

# National Post

## Smart Approach To Power Use

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Illustrations: Color Photo: CNW Group, Ontario Energy Board Photo / Smart meters are a key component of the smart grid system, which helps cut energy use.

Imagine a day in your life that is inspired by technology.

At 7:30 a.m., you throw a load of laundry in to wash, grab your car keys and cell and head out the door. Your electric car is charged and ready to go. As you close the garage the front door locks automatically, the security system is enabled, thermostat adjusts to the "away" setting and lights and other unnecessary equipment shuts off.

At 11 a.m., a text message from your local utility reminds you that it is now the mid-peak (lower) price period so you remotely start the laundry machine so clothes will be clean when you get home. While you're heading home at 5 p.m. the thermostat adjusts, so your house is warm when you return. As you enter, lights automatically turn on and you check your in-home display to see how much electricity you are using and if you need to conserve to stay on-budget. When you go to bed at 10 p.m. the display confirms that your dishwasher is set to run now to take advantage of off-peak prices and reminds you that in 30 minutes it will arm the security system, shut off the lights and turn the thermostat down three degrees.

Sound like 2020? Thanks to the smart grid, this sort of interaction is not that far off.

A smart grid combines advanced information, communications and electronics to optimize the electric infrastructure, enhance the customer experience, and promote environmental sustainability.

It refers to a network of intelligence, through smart systems, smart processes, and smart people. At the heart of the smart grid is customer empowerment to meet conservation and green energy objectives, and manage electricity costs.

As the local distributor, the utility has a trusted relationship with the customer and is in a position suitable for offering such services.

"In recent years Ontario's electricity industry has thrived in deploying strong and effective conservation and demand management programs to our customers," explains Catherine Parry, director of marketing and communications at Toronto Hydro.

The next step will be to leverage the information capabilities of the smart grid to empower customers with more options to manage their electricity use and carbon footprint.

"We will be offering new services like energy and carbon management systems, as well as in-home displays," she says.

In-home displays are devices that reflect energy consumption and associated costs. The in-home display will communicate with the smart meter to show customers how much electricity they are using in kWhs, and in dollars and cents.

"There are all sorts of ways we think we can help the customer maintain comfort and convenience and control their usage," Ms. Parry says. "You have to know how much you are using and when you are using it to best manage your consumption. The smart grid will help customers do that."

In addition to helping customers take control of their energy usage, the smart grid enables behavioural change that will assist the utility in meeting its peak demand needs. On a broader scale, it will also help the province reduce its dependency on coal and supports a clean, renewable supply of power.

In fact, Steve MacDonald, manager of meter technologies at Toronto Hydro says, the smart grid is an enabler for renewable technology.

"Our smart grid strategy includes a significant amount of renewable generation, customer generation from residential and commercial customers. Smart meters are able to measure customer generation separately from what we deliver. The system will recognize where it needs extra capacity or has more than it needs, and move load around accordingly."

"It's a paradigm shift in the way we look at our business and what it means for customers," Mr. MacDonald says. "Traditionally, electricity is a high-involvement/low-interest category, but not anymore. The way people are using electricity is changing."

Utilities such as Toronto Hydro can provide the infrastructure, technology and tools to provide convenience, comfort and control.

"The smart grid is an opportunity to have smart technology help them manage their electricity usage better and to make conservation intuitive. The time is right. People are expecting more," Mr. MacDonald says.