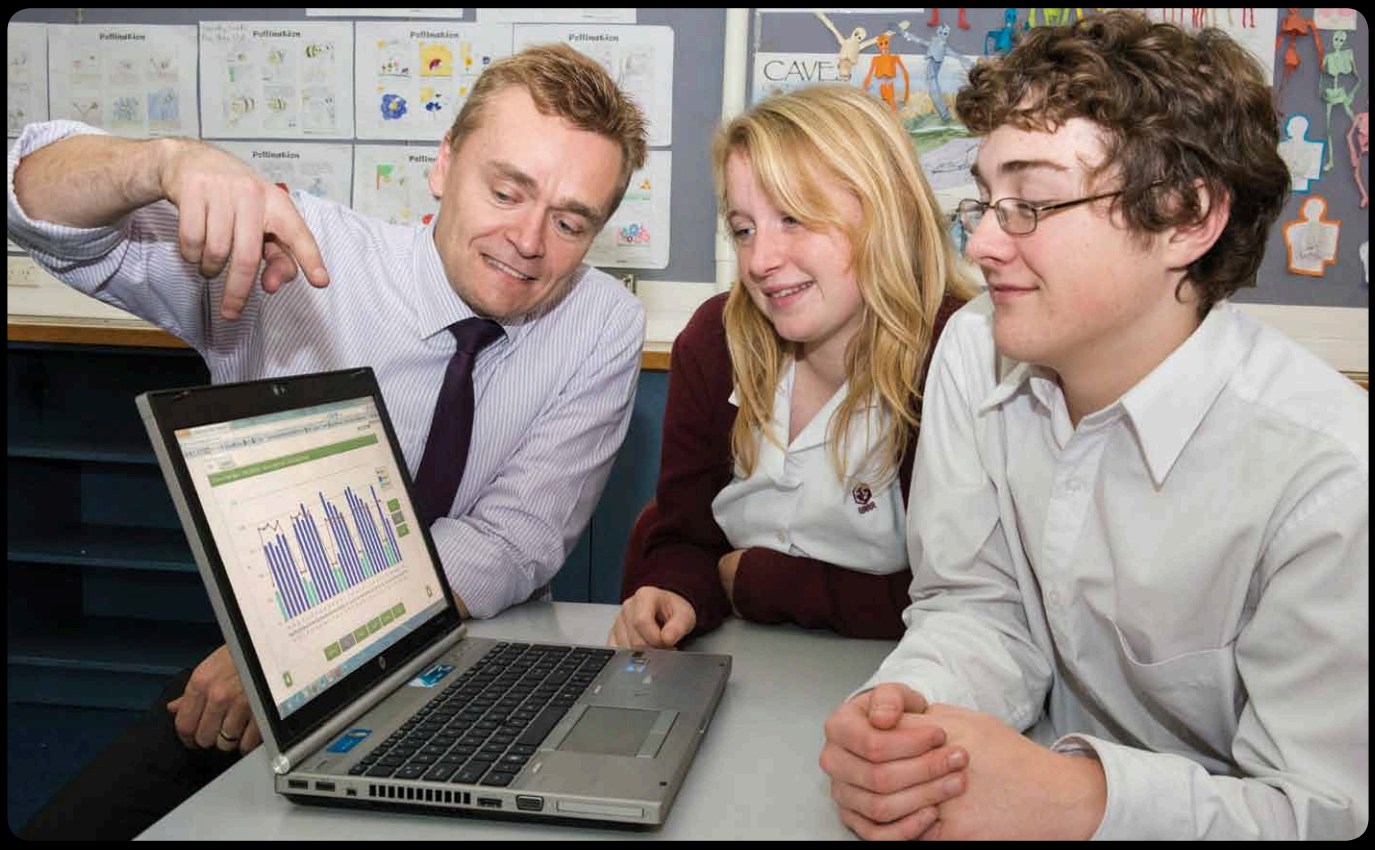
EnergyManagement
Association of New Zealand

EnergyMasters of the future



Client: Students and staff in three Christchurch schools.

Stakeholders: The Enviroschools Foundation, Energy Efficiency and Conservation Authority (EECA), Ministry of Education, Christchurch Agency for Energy (CAfE), Peter Maurer (ecoDriver®).

Challenge: To encourage New Zealand schools to manage their energy use, reduce their energy consumption and costs, build this learning into the curriculum, and provide real life education about energy efficiency resulting in an energy-aware population.

Solution: A pilot project is underway at Linwood North, Cashmere Primary and Cashmere High schools in Christchurch with funding and support from the Ministry of Education, EECA and CAfE. The pilot is being managed by The Enviroschools Foundation, with the goal of creating a curriculum and support package that other schools in New Zealand can use to develop a school-wide framework for energy efficiency.

In brief: Peter Maurer (ecoDriver®) worked with The Enviroschools Foundation and other key stakeholders to implement a pilot project in three Christchurch schools that resulted in:

- Monitoring technology implemented to measure energy use and set targets for energy savings.
- Students and staff developing school wide initiatives to reduce energy use.
- Knowledge about energy monitoring and use integrated into the school curriculum in a number of learning areas.

The project

For Peter Maurer, one of the early partners in the Christchurch initiative, the initial thrust for the use of an energy monitoring system in New Zealand schools was the potential for significant energy savings. But was there more to it than just saving energy?

The solution

A pilot project now underway at Linwood North School, Cashmere Primary and Cashmere High is finding out how schools can monitor and manage their energy use while learning about energy management.

Peter has been working with the pilot's lead developer Heidi Mardon, National Director of The Enviroschools Foundation, along with the Ministry of Education, EECA and CAfE who have all given their support and funding for the project.

"In teaming up with Enviroschools the idea changed and we thought 'If we educated generations of students through the school system, the potential impact on New Zealand energy use could be significant'" Peter said.

Heidi said that the project creates learning processes that are far more effective than the traditional approach using textbooks.

"The question was how to harness this learning opportunity. Now, with this initiative, there's a real chance that within ten years this knowledge will become generational and we will end up living in an energy-wise society" Heidi said.

Each of the schools involved has an energy monitoring system. Students and teachers use computers and large LCD screens to see a breakdown of their school's current energy use, and get instant feedback from changes they make during the day (like switching off the lights over lunchtime).

Cashmere High has set a target of reducing energy use by 8 per cent this year. Students are running a "Switch it off!" campaign, promoting this through school assemblies, on posters, and on stickers at light switches. In seeing the real-time data, students are able to make decisions about reducing energy use if the hourly, daily, weekly or monthly targets are close to being exceeded. The screens also flash a warning sign when the targets are being reached. The year 10 students are tasked with analysing the data, making predictions about future energy use, and presenting ideas on how they can further save energy at school.

Enviroschools provides materials, professional development training and a facilitator who helps plan the curriculum activities and runs group workshops each term so that the schools can share experiences.

"Students are learning about energy. They're making decisions about how they want to use energy and what changes they would like to make in terms of sustainable energy use," Heidi said. "The pilot is going very well. Older students at Cashmere High are taking an active role in leading the project within their school and the primary school children from Cashmere and Linwood are starting to gain a real understanding too."

By developing energy efficiency behaviours among school staff and students, saving 10 percent of the energy costs across all of New Zealand's schools could result in a total savings of $5 million to $6 million per annum.

The company

Peter Maurer is the New Zealand rep for ecoDriver®. The ecoDriver® energy measurement application helps organisations improve their sustainability and reduce costs by presenting live energy data from a variety of sources in useful ways.

"By having a feedback mechanism in combination with curriculum activities, students can build their awareness of energy efficiency in very real and appropriate ways" Peter said.

"The New Zealand curriculum is all about real life learning. With this project, the students are absolutely solving a real life problem. It involves maths, science, economics and design. The students are really into it. They are getting the message about looking after the environment and about saving money."

Leith Cooper, Physics and Science teacher at Cashmere High.

"This project gives schools a real opportunity to solve their own issues around energy and do their own investigations. They are helping themselves by doing it themselves and getting involved in finding their own solutions."

Merv Altments, CEO, CAfE.

"This is a three school pilot that can translate into an 800 school programme. This learning opportunity is particularly important when we appreciate that students of today will be decision makers of tomorrow. The professional development that Enviroschools provides for the schools makes this particularly powerful."

Mark Stallmann, Manager – National Portfolio Team, Ministry of Education.

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