

Overview

Cambridgeshire County Council (CCC), under an EU-funded scheme, has used the National Re:fit Programme to make guaranteed energy-efficiency savings and improve the condition of its schools, public buildings and corporate buildings across the county.

The Council has secured £20 million of investment for energy-saving retrofits and renewable energy to schools, council land and buildings. The improvements will pay for themselves through the energy savings made. Cambridgeshire County Council sets out to lead by example to increase energy efficiency, reduce CO₂ emissions and improve the condition of its buildings.

The estimated potential of this scheme is to deliver 1.2 million tonnes of CO₂ savings over the lifetime of the project. Cambridgeshire County Council's Re:fit project is available to schools and public sector buildings in Cambridgeshire. Also, as part of this project's scope, the Council included the delivery of a large 12MW solar park in Soham.

Project:	Cambridgeshire County Council – schools and corporate buildings retrofits and solar park	
Scope:	Works involve a combination of retrofit and renewable solutions within the buildings 1st phase: involves a pilot of 9 schools and 7 corporate buildings. Installations started to be completed from summer 2015. More than 60 buildings are being planned as additional phases The solar park is 12MW in size and operational in spring 2017	
Savings:	16.3GWh savings per annum £1,138,000 cost savings per annum	6,965 estimated tonnes of CO ₂ saved per annum
Value:	£14,812,000 investment	8.5 years payback for corporate buildings Payback periods of up to 15 years for schools Simple payback of 11 years for the solar park
Timescale:	Installation works started in 2015 and is a rolling programme	

The Council commissioned Local Partnerships in May 2014 to develop an energy performance contracting programme, which provided guaranteed energy-efficiency savings. Following the analysis carried out for CCC by the National Re:fit team, a mini-competition was run and Bouygues was appointed as the preferred service provider. Local Partnerships' team assisted throughout the process and completed an analysis of selected Investment Grade Proposals to advise on selected measures.

Also an off-balance-sheet solution was created for the academy schools, such as Sir Harry Smith College, to benefit from this programme. As UK academies are unable to borrow money to invest in energy-efficiency measures, the Council has worked with Bouygues to develop an innovative Managed Service Arrangement (MSA) to provide energy performance contracting services for academies. Advice from KPMG and support from the UK Education Funding Agency have allowed academies to use an operating lease to benefit from the Re:fit programme.

Summary of Energy Conservation Measures (ECMs)

Solar PV

A wide range of roof-mounted solar arrays were installed across the buildings by December 2015, ensuring the sites qualified for the higher levels of Feed-in Tariff (FIT) income. The solution also displaces electricity usage across these buildings to ensure further cost savings. Installation continues to be viable under the lower FIT rates.

Boiler replacements

Existing inefficient boilers are being replaced with a new high-efficiency condensing boiler or biomass boilers.

Lighting upgrade and controls

The installation of high-efficiency LED lighting across the sites. This approach ensures that the savings can be made as cost effectively as possible by maximising the lifetime of the existing assets.

Insulation

Heat loss through uninsulated pipework can generate high surface temperatures. This wastes energy and is also a health and safety risk if touched. A range of insulating solutions are being applied to the buildings' exposed pipes and flanges in plant rooms and their heating-system pipework.

Modification to building controls

The performance of the buildings is being improved via optimising and remotely managing their controls, Building Management System (BMS) upgrades and optimisation and further monitoring.

“Having the ability to put more than £15 million of self-financing investment into creating greener energy from Cambridgeshire schools, farms and public buildings is good for the environment and good for the taxpayer. Crucially, at this time when the Council has to find more than £100 million in savings over the next five years, it also makes economic sense and will bring in savings of around £1.6 million a year. I am extremely proud to be able to back this County Council scheme.”

Cllr Steve Count, leader of Cambridgeshire County Council

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