

Overview

Fenland District Council is a partner of the Cambridgeshire Mobilising Local Energy Investment programme. This programme seeks to deliver energy efficiency and renewable energy projects across public sector buildings in Cambridgeshire via energy performance contracting.

Through the programme, Fenland identified four leisure centres in need of improvement due to a combination of aged mechanical and electrical infrastructure and building construction. The combined energy bill of the centres was £265,000 per last year.

One of the four buildings identified for improvement was the Hudson Leisure Centre, which consists of the following facilities:

- “wet side” – containing the swimming pool, associated changing rooms and a gym
- “dry side” – designed for indoor sports, exercise classes and family activities.

In order to deliver energy, cost and carbon savings, a number of Energy Conservation Measures (ECMs) were identified, including lighting replacement and control upgrade, boiler replacements and controls and roof-mounted solar PV array.

As a result of this project, the Council will be able to save nearly £12,000 per year and also generate income of nearly £30,000 per year through a roof-mounted solar PV array.

Project:	Fenland District Council Hudson Leisure Centre	
Savings:	£12,460 energy spend reduction and a revenue of £32,286 per annum 146,710k Wh (7%) energy savings per annum	Around 161 tonnes of CO ₂ per annum saved
Value:	£540,220 investment of retrofit works	Simple payback of 12.3years
Timescale:	Installation commenced winter 2016	



“Fenland District Council is delivering needed improvements to its leisure centres in an effective and speedy fashion. The guaranteed energy savings have allowed these projects to be progressed. Local Partnerships’ support and technical expertise have allowed the Council to choose the most effective solutions to help reduce our energy bills and improve our customers’ experience.”

Phil Hughes, Head of Leisure Services

Summary of Energy Conservation Measures (ECMs)

The Hudson Leisure Centre project encompasses a number of energy-efficiency measures, which are listed below.

Lighting replacement and control upgrade

Installation of high-efficiency LED lighting will ensure that savings can be made as cost effective as possible by maximising the lifetime of the existing assets. The proposed LED products have been specified as suitable alternatives to the existing lighting to ensure that the Council's energy savings and payback criteria are met. The new LEDs will also ensure that lighting levels are maintained or improved.

Solar PV

A roof-mounted 100 kWp installation, comprising a total of 400 x 250 W tier 1 polycrystalline modules, four high-efficiency DC/AC power inverters and a mounting system from a leading industry manufacturer. This will ensure the site has displaced electricity usage, guaranteeing savings are achieved with less electricity being used from the grid and also a revenue generated via the Feed-in Tariffs (FITs).

Boiler replacements and controls

A new packaged 400 kWt woodchip or pellet-fired biomass boiler system. The boiler plant will be housed in a new purpose-built plant room, located to the rear of the site, adjacent to the existing plant room. The system has been designed to cater for the base-load demands of the site, yet has the capacity to cater for the peaks in demand during the winter period.

Building Energy Management Systems (BEMS) and remote optimisation

Replacement of ineffective BEMS, optimisation of existing systems and use of remote management controls will provide a full and clear understanding of the leisure centre's operations.

Energy efficiency and financial savings through Re:fit

Re:fit is a procurement framework and support service available to all public sector organisations in the UK. Since 2009 it has been helping organisations to deliver "spend-to-save" environmental retrofit projects that both improve their buildings and, importantly, make substantial guaranteed financial savings.

For further information

For more information about the National Re:fit Programme, contact robert.mckinnon@local.gov.uk or phone 07920 702 297.