

THE ELECTRICITY INSIDER

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Heat Wave Impact on the Electricity Market

Ontario was blanketed by a heat wave in mid-July that pushed temperatures to record levels. The province's electricity demand reached its highest point on Thursday, July 21 at 25,450 megawatts (MW). This was Ontario's highest hourly demand since 2007.

Temperatures in Ontario started to climb into the 30 degree range with a humidex into the 40s starting on Sunday, July 17. Electricity demand that Sunday reached 21,892 MW.

Temperatures and humidity remained high throughout the week and resulted in elevated electricity use primarily due to air conditioning. Thursday marked the hottest day in the stretch. While the hourly peak that day was only the 15th highest ever, total daily consumption was the third highest ever. High overnight temperatures and humidity kept AC load on for a longer period of time. In addition many Ontario consumers and businesses shifted some of their energy use away from the peak hour to lower demand times of the day because of programs like Peaksaver and the Ontario Power Authority's DR3 program.

On the market side, the heat wave illustrated the effect that rising electricity demand has on electricity prices. An analysis of prices from Monday, July 18 to Friday, July 22 shows that during the six hours when demand exceeded 25,000 MW, the average market price was over 11 cents/kWh or almost three times higher than hours where demand is less than 22,000 MW.

Ontario Demand	avg cents/kWh	# of hours
>25,000 MW	11.1	6
24,000 - 24,999 MW	8.8	11
22,000 - 23,999 MW	5.1	36
20,000 - 21,999 MW	3.8	22
<20,000 MW	3.3	45

Hourly electricity demand is tracked and forecasted throughout the day at www.ieso.ca/demand. For business consumers paying the hourly price of electricity, it is important to recognize potential impacts on price when demand is high. When electricity demand exceeds the forecast, it can also push prices upward as more generation is required to meet higher levels of demand.

By 3:30pm each day, the IESO publishes a forecast of demand and price for the next day based on electricity bids and offers currently in the system.

Renewables Integration – Working Through the Details

Renewable energy will soon represent a significant portion of Ontario's generation fleet. By 2018, an estimated 10,700 megawatts (MW) of new renewable generation is expected to be in service, with substantial amounts by early 2013.

Within the next two years, the IESO needs to be in a position to register and incorporate this renewable generation into market and system operations. Leading the way with its Renewable Integration Initiative, the IESO is working together with the Ontario Power Authority (OPA) and industry stakeholders to develop and implement the necessary changes.

The finalized design principles released in March 2011 will help establish the tools and processes required to effectively balance supply and demand while accommodating the unique operating characteristics of wind and solar generation. Collecting information on the availability and output from wind and solar facilities along with centralized forecasting will ensure the grid is managed efficiently and reliably. Working groups have been established by the IESO to assist in the implementation of these principles.

For detailed information on the Design Principles, the working groups, or future stakeholder meetings, please visit: http://www.ieso.ca/imoweb/consult/consult_se91.asp.



Power to Ontario. On Demand.

What Your LDC Can Do For You

Your local distribution company (LDC) is more than just a company that sends you a bill. In addition to delivering power to your business and maintaining the power lines within your community, they connect new customers to the grid and have knowledge and expertise to help you manage your energy costs. LDCs also manage the rollout of smart meters and Time-of-Use prices for all households and small business customers whose peak demand is less than 50 kilowatts (roughly equal to a monthly bill of \$2,000 or less).

For example, Horizon Utilities, an LDC that serves 237,000 customers in Hamilton and St. Catharines, delivers all of these services while helping build sustainable communities. Delivering conservation programs is just one part of Horizon Utilities' commitment to sustainability, which includes being the first LDC to produce a sustainability-based annual report and being designated as the first electric utility in Ontario to report under the Global Reporting Initiative (GRI) framework. "We want to be known as a sustainability leader in the communities we serve," says Eileen Campbell, Vice-President Customer Services. "We are very proud to be named the Sustainability Company of the Year by the Canadian Electricity Association. We received the award for exemplary performance in all three areas of sustainable development – social, environmental and economic."

Another core responsibility of LDCs is to deliver conservation programs to their customers. Horizon Utilities has a number of large customers such as Air Liquide, Brock University and Hamilton Health Sciences that have benefited from incentive programs. "The big projects help to raise awareness, but our knowledge of all available CDM programs helps us to direct eligible customers, regardless of size, to a program that meets their needs and takes advantage of the incentives available to them," notes Brian Smith, Chief Conservation Officer. Over 6,000 small businesses have taken advantage of the Power Savings Blitz program (now called the save ON energy Small Business Lighting program) because of Horizon's approach to 'hit the streets' to tell businesses about the benefits of the program.

Like many LDCs, Horizon Utilities is committed to reaching out into their communities to promote awareness of programs and initiatives. "We use multiple channels including advertising and bill inserts, but the most effective channel is always a personal relationship with the customer," notes Campbell. Horizon Utilities has developed customer relationships by conducting one-on-one visits with business customers, roadshows with Business Industry Associations (BIAs) and hosting over 60 community events last year alone to educate customers about Time-of-Use rates and conservation tips and initiatives.

Horizon Utilities has developed a comprehensive and consistent approach to customer service. "We want to deliver the same excellent service to all customers – residential, business and industrial," notes

Campbell. "That means helping them with conservation programs as well as day-to-day questions about electricity use and energy management."

Through this type of personal approach and a focus on customer service, LDCs are providing innovative energy solutions to the communities they serve.

Get your 2012 IESO Calendar

The 2012 IESO calendar will focus on the consumer and how their role in the electricity system is changing. The months will highlight electric vehicles, smart homes, demand response and microgrids. Please send your mailing address to corporate.communications@ieso.ca to order your free copy of the calendar.



The IESO is a not-for-profit organization that manages the reliability of Ontario's power system and operates the wholesale electricity market where the hourly price of electricity is set. Through its market education program, the IESO works with consumers paying the market price by creating educational material on the market and providing opportunities for consumers to learn about the electricity sector and how they can better manage electricity costs.

For more information on the IESO's market education program, please contact:

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