

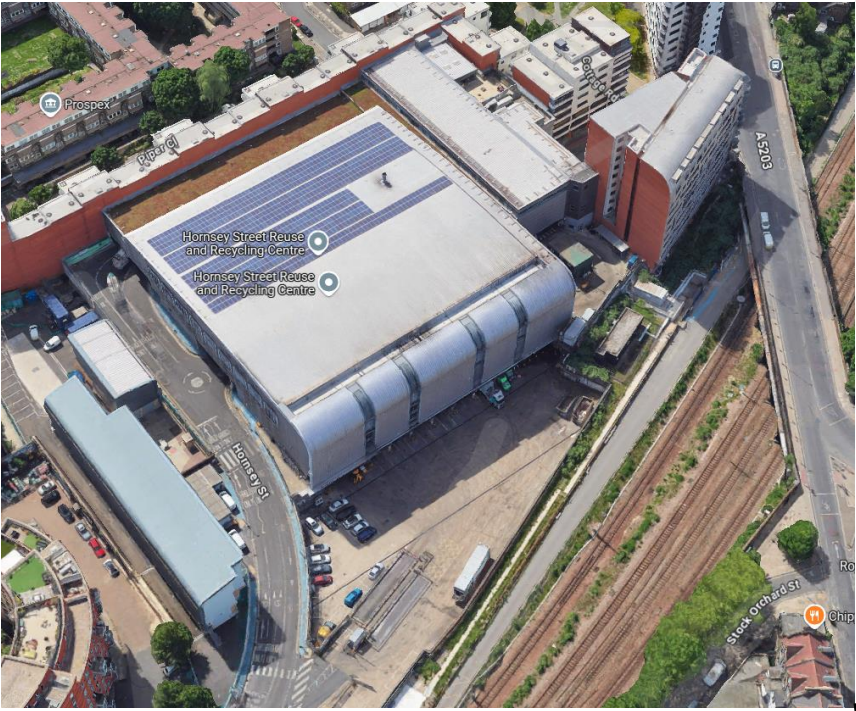
Transforming our Waste & Recycling Centre to be Gas Free

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Aims of the Presentation

- Applying for and spending PSDS funding;
- How we did it;
- Challenges and lessons learnt.

Waste Recycling Centre



Waste Recycling Centre

The Waste Recycling Centre (WRC), operates on a 24h, 7 day a week basis.

Basement – Vehicle parking (160 spaces)

Ground Floor – Workshops, facilities, access

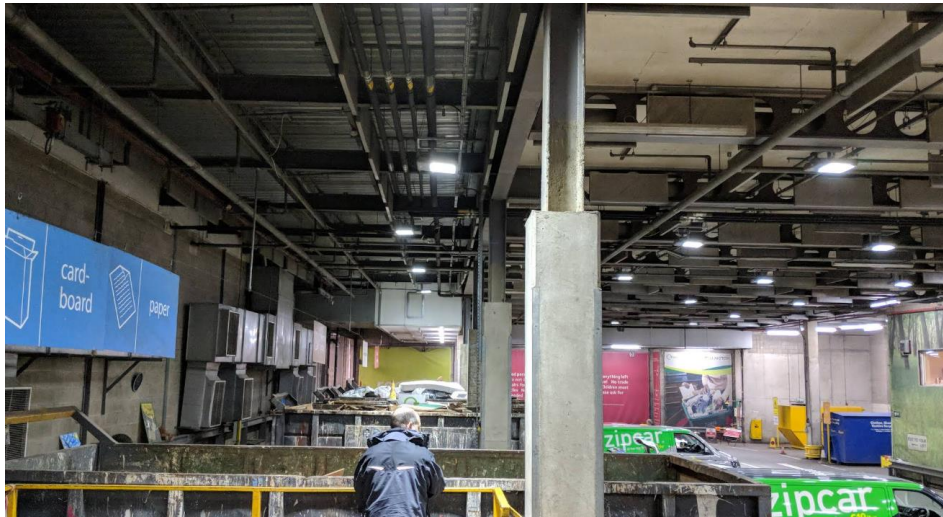
First Floor – Tipping Hall, household waste centre, facilities

Second Floor – Offices, plantroom



Waste Recycling Centre

First Floor – Tipping Hall, household waste centre, facilities



Waste Recycling Centre

- The site is predominantly heated by six air handling units (AHU's) fitted with direct gas fired heaters.
- Domestic hot water service (DHWS) are provided by direct gas fired storage calorifiers.
- The workshops are heated by supplementary Ambirad gas fired radiant heaters.
- There is a gas-powered heater in the paint spraying booth.
- There are four domestic scale gas boilers providing localised hot water.

The WRC Decarbonisation & Roof Works Project

The project involved:

- Retrofitting the existing six air handling unit coils (AHU) by removing the direct gas fired heaters in the AHU's and replacing these with DX electric coils.
- The existing gas sourced domestic hot water system was replaced with electric.
- The main hall roof was completely covered in PVs.
- The office roof was repaired and covered in PVs .
- A new power supply was provided to service the new equipment.

The WRC Decarbonisation & Roof Works Project

Originally two separate projects:

Energy Team > Decarbonisation of the WRC

Corporate Landlord > Repair the office roof

The works received funding through Phase 3a of the Public Sector Decarbonisation Scheme, which is delivered by Salix Finance on behalf of the Government.

PSDS Funding / Project Set-up

Jan 2021 – Veolia, Survey Report.

Oct 2021 – PSDS Application. Total Project cost £1.6m. Grant £951k.

June 2022 – PSDS Funding approved. Match funding agreed. Procurement strategy for a principal contractor under consideration.

PSDS Funding / Project Set-up

Summer 2022 – Design Team appointed. Re-costing exercise commissioned, and options appraisal developed.

Oct 2022 – New solution agreed. Additional Funding Allocated.

Nov 2022 – Specification Developed. Tender Documents produced.

Nov-Jan 2023 – Tender exercise. Two returns received and evaluated.

PSDS Funding / Project Set-up

Feb 2023 – Works started on site with Vital Energi.

31st Mar 2023 – PSDS deadline for completing the work.

Mar 2024 – Works completed.

PSDS Funding / Project Set-up

Agreement with Salix to claim money for costs incurred up until this date.

- Fees incurred
- Materials and equipment purchased before the deadline

Salix Grant - £951k

Grant Received - £923k

The WRC Decarbonisation & Roof Works Project

- Vital Energi installed 852 solar panels on the roof of the recycling centre.
- Six existing air handling units were retrofitted to remove their gas-powered heating coils, replacing them with electric equivalents.
- Nine new condensers were installed to feed the six air handling units.
- A new low voltage switchgear panel was been installed to feed all the new plant equipment, with a new room built in the basement to house this equipment.
- Two new air source heat pumps were installed.
- One water source heat pump was been installed.

- 38 new electric heaters have been installed.
- Four new electric boilers were installed to replace the four gas boilers located throughout the building.
- One gas powered heater used in the vehicle paint spraying booth was replaced with an electric equivalent.

The WRC Decarbonisation & Roof Works Project

- The WRC, until now, was Islington Council's most polluting building with its highest gas consumption.
- WRC accounted for 9% of all gas consumption of 95 council buildings on corporate contract.
- The works ended the WRC's reliance on gas, cutting the council's gas consumption by more than 1,500,000 kWh per year, which is the equivalent to the annual gas usage of 125 households.

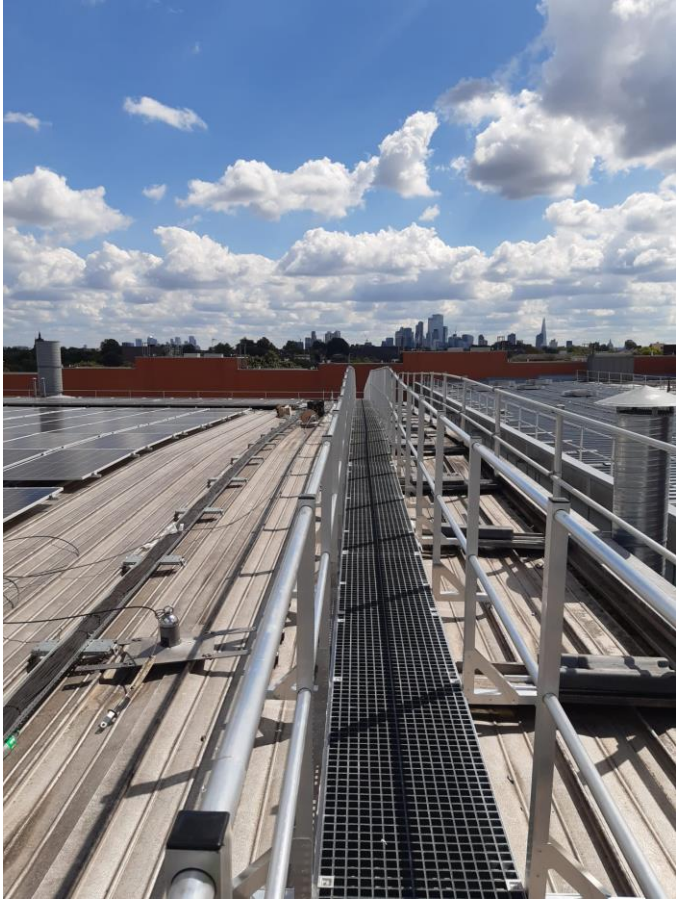
The WRC Decarbonisation & Roof Works Project

- The major upgrades to the site include 852 new solar panels, covering an area of over 4,000 square meters, which is enough to cover 10 tennis courts.
- Combined with the existing rooftop panels, they are expected to generate more than 500,000 kilowatt-hours (kWh) of clean energy annually - almost tripling capacity and producing enough energy to power around 200 homes.
- The upgrades were undertaken alongside the fleet electrification programme, which will install enough electric vehicle chargers at the WRC to eventually power the whole of the council's fleet vehicles.
- Electricity from the new solar panels will help to power these vehicles.

Solar Panels, Tipping Hall Roof



New Walkway & Solar Panels, Office Roof



Hot Water Storage & Pumps, Plantroom



LV Switch Room, Basement



Armoured Cabling & Trench Roof Area



Condensers, Trench Roof & Office Terrace Area



Air Source Heat Pumps, Trench Roof



Air Source Heat Pumps, Trench Roof



Challenges

The PSDS deadline of 31st March 2023.

Challenges

- Six separate crane lifts undertaken on Sunday evenings
- To connect the solar panels on the roof and the new plant equipment with the switchgear in the basement, new armoured cabling needed to be installed. In total 7500m of new cabling was installed throughout the building.
- 150m of new pipework was installed within and around the plantroom
- Identifying space for the new switch room in the basement, and within the existing plantroom for the new equipment.
- 24h, 7 day a week building

Lessons Learnt

- Accurate initial cost estimates.
- Project team allowed sufficient time to develop the design, procure a contractor and deliver the works.
- Projects should be scoped from the outset to ensure they are deliverable within any programme constraints imposed by external funding.

The WRC Decarbonisation & Roof Works Project



Social Value

- **£5,000 was donated** to Islington Giving.
- **£1,100 was raised** for Islington Giving through a Christmas Raffle.
- **£5,000 was donated** to the neighbouring Ring Cross Community Centre.
- **£1,500 of sponsorship** to the Kentish Town Football Club, Girls Youth Team.
- A further **£800 was raised** during a football tournament held at Market Road football pitches.
- A second football tournament was arranged with these funds being donated to Islington Giving.
- Vital Energi **volunteering in local schools**, providing careers talks and offering careers advice.
- Vital Energi agreed a 15% discount for any staff or subcontractors at a local café.
 - This discount was mentioned in site inductions and amounted to **approximately £9,000 of business** being referred to Kafeteryum Café opposite the WRC.
- **£300 was donated** to Islington WRC staff to fund new planting and equipment for the office roof terrace.

Thank you for your time.

Any questions?