

Want to save money on your power bills? You can thanks to a 'smart' microchip. SUE GOSS reports.

Smart energy saving solutions

How would you like a dishwasher that tells you the cheapest time for you to run it? If you press 'wash' at peak usage times, an interactive display system warns you that you will have to pay a great deal more for washing now than if you let the dishwasher decide when to start. At 3am, when the tariff is low (power usage has gone flat), away it goes and your power bill is greatly reduced.

Sounds like a fantasy? The visitors at Copenmind 2008 were more than impressed with the innovative system from La Trobe University with its industrial partner, Semitech Innovations.

Australian inventors are back on the map. La Trobe University was one of only four Australian universities who attended the Copenhagen convention, where the world leaders in green technology met. La Trobe University has a newly established research and product realisation centre, the Centre for Technology Infusion, located at the university's research and development park which houses over 30 companies.

They work alongside the university, sharing projects with students who have the advantage of gaining valuable industry

experience.

The project, which has excited the imagination of many companies at Copenmind 2008 right up to the trade commissioner of Denmark, is the 'smart' energy metering system developed by La Trobe University and Semitech Innovations.

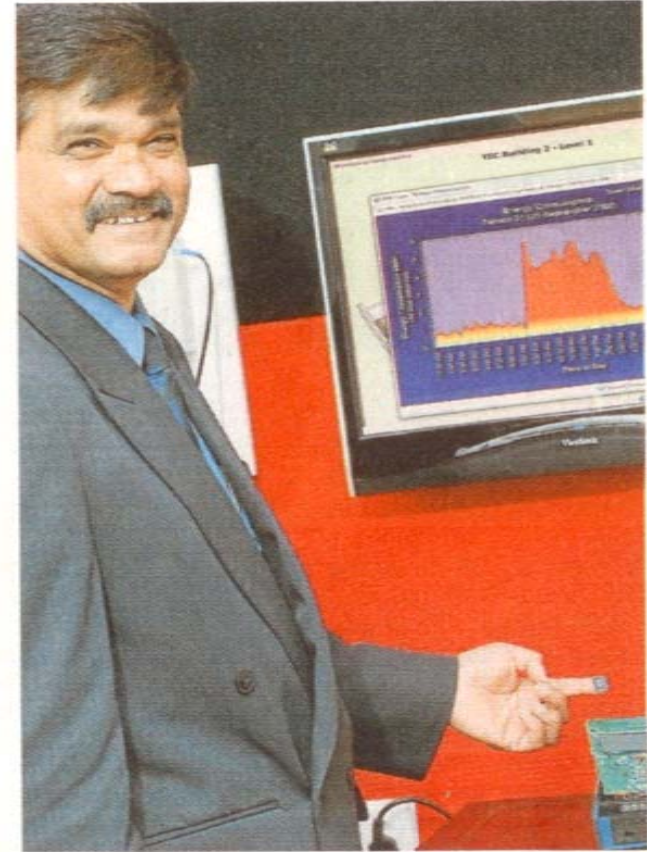
"If the energy demands during the two peak periods of usage, morning and evening, continue to rise then we will have to generate more power with resulting increased carbon emissions," says Professor Jugdutt Singh, director of the university's Centre for Technology Infusion. "However, using smart electrical goods in homes will facilitate the redistribution of power usage and flatten it out during the day, resulting in lower demand on more power generation. Most electrical goods can become smart and the implications for industrial automation are even greater."

The smart energy metering system is based on the SiMAC microchip developed by Semitech Innovations. It can be cheaply embedded into all electrical goods and allows the transfer of information over existing power lines from the consumer to the meter and the supplier.

The cost of supply will change according to time of day and type of appliance so that consumers will be able to see, by the graphs on their interactive display system, where they are spending too much money and where it could be saved.

"An advanced software interface using context-aware and persuasive software technologies has been integrated to influence users to change their behaviour and encourage energy conservation, resulting in reduction of green house gas emissions," says Professor Singh.

Not content to just come up with a product, 30 of the smart energy meters are now being piloted at La Trobe University's R&D Park. Professor Singh can see many new companies springing up to deal with the demand. This is where the engineers come in. They will need specialists in telecommunications, electrical and electronic engineering, computer scientists and people who are trained in software interface, all coming together to provide a solution to the energy consumption crisis.



Professor Jugdutt Singh with the smart energy metering system.