

GREEN APPLE AWARDS FOR ENVIRONMENTAL BEST PRACTICE

SUBMISSION BY THE FLOORBRITE GROUP

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Section 1

Project Title – Waste Management innovation & increasing sustainability awareness at ESB Carrington Power Station Carrington MANCHESTER M31 4AY

Submitted in the category for - Both

Section 2 – Sectors and Categories

Commerce and Industry Sector – Service Industries

Green Practices Sector – Wastes Management

Section 3

Has this project ever been nominated previously for a green apple award? Yes

the reduction of single use plastic milk cartons and the introduction of a cooling milk vending system.

Section 4 - Project Aim

The Floorbrite Group have been providing total Facilities Management services at Carrington Power Station ESB since 2016. Our bespoke Waste & Environmental Management Service was introduced in September 2016. We were successfully chosen following a Tender process originally in 2016 and were also awarded the contract for a further 2 years in 2018 to offer a tailored alternative to several facilities services including waste management and removal, cleaning, and washroom services. This Tender was extended further in 2019.

Carrington Power Station is a Combined Cycle Gas Turbine power station, which was completed in Autumn 2016 and began commercial operation on 18th September 2016.¹ It is located on the site of a former coal-fired power station, close to the

villages of Carrington and Partington in the Greater Manchester Area and 12 km southwest of Manchester City Centre. The Manchester Ship Canal and the River Mersey run alongside the site in Trafford, Greater Manchester, in North West England. In early 2016 our Waste & Environmental Consultant, Trudie Williams, who is an ISO 14,001 Lead Auditor and WAMITAB accredited, met with ESB Carrington Power Station and discussed the waste solutions. Our ideas fitted perfectly with their company objectives of zero landfill and increase external recycling and offer office recycling options.

In becoming a responsible supplier and manufacturer by diverting a higher percentage of waste to recycling means, ESB Carrington Power Station focus switched to the waste produced on site. The station is the first large scale gas fired power plant to come online in Great Britain since 2013 and can power more than one million homes and businesses in the Greater Manchester area. Trudie was able to help the management team outline their aims to reduce ESB Carrington Power Station carbon footprint helping them to achieve their sustainability goals, reduce costs, increase recycling and divert waste from landfill.

Floorbrite's aims were to reduce waste removal costs, encourage 100% 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 the Operations Team on site we have created a powerful case study to target other Power Stations to reduce their waste to landfill.

Section 5 - Project Achievement

Our achievements have certainly helped the environment by reducing Co2 and transport (road mileage) to and around Carrington Power Station ESB's site and neighbourhood in the form of waste vehicles. The reduction in waste pickups has in turn reduced Carrington Power Station ESB's costs. Movement of waste on site has reduced due to the reorganisation of waste disposal and by the creation of a waste compound and clear signage, this has helped to increase recycling options and the reduction in the total amount of waste produced and at the same time decreasing the amount of vehicle movement around the site. We have introduced the separate removal of Mixed Recycling and diverted the General Waste to waste to energy. Following a complete chemical analysis of the Sludge based waste produced within the pumping station, we were able to re classify the EWC Waste Code, which ensured further disposal costs saving and a cleaner disposal method. Within the offices we have been able to increase the amount of paper waste removed for shredding and recycling, externally we have increased the segregation of all other types of waste including wood, metal and hazardous waste, ensuring that each waste stream had a sustainable collection and disposal method.

By working closely with the Chemist and the management team and staff who 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've learned home

and become greener individuals. There is a definite change in staff culture with all looking at ways to make other waste reductions. Our next project in 2019 is the reduction of single use plastic milk cartons and the introduction of a cooling milk vending system.

With Floorbrite's recommendations, Carrington Power Station ESB have invested more in their onsite segregation process and promoted their achievements to their supply chain, inspiring their customers and suppliers to carry out more recycling.

By breaking down the waste into individual waste streams, Trudie's waste data and environmental reports give a clearer picture of the waste data that is recorded. There is greater control over disposal costs and control of the waste on site.

Carrington Power Station ESB are very proud that the introduction of Floorbrite's new systems with the co-operation of the whole of the ESB Power Station team have continued to achieved zero to landfill assessing new waste streams and finding new disposal methods.

Section 6

What did the project involve doing?

Site Audit/several visits

Visit to site 4 x per week during implementation process

Ongoing Quartley/Monthly visits with the Operations Manager

Special cleaning of outside area's

External compost unit for green waste

Control systems implemented to reduce transport for hazardous waste

Implementation of Internal Feeder waste containers

Placement of Skips/signage

Purchase of suitable Bespoke Skips

Implementation of containers (External)

Agree and review collection frequencies

Provision and installation of signage

Provision of internal recycling containers

Provision of Confidential Consoles

Managing the removal of Contractor Waste – created during build process

Training and education emailed on site

Negotiating new waste contractors and contracts

Arrange new delivery and collection process

Arranging Escort protocol on site

Arrange for Induction for all Contractors

Offer bespoke services for Hazardous Waste removal

Why did you do it

In becoming a responsible company by producing a bespoke service, Carrington Power Station ESB wanted to also focus on their own waste production at their site in Carrington Manchester.

What did it cost and where did the money come from?

The money for the project came from the annual Budget for waste management, with a consistent review process and looking at innovation within the waste disposal, regular meeting and contractor visits are carried out to keep the annual costs on track each year.

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

All Carrington Power Station ESB staff, management and customers have been educated about the benefits of recycling with a change in culture by seeing the achievements unfold. Carrington Power Station ESB 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 by utilising local disposal stations. Carrington Power Station ESB have benefited from cost saving and will benefit from further investment and savings.

Floorbrite collaboration have reduced skip collections per annum from 104 to 66 and increased recycling to 70%. and still increasing.

In achieving zero to landfill, with the fantastic support and effort by all members of the team, since September 2016 to the April 2020, Carrington Power Station ESB diverted 1202.78 tonnes of waste from landfill, saved 20,447 trees from destruction and the equivalent to 14,5521 kg of Co2. With the total of 867.87 ton of waste recovered from the start of the project until April 2020.

Longer term benefits

As Carrington Power Station ESB are the leading edge in gas powered technology and are embarking on further accreditations within the business. With their own waste management achievements, their credibility in this area will increase. As Carrington Power Station ESB own customers become more aware of the achievement and of their own responsibility to achieve sustainability goals, Carrington Power Station ESB trusted track record 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 Carrington Power Station ESB to look at additional recycling innovations and make further investment in containers and signage to increase recycling in other areas. The introduction in 2019 of Composting Containers for external Ground Maintenance Waste and Floorbrite have also changed the method of disposal and storage of Inert

Waste from the pumping station on site to follow a sustainable and long-term disposal plan. The project in 2019-20 was introduced to reduce single use plastic milk bottles on site with the introduction of cooling vending, this will remove over 300 large plastic milk containers, per week from site and reduce the amount of waste considerably.

Was there anything innovative about the project?

Introduction of bespoke covered containers to reduce issues with waste overflowing around the site. Complete chemical analysis of type of waste and recommend correct disposal codes, which helped to reduce high disposal costs.

Introduction of correct size covered containers to reduce collections on site.

Introduction of storage methods, use of pallet boxes which reduce the costs of transport and visits.

Clear identification and tracking of hazardous waste, to reduce transportation costs.

Re organisation and disposal of previous builder's project waste which was left on site following the initial build project.

Ongoing support by the Waste Team to audit every type of waste on site.

Can other organisations benefit from implementing your methods?

Yes

Utility companies could benefit from this method.

Chemical analysis to correctly code all waste streams

Manufacturing and Packaging companies could benefit

Companies that have multiple skips or bin collections weekly would benefit from the introduction of a bespoke containers on site, reducing rental costs on skips.

What did you learn from the project and are you planning any further development?

Further development for the reduction of general waste on site.

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

Reduction in single use plastics.

Further development of handling method of Inert waste 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 - Dubai
2017 RoSPA Gold
2018 Golden Service Finalist Award (Environmental Awareness)
2018 Silver Green Apple Award – Waste Management
2018 Green World Ambassador Award – Turkey
2018 RoSPA Gold
2019 Green Apple Award – Best in field – Waste Management
2019 Green World Ambassador Award – Vietnam
2019 RoSPA Gold
2020 RoSPA Gold
2020 Finalist Award for Tomorrow's FM
2020 Finalist Award for Tomorrows Cleaning

Enforcement action

NO

Case Study

ESB Operating the UK's most Efficient and Flexible Thermal Plants

ESB invested more than £800m in developing the UK's most efficient thermal plant in Carrington, near Manchester.

The 884MW gas fired power station is also one the UK's most flexible plant with the ability to allow renewables such as wind and solar onto its system at any given time.

The station is the first large scale gas fired power plant to come online in Great Britain since 2013 and can power more than one million homes and businesses in the Greater Manchester area.

Carrington Project Key Facts

- 4.8 million hours worked on the project
- 4,893 workers involved in the project from commissioning to development
- 850 workers on site during peak construction times
- 40 permanent staff on site
- More than 50 exceptional load deliveries removed from local roads by using the Manchester Ship Canal
- A Green Travel Plan was implemented to transport staff from satellite car parks to site each day
- 35,000 m³ of concrete poured
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- Acting Responsibly
 - ESB is a business built on the strength of its people. We are proactively embedding new safety, sustainability, people development and corporate

responsibility strategies within our operations. Our objective is to be a positive and effective partner for each of our stakeholders, our staff, our customers, the communities in which we operate and for our environment.

- **Our Businesses**

As a strong, diversified, vertically integrated utility, ESB operates right across the electricity market: from generation, through transmission and distribution to supply.

Aiming for zero waste to landfill

Carrington Power Station ESB invested time in partnership with The Floorbrite Group in the recycling system to achieve zero landfill waste. Floorbrite have introduced recycling facilities for the separate collection of confidential paper waste, paper, cardboard packaging, sludge, water, wood, metals, plastics and organic waste. The prevention, re-use and recycling measures introduced by Carrington Power Station ESB and Floorbrite have reduced the amount of residual waste it produces by 66%. With the introduction by Floorbrite of the correct size containers and reorganisation of the production of sludge waste, we have been able to reduce the collection of waste from two skips per week to one skip per month. This helps reduce movement on site, cut down on road traffic in the surrounding housing estate and reduce road mileage and Co2.

Diverting Recycling and food waste.

The introduction by Floorbrite of Internal Recycling Containers and Food Caddies in canteens areas, has diverted all food-based waste into the external food bins which is then disposed of via Bio Energy method.

Recovering other value

Since September 2016, food waste has been collected weekly and sent to an anaerobic digestion plant to produce biogas and bio fertiliser. Since September 2017 following the installation of the new power pump, and a complete analysis of the waste by the Chemist all sludge water waste has been diverted to land spreading.

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 this waste is removed and sent to a recycling facility which recovers 99.6% of the waste and the balance of 0.04% is used in waste to energy. This has achieved Zero Landfill for Carrington Power Station ESB and has also seen a reduction in waste by 43%.

Maximising opportunities for recycling

Carrington Power Station ESB has set targets to increase the amount of waste it recycles. General Waste is a major waste item and Carrington Power Station ESB

Staff are working closely with Floorbrite to look at ways of reducing the amount it needs to dispose of by encouraging suppliers to: Optimise packaging to prevent excess; and use re-usable 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. Segregation of any recyclable waste item used within the production of the product on site is in the forefront of all Staff.

Continued opportunities

Floorbrite are now looking into reducing waste collections, by increasing segregation and removal methods on site of hazardous waste. Which will further reduce the collect frequencies of the collections which was originally 2 times per month to our new proposed once per month. In 2019 we changed this frequency to every 8 weeks by using larger collection vehicle and Haz pack removal methods once the waste has been assessed on site.

Communicating with Staff and Management

Following initial discussions with Floorbrite, Carrington Power Station ESB 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 at the Power Station, the Floorbrite team have visited site to carry out full audits in the areas of concern to ensure initial targets are being met. Floorbrite trained Staff on the safe use of the compactor and placed signage to help staff understand where items go to be recycled. Train cleaning operatives on the movement of waste, type of waste, container and colour of bags required. Quarterly waste Data 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. Carrington Power Station ESB will in future be able to inspire their supply chain with the good news waste story so far challenging them to make changes. Floorbrite supplied xmas trees around the site and Carrington Power Station kindly donated the trees to local schools, our team delivered them locally FOC.

Notes to enclose

Waste Data

Environmental Report/as above

Certificate

Training Notes

Photos

Waste presentation