

Burntwood Leisure Centre, Lichfield Public Sector Decarbonisation Scheme



Lichfield District Council received funding of £1,062,575 from the PSDS grant for the implementation of a decarbonisation project at the Burntwood Leisure Centre. These works will assist with the Council's commitment to be carbon neutral by 2040, reducing annual gas consumption and carbon emissions. Leisure Energy was asked to carry out an in-depth energy survey, assist with the compilation of the technical aspects of the application and project manage the installation of new energy equipment as Principal Designer and Contractor.

Technical Overview

Leisure Energy undertook an appraisal of the energy usage and condition of equipment at the leisure centre for the submission of the grant documentation. The facility was constructed in 2002, with some remodelling and previous energy efficiency works in 2018 including pool covers, AHU improvements, LED lighting in parts of the building and insulation but further measures were needed. Energy consumption in 2019 was approximately 3,179,270 kWh with a carbon emission level of approximately 626 tonnes.

The following issues were identified which would give rise to savings in carbon emissions and cost if addressed by the allocation of the grant money:

- No true renewable technology currently at the leisure facility including solar panels.
- Only 1 out of 3 of the current boilers were operating but subsequently broke down at the outset of the project
- Car park and changing area, corridors and associated room lighting was inefficient.
- Building Energy Management System was operating ineffectively and found to be obsolete.

Grant value
£1,062,575

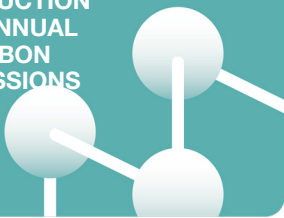


£33,386

REDUCTION IN ANNUAL
ENERGY COSTS

260 tonnes

REDUCTION
IN ANNUAL
CARBON
EMISSIONS



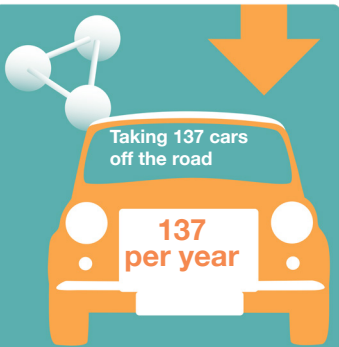
55%

REDUCTION IN
ANNUAL GAS
CONSUMPTION



Taking 137 cars
off the road

**137
per year**



THE PUBLIC SECTOR DECARBONISATION SCHEME (PSDS)

- The Department for Business, Energy and Industrial Strategy (BEIS) launched the PSDS, which was delivered by Salix in September 2020.
- The scheme offered £1bn of grant funding for capital energy efficiency and heat decarbonisation projects within the public sector in England.
- Information about the PSDS and further schemes can be found on the Salix website www.salixfinance.co.uk

Grant value
£1,062,575

Annual savings
£33,386

Annual CO₂ savings
260 tonnes

Annual gas savings
1,476,495 kWh (55%)



“From the outset when assisting with the application for the Public Sector Decarbonisation Grant, throughout the development phase and during installation, they have worked professionally with the Council and our leisure partner, Freedom Leisure.”

John Smith, Business Development Manager, Lichfield District Council



Project summary

Upon award of the PSDS grant Leisure Energy’s audit recommended that Lichfield District Council carry out a suite of interdependent works at the Burntwood Leisure Centre.

Energy Saving Measures

- New air source heat pump
- Solar photovoltaic panels
- Replacement AHU fan motors
- Low energy lighting and sensors
- Low energy external lighting
- BEMS upgrade

Air source heat pumps

We installed an ASHP with a 500 litre storage tank. Several new LTHW heat exchangers were also fitted to interface with the existing heating circuits and pool water pipes.

Additionally, we located a containerised plant room to house the additional pipework and water tank needed for the ASHP due to restricted space within the current plant rooms.

Solar photovoltaic panels

We installed an array of 182 photovoltaic solar panels on the centre’s roof to provide electricity to reduce the amount of electricity from the grid.

Replacement air handling unit (AHU) fan motors

We replaced 6 fan motors and controls within the air handling units in the facility.

Built-in software and connectivity provides constant real-time monitoring of energy use, speed, torque and temperature which allows automatic diagnosis of HVAC system issues.

This ensures maximum energy efficiency and enables demand-side management.

Low energy lighting and sensors

We replaced internal fluorescent light fittings in changing rooms, corridors and rooms with 200 fittings and specialist low energy lamps. These lamps will reduce electrical loads whilst improving existing illumination levels. ‘Intelligent’ lighting controls, such as daylight sensing, were used where possible.

Low energy external lighting

Externally, we replaced 22 light fittings on the plant room roof and building.

Building energy management system (BEMS) upgrade

The existing BEMS system was obsolete and was replaced with a Trend IAQVision system which incorporates smart controls for the ASHPs, battery system, PV inverters and motors.



Who we are

Leisure Energy is an energy saving consultancy, working with local authorities and leisure operators at their facilities. We help them to understand their energy usage, and manage it more efficiently by identifying energy saving measures through the installation or upgrade of plant and machinery, and adjustments in usage levels. Our unique approach enables them to monitor, reduce and control consumption through both investment and energy saving measures and lower the carbon footprint of their buildings working towards net zero.

Our client

Lichfield District Council is a local government district in Staffordshire, providing services to Lichfield City, Burntwood and surrounding villages. Burntwood Leisure Centre is located in Burntwood and managed on their behalf by Freedom Leisure.

Contact us

For more information on how we can reduce your carbon emissions, contact Neil Bland:
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