# 3.1 Overview of the Development of Power System Planning in Ontario

This section describes the historical evolution of power system planning in Ontario, in order to provide a context for the current planning exercise and its similarities and differences relative to planning exercises conducted in the past.

### 3.1.1 Key Findings

- Until the 1970s, power system planning was essentially an exercise to meet ever-increasing demand, with growth averaging 7% annually
- By the 1950s, Ontario's large waterpower sites were largely exhausted and alternate sources of generation, namely coal and nuclear power, had to be considered
- By the 1960s, the environmental and social issues of power system planning suggested that expansion of the power system would no longer be accepted simply as a public good
- By 1980, demand growth in Ontario had already slowed to 3.2% and demand management came to be considered as a component of electric power planning
- Ontario Hydro's 1989 Demand/Supply Plan was the only previous integrated power system planning exercise, but was withdrawn when economic circumstances changed
- Ontario's electricity industry was restructured under the Energy Competition Act, 1998, followed in 2002 by the opening of the market and its reliance on market forces rather than planning for new generation resources
- The partial curtailment of the market in late 2002 and the fact that only a limited amount of new generation capacity materialized, led to a renewed consideration of the need for supply planning
- The 2004 Electricity Conservation and Supply Task Force (ECSTF) concluded that the market approach alone would not produce the needed generation, and that Ontario needed a long-term planning function, a conservation champion, and a contracting function to serve as a credit-worthy counterparty to investors in new generation capacity
- The Ontario Power Authority was created as a feature of the Electricity Restructuring Act, 2004, in keeping with the ECSTF recommendations.

#### 3.1.2 Introduction

The evolution of power system planning in Ontario has been characterized by adaptation to changing drivers, circumstances, and expectations of Ontarians.



In the industry's early period (early 1900s), which was dominated by improvements of the technology and the implications of this on economic growth, supply planning was the order of the day. By the early 1970s, a number of factors changed this simple formula. Firstly, growth of electricity demand began to recede in the 1970s. Secondly, economies of scale of new supply options diminished. Thirdly, inflation and high interest rates increased construction costs. All of these combined to make supply planning a riskier proposition. The result was the call for more formal and rigorous forecasting and planning methods. Sections 3.1.3 and 3.1.4 address planning during these two periods.

By the 1990s, in the midst of an integrated planning exercise, "demand-supply" planning came to an abrupt stop. In the face of significant excess capacity, combined with a serious recession, capital expenditures for both new demand and supply resources were judged unnecessary and imprudent. Demand management had the effect of raising rates. By reducing consumption there was a smaller total demand over which to spread Ontario Hydro's fixed costs, leading to upward pressure on rates. Subsequently, with its demand management programs discontinued, Ontario followed other jurisdictions into a new policy framework of competition and markets in 1998, with the expectation that market mechanisms would replace long-term supply development planning in securing needed generation. Section 3.1.5 expands on this phase of Ontario's development.

After significant legislative change in 2002 that limited the scope of the market, a new call for integrated planning of supply and managing demand resulted in the creation of the Ontario Power Authority. A description of this period is given in sections 3.1.7 and 3.1.8.

Section 3.1.9 completes the story on planning up to the Government's direction for the present planning exercise. Section 3.1.10 gives conclusions on the history of electricity planning in Ontario and on the distinguishing features of the present planning process.

### 3.1.3 Power System Planning Until the 1970s

Until the 1970s, the planning of Ontario's power system was generally a matter of negotiation within the electricity industry, between Ontario Hydro and the municipal electric utilities, and between the industry and the Provincial government. Public involvement, if any, was almost exclusively through the two industry interest groups, the Ontario Municipal Electric Association (representing utility commissioners on political and policy issues) and the Association of Municipal Electric Utilities (representing the utility managers on technical issues). In terms of meeting public expectations, the industry's sole task was to plan supply to meet the ever increasing demand resulting from expanded uses for electricity and economic growth.

Although not without its challenges, supply planning in Ontario's early development had proven to be very successful. Indeed, it worked so effectively that in meeting a supply crisis



during and after the Great War, Ontario Hydro (then known as the Hydro Electric Power Commission of Ontario) constructed the largest hydroelectric station in the world beginning in 1916 and completed in 1925 – Queenston-Chippawa (now Beck 1). The planning assumptions and affairs of Ontario Hydro were nevertheless sufficiently controversial that in 1922 the government appointed a royal commission of inquiry. When it reported in 1924, the Gregory Commission concluded that the operation of Ontario Hydro was "fundamentally sound".¹ With its experience of planning supply to meet growth, the wisdom developed in the industry that demand naturally increased by 7% per year.² The only period where growth did not occur was during the Great Depression.

Until the 1950s, the planning of Ontario Hydro's system was largely uncomplicated for two reasons. Firstly, the system was based on waterpower resources (hydroelectricity), which was then in abundance throughout Ontario. Secondly, while it had evolved to serve all of the settled parts of Ontario (save most notably for the Algoma, Cornwall, Gananoque and Fort Erie areas), Ontario Hydro in fact was made up of a number of smaller systems, such as the Niagara System, for ease of management.

New challenges arose by the 1950s from the exhaustion of all the large waterpower sites in southern Ontario and the constraints posed by a lack of ability to move power across the various systems. In order to address the first concern, alternate sources of generation had to be considered. The first step was to add thermal generation from coal-fired plants, with the addition of plants in Toronto (Hearn) and Windsor (Keith). Coal-fired generation was seen as the most economic choice for new supply. In addition, its operating characteristics enabled it to serve intermediate and peaking requirements.

The longer-term supplement to waterpower for base-load requirements was nuclear. Nuclear, despite its high capital costs and limited operating flexibility, was seen as suited to base-load operation by virtue of its low operating costs. It is at this point in the early post-war era that Ontario Hydro committed to work with Atomic Energy of Canada Limited to develop a commercial nuclear power program. By the early 1970s, Ontario Hydro had the Pickering A nuclear plant on stream and the Bruce A plant under construction. In 1973, additional plans were approved for B plants at both locations and a new station at Darlington soon afterwards.

To address the second concern of moving power across the province (there were a number of waterpower-based systems in Ontario, with the original Niagara System at 25 Hz and the rest at the new North American standard of 60 Hz) a consensus was formed for frequency standardization and transmission integration across systems at the new higher voltage of 230 kV. The rationale was that post-war economic development in Ontario required the development of one integrated power system.

<sup>&</sup>lt;sup>2</sup> Ontario [Porter Commission]. The Report of the Royal Commission on Electric Power Planning: Volume 1, Concepts, Conclusions and Recommendations, p. 27.



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<sup>&</sup>lt;sup>1</sup> Gregory Commission, cited in Neil B. Freeman, *The Politics of Power: Ontario Hydro and its Government, 1906-95* (Toronto: University of Toronto Press, 1996), p. 55.

### 3.1.4 Power System Planning from 1970 to the Mid 1980s

Public concern with issues related to and raised by power system planning in Ontario first arose from the siting of a new series of 500 kV transmission lines around Toronto. They were required to accommodate the additions of power from the nuclear stations and the large fossil fuel fired stations, Nanticoke, on Lake Erie south of Hamilton, and Lennox, near Kingston on Lake Ontario. By that time, northeastern North America had experienced its first wide-scale blackout in 1965, and increasing attention was given to network security and supply reliability. In an earlier era, opposition from landowners or local governments to transmission (or generating stations) would have been viewed as standing in the way of the public good, but with the scale of these additions and the growth of rural non-farm residential living, the old consensus no longer held.

Faced with this predicament, the Ontario government appointed distinguished scientist, Dr. Omond Solandt, to a commission in 1972 to review the planning process used by Ontario Hydro. When it reported first in 1974 on the line from Nanticoke to Pickering and then in 1975 on the line from Lennox to Oshawa, the Solandt Commission made far reaching recommendations on the desired attributes and the expectations around public consultation for future Ontario Hydro studies. One of the recommendations was that Ontario Hydro should "investigate and recommend the routes that had the least disruption to the natural and social environment, taking into account cost and the preferences of the public." The Solandt Commission's findings were also instrumental in initiating Ontario's Environmental Assessment legislation.

Not long after Solandt had reported, in the face of the large-scale planned build up of the nuclear stations at Pickering, Bruce and Darlington, the Ontario government appointed the Royal Commission on Electric Power Planning in 1975 under the chairmanship of Dr. Arthur Porter, a professor of engineering at the University of Toronto. While Ontario had turned to nuclear power, in part for energy self-sufficiency, the coincidence of inflation and recession in the 1970s created significant concern in the public and legislature that demand would not materialize for the power. Indeed during the period 1975-79 when the Porter Commission was in session, growth had already slowed to 3.2%.

The Porter Commission, which performed a detailed and exhaustive examination of the issues, reported in 1980. The most striking finding of the commission was that demand management must be included in electric power planning, rather than just supply planning. Along with other recommendations on conservation, renewables, nuclear power and alternative energy sources, its more influential recommendations on power system planning are the following:

<sup>&</sup>lt;sup>3</sup> Porter Commission, op. cit., 27.





- **Recommendation 3.1** Through the development of demand scenarios based on end-use data, future planning philosophy should increasingly be reoriented to demand management rather than maintaining the focus on supply expansion, as is traditional.
- Recommendation 3.6 For system planning purposes, Ontario Hydro should base its
  system expansion plan on a growth range for peak capacity to the year 2000 of 2.5 to 4% per
  annum.
- **Recommendation 11.11** Ontario Hydro should be encouraged to continue, and where necessary, to expand its public participation program to ensure the public is fully involved.

### 3.1.5 Ontario Hydro's Demand/Supply Plan

In the first major planning exercise to follow the Porter Commission, Ontario Hydro published its Demand/Supply Plan Report, "Providing the Balance of Power", in late 1989. The plan recognized that annual growth had fluctuated between 3 and 7% over the three previous decades. With this backdrop, the demand/supply plan recommended a plan based on an average annual growth in peak demand of 2.2% over the 25 years to 2014, starting with 2.7% until 2000 and moving to lower levels thereafter. This reduction was based on explicit recognition of drivers limiting growth and the demand management features of the plan.

In an exhaustive exercise, the Demand/Supply Plan Report contained an examination of 14 major portfolios of supply options, including additions from non-utility generators (NUGs) and purchases from Manitoba, before narrowing in on a proposed plan and two alternative candidate plans. With the planning assumption that generation capacity requirements would climb from 23,200 MW in 1989 to 39,800 MW in 2014, the preferred plan added nuclear for base load, coal-fired thermal with pollution abatement for intermediate load, and gas-fired thermal for peaking requirements. Of the two "acceptable" alternatives, one had more nuclear additions relative to fossil generation, and the other had more fossil generation.

By 1992, Ontario Hydro issued an "update" to the 25-year demand/supply plan to reflect the greater savings resulting from demand management, possibilities for refurbishment of existing facilities and increased reliance on NUGs. The Manitoba interconnection was to continue, but the addition of other new generation was to be pushed back further in the planning horizon.<sup>5</sup> While a number of factors had affected the plan, two stand out. Firstly, deep recession and the industrial restructuring effects of North American free trade reduced the forecast of future demand for electricity. Secondly, there was a growing recognition of the flexibility offered by developments in high efficiency gas-fired generation technology.

<sup>&</sup>lt;sup>5</sup> Ontario Hydro, *Providing the Balance of Power: Update 1992*.



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<sup>&</sup>lt;sup>4</sup> Ontario Hydro, Demand/Supply Plan Report: *Providing the Balance of Power; Ontario Hydro's Plan to serve Customers' Electricity Needs* (Dec. 1989).

Ontario Hydro recognized that it was not likely to need approvals for major facilities in the 1990s and in 1992 it withdrew the plan from consideration. In part, this was due to the everbroadening scope of the approval process as it proceeded and the fact that it was not at all clear that the approval process would come to a conclusion before the plan under consideration required revision due to the passage of time. And so would end Ontario's last full scale integrated planning initiative. Attention in Ontario Hydro instead turned to the restructuring of the electricity industry in Ontario under Maurice Strong, its new chair beginning in late 1992, and William Farlinger, its new chair beginning in late 1995.

### 3.1.6 Power System Planning from 1995 to 2002

With the experience of the serious economic downturn of the early 1990s coming shortly after the completion of the Darlington nuclear station, Ontario Hydro's high debt servicing costs and reduced revenues had become a major public policy issue.

An extraordinary portion of Ontario Hydro's revenue during the 1990s went towards interest payments on debt. In the face of its financial predicament, Ontario Hydro slashed operating and capital costs, largely by reducing staffing and eliminating most planned supply and transmission investments. Further still, Ontario Hydro itself developed and adopted a report entitled *Hydro 21*, recommending the electricity industry in Ontario be restructured.<sup>6</sup>

After the 1995 election, the new government appointed Donald S. Macdonald, the former federal Minister of Finance, as chair of an Advisory Committee on Competition in Ontario's Electricity System ("Macdonald Committee"). In its 1996 report, the Macdonald Committee recommended, generally, the elimination of Ontario Hydro's monopoly in generation and the introduction of a competitive electricity market.<sup>7</sup> The Macdonald Committee, whose recommendations did not explicitly address long-term planning, effectively set in motion the path for markets to in effect carry out supply and demand planning.

In acting on the recommendation of the Macdonald Committee, the government published a White Paper in 1997 entitled "Direction for Change: Charting a Course for Competitive Electricity and Jobs in Ontario". <sup>8</sup> The main themes of the White Paper, which had not followed some Macdonald Committee recommendations on ownership and other matters, became the foundation for the *Energy Competition Act*, 1998. The key elements of the legislation included:

• Establishment of a marketplace for the simultaneous introduction of wholesale and retail competition (with the market opening subsequently set as May 1, 2002).

<sup>7</sup> Macdonald Committee, A Framework for Competition. May, 1996.

<sup>&</sup>lt;sup>8</sup> Government of Ontario. Direction for Change – Charting a Course for Competitive Electricity and Jobs in Ontario. p. viii.



<sup>&</sup>lt;sup>6</sup> Freeman, op. cit.

- Creation of the Independent Market Operator (now Independent Electricity System
  Operator, or IESO, out of the system operation function of Ontario Hydro) to manage the
  operation and reliability of Ontario's bulk power system and administer Ontario's new
  wholesale electricity market.
- Expansion of the mandate of the Ontario Energy Board, from the review of Ontario Hydro's bulk rates, to licence all market participants, regulate all monopoly participants and protect the interests of consumers.
- Separation and commercialization of the wires assets of Ontario Hydro into a regulated wires company (now Hydro One Networks Inc.) and the commercialization of municipal electric utilities to permit non-discriminatory access to monopoly wires business by all competitive market participants.
- Separation and commercialization of the generation assets of Ontario Hydro into a generation company (now Ontario Power Generation) that operates in conjunction with competing generators, and is subject to market power mitigation provisions.

While the new legislation was heralded in many circles for ending Ontario Hydro's monopoly, the legislative framework's reliance on markets meant that an integrated power system oversight within Ontario's newly restructured and competitive electricity industry was limited to assessment of adequacy and of interconnection proposals by market participants and assessment studies by the IMO. There was now a reliance on a market mechanisms to build the needed generation capacity.

## 3.1.7 Managing Supply through Competitive Markets – 2002 to 2004

Ontario's wholesale and retail electricity markets were opened in May 2002. Electricity prices rose soon afterwards to significantly higher and more volatile levels than consumers and the government had anticipated. This was, in part, due to the combination of an unusually hot summer, growing demand, and the temporary unavailability of a number of Ontario's generating units. While the market could be said to have functioned properly by sending "supply scarcity" price signals, this point brought little comfort to consumers, who did not have the means to deal with volatility or to hedge risks adequately.

In the fall of 2002, the IMO's Market Surveillance Panel observed that the total available capacity in excess of summer peak demand for power had fallen from 19.2% in 1996 to -1.5% in 2002. With few new additions to supply for many years to meet increasing demand, the panel noted that Ontario had had to "rely on imports to balance supply and demand" every summer since 1998. The panel went on to conclude that:

<sup>&</sup>lt;sup>9</sup> Michael J. Trebilcock and Roy Hrab. *What Will Keep The Lights on in Ontario: Responses to a Policy Short-Circuit*. C.D. Howe Institute Commentary. No. 191, December 2003, p. 5.



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[T]here is a serious shortage of generation capacity to meet Ontario's growing demand for electricity. If steps are not taken to address this situation, Ontario could face even more serious reliability problems next summer, leading to the possibility of supply interruptions and continued upward pressure on prices during periods of peak demand. <sup>10</sup>

In response to the rising prices and volatility experienced during the early months of Ontario's newly restructured and competitive electricity market, the government imposed a cap on retail electricity prices for a wide range of small and institutional end-users in November 2002. At the same time, rates for the distribution and transmission of electricity were frozen. The net result was a complete cessation of new investment in generation and significant cutbacks in new investment in transmission and distribution.

In June 2003, the government appointed the Electricity Conservation and Supply Task Force (ECSTF). In the face of the supply shortage, the ECSTF called for an "action plan for attracting new generation, promoting conservation and enhancing the reliability of the transmission grid." The ECSTF, which included a wide range of industry stakeholders, submitted its recommendations in January 2004.

In its report to the Minister of Energy, the ECSTF observed that Ontario faced "a looming supply shortfall". This shortfall was attributed to the combination of growing demand for electricity, the gradual retirement of nuclear facilities, as well as to the phasing-out of coal-fired generation in the province. The ECSTF warned, first, that in 10 years Ontario would have only about half the generation capacity needed to ensure adequate and reliable supply and, by 2020, about two-thirds of the existing generation capacity would have reached the end of its planned operating life. With this backdrop, ECSTF concluded that "the market approach adopted in the late 1990s needs substantial enhancement if it is to deliver the new generation and conservation Ontario needs, within the timeframes we need them." 12

During the work of the ECSTF, two significant events took place. Firstly, the Select Committee on Alternative Fuels, with all party agreement, recommended that the government replace coalfired generating stations by 2015 for health reasons in its June 2002 report. Secondly, a new Ontario government was elected in the fall of 2003. Setting a new course, it established electricity conservation targets for the province, including a 5 per cent reduction in Ontario's peak demand by 2007, and a 10% reduction in the government's own electricity consumption by 2010. The government also initiated a number of procurement processes for new clean and renewable generation resources for commercial operation within the next several years. And, in



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<sup>&</sup>lt;sup>10</sup> Independent Electricity Market Operator. *Market Surveillance Panel Report on the IMO-Administered Markets for the First Four Months: May – August 2002*. October 7, 2002. p. 131-32.

<sup>&</sup>lt;sup>11</sup> Electricity Conservation and Supply Task Force. *Tough Choices: Addressing Ontario's Power Needs. Final Report to the Minister.* January, 2004. p. i.

<sup>&</sup>lt;sup>12</sup> Ibid., p. i, 1, and 3.

<sup>&</sup>lt;sup>13</sup> Ontario, Select Committee on Alternative Fuels: Final Report (June 2002).

2003, the government adopted the replacement of coal as government policy, but advanced the date to 2007. This date was subsequently changed to 2009.

In the context of the supply crunch that had been identified, the ECSTF proposed a number of key recommendations for addressing what it saw as a rapidly worsening situation. These recommendations included a more coordinated and integrated approach to establishing sector targets and guiding investment in both supply and demand-side resources. Key recommendations included:

- A long-term planning function be created to develop long-term forecasts and prepare integrated power system plans. These integrated power system plans would guide the development of Ontario's supply and demand resources to meet Ontario's electricity requirements.
- A conservation champion and coordinator be created to "serve as a focal point for a conservation culture in Ontario".
- A contracting function be created to serve as a credit-worthy counterparty and provide cost recovery certainty for investors in new capacity.
- Consumers should have access to a reliable default supply of electricity at stable prices that reflect the true cost of power.
- The government of Ontario should provide guidance on the desired resource mix for Ontario's electricity sector, including with respect to diversity of supply sources and environmental criteria.

### 3.1.8 Creation of the Ontario Power Authority - 2004

In June 2004, following release of the ECSTF recommendations, the government introduced new legislation whose objectives included increased conservation, ensuring price stability, and providing public leadership in the evolution of Ontario's electricity sector. A central component of the new *Electricity Restructuring Act*, 2004, which amended the *Electricity Act*, 1998, was the creation of the Ontario Power Authority (OPA). Its mandate is, generally, to address the deficiencies in the market, including long-term planning and conservation initiatives.

OPA, which is a statutory, not-for-profit corporation without share capital governed by an independent board of directors, reports to the legislature through the Minister of Energy and is licensed and regulated by the Ontario Energy Board (OEB). The responsibilities of OPA span four areas: Conservation Bureau; Power System Planning; Generation Development; and Electricity Sector Development.

**Power System Planning**: OPA's Power System Planning function involves the development and maintenance of a long-term (20-year) integrated power system plan (IPSP) for coordinating the supply, conservation and demand management, and transmission of electricity in Ontario. The IPSP, which must be approved by the OEB, must be developed every three years, or more



frequently if required by the Minister of Energy or OEB. It also must be designed to assist the achievement of the government of Ontario's goals related to, among other things, demand management and the adequacy and reliability of electricity supply, including electricity supply from alternative energy sources and renewable energy sources.

In developing the IPSP, OPA must follow any directives from the Minister of Energy on the goals to be achieved. These directives may relate to:

- the production of electricity from particular combinations of energy sources and generation technologies;
- increases in generation capacity from alternative energy sources, renewable energy sources or other energy sources;
- the phasing-out of coal-fired generation; and
- the development and implementation of conservation measures, programs and targets on a system-wide basis or in particular service areas.<sup>14</sup>

**Conservation Bureau**: The Conservation Bureau is housed within OPA and is directed by Ontario's Chief Energy Conservation Officer. The Conservation Bureau is responsible for providing leadership in the planning, coordination, and delivery of electricity conservation and demand management programs. The Chief Energy Conservation Officer is an executive member of OPA. The first annual report from the Conservation Bureau was released on November 7, 2005.

Generation Development: Until such time as a more sustainable marketplace takes hold in Ontario, OPA's Generation Development function is responsible for contracting for investment in new generation projects, conservation and demand management initiatives. Where OPA considers it advisable, it may enter into contracts for the procurement of electricity supply or capacity, conservation and demand management measures. This procurement must be made either in response to Minister's direction or in accordance with an OEB-approved procurement process.

The first large scale procurement effort was announced in late October 2005 for about 3,000 MW. Once an IPSP is in place, OPA may not commence the procurement unless it has, in consultation with interested parties, made an assessment of the capability of the IESO-administered markets or of other persons to meet the need for electricity supply or capacity, or deliver measures that will manage electricity demand.

**Electricity Sector Development:** OPA's Electricity Sector Development function is responsible for assuring smooth prices to residential and other designated customers, while recovering the full cost of electricity. This is done through the management of a variance account. The group is also responsible for leading OPA's work on designing options to help shift risk away from



<sup>&</sup>lt;sup>14</sup> Electricity Act, 1998. s.25.30(2).

consumers to investors in the longer term as well as designing and implementing programs related to renewable energy and coordinating all of OPA's activities with respect to evolution of the electricity sector with related work being undertaken by the IESO.

### 3.1.9 Supply Mix Advice to the Minister of Energy – 2005

As OPA commenced work on preparing Ontario's first IPSP in the spring of 2005, the Minister of Energy requested "supply mix" advice by December 1, 2005 so that he may contemplate directives for the IPSP. In particular, OPA's advice is to include:

- Recommendations with respect to conservation targets for Ontario for 2015, 2020 and 2025, taking into account the target already set by the Government of Ontario for 2007;
- Recommendations with respect to additions of new renewable energy capacity by 2015, 2020 and 2025, taking into account the targets already set by the Government of Ontario for 2007 and 2010,
- Recommendations with respect to the appropriate mix of electricity supply sources to satisfy the remaining expected demand in Ontario, after conservation and renewable sources have been taken into account, and with particular attention to base-load, intermediate and peak availability of energy; and
- The phasing out of coal-fired generating facilities as a goal of the plan.

While OPA's task clearly includes considering conservation, renewable supply and conventional supply, the ordering is significant. OPA's role is to determine conventional supply needs only after first determining a plan for conservation and demand management and then a plan for renewable sources of supply.

## 3.1.10 Conclusion: The Rise, Fall and Reprise of Power System Planning in Ontario

The restructuring of Ontario's electricity sector in the mid-to-late 1990s saw the elimination of the integrated power system planning function that had played a central role in the development and management of Ontario's power system from 1906 to 1998. Shortly after Ontario's competitive electricity market was opened, Ontario faced a looming electricity supply shortfall. In the face of this supply challenge and inability, in the short-term, to rely on competitive markets, an administratively coordinated and integrated approach to establishing electricity sector targets and guiding investment was adopted.

OPA conducts independent planning for electricity generation, demand management, conservation, and transmission, and develops long-term integrated power system plans for Ontario. In this manner, OPA is a key component of the government's vision for a more



coordinated approach to establishing electricity resource mix targets and guiding investment in the province.

While the current round of planning will be based on similar technical and economic concepts to those of past planning exercises in Ontario and elsewhere, there are several distinguishing features:

- This round has the additional complexity associated with its being conducted in a "hybrid" regulatory environment for new resources partly regulated and partly competitive
- There has been a very short development period which reflects the need for timely actions (Porter took five years, Balance of Power took over three years)
- The scope and level of detail was selected largely on the basis of what is needed for clarifying choices and decisions in the short term (three years)
- The 20-year time horizon of the plan is designed to provide context and uses scenarios to test the prudence and completeness of recommendations in the next 3 years. The plans are not intended as a rigid prescription, but rather as road maps to focus the near-term choices and highlight options for Ontario
- Regulatory review of IPSP is expected to be conducted by the OEB
- The IPSP will be updated every three years. It will adapt, learn from recent achievements and experiences and incorporate new insights, information and trends
- The scope of public participation, while compressed in time, is intended to be broad and comprehensive

