

School carbon under the magnifier with Carbon Trust

The Carbon Trust is something of a hostage to fortune. As a publicly-funded, but independent company, its resources are far from infinite, and the organisation has had to develop criteria for allocating its time and money to where they will have the greatest impact. The annual energy spend which qualifies any operation in the UK for a carbon survey by the Trust, for example, is set at £50,000, but with energy costs rising dramatically over the past two years, the number of potential candidates clearing the financial hurdle is increasing almost exponentially.

Those price hikes have seen a growing number of secondary schools becoming eligible for the Carbon Trust treatment by virtue of their expenditure reaching the £50K breakpoint.

Many of the establishments in that category will have been built at a time when energy costs did not account for such a large proportion of the school budget, and climate change was a concept confined to the pages of science fiction. Energy management was not at the top of the architects' agenda.

Tom Cumberlege, Public Sector Manager at the Carbon Trust, noted that those schools are like any other UK organisation in that they are entitled to a carbon survey by the Trust's accredited energy consultants who first assess the energy consumption data for the site.

"This indicates how far the school deviates from what might be expected for the type and size of building, and helps the consultants

focus on areas where a comparatively small investment will lead to the greatest reduction in energy consumption.

"The site inspection leads to a report on which the school can then act."

Extending the school catchment

In the best of all worlds, every school and college in the UK would be able to benefit from a Carbon Trust survey. It is as important for a single-form entry junior school as it is for a large comprehensive to reduce its energy costs. Indeed, there is evidence that the smallest establishments spend disproportionately more on energy than their larger counterparts, so that energy costs have a greater impact upon their annual budgets.

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budgetary independence from their local authorities, they are aggregated with them when carbon management is assessed by Whitehall. For a typical local authority which has responsibility for schools, carbon consumption in education accounts for between 60% and 70% of carbon emissions derived from buildings within its estate.

Recognising the potential savings from the local authority sector as a whole, therefore, the Public Sector team at the Trust has been rolling out an initiative that will bring a larger number of schools into the orbit of a free assessment.

The objective is to aggregate enough schools within a locality to reach the £50,000 total spend. Expert assessors then conduct a multi-site survey and deliver conclusions which each of the 'consortium' members is able to implement.

The Carbon Trust has an effective medium for reaching out to the schools which can benefit from this policy. The Public Sector team has been operating the Local Authorities Carbon Management (LACM) Programme since 2003 and has had a total of 215 authorities participating in six annual rounds of the scheme. (Our September edition examined the Programme in detail.) While less than half have a responsibility for schools, the authorities that are in this category are keen to take whatever measures are open to them to reduce the carbon footprint of their schools.

Involving LACM members

Cumberlege and his team maintain contact with all of the authorities who have graduated through the Programme and are launching a round of seminars and workshops. For some of those involved, it is five years since they

set about their five-step programme, and the new round of events will provide a valuable exchange of ideas on ways to implement further methods of carbon reduction. "Our approach to all of those authorities will no doubt re-invigorate their interest in carbon management right across the spectrum. While carbon management in schools is our primary objective, there will be benefits beyond that.

"We want them to adopt a five-step programme in the schools similar to the way we operate the LACM Programme. This starts off by securing the commitment of the head teachers, engaging the school bursars who manage the funds, and working closely with the school caretakers who will be implementing many of the changes.

"The schools programme will be helping all of those involved to take up *ownership* of this opportunity for reducing carbon consumption and saving money for the school. School teachers will have an important part to play in that process, as they link the information being accumulated about utility consumption directly into the many different areas of the curriculum."

Performance Indicators

Local authorities are already conscious of their obligations under DEFRA Performance Indicator NI185, and the Carbon Trust's schools campaign will therefore be welcomed. The indicator alerts public sector bodies that they must set what it describes as a ". . . behavioural and strategic example to the private sector and the communities they serve. The way in which the local authority delivers its functions can achieve CO₂ emissions reductions."

NI185 sets out to measure the *progress* of local authorities in reducing CO₂ emissions from

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the relevant buildings and transport which are used by them to deliver their functions, and to encourage them to demonstrate leadership on tackling climate change.

Progress can only be measured, however, if each local authority can calculate its CO₂ emissions from an analysis of its energy and fuel use within their “... relevant buildings and transport, including where these services have been outsourced”, as the document notes.

For the purpose of the indicator, school properties are relevant buildings, so local authorities must be in a position to establish energy usage accurately across their schools, as well as the other parts of their estate.

Energy can be saved easily

The Carbon Trust maintains that 20% of energy in schools can be saved without excessive effort. It is a case of having the accurate and timely information to draw upon in a school to identify where that 20% - and probably a great deal more - of the total utilities bill is being wasted.

There is a danger, Mr Cumberlege warns, of public sector institutions spending too much time establishing base-line data; the starting point from which improvements will be measured: “It is pointless taking hours securing the

information that may save one kilogram of carbon. It is vitally important that data on energy consumption, which will be used as the basis for proceeding with carbon reduction programmes, is produced rapidly and cost-effectively. I am keen to encourage schools to adopt procedures which achieve that goal.”

Hertfordshire experience

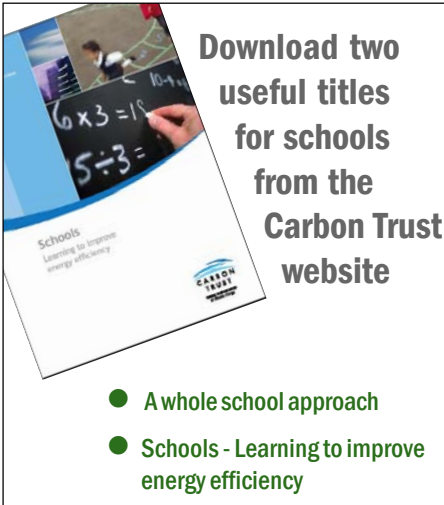
That view is certainly shared by Hertfordshire County Council, which we have analysed in depth earlier in this edition. The council has taken what its senior managers describe as a holistic approach to energy management, and have

been aggregating its school properties with its other buildings for energy planning purposes over a period of a decade.

Consistent with Tom Cumberlege’s call for rapid and accurate data collection, Hertfordshire has been implementing a system for the remote monitoring of energy across the 1,000 buildings in its estate; some 540 of them schools. The system collects data in real time from sensors at key points around the sites being monitored. It transmits the information back to data collection hubs by radio link for processing before it is published on the Internet.

As Tony Comer, the Director of Property Services at Hertfordshire observes on page 16, “Having the detailed information available in real-time is only one aspect of the process. It is important that those involved in energy consumption at a local site level can react accordingly.”

Tom Cumberlege and his Carbon Trust colleagues are indeed seeking a positive reaction to their campaign across the schools sector. The ability to create informal consortia of schools will bring much-needed expertise over the threshold to assist school managers. If the scheme gathers momentum as well it might, it will be a win-win for the schools as ‘small businesses’; for the amount of carbon emissions saved in the process, and for the Carbon Trust itself who will welcome the success. §



Download two useful titles for schools from the Carbon Trust website

- A whole school approach
- Schools - Learning to improve energy efficiency

Progress on carbon management in schools can only be made if each local authority can calculate its CO₂ emissions from an analysis of its energy and fuel use within its schools and other buildings.