

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 across the county.

The Council's Re:fit schools project is part of a wider CCC initiative designed not only to increase energy efficiency and improve the condition of the Council's schools and corporate buildings, but also to reduce CO₂ emissions. The estimated potential of this scheme is to deliver 1.2 million tonnes of CO₂ savings over the lifetime of the project.

The schools project started with more than 40 interested schools. Nine of these were included in a pilot delivered in 2015. The remaining schools completed their technical assessments during 2015, with planned works being delivered during 2016.

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| Project: | Milton C of E Primary School (three buildings) | |
| Savings: | £11,000 energy spend reduction per annum 26% savings on energy cost | 45 tonnes of CO ₂ per annum saved |
| Value: | £166,000 | Simple payback of 15 years |
| Timescale: | Installation completed in summer 2015 | |



A view of the school's solar PV array on the south-facing roof.

Project detail

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 in August 2014.

Milton C of E Primary School was one of the first schools to participate in the programme and benefit from guaranteed energy savings. Following receipt of an Investment Grade Proposal (IGP), detailing potential measures and savings, a number of Energy Conservation Measures (ECMs) were installed across its three buildings in the summer of 2015.

Local Partnerships' team assisted throughout the process and completed an analysis of Milton's IGP to help gain approval to install the selected measures.

"This programme not only allows for the replacement of major items, but also creates a learning and working environment that is superb and energy efficient. The savings generated will be used to ensure that Milton C of E Primary School continues to deliver the highest standard of education that the pupils deserve."

David Lee, the Chair of Governors at Milton Primary

Summary of Energy Conservation Measures (ECMs)

Solar PV array

Installed 30kW CIGS Solar PV Array with Export Limitation on the large south-facing roof of Milton Primary will generate an annual financial benefit of £4,689, saving 8.4 tonnes of carbon a year.

Lighting upgrade

An LED upgrade across the three buildings will yield around £1,400 in savings every year. It will also provide 6.4 tonnes of carbon savings.

Building automation

Controlling existing plant via BEMS (Building Energy Management Systems) and programmable thermostats will save the school in excess of £1,650 per year and around nine tonnes of carbon.

Loft insulation

Improving loft insulation to current building standards will save a total of 2.7 tonnes of carbon and will free up more than £430 per annum in terms of saved heating cost.

Condensing boilers

After careful consideration, it was agreed that all boiler plant at Milton would be replaced with modern condensing boilers, which will save more than 15 tonnes of carbon and more than £2,430 in heating costs.

Zoning

Zoning in different areas of the school will provide better heating control. This will enable the school to save an extra £190 in heating costs and contribute just over a tonne of carbon savings.

Insulation of heating components

By insulating heating plant, the school will be saving in excess of £300 annually, which also translates into approximately a further two tonnes of carbon savings per annum.

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.