote collaborative sustainable business activities. We monitor supply chain performance, review compliance, and encourage suppliers to reduce their carbon footprint. Our supply chain management follows ISO:9001 quality management standards, and we work with strategic partners to monitor and improve environmental and sustainability practices.

At Stone, we prioritize closed loop solutions for packaging waste management. We offer a free service to remove and dispose of waste packaging, including pallets, as required by our customers. Our approach includes:

- Optimizing deliveries for minimal CO2 footprint
- Using 100% recycled cardboard for packaging
- Minimizing non-cardboard materials
- Providing bulk packaging options
- Offering free collection service

- Managing aggregated deliveries
- Collecting legacy IT equipment
- Valpak zero to landfill accreditation

We ensure that recovered packaging is reused whenever possible and recycle materials when reuse is not feasible. Our goal is to minimize waste and environmental impact throughout the supply chain.

Packaging Bubble wrap has been removed as external packaging for Stone brand equipment and is being replaced with a paper based protective packaging product that is both 100% recycled and 100% recyclable. Antistatic bubble wrap has been replaced with a 25% recycled content expanding foam in a bag, providing both environmental and product protection benefits. Processes have been implemented to pack bulk orders using cardboard inserts instead of bubble wrap. Advances have been made in packaging processes to minimise both the space required on delivery vehicles and the number of journeys required. Customers are encouraged to use bulk palletised deliveries to minimise the amount of packaging required to protect products in transit. Printing Print management software has been implemented throughout Stone's head office to reduce the quantity of printing undertaken and technologies such as Docusign have been adopted to reduce the need to print documents, wherever possible. Docusign is now used for a number both internal and customer facing processes.

Stone introduced the Stone 360 app in October 2020, providing a convenient and free IT recycling service. Through the app, organizations can easily book and manage collections of their old or broken IT equipment. Stone Group takes the collected hardware to its dedicated recycling facility in Staffordshire, where skilled engineers securely

wipe data, refurbish reusable items, and recycle non-functional ones. The entire process ensures zero waste goes to landfill. As a reward for responsible IT asset recycling, customers receive benefits such as cash rebates, professional device refurbishments, and complete traceability and reporting. When using the app, customers can accumulate points that can be redeemed for cash or boosted by 20% to purchase new or refurbished tech from Stone. Through the 360 Boost feature, customers can lower their carbon footprint by contributing to tree planting in partnership with the National Forest. The app empowers organizations to protect the environment, take control of their sustainability efforts, and track their impact through a virtual woodland.

Stone holds the highest licensing standard as an Approved Authorised Treatment Facility (AATF) for treating waste electrical and electronic equipment (WEEE). The company is committed to maintaining this status and its zero to landfill accreditation. Operations managers have completed the Waste Management Industry Training Board (WAMITAB) Diploma Level 4.

Stone provides an ITAD service for unwanted IT equipment, offering take back and data cleansing. Collections and deliveries are coordinated to



minimize empty journeys, and unwanted equipment is refurbished and resold through Stone Refurb, Amazon, or Wowcher.

Stone operates in a circular economy, selling new IT equipment and collecting it for refurbishment or recycling after its initial use. This reduces landfill waste and allows organizations to access affordable IT equipment. Stone achieved Zero to Landfill certification in 2020 and segregates waste for recycling, including food waste processed through anaerobic digestion.

Packaging practices have been improved, reusing bulk packaging and transitioning to 100% recyclable boxes with paper packaging alternatives.

Stone has made several packaging improvements, including switching from plastic tape to paper-based tape and removing plastic handles. Efforts are underway to find alternatives to plastic/foam protective bags for Stone PCs and transition to one-piece card boxes for Stone notebooks, eliminating internal plastic/foam protection.

Stone is actively engaging with branded component suppliers to challenge existing practices and has shifted to bulk plastic trays with plans to return them for reuse. The company is continuously exploring new recycled and recyclable materials and ideas as they become available. While the zero to landfill commitment has presented challenges, Stone has successfully addressed them, such as finding non-landfill routes for disposing of accumulated expanded polystyrene packaging.

The transition to remote work during the pandemic has resulted in a significant reduction in paper usage. HR processes have been optimized, with paper files scanned, payroll duplication eliminated, and HR forms digitized. Confidential wastepaper is collected by Topwood, ensuring 100% shredding and recycling into useful paper products.

Our company is a great place to work because we have a fast-paced, forward-thinking culture that

values integrity and appreciation. We foster an open and honest environment where employees can grow and develop, both internally and by bringing in external expertise. We care for our employees and support them in times of need.

Communication is key, and we have established effective channels such as team briefings, meetings, notice boards, and an engaging intranet. Our employee benefits are attractive and diverse, and we actively seek and implement employee ideas. We stay competitive by monitoring industry initiatives and are committed to making a difference for people with disabilities.

Our unique culture combines the professionalism of a corporate business with the warmth of a family business. We offer market-leading commission schemes and provide digital interactive inductions for simplicity and transparency. Continuous learning is encouraged through monthly e-learning modules.

We value individual employees and provide incentives such as fun days out, ice cream treats, pizza days, savings on vehicle purchases, and free hot drinks. Recreational facilities like pool tables and table tennis promote a friendly and enjoyable work environment. We show appreciation during Christmas with turkeys or e-vouchers, and employees can support charities through fundraising activities.

During COVID, we maintained staff morale through regular communication, check-ins with managers, and expressions of appreciation. We adapted our workplace, implemented safety measures, and enabled successful remote work. The changes brought about by COVID have made our workplace more agile and accessible.

In summary, our company's culture, opportunities for growth, effective communication, attractive benefits, employee recognition, and adaptability make it a great place to work.

The Rainforest Alliance encourages increasing

plant-based meal consumption to make a collective climate impact. At Stone, we offer plant-based lunch options every weekday. In December 2020, instead of our usual Christmas Party, employees received a Christmas Card supporting a charity and a gift voucher. We have plans for a party this year, supporting Young Minds.

In October 2021, sales and purchasing employees received awards and gift vouchers at an event. The technical services team had a night out, the operations team chose a theme park day, and the Finance and HR team opted for a day at the races.

Our HR policies and procedures are accessible on the intranet, canteen notice board, or from HR. They cover various areas such as adverse weather, anti-bribery, authorized absence, bullying and harassment, capability, carers, COVID vaccination, disciplinary matters, and more.

Stone has an e-learning platform called “Stone Academy” that offers monthly modules. Managers can track completion through a dashboard. The modules are tailored to different training plans, including induction, all employees, managers, directors, and specific teams based on job requirements. Many courses are ROSPA approved and CPD certified.

In 2021, Stone arranged on-site learning events such as CSR training, mental health ambassador training, mental health awareness for managers, and senior leadership training. Colleagues from the purchasing team completed learning modules through the “Supply Chain Sustainability School” membership.

Competencies and behaviors are integrated into job descriptions and linked to learning events. For all employees (1-4), the competencies include passion for the brand, growth mindset, teamwork, and customer focus. Managers (1-6) have additional competencies in leadership and building performance. Senior managers (1-8) have additional competencies in influence, impact, and challenge,

as well as commitment and accountability.

Stone actively participates in various community initiatives and engagement efforts. We attend job fairs to provide information on job opportunities and recruit summer temps from the local area, offering employment opportunities. Additionally, we offer site tours for students from schools, colleges, and universities.

When it comes to recruitment, we utilize the government’s Find a Job website and support local colleges by providing work placements, including students with additional learning needs. We also make use of the apprenticeship levy to offer accredited qualifications to both existing and new employees.

As part of our commitment to sustainability, Stone partners with IT Schools for Africa, donating used and recycled computers to support their projects across the continent. We have donated over 4,000 IT devices to date. Moreover, our employees are participating in a virtual walk to Africa, raising funds for our corporate charities.

In line with our social responsibility, we collaborate with Dovegate Prison for the responsible recycling of redundant IT equipment. This initiative provides valuable skills to the prisoners and ensures proper recycling practices.

Stone is dedicated to promoting fair trade practices and is introducing Fair Trade hot drinks in onsite vending machines. We prioritize social value and actively engage with customers in supply chain opportunities, including equipment donations for education, Microsoft training courses, and support for IT qualifications. We also organize IT amnesty days to educate on data protection and environmental responsibilities.

Through apprenticeships, work experience, training opportunities, and community workshops, we contribute to digital inclusion and sustainability awareness. We also sponsor or donate to

community projects, local charities, and organizations. Our Stone Refurb re-use scheme repurposes returned equipment, making it available to staff, community schemes, and charities at reduced prices, along with introductory training.

Overall, Stone strives to make a positive impact on the local/national economy and the communities in which our customers operate.

Stone actively promotes charitable initiatives and encourages employees to make monthly donations through payroll. We work in partnership with the Family Fund, providing support to low-income families caring for severely disabled or seriously ill children. For the past decade, we have been supporting IT Schools Africa, an organization dedicated to transforming lives through eLearning access.

To promote environmental sustainability, Stone incentivizes customers to recycle IT equipment through the Stone 360 app, with collected “boost” points leading to tree planting in the National Forest. Through the app, we have already recorded 1,355 virtual trees and planted 400 real trees in the UK within a year.

Stone’s involvement extends to local community initiatives as well. We are a member of the Mayor of Dudley’s business club, providing sponsorship for a council-launched initiative. Additionally, Stone Headquarters hosted a tour for Theo Clark Stafford MP to raise awareness of our operations.

We actively participate in fundraising events such as the OU Giving Day, where we donated £750 to the Student Assistance Fund and a further £750 to the Disabled Veterans Fund. Social media posts were also scheduled in support of the initiative.

The CEO of Stone commended the colleagues for their dedication and highlighted various examples of how the company has made a positive impact, such as supporting home workers, educational institutions, and essential services like NHS Hospitals, Ambulance Services, and Police Forces. Colleagues have also volunteered to assist the NHS and deliver essential supplies to vulnerable individuals.

Despite the challenges posed by uncertain times, the CEO expressed confidence in the team’s ability to overcome them through unity and continued support for one another.

