10-YEAR OUTLOOK HIGHLIGHTS

An Assessment of the Adequacy of Generation and Transmission Facilities to Meet Future Electricity Needs in Ontario

From January 2006 to December 2015

ieso

Power to Ontario. On Demand.

Contents

The Independent Electricity System Operator (IESO) manages the province's power system so that Ontarians receive power when and where they need it. It does this by balancing demand for electricity against available supply through the wholesale market and directing the flow of electricity across the transmission system.

This document contains highlights of the full 10-Year Outlook which is available on the Inside the Market section at www.ieso.ca. A diagram outlining Ontario's electricity reliability priorities is also available from the site.

EXECUTIVE SUMMARY

The provincial plan to phase out coal-fired generation in favour of cleaner forms represents one of the most significant undertakings in the Ontario electricity sector's 100-year history.

Aging generation facilities and the continued increase in demand for electricity add to the urgency of proceeding with new generating and transmission facilities over the next 10 years.

Over the last 12 months, 650 megawatts (MW) of new gas-fired generation has been put in place and 515 MW of nuclear generation and 370 MW of renewable generation is expected to be in service within the next 18 months. There are also a number of projects totalling more than 9,000 MW of additional capacity that are in various stages of discussion, development or negotiation. Timely progress to achieve this additional capacity must continue if Ontario is to ensure a reliable supply of electricity over the next decade and beyond.

The 10-Year Outlook provides an assessment of the demand-supply picture for the province over the next decade and provides a plan identifying the timing and requirements of system changes needed to meet the government's coal shutdown timeframe. Under the provisions of Bill 100, the Ontario Power Authority (OPA) is responsible for long term forecasting. However, the IESO has agreed to produce the 10-Year Outlook in 2005 while the OPA determines how best to address its forecasting responsibilities.

Electricity Supply Outlook

There have been a number of positive developments in Ontario's electricity sector since the IESO published the previous 10-year Outlook on March 31, 2004.

These new developments include the introduction of 650 MW of gas-fired generation into the Ontario market, the decision to proceed with restarting Pickering Unit 1 (bringing an additional 515 MW on-line in September 2005,) and the announcement of 2,200 MW of new supply initiatives and 395 MW in renewable energy projects under the provincial government's recent Request for Proposals (RFP) process. All of the new supply resources announced under the RFP process are expected to be in service within the next four years.

The government has also clarified the timing associated with the commitment to phase out coal-fired generation, which has extended the phase-out period for the units at the Nanticoke Generating Station until 2009.

In addition to the committed projects discussed above, there are a number of other projects which are in various stages of discussion, development, or negotiation. These projects represent more than 9,000 MW of additional generation and include:

- The return to service of Bruce Generating Station (GS) Units 1 and 2;
- Increasing the energy capability of Beck 2 GS by construction of a third tunnel;
- The development of additional hydroelectric generation capacity in Northern Ontario;
- Recently announced plans for additional generation in downtown Toronto and the western Greater Toronto Area (GTA), co-generation across the province and demand-side measures;
- The return to service of Pickering Units 2 and 3;
- The development of conservation programs under the Ontario Power Authority;
- The development of additional renewable generation to meet the Renewable Portfolio Standard of 2,700 MW by 2010; and
- Long-term power purchases from Manitoba and Newfoundland and Labrador.

Timely decisions on these projects will be key to ensuring that the coal shutdown can proceed as planned. Continuing progress toward establishing and meeting in-service dates is critical. The supply picture with the first four items listed above included – these being considered to be the more advanced projects – is provided in the diagram on the next page.

Current changes in Ontario's electricity system represent the largest turnover in the province's history -- requiring significant additions to the transmission infrastructure.

Ontario Demand Forecast

The government has set aggressive targets for energy conservation to reduce peak electricity consumption by 5 per cent by 2007. However, because the impact of new conservation initiatives is as yet difficult to forecast, the effects of conservation efforts are not reflected in the Ontario demand forecast used in this Outlook. These conservation efforts can make a significant difference. Without them energy consumption is forecasted to grow from about 157 terawatt-hours (TWh) in 2006 to about 170 TWh in 2015, an average annual growth rate of energy of 0.9 per cent.

Normal weather peak demands are expected to increase from about 24,200 MW in 2006 to 26,900 MW in the summer of 2015, an increase of 2,700 MW. Under extreme weather conditions, the summer peak is projected to approach the 30,000 MW level by the end of the forecast period.

Coal Replacement

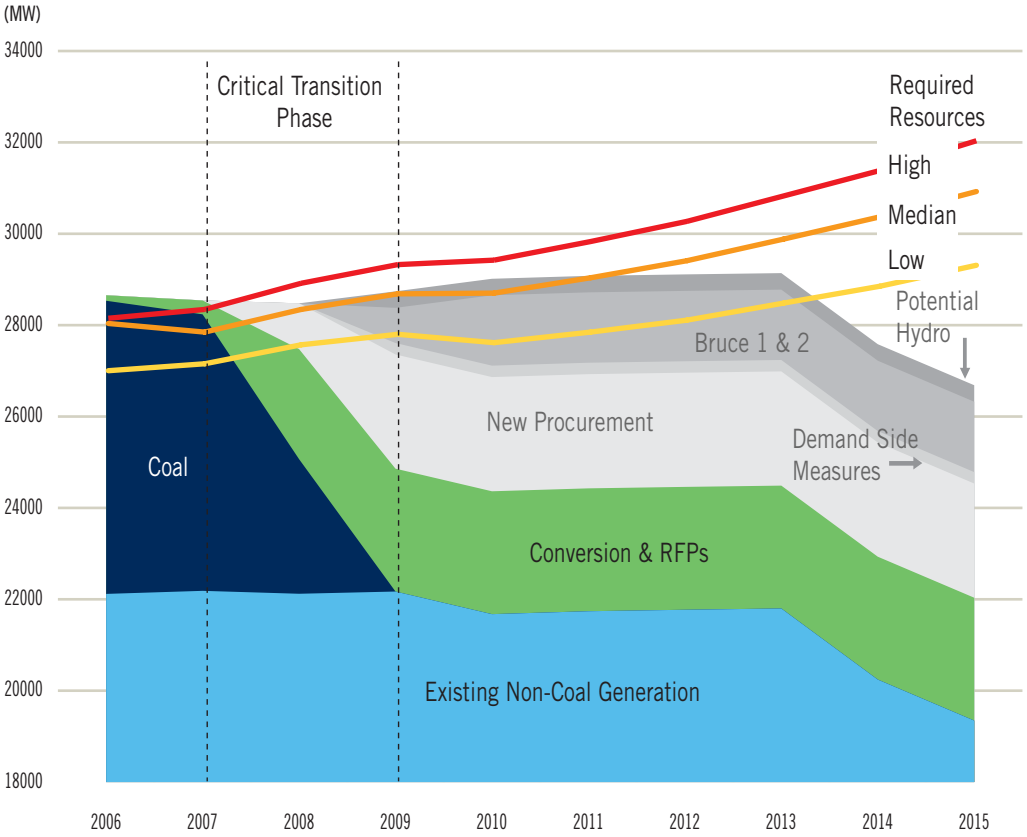
The Ontario government is committed to phasing out the remaining 6,500 MW of coal-fired generation in the province beginning in 2007 and ending in 2009 as replacement resources become available.

This transition represents the largest and most significant electricity system change ever undertaken in Ontario and involves major technical considerations. It also involves significant risks and challenges that need to be addressed.

The IESO will monitor and assess the coal shutdown and replacement resource plans and will provide advice to all parties regarding the actions or adjustments required to ensure reliability is maintained.

COAL REPLACEMENT SCENARIO

Electricity supply and required resources using three different demand forecasts: low; median; and high for the next 10 years. The forecast for supply includes existing generation, the planned shutdown of coal stations by 2009 and proposed new projects.



New generation units typically encounter more operating issues affecting their reliability for a period of time after they come into service. These can be significant. Accordingly, a critical requirement of the coal replacement plan is that while coal plants can be scheduled to stop running, those units will be held available for a period of time to operate if necessary to maintain reliability.

Coal supply makes up a large part of Ontario's flexible generation, and it has traditionally been required to meet changing demand, to supply demand when other supply sources are unreliable, and to balance load and generation at all times. The specific operating characteristics of new generation will require changes to current practices in order to provide operating flexibility and sustained energy production capability as and when it is needed.

The impact of new generation on the transmission system will also be assessed, and necessary transmission upgrades must be completed to ensure reliable system operation.

A plan outlined in the full 10-Year Outlook provides timing and requirements of system changes needed to meet the government's coal replacement objective.

Supply to Downtown Toronto

New generation and transmission facilities supplying the downtown Toronto area are urgently needed over the next few years to meet this area's growing need for electricity.

The government has requested that the OPA procure 500 MW of new supply to address the concerns raised in the last 10-Year Outlook about supply to downtown Toronto.

There is an increasingly high risk of transmission facilities supplying downtown Toronto becoming overloaded during heavy demand periods and a combination of new generation capacity, demand-side initiatives and transmission are needed to alleviate this concern. The present transmission facilities are already operated at or near their capacity during hot summer days when electricity demand is high due to the heavy use of air conditioning. As electricity demands continue to grow faster than new transmission can be built, it is vitally important for generation to be located in the downtown area within the next two to three years in order to reduce power flows through heavily loaded transmission facilities to acceptable levels.

New electricity supply to downtown Toronto through new generation and transmission projects is urgently needed. Projects must be completed in the next few years to avoid the risk of overloading transmission facilities during heavy demand periods.

In the absence of additional generation as well as demand-side initiatives, it is expected that emergency rotational power outages would be required in order to prevent the overloading of transmission facilities.

The immediate risk that power outages will be necessary in Toronto can be avoided for a number of years by locating additional generation in the area. However, over time, this risk will again grow to unacceptable levels as electricity demand in downtown Toronto continues to grow, and new transmission, or more generation, must be built to provide more supply capability to downtown Toronto. Hydro One has proposed two alternative transmission projects to address this need – a Direct Current (DC) Option and an Alternating Current (AC) Option. Both options meet IESO criteria and improve the reliability of supply to downtown Toronto. However, the DC option is preferred as it requires fewer other transmission system upgrades and provides desirable geographic diversity.

Supply to Western Greater Toronto Area (GTA)

The previous 10-Year Outlook indicated that additional generation capacity or demand-side initiatives were required in the western GTA to replace generation previously supplied by the Lakeview coal-fired station, and to thereby alleviate the risk of auto-transformer overloading.

The recently completed first phase of the Parkway Transformer Station in Markham, the extension of an existing 230 kV double circuit line between Richmond Hill and Markham, and the installation of new transmission equipment in a number of stations within the GTA have provided necessary short-term relief.

Several successful RFP projects are located within the western GTA, to be brought into service between Fall 2005 and Summer 2009. However, these projects are not sufficient to address the growing problem. The need for additional supply in this area is still urgently required. The government's plan includes procurement of an additional 1,000 MW to meet this need.

COAL REPLACEMENT PLAN

The replacement of the Nanticoke Generating Station is the most complex aspect of the coal-phase out – but can be achieved provided the replacement supply and infrastructure additions of the plan are built.

The Ontario government is committed to phasing out the remaining 6,500 MW of coal-fired generation in the province beginning in 2007 as replacement resources become available. In order to preserve grid reliability it is important that replacement generation have suitable operating characteristics, be sited in appropriate locations and that necessary enhancement to transmission infrastructure be undertaken.

Location

The location of replacement generation is important to maintaining the capability of the Ontario power system. Reactive power support in critical locations is needed in order to maintain adequate voltages throughout the system, particularly in the Greater Toronto, Golden Horseshoe and the Kitchener-Waterloo-Guelph areas where a significant portion of the load is concentrated. Without voltage support, the ability of the system to transfer energy would be reduced and the ability to supply energy to loads would be lessened. Nanticoke Generating Station is particularly important in this regard. (See note on Nanticoke on page 10.)

Ontario's ability to import and export energy is an essential element of secure and reliable interconnected system operation, and provides large financial benefits to Ontario market participants and ratepayers. The ability to import and export energy is dependent on where replacement supply is located.

The capability of the Ontario power system can only be maintained with the addition of replacement capacity in the right amounts in the most effective locations. Generation investment in the right locations will take advantage of existing transmission lines and facilitate the continued operation of the remaining non-coal generation.

The generation and demand response which has been selected under the Clean Energy Supply RFP, and the additional generation procurement identified for downtown Toronto and western GTA meet these requirements. This replacement generation has been identified to resolve developing reliability risks and to maximize the benefits of existing transmission. Locating generation in undesirable locations could require substantial (and difficult) transmission investments, strand existing transmission assets and generation investments, and increase risks to the adequacy and reliability of electricity supply to the province.

Energy Capability

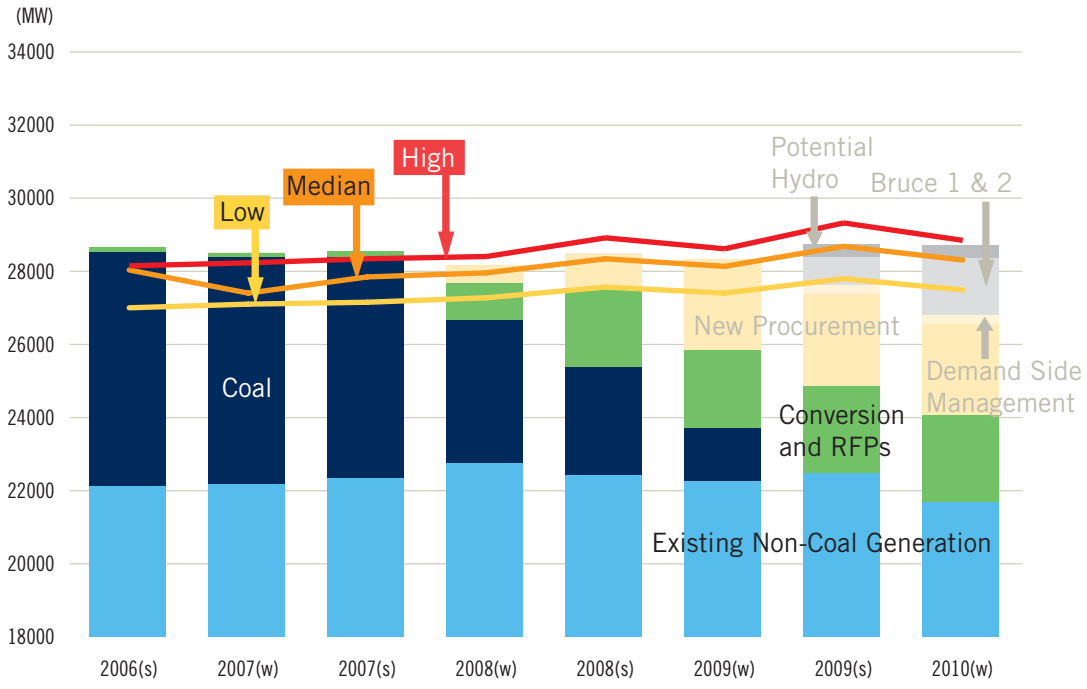
In 2004, 7,500 MW of coal-fired generation supplied 26.8 terawatt-hours (TWh) of energy, or about 17 per cent of the total Ontario energy demand, at an average capacity factor of about 40 per cent. Although the energy characteristics of individual replacement generating facilities may differ from existing coal-fired generating stations, the aggregate of the new replacement resources must closely resemble the overall energy capability of existing coal-fired generating stations to ensure that energy is available to serve load with the same level of reliability.

Flexibility for Load Following

Coal-fired generators currently play an important role in responding to load changes that occur during five-minute intervals throughout the day. The largest load change typically occurs during the morning pick-up period, and is about 60 to 70 MW per minute, at times totalling more than 3,000 MW an hour, with periods of sustained increase or decrease lasting for up to four hours or more. Experience to date indicates that existing Ontario gas-fired generators typically offer load following capability over the upper 25 per cent of their capacity range, whereas coal-fired units can typically achieve load following from minimum load up to maximum output, which represents the upper 80 per cent of each unit's capacity range. Although nuclear units can ramp down and off the system rapidly, existing units are restricted from varying their output up and down for the purposes of load following. Having sufficient load-following capability is essential to reliability, and the mix of replacement generators will need to have sufficient load following capability to meet system needs.

COAL REPLACEMENT PLAN — CRITICAL TRANSITION PERIOD

Resource requirements for winter and summer peaks during the transition period as coal plants are decommissioned and new projects are brought on-line.



Capability of Replacement Resources to Provide Operating Reserve

The ability to maintain sufficient operating reserve is critical to system reliability, and the IESO is required by the Northeast Power Co-ordinating Council (NPCC) to maintain Operating Reserve in accordance with established criteria. Operating Reserve is required for unexpected system events such as random forced outages of generation or transmission equipment, unexpected increases in load, and uncertainty associated with the performance of generation facilities or dispatchable loads in responding to IESO dispatch instructions.

Generation and demand response resources providing Operating Reserve must be capable of responding to the IESO's request to increase generation or decrease consumption within 10 or 30 minutes. Coal-fired generation has typically been an important source of operating reserve, and replacement generation will need to have similar capability. The mix of resources brought in service must be capable of continuing to meet system needs for operating reserve.

More than 2,200 MW of supply from clean energy sources - mostly natural gas - has been procured through the government's RFP program.

System Transition Risk Mitigation

The transition from coal to replacement clean supply is an extremely challenging objective. In terms of the amount of coal generation to be replaced, an amount of clean supply larger than all of the hydroelectric capacity in Ontario must be arranged for, constructed, commissioned and reach a reliable state of operation.

This transition must take place without jeopardizing electricity reliability and within the capabilities of the industry to deliver. Managing a challenging objective such as this requires planning, monitoring and adjustment of schedules and plans to ensure that reliability is maintained and the transition proceeds efficiently. The IESO will monitor and assess the coal shutdown and replacement resource plans and will provide advice to all parties regarding the actions or adjustments required to ensure reliability is maintained.

NANTICOKE SHUTDOWN REQUIREMENTS

Located in Haldimand County, the Nanticoke coal-fired generating station can supply almost 4,000 MW of capacity – enough to meet approximately 20 per cent of Ontario's peak demand on a spring or fall day. The shutdown of the station is particularly complex due to a number of factors, including the growing demand for power in the GTA. Nanticoke also provides reactive power to support the heavy power flows from those areas to the GTA .

Supply to the GTA remains a critical concern. Current GTA demand is about 10,000 MW or 40% of Ontario's total demand and is expected to increase by approximately 1,500 MW in the next decade. This is compounded by a lack of generation within the area to supply the forecasted increase in demand.

As a result, and until additional sources of supply or demand-side initiatives become available within the GTA, the load must be supplied by generation outside the area. The Nanticoke station provides both energy and capacity to help supply the GTA in addition to providing reactive power to support the transfer of power from southern Ontario supply located some distance from the GTA.

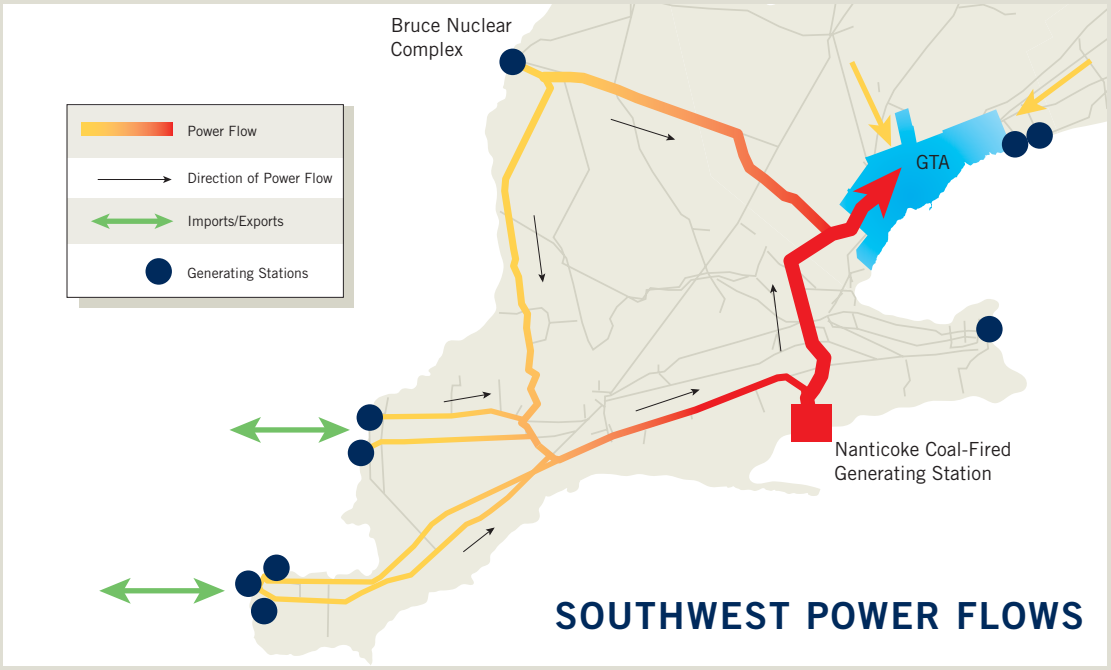
Produced by generators and consumed by most loads, reactive power is an inherent part of transmitting power over long distances. The longer the distance and the greater the amount of power traveling over that distance, the more reactive power must be produced by generators to support those power flows.

Under peak load conditions, a minimum of six Nanticoke units are currently required to be in service to ensure reliable system operation. Without these units, reductions in the output from Bruce nuclear station would be necessary. In the event that all units at Nanticoke are shutdown, and equivalent replacement voltage support is not available, the allowable output from the Bruce station would be significantly restricted and the feasibility of returning Units 1 & 2 to service would be jeopardized.

The flow eastward on transmission lines into Toronto could also be restricted by substantial amounts, depending on the availability of Nanticoke generation or equivalent replacement generation sources. The permissible flow eastward on the transmission lines from southwestern Ontario can be reduced about 1,000 MW in the absence of any Nanticoke units. This could require the operation of other more expensive generation east of this interface and, under peak load conditions, could result in load interruptions in the Toronto area.

Reactive power and voltage control capability cannot be supplied over long distances. These capabilities will continue to be required locally from Nanticoke until it can be replaced, either at Nanticoke, from generation located within the major load centres such as the GTA, or by other system developments that reduce the need for reactive power and voltage control at Nanticoke.

The IESO is proposing that at least two units at Nanticoke be converted to operate as synchronous condensers which would produce reactive power to support the transfer of energy produced by Bruce.



Ontario benefits from a variety of electricity sources. Each fuel type fulfills a different role in meeting Ontario's power needs, which must be taken into account in planning the system.

There are many factors that are important considerations in the redevelopment of Ontario's electricity infrastructure, some of which could cause the long-term supply-demand balance to change. On the supply side, failure to meet the requirements discussed in this section would tend to reduce the operable generation from that assumed in the 10-Year Outlook.

New Generation Mix

A diverse generation mix is critical for resource adequacy and market efficiency, through the provision of dispatch flexibility, reduced vulnerability to fuel supply contingencies and fuel price fluctuations.

Baseload Generation

Baseload generation largely consists of nuclear and run-of-the-river hydroelectric resources which cannot routinely be cycled on and off in response to demand fluctuations. In future, significant additions of gas-fired cogeneration is also expected to contribute to baseload generation. These types of generators have limited dispatch flexibility, and must operate at or near their full capability. If too much baseload generation is present in the supply mix, the amount of generation can have the potential to exceed the market demand, creating a situation known as unutilized baseload generation (UBG). An analysis of the minimum peak demands in the latter years of the study period suggests that up to approximately 4,000 MW of nuclear and run-of-the-river generation resources could be added to the existing in service baseload facilities towards the end of the ten-year period without causing undue risk of UBG. This amount will be affected by load growth and any load shifting patterns between on-peak periods and off-peak periods.

Intermediate and Peaking Generation

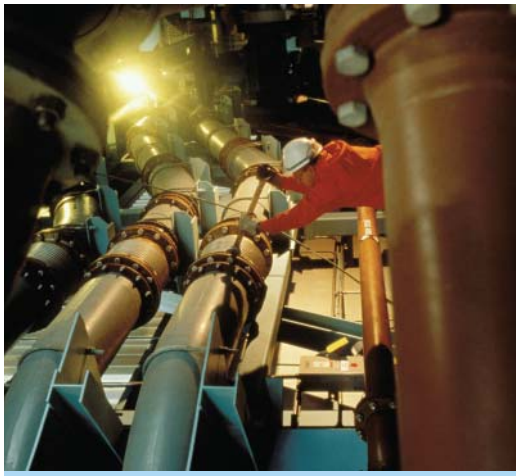
Existing intermediate and peaking generation in Ontario consists mainly of generation fuelled by coal, some gas, oil, and those hydroelectric generators with storage capability. New intermediate and peaking generation must be added to the Ontario resource mix in order to implement the coal replacement plan.

Renewable Generation Resources

Renewable resources consist primarily of hydroelectric, wind, biomass, solar, and geothermal energy sources. These are considered the cleanest and least environmentally impactive of all generation resources. Only wind and a small amount of hydroelectric generation have been contracted under the government's RFPs for connection to the IESO-controlled grid (ICG). Further utilization of wind energy can be achieved through partnering with suitable hydro-electric facilities to co-optimize both types of resources.

Conservation and Demand-Side Measures

The IESO has been identifying the potential contribution of conservation and demand-side measures (CDM) as part of the supply picture for several years and believes demand reductions and demand shifting should be vigorously pursued in Ontario, as clean and potentially less expensive ways to reduce future supply requirements. The application of such demand-side initiatives is virtually unrestricted in location.



Conservation and demand-side measures can play an important role in reducing Ontario's electricity requirements. Shifting electrcity use to off-peak hours can reduce air pollution and lower the cost that businesses and homes pay for electricity.

CDM programs would improve the supply-demand balance in three main ways:

- Price-responsive demand which reacts to market price signals;
- Demand reduction through technological or process efficiency improvements ; and
- Shifting the time of use from peak to off-peak periods through demand-response programs would achieve peak demand reductions.

The Conservation Bureau of the OPA has been charged with leading development of conservation and demand-side measures. The provincial government has targeted a 5 per cent demand reduction by 2007 through CDM developments, or approximately 1,350 MW.

The system requires more reactive resources during the summer than the winter for the same level of demand. Air-conditioning load is the most significant component of the higher reactive power demand in the summer than in the winter. The IESO recommends that Ontario work with other jurisdictions to raise the power factor requirements of new air-conditioning equipment. This would in the long term reduce the need for generation and transmission enhancements to meet the active power demand in Ontario. A move to energy-efficient appliances has already been encouraged by government programs within Ontario and in other jurisdictions; however, most of these programs have focused on reductions to active (real) power consumption.

Interconnections

In real-time system operation, reliance on external supply through interconnections is mutually beneficial to all interconnected systems, for both reliability and market efficiency reasons. During off-peak periods, attractively priced external supply can provide cost savings to the electricity market. Similarly the interconnections provide access to broader markets for inexpensive Ontario generators. During peak hours, due mainly to the non-coincidence of the peak demands with one or more neighbouring systems, external supply can contribute to meeting peak demand.

Two main aspects are relevant to utilization of interconnection benefits: transmission interconnection capability and external supply availability.

Interconnection Capability

Ontario has a coincident import capability of approximately 4,000 MW through its existing interconnections. Transmission projects have been identified to the IESO through the Connections Assessment and Approval process to enhance the interconnection capability. A high voltage direct current (HVDC) interconnection with Hydro Quebec of 1,250 MW transfer capability would allow increased interchanges between Ontario and Quebec. At this time, this has high project uncertainty. A joint proposal to receive power from the Lower Churchill Falls area could provide incentive for completion of the development of the proposed HVDC tie with Hydro Quebec.

Although not yet formally submitted for Connection Assessment, an upgrade to the Ontario - Manitoba interconnection would give access to hydroelectric capacity from Manitoba.

External Supply Availability

Future levels of imports into Ontario will vary depending on several factors, including the availability and economic benefits associated with resources in external jurisdictions capable of supplying the Ontario market, and the availability of required transmission capacity.

Generation Flexibility

The IESO is concerned with the future management of the province's water resources as they relate to electricity production. The flexibility available in the operation of hydroelectric facilities is of value to the Ontario power system. The importance of this needs to continue to be reflected and balanced with other uses which may influence provincial requirements with respect to water management.

Ontario's electricity consumption pattern has changed over the last decade. Consumers have historically used more electricity in the winter than they did in the summer. This has reversed. Peak electricity demands now occur during the summer, the season in which water management is typically most restricted.

Within a typical day, the total hydroelectric energy production pattern follows the shape of the total Ontario electricity demand. This flexibility of hydroelectric generation is significant; these plants can store potential energy when it is needed least (e.g., overnight) and can deliver their energy very quickly when it is needed (e.g., during morning load pickup when Ontario consumers increase their electricity use, at times greater than 3,000 MW per hour). Similar benefit exists from managing the water for electricity production on a weekly and seasonal basis.

The flexibility of hydroelectric generation has always been of value but its importance will increase even more in the future. Coal-fired generation, while not as flexible, currently provides an important capability to meet load pick up and drop out requirements. That capability may be reduced when the coal plants shut down. Conservation, while reducing overall requirements, will not likely change the load pick-up requirement. Much of the renewable generation is expected to be wind power which has many positive features but cannot effectively be ramped up or down to meet changes in demand. Demand management is likely to help reduce peak demands but is not likely to affect ramping requirements. Gas-fired generation will have the required flexibility but even it can be limited if the plant is an efficient cogeneration facility. Given the expected future mix of resources in Ontario, the value of hydroelectric flexibility will increase.

In addition to providing energy and ramping capability, the flexibility of waterpower makes it extremely valuable for two other essential reliability products; operating reserve and automatic generation control.

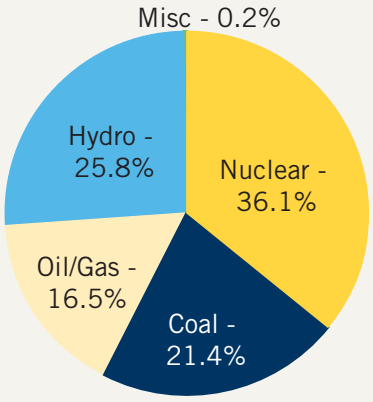
- The provincial demand for electricity varies second to second, sometimes by surprisingly large amounts. Hydroelectric generation is used very effectively to continuously keep this varying demand and supply in balance, and to keep Ontario's trade with other states and provinces on schedule. Historically in Ontario, very short-time balancing "automatic generation control" has been provided by a small number of hydroelectric plants. Restrictions on the allowable limits within which hydroelectric facilities operate would require extending the use of automatic generation control to more market participant generators.
- Ontario's future generation supply mix will place an increasing reliability value on the flexibility of generating assets to provide load following capability, operating reserve and automatic generation control. Preserving operating flexibility of hydroelectric generating facilities (whether old or new) should be a critical consideration in the development of water management plans.

With the awarding of contracts to several wind proponents, exceeding 350 MW in total with more expected from the second Renewable RFP, it will not be long before significant amounts of wind generation are contributing to the energy needs of the province.

Early studies indicate wind should make significant contributions to energy but there is less certainty with respect to the peak-meeting capacity contribution that wind will make. Wind capacity is only available when the wind blows. During winter periods, a relatively strong coincidence of wind output and peak demand is expected, especially since wind chill drives heating demand higher. However during summer periods, peak demands typically occur during hot periods with little wind, the type of weather which pushes air conditioning loads to their maximum. The reduced contribution from wind during these periods increases the power system's reliance on alternative supplies of capacity.

The geographic diversity of projects around the province should provide some stability to wind output and reduce the impact of local wind fluctuations. Assessing the connection of wind generation has needed careful examination with respect to aspects such as a facility's ability to stay connected during low voltage excursions, its ability to supply reactive power, data monitoring requirements and others. Notwithstanding these considerations, the presence of wind on the Ontario grid will be a positive contribution to Ontario's future supply mix. For the purposes of this study, it is assumed 10 per cent of the installed capacity of wind powered generation can be relied on at the time of the annual peak.

SUPPLY OUTLOOK



Existing Installed Generation

Ontario's existing installed generation capacity includes nuclear, coal, oil, gas, hydroelectric, wood and waste-fuelled generation, which results in a total installed capacity of 30,114 MW.

By 2009, all coal facilities are scheduled to be replaced by other forms of generation. Generators in Ontario continue to seek opportunities to build new gas plants and windmills, develop additional hydroelectric facilities and restart shutdown nuclear units.

Installed Generation Forecast at Summer Peak
(Coal Replacement Scenario)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Capacity (MW)	31,052	30,992	32,044	32,396	32,654	32,727	32,761	32,797	31,245	30,338

Committed and Contracted Generation Resource Additions

New generation and demand-side projects that are under construction or have signed contracts with the provincial government. In-service dates have been provided either by generator owners directly or by the Ontario Government, based on the contract date.

Project	Zone	Fuel Type	Capacity (MW)	Estimated In Service Date
Pickering Unit 1	Toronto	Uranium	515	2005-Q3
Greater Toronto Airports Authority	Toronto	Gas	117	2005-Q4
Kingsbridge Wind Power Project	Southwest	Wind	68	2005-Q4
Melancthon Grey Wind Project	Southwest	Wind	40	2005-Q4
Prince Wind Farm	Northeast	Wind	99	2006-Q1
Erie Shores Wind Farm	Southwest	Wind	99	2006-Q2
Loblaws Properties	Across Ontario	Demand Reponse	10	2006-Q2
Blue Highlands Wind Farm	Southwest	Wind	50	2006-Q3
Umbata Falls Hydroelectric	Northwest	Water	23	2007-Q1
Greenfield South Power Project	Toronto	Gas	284	2007-Q4
Greenfield Energy Centre	West	Gas	1015	2007-Q4
St. Clair Power	West	Gas	688	2008-Q1
Greenfield North Power Project	Toronto	Gas	330	2009-Q2
Total			**3,338**	

ADDITIONAL NEW RESOURCES (COAL REPLACEMENT SCENARIO) Generation and Demand-Side Management initiatives in advanced stages of discussion, development or negotiation. These projects or equivalent will need to be completed in order to meet the government's coal shutdown timeframe.
Project
Bruce Generating Station Units 1 & 2
Hydroelectric Capacity (up to 380MW)
New Generation - Western GTA (1000 MW)
New Generation - Downtown Toronto (500 MW)
Co-generation Projects (1000 MW)
Demand-Side Measures (250 MW)

POSSIBLE ADDITIONAL RESOURCES Generation and Demand-Side Management projects that are under consideration but need to be assessed based on cost, timelines and quantity of energy.
Project
Pickering Generating Station Units 2 & 3
OPA Conservation Programs
Renewable Portfolio Standard (2010 target - 2700 MW)
Long-term Power Purchases from Manitoba
Long-term Power Purchases from Newfoundland and Labrador

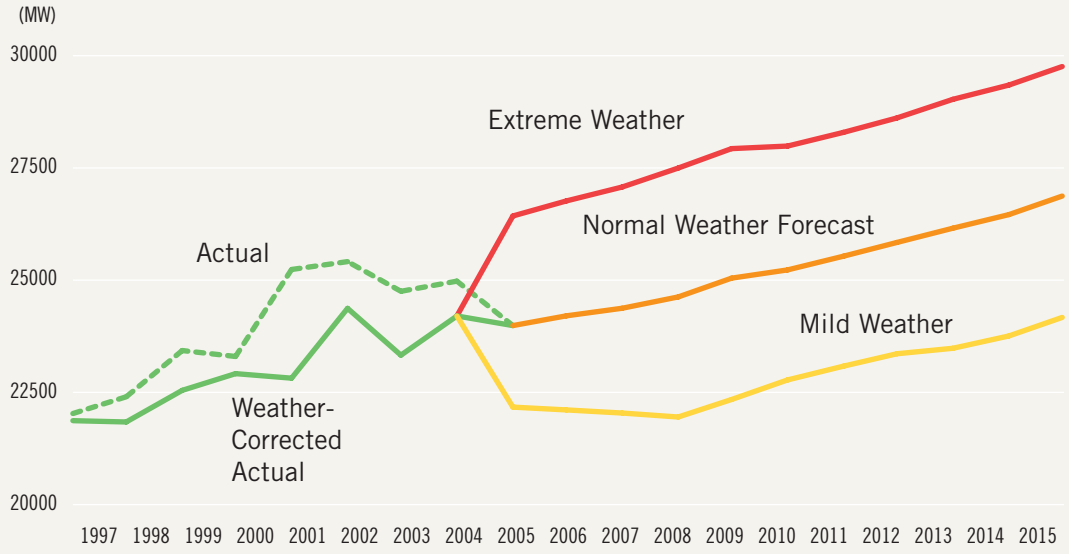
DEMAND OUTLOOK

Ontario is becoming a summer peaking region. Since the 1990s there has been a dramatic increase in cooling load as air conditioning has become commonplace in new homes. Growth in energy demand has not been consistent across all seasons. Winter energy demand has averaged annual growth of 0.7% while summer energy demand has averaged growth of 1.3% per annum.

Historical Electricity Demand Records	
26,160 MW	July 13, 2005
26,157 MW	June 27, 2005
25,861 MW	June 25, 2005

Projected Electricity Demand - Summer 2015	
Normal weather peak	26,900 MW
Extreme weather peak	30,000 MW

Hourly Peak Demand Actuals and Forecast



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