



## SETTING GOALS FOR ENERGY CONSERVATION

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Setting a target and striving towards it is something we all do, whether it's getting fitter, losing weight and or saving more money. So why not take advantage of that goal-setting instinct to encourage energy conservation? That's part of the thinking behind the Energy Hub Management System (EHMS), the brainchild of a group of environment and engineering researchers at the University of Waterloo.

Once homeowners have set specific energy goals, they can log on to the EHMS to monitor their conservation progress in terms of money saved, energy consumption reduced and emissions avoided. They can also compare their results with their past performance and measure progress towards their goal.

But that's only half of the EHMS. The other half is an electronic "brain." The hub collects data from all of the devices connected to it - dishwashers, fridges and even natural gas furnaces - as well as local electricity demand, time-of-day pricing and even weather forecasts. Not only can homeowners set limits on their overall energy budget, they can also put different priorities on different energy uses throughout the day. Presto! The system will optimize home energy use based on all those factors.

The result is a household smart grid that can be customized from a smart phone. Seeing their results makes homeowners smarter too. EHMS feedback helps everyone understand how their behaviour affects their hydro bill.

With a residential model established, a pilot project to test EHMS on real households in Ontario is now fully underway. Next up? Industrial and commercial models aimed at large-scale energy consumers and producers.

Partners: Energent Incorporated, Hydro One Networks Incorporated, Milton Hydro Distribution Incorporated, Ontario Centres of Excellence, Ontario Power Authority

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