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Performance Management Systems

Figures to Footprint – positive energy and CO_2 at Shortenills Centre, Chalfont St. Giles

One would expect Shortenills Centre to be a paragon of sustainable living. As the flagship of environmental education for Buckinghamshire County Council, over two thousand children and teachers attend popular day and residential courses there each year. Shortenills has much to show them, for if they don't walk their own talk, how can they convince these crucial consumers of the vitality of their message?

In 2004, the installation of a new biomass boiler, burning wood chips from a neighbouring property, brought the potential to monitor, record and unequivocally demonstrate their sustainability credentials. Ian Duckworth, Head of Centre, choose Ceradon's *CeraSchool* environmental management software to turn opportunity into reality. He has three key educational and administrative requirements:

Orientation. Projected on the classroom interactive whiteboard, *CeraSchool's* digitised map allows newly-arrived children to become familiar the site, clicking on hotspots to see a gallery of photographs, from the ponds to the recycling bins. There is even a video of the resident badgers, with the possibility of a live link to watch the animals when they are active outside their set in the evenings.

Monitoring and targeting. Hotspots on the map also link to graphs of water consumption and energy produced by the biomass boiler, the solar photovoltaic array and the mains electricity (green tariff, of course). Records are compared from week to week, to explore the environmental implications of factors such as variations in daily and seasonal ambient temperatures. For the big picture, for climate change, Ceradon software integrates the energy figures to calculate the Centre's "Positive CO_2 Footprint" – a measure of the fossil CO_2 not being released because fuel oil is not being burnt.

Each week's residents are challenged to use less water than the preceding class, while remaining clean. Water use is displayed as bar charts of daily, 30 minute and one minute intervals. When it comes to engaging children with the realities of their influence on resource consumption (and a meaningful application of a bar chart), Ian has described this application of *CeraSchool* as "amazingly successful".

Other performance indicators can be charted manually, from recycled paper and food waste compost, to butterfly sightings. Naturally, the software is easy to use, so that the children can be fully involved in collecting, entering and interpreting these data. Although this is fully-fledged environmental management system, capable of supporting a multi-site, ISO 14001- or EMAS-accredited organisation, Ceradon have put the complexity, and the user-friendly management console, well out of sight.

Resource management. Until *CeraSchool*, the only information that Ian Duckworth has had on the Centre's resource consumption has been through the utility bills – electricity, oil and water. It was clear within hours of commencing mains water monitoring that there was a pipe leaking somewhere underground. With live monitoring, Ian and his staff can establish the norms for any given season and *CeraSchool* will show when something isn't right.

Shortenills Centre continues to build on its successes. The managing trust has secured funding for solar water heating, to be installed in Summer 2009. To extract the maximum educational value from this project, integration of data from the solar controller into *CeraSchool* was a core part of the specification.

Ceradon software is designed to be capable, accessible and flexible. As Shortenills' requirements to monitor and manage evolve, *CeraSchool* will continue to provide what they need: simple on the outside, clever on the inside. Much like Shortenills, itself.

Shortenills became an accredited Eco-Centre in March 2005.