

Ontario Reliability Outlook

Forecast & Assessments Standing Committee - January 16, 2008

Cristian Dragnea



- IESO reports on progress of the inter-related generation, transmission and demand management projects underway to meet future reliability requirements
- Published semi-annually (last published December 2007)

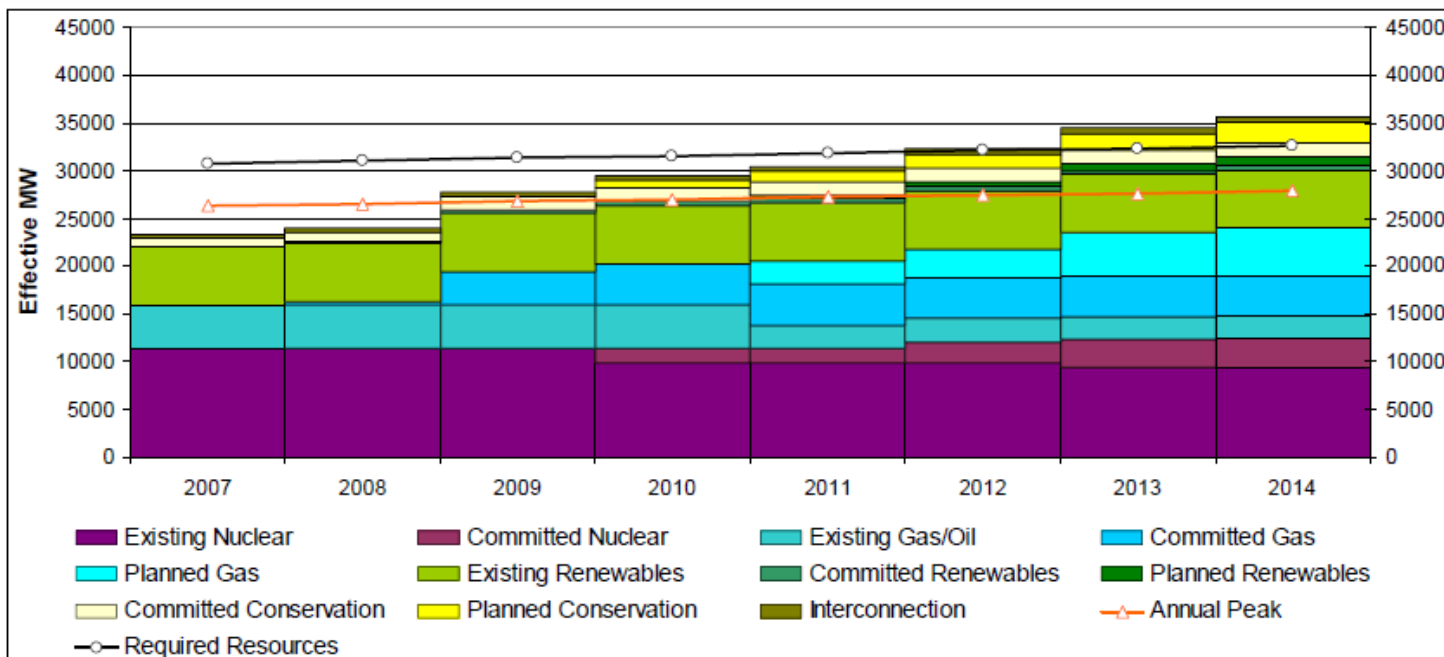
- Ontario well-positioned for summer peak of 2009 and subsequent two years
- More than 6000 megawatts (MW) of new supply is scheduled to come into service over next two years

GAS-FIRED GENERATION			
Clean Energy Supply RFP	Greenfield Energy Centre	1,005	Q4 2008
	Greenfield South Power Plant	280	Under Review
	St. Clair Energy Centre	570	Q1 2009
Government directive for Central Toronto	Portlands Energy Centre – Phase I Simple Cycle	250	Q2 2008
	Portlands Energy Centre – Phase II Combined Cycle	288	Q2 2009
Government directive for Western GTA	Goreway Station	860	Q4 2008
GTA West RFP	Halton Hills Generating Station	600	Q2 2010
COMBINED HEAT AND POWER			
Combined Heat and Power (CHP) RFP	Great Northern Tri-Gen Facility	12	Q1 2008
	Durham College District Energy Project	2	Q2 2008
	Countryside London Cogeneration Facility	12	Q2 2008
	Warden Energy Centre	5	Q2 2008
	Algoma Energy Cogeneration Facility	63	Q2 2009
	East Windsor Cogeneration Centre	84	Q3 2009
	Thorold Cogeneration Project	236	Q2 2010

RENEWABLE GENERATION			
Renewables I RFP – Hydroelectric generation	Umbata Falls Hydroelectric Project	23	Q2 2008
Renewables II RFP – Wind generation	Wolfe Island Wind Project	198*	Q4 2008
	Enbridge Ontario Wind Farm (formerly Leader A & B Wind Power Project)	200*	Q4 2008
	Kingsbridge II Wind Power Project	159*	Under Review
	Kruger Energy Port Alma Wind Power Project	101*	Q4 2008
	Melancthon II Wind Project	132*	Q4 2008
Renewables II RFP – Hydroelectric generation	Island Falls Hydroelectric Project	20	Q4 2009

NUCLEAR GENERATION			
Bruce Power Nuclear Generating Station Refurbishment	Bruce A, Unit 2 Refurbishment	750	Q2 2009
	Bruce A, Unit 1 Refurbishment	750	Q4 2009

- Integrated Power System Plan (IPSP) sets out a series of milestones for the replacement of coal-fired generation
- Milestones based on a combination of conservation and supply-side initiatives



Source: OPA

- Procurement for new supply already started: 500 MW in CHP II, 500 MW in RES III
- Additional gas generation to be procured in Northern York Region (350 MW), Cambridge Area (450 MW), SW GTA (850 MW) and GTA (550 MW)
- Timely completion of projects and their associated transmission infrastructure critical in order to phase-out of remaining coal-fired generation by 2014

- Ontario's future supply includes increased amounts of less flexible generation that can't as easily be ramped up or down to meet increasing or decreasing load
- IESO has identified concerns about operating capability and is working with partners to find ways to accommodate the unique operating characteristics of non-traditional generation sources
- IESO to publish report in 2008 summarizing findings

- Timely implementation of new transmission facilities key component to addressing future reliability needs and to enable phase-out of coal
- IESO assessment confirms that over next decade major and extensive transmission enhancements must be implemented in:
 - Southwestern Ontario to deliver additional nuclear and wind supply from the Bruce area;
 - Northern Ontario (north-south transmission corridor) to enable the expansion of hydroelectric capability and wind resources;
 - Toronto region in order to improve reliability; and
 - York region, Kitchener-Waterloo and Sarnia-Windsor to enhance the adequacy of local load supply

- Addressing province's supply challenge requires not just new generation and transmission, but also conservation and demand management (CDM)
- Ontario has set aggressive CDM targets for the near future
- On the demand management front, the Smart Metering Initiative can help enhance reliability of the power system
- The full benefit of smart meters will not be realized until the implementation of time of use rates to all residential consumers
- As CDM measures become more prominent, the IESO will closely monitor their contribution during peak demand in order to reliably and efficiently schedule resources and operate the system

- Filing of IPSP represented big step towards addressing supply needs over two decades
- Concerns continue to be raised about the impact of the current approvals process on implementation timelines
- IESO urges all regulatory bodies to accelerate their work in this area
- Lags in approvals represent the biggest risk to meeting the province's need for new supply and transmission facilities over the life of the IPSP

- In the five years since market opened, the IESO has worked to enhance reliability through the development of new market mechanisms
- The include day-ahead mechanisms, settlement charges to increase the level of deterrence against real-time transaction failures and the day-ahead commitment process
- IESO currently examining a day-ahead market and other market evolution initiatives for 2008 all designed to enhance reliability