

Report Description

TITLE:	Generator Output and Capability Report
CONFIDENTIALITY:	Public
PURPOSE:	This report provides close-to-real-time output levels for Ontario's generators registered as a market participant, and their availability to produce. It is published hourly, as soon as the data is available, containing data from generators with capacities 20 MW or greater, registered with the IESO.
FREQUENCY:	Hourly

NOTES:

**As of March 25, 2015, "Solar" category was added to this report.

Output is the actual energy production of the unit or facility. The hourly output is the facility's five-minute outputs averaged over an hour.

Capability is the maximum potential output of the unit or facility under current conditions, which includes maximum unit derates and outages for that hour. In this report, Capability is provided for nuclear, hydro, gas, and biofuel generation (excluding wind and solar).

Available Capacity is provided for wind and solar generation. It is the maximum potential output of the facility, minus derates and outages within the hour. This does not take into account the current availability of wind and sun (fuel) - which is reflected in the forecast.

Forecasts are available for wind and solar generation and represent an estimated output for the facility. It is derived from the maximum output of the facility (installed capacity), minus outages and derates, and takes into account the forecasted availability of fuel (wind and sunlight). This value provides the best estimation of potential variable generation output.

The forecast value shown in the report is the five-minute supply forecasts averaged over the hour. If this hourly forecast value is unavailable, it will be replaced by the hourly forecast found in the [Variable Generation Forecast Summary Report](#).

Background:

Output Values

1. Output values are the product of operational metering, which by its nature is less accurate (variances +/- 10 MW) and less reliable than revenue metering used for billing purposes. Because of the priority for real-time posting of energy outputs, the values cannot be validated prior to posting. Data upsets and other telemetering problems or technical issues can result in incorrect values. Values will be reported as N/A for hours where there is a telemetry failure.
2. Actual output from wind and solar generation can vary from forecasted values due to fluctuations in the fuel supply.

3. While the generator capability/available capacity indicates the maximum potential output from the generator in any hour, these generating units often produce less energy than they are capable of at any given time. This is due to the constantly changing IESO dispatch which requires generators to ramp production up and down according to system needs. And at times, under optimal conditions, output can exceed how much the unit is rated to produce. In addition, the IESO must carry a certain amount of operating reserve for reliability. As such, extra generation capability is needed on standby, ready to produce energy on short notice. Generators scheduled for reserve will also show an output less than their maximum capability.
4. For all generators in the commissioning phase (testing and verifying operations with IESO), the report will show the Capability/Available Capacity value equal to Output.
5. All energy values are shown net of station service. That is, if energy is required in order to generate, this energy is not included in the unit or facility output. If a generator is out of service and must draw energy from the system to support maintenance work, this electrical load will not be reported.

Outages and Derates

1. Outage information is based on outage requests sent to the IESO.
2. Generators out of service for maintenance will appear as having zero capability.
3. Generator capabilities can be reduced (derated) due to any number of environmental, equipment or fuel supply issues that may limit the output of the generator, but do not require it to shut down.

Forecasts

1. The IESO has a centralized forecasting service that helps to predict the wind and solar output. Each wind or solar generators forecast uses facility specific information, local meteorological data, as well as forecast models.