

THE ELECTRICITY INSIDER

INFORMATION • TOOLS • RESOURCES

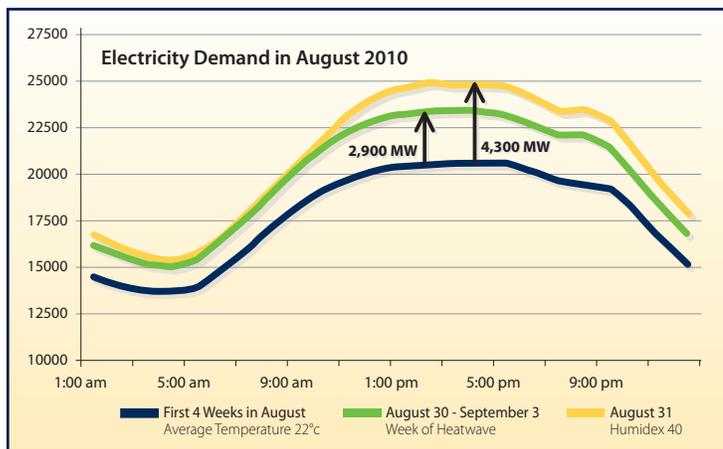
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Summer Electricity Demand

As Ontario enjoyed a hot and sunny summer, the high temperatures had an impact on electricity consumption, pushing peak demand to its highest levels since 2007.

Ontario's peak electricity demand of 25,075 megawatts (MW) occurred during the July heat-wave as air conditioners were cranked to combat the high heat and prolonged humidity. Along with higher peak demands Ontarians used almost nine percent more electricity throughout June, July and August compared to the same three months in 2009.

The chart below shows the close relationship between temperature and electricity demand. During the first four weeks of August, the average daily temperature was just over 22 degrees Celsius. Compared to demand during the heat-wave that occurred in August and early September, Ontario saw electricity use increase by 15 percent, or 2,900 MW, during peak hours. Electricity use was at its highest on August 31 with a humidex rating in the 40's. Compared to an average August day, that additional electricity use is like adding another city the size of Toronto to Ontario's electricity grid.



During the hot weather, Ontario-based generators were able to meet demand during all hours of the summer despite lower output from hydroelectricity sources due to low water levels.

Ontario also received contributions from conservation and demand management programs such as Peaksaver and the Ontario Power Authority DR3 program. During a four-day period in July, the two programs combined for over 3,000 megawatt hours (MWh) of demand response, enough electricity to power the City of Brantford for one day. Demand response programs continue to grow and play an important role in managing the power system.

How is Your Business Charged for Electricity?



One of the most important aspects of effective energy management is reviewing and understanding your electricity bill. This is true for businesses and households. But did you know that your business's electricity costs are based on more than just the total volume of electricity you use?

All organizations with electricity demand over the 50 kW threshold are in a class of demand-billed customers. This includes commercial, institutional and industrial customers with an average bill over \$2000 per month. So while some charges are calculated by volume (in kWh) some are calculated based on your peak demand (in kW).

Your peak demand represents the maximum amount of electricity required to meet your facility's needs. To calculate peak demand, your local utility takes the highest kW or kVA reading (usually over a 15-minute period) during the billing period and uses that value for billing. So, unlike at home, while some of the charges you'll see itemized on your bill are based on total electricity consumption, delivery charges for transmission and distribution (which make up nearly half your bill) are based on your monthly peak demand.

Knowing the exact time when you set your peak demand will help you to understand which equipment and processes contribute to it – and whether there are ways you can reduce it. Understanding your electricity charges will also help you estimate the cost savings of energy efficiency projects.

For example, let's say you are considering the purchase of a 2,500 watt cooler to replace a 4,000 watt model. Assuming your cooler runs all the time, this project would reduce your monthly peak demand by 1,500 watts (or 1.5 kW) and your total monthly consumption by 1,116 kWh (1.5 kW x 744 hours). By multiplying those expected demand and consumption savings against the delivery rates and consumption rates on your bill, you will get an accurate estimate of the money you will save.



Power to Ontario. On Demand.

When Are Prices Low?

This year, there have been 18 hours when Ontario's electricity price has been negative. During those hours, generators are paying the market to generate power.

There is usually a combination of factors that lead to negative prices. For example, demand for electricity is typically very low at certain times such as overnight and on long weekends. That low demand is typically combined with a high supply of generation sources that usually runs all hours of the day such as nuclear and some hydroelectric generators. Some negative price situations occur when there is more generation in Ontario than can be used with low levels of demand.

In Ontario's electricity market, suppliers are selected to provide power based on the economics of their offer into the market – that is, suppliers that offer their generation at the lowest cost are selected first until there is enough energy to satisfy demand. Suppliers might choose to offer into the market with a negative price because of higher costs or lost opportunities that might be incurred by reducing output or shutting down their generation. When situations arise where too much supply is available, the IESO may only need to select suppliers that have offered negative prices into the market. This has resulted in 23 hours with negative prices so far in 2010.

How will you know when negative prices are on the horizon? The first forecast of tomorrow's electricity prices is posted to www.ieso.ca/price at 11:00 EST. While the outlook will change based on fluctuating bids and offers in the market, understanding when prices tend to be lower (and even negative) can help you to schedule some tasks or processes to periods when price is at its lowest.

Small Businesses on Time-of-Use Rates



If there's one thing all small business owners are focused on, it's the bottom line. With that in mind, the IESO has just launched a new online tool called Time-of-Use at Work, designed to help businesses understand time-of-use

(TOU) electricity rates and identify potential savings resulting from load-shifting and/or conservation efforts. While it is intended for small businesses who currently pay for electricity through the Regulated Price Plan, (typically less than \$2000 per month) the tool explains the energy use of common business equipment.

It is available at: www.ieso.ca/smallbiz.

Making Your Views Known

The IESO's Stakeholder Advisory Council (SAC) meets throughout the year to provide advice and recommendations on electricity market development, planning decisions and other matters of interest.

In recent meetings, the SAC has discussed issues relevant to electricity consumers such as time-of-use pricing progress, potential changes to the provincial benefit and the priorities for the electricity market. These meetings are open to anyone with an interest in the electricity sector.

SAC members are always looking for feedback. Member contact information is available at www.ieso.ca/SAC.

The consumer representatives are:

Julie Girvan, Consumers Council of Canada,
representing residential customers

Mark Schembri, Loblaw Properties Ltd,
representing commercial customers

Adam White, AMPCO,
representing wholesale industrial consumers

John Williams, Deflecto Air Distribution Products,
representing embedded industrial customers

John Witjes, Queen's University,
representing public service customers

The IESO is a not-for-profit organization that manages the reliability of Ontario's power system and operates the wholesale electricity market which sets the hourly price of electricity. Through its customer education program, the IESO provides information and meeting 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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