ELECTRICITY DISTRIBUTION SYSTEMS THAT PUT CUSTOMERS FIRST

THE CHALLENGE:

Consumer demand for electricity has never been greater. We rely on it to power our computers, as well as the energy-hungry data centres and cooling systems that support our digital economy. We want it to be clean, for the health of our citizens and for our environment. We expect it to be reliable, so that when we plug in our electric cars, light up our office towers, or recharge our cell phones, it’s readily available. We want it all, and yet North American electricity grids were never designed to satisfy so many demands all at once.
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THE SOLUTION:

Electricity distribution systems are becoming highly computerized. Engineers call them ‘smart’ grids. Like smart phones which connect people to the Internet by way of computer chips and radio signals, Smart Grids use digital communication technology to constantly monitor the flow of electricity. A Smart Grid can also automate repairs on the electricity distribution system when they’re needed. And when demand is too high and needs to slow down, they signal for renewable sources of electricity to come on stream. They’re even smart enough to communicate electricity prices to customers.

A Smart Grid is much more than just smart meters: These highly integrated systems create a vital two-way flow of information that ultimately connects electricity companies to consumers more directly and more meaningfully.

Automation technology is one example of Smart Grid technology. PowerStream’s System Control Centre uses it to adjust and control individual sensors or monitors – or several of them all at once – from a central location, as an efficient way to isolate problems and manage outages.

Smart meters are another aspect of the Smart Grid. So are electric vehicles, wind turbines, solar panels and energy storage. For more information on how all the different pieces of the smart grid fit together, please see the complete Smart Grid technologies series of case studies produced by PowerStream.

THE BENEFITS:

> **Environmental responsibility.** Smart Grids connected to individual smart meters are helping residential and small business customers in Ontario to better manage their electricity use and take advantage of provincial energy conservation programs.

> **Sustainability.** Smart Grid technology is allowing renewable sources of electricity to be added to our province’s supply mix. It also has the ability to signal to customers when it’s time to cut back on their electricity use based on the price of electricity.

> **Reliability.** Smart Grid technology is being used to pinpoint power line problems as they occur and has the ability to fix the problem in seconds, minimizing inconvenience for customers.

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