



December 1, 2014

# LDC ASSET RENEWAL SERIES

## **Part 5: Government**

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## 1.0 Executive Summary

The provincial government sets their policies based, for the most part, on agendas endorsed by a plurality of the electorate. In terms of energy policy, government is focused on enabling society to source and receive energy in a manner that they desire. These policies are informed by a multitude of considerations, including economic, safety, reliability, sustainability, environmental, and locations (NIMBYism).

One of the difficulties of policymaking is the tension between short-term decisions driven by policy and political goals and long-term, efficient outcomes. Further, electricity planning has been as much about the interface between elected officials, neutral arbiters, special interest groups, corporate forces, and consumers as it has been about engineering and economics. This paper explores the evolution of these relationships and tensions. That said, in evaluating the process, by highlighting its strengths and deficiencies, our ultimate goal is to find ways to improve the way energy policy is conceived and executed into the future.

In the last twenty years, Ontario's electricity market has undergone significant and rapid change. The sector features more, smaller players, where monopoly power is eroding, regulatory influence has increased, and new public agencies are participating. Ontario Hydro devolved into the IESO as an operator and short-term planner, the OPA as a long-term planner, and Hydro One delivering electricity from generators like OPG and Bruce Power. The OEB now has greater regulatory powers over the sector. Overseeing the entire market is the Ministry of Energy, whose minister reports to the Legislature and all Ontarians. The distribution sector underwent a significant period of consolidation: 300 municipal electricity utilities were merged into fewer than 80 LDCs. Of late, there have been renewed calls from several independent advisory committees to encourage further sector amalgamation. These distributors play a significant role in implementing government policy, system plans, and regulatory decisions.

On one hand, we suggest that the balance of power tilts too heavily toward the political realm. Government has been both inconsistent in its policy direction and unwilling to cede planning and implementation to the experts within the very agencies it created. This "unbalance" holds true in other provinces: for instance, British Columbia has consistently undermined the power of its regulator in the past decade to advance its green energy agenda. On the other hand, it was political direction in this province that has turned Ontario into a leader in smart grid technology and non-hydroelectric green energy, while maintaining electricity rates that are near the national average.

To help Ontarians understand and engage in the energy policy process, we find that the entire sector needs to help improve the energy literacy of Ontarians, as well as working towards better processes to gain social acceptance of energy infrastructure projects.

## 1.1 Glossary

**IESO** – Independent Electricity System Operator

**IPSP** – Integrated Power System Plan

**LDC** – Local Distribution Company

**LTAP** – Long Term Acquisition Plan (BC)

**NIMBY** – “Not in my Backyard”

**OEB** – Ontario Energy Board

**OEFC** – Ontario Electricity Financing Corporation

**OMERS** – Ontario Municipal Employees Retirement System

**OPA** – Ontario Power Authority

**OPG** – Ontario Power Generation

## 2.0 How We Got Here

### 2.1 Restructuring of the Market (1995 – 1999)

The early 1990s marked the beginning of a wave of electrical utility deregulation as competitive markets began to emerge in North America. Technological progress allowed smaller participants to enter the electricity space, effectively ending a monopolistic market structure. Meanwhile, Ontario Hydro was highly indebted, burdened with an underperforming nuclear fleet. Rates rose significantly, while growth in electricity demand slowed, a departure from decades of almost continuous increases in demand (Advisory Committee 7, 9, 13, 17, 24, 55).

In 1995, the Harris Conservatives won a mandate to implement an agenda that emphasized smaller government. Accordingly, the government formed the Advisory Committee on Competition in Ontario's Electricity System to assess the future of Ontario Hydro. Both the Commission and the Government concluded that the company's recent performance was "unsatisfactory" and that a competitive market would remedy the problems in the sector (Advisory Committee 1; Ontario. Ministry of Energy, Science and Technology 8-9).

Accordingly, the *Energy Competition Act, 1998* directed the break up Ontario Hydro and the creation of a competitive electricity market. On March 31, 1999, Ontario Hydro was replaced by a generation company (now OPG), a transmission and distribution company (later Hydro One), the Independent Market Operator (now IESO), and later the Electrical Safety Authority (Ontario. Ministry of Energy, Science and Technology 22-23). The stranded debt of Ontario Hydro was transferred to the Ontario Electricity Financing Corporation (OEFC), whose mandate was to retire the debt through payments in lieu of taxes from these new companies. The Advisory Committee recommended a "stranded asset charge be levied upon all users of the transmission system," which later became the Debt Retirement Charge (55).

The Ministry of Energy, Science and Technology agreed with the Commission's recommendations on regulation. The role of the Ontario Energy Board was expanded to include authority over the distribution and transmission sectors, while being directed to implement a performance-based approach to regulation. The OEB was to promote competition and monitor for abuses of market power within a fully competitive market (19).

The Advisory Committee recommended merging the over 300 municipal electricity utilities (MEUs) into several, regional LDCs that operated on a for-profit basis (20). Starting in 1999, municipalities took advantage of the temporary suspension of the asset transfer tax, while Hydro One purchased 89 MEUs, including Brampton Hydro. Currently, there are fewer than 80 LDCs in Ontario (Distribution Sector Review Panel 6).

In preparing for the transition to a deregulated market, the government of the day noted:

“Competition among suppliers will create the conditions for lower electricity prices, thereby supporting investment and job creation across the province. It will ensure that investments in electricity generation and transmission are made prudently and that assets are managed carefully and responsibly. It will mean more choices for customers and will lead to new technologies and approaches that are safe, reliable and better for the environment...New opportunities are emerging as the North American electricity industry changes from one based on monopoly to one based on competition. Ontario needs to restructure its electricity industry in order to create a business climate which supports new technologies, new services, and new ways of doing business” (Ontario. Ministry of Energy, Science and Technology vii).

## **2.2 Market Reorganization and Reregulation (2000 – 2004)**

The retail market opened in May 2002. High demand (a hot summer) and low supply (eight nuclear units were not producing power) caused electricity rates to rise quickly. The IMO was concerned about supply falling short of demand. The government intervened that November, freezing retail prices at 4.3 cents/kWh (Deweese, *Electricity Restructuring* 5). Freezing the rates effectively ended any private interest in building new generation. Since then, most new generation has been contracted through the Ontario Power Authority (OPA) (Deweese, *Electricity Restructuring* 15-16; “Electricity Governance” 13). The wholesale market nevertheless remains competitive, and according to the IESO, is “working well” (Rivard 2).

In 2003, the OEB was enshrined as an arms-length Crown corporation with a management committee. The regulator responsibilities were changed to “facilitate” rather than “promote” energy efficiency and conservation, and to encourage customer education (OEB, “History of the OEB”). In 2004, the new Liberal Government passed the *Electricity Restructuring Act*, which moved most of the retail market from a competitive to a regulated pricing structure. The OEB developed the *Regulated Price Plan*; from time-to-time the regulator sets retail electricity rates for power delivered through LDCs. The bill also established the Ontario Power Authority to plan and procure for Ontario’s long-term energy needs (OEB, “History of the OEB”).

In 2005, the Minister issued a directive to the Board to prepare a plan for the installation of time-of-use capable smart meters for all customers by the end of 2010. Section 27.1 (1) of the *Ontario Energy Board Act* allows a minister to “...require the Board to take steps specified in the directives to promote energy conservation, energy efficiency, load management or the use of cleaner energy sources, including alternative and renewable energy sources.”

## **2.3 Green Energy to Austerity (2009 – 2011)**

The *Green Energy and Green Economy Act, 2009* was a significant commitment to reduce greenhouse gas emissions and incubate a green energy industry in Ontario. It replaced the previous incentives for renewable generation with a feed-in tariff that eventually resulted in offers of up to 80.2 cents per kWh for rooftop solar installations. In the legislation, the government also expanded the OEB’s mandate to include:

- [The promotion of] electricity conservation and demand management in a manner consistent with the policies of the Government of Ontario, including having regard for the consumer’s economic circumstances;
- To facilitate the implementation of a smart grid in Ontario; and,
- To promote the use and generation of electricity from renewable energy sources in a manner consistent with the policies of the Government of Ontario, including the timely expansion or reinforcement of transmission systems and distribution systems to accommodate the connection of renewable energy generation facilities (Green Energy Act, 1999).

## 2.4 LDCs: the Distribution Review Panel (2012 – Today)

Faced with a substantial budget deficit after the 2008-2009 financial crisis, the province commissioned Don Drummond to find efficiencies in the public sector. Among his recommendations were:

- The consolidation of existing LDCs, stating that “larger regional entities might allow for economies of scope as well as scale, allowing greater participation in planning, design of conservation programs and expanding responsibilities to deliver other resources such as water;” and,
- Amending the tax code to encourage investment in LDCs, proposing “a co-operative federal-provincial tax arrangement that returns to the province any federal corporate taxes paid by newly privatized electricity utilities... [allowing] the province to remove the 33 per cent transfer tax on such divestitures currently in place that goes towards stranded debt...” (Commission on Reform 331-332).

The government then convened the Distribution Sector Review Panel, which recommended:

- Within two years, the LDC sector should consolidate into 8 to 12 geographically contiguous distributors. These new LDCs would have lower OM&A expenses per capita, exploit economies of scale, save on regulatory costs, reduce duplication of equipment, and “maintain... a strong connection with their local communities” and have an “enhanced customer focus;”
- That Hydro One assets should be merged into the new distributors where applicable;
- That municipal governments should be permitted to provide loans to their LDCs; concurrently LDCs would no longer borrow from Infrastructure Ontario; and,
- That boards of directors should include members with appropriate skills, experience, and be adequately trained in board governance. At least two-thirds of the membership should be independent appointees (14-15, 34, 37-39).

The Government has articulated its policy on LDCs in the 2013 *LTEP*:

- “The Distribution Sector Review Panel, which delivered its report in late 2012, identified the potential for significant savings among the province’s Local Distribution Companies (LDCs). The government expects that LDCs will pursue innovative partnerships and transformative initiatives that will result in electricity ratepayer savings.”

- “The government will look closely at key features of the OEB’s new regulatory framework for LDCs such as the Scorecard, which will report annually on key LDC performance metrics, to develop further distribution sector policy options” (6).

If LDCs decide to seek investment from third-party investment in their corporations, their attempts to solicit this equity is hampered by a 33% transfer tax imposed whenever LDC assets are sold or transferred to a private owner (Distribution Sector Review Panel 9, 24, 25). Provincial pension funds like OMERS – a group that has expressed interest in greater LDC investments – also face these same tax restrictions, among other impediments for investment (Fyfe, Garner, and Vegh 18-19). The panel recommended that the province “enter into discussions with the federal government on a tax agreement that would facilitate the removal of the transfer tax on the sale of LDC assets... (33).” The government has yet to comment on removing impediments for investment in LDCs. These matters were being reviewed by Premier's Advisory Council on Government Assets at the time of the publication of this document.

### **3.0 Electricity Governance in Ontario**

#### **3.1 The Many Roles of the State and the Citizenry**

The Government has many roles in the electricity space:

- The obligation to seek legislative approval for the general policy of the government;
- The ability to issue ministerial directives;
- The ability to name board members to Hydro One, OPG, the IESO, the OPA, and the OEB;
- The ability to use energy policy as a tool of economic development, job creation, environmental protection, and social welfare; and,
- The sole shareholder and dividend beneficiary of OPG and Hydro One.

In this environment, the regulator must:

- Ensure that LDCs fulfill policy directives from the government;
- Ensure that LDC plans are prudent while allowing for a rate of return; and,
- Act as guardians to customers, ensuring that their rates are reasonable and predictable;

Finally, consumers are:

- Voters and agents of public opinion;
- Through their governments, shareholders in municipal LDCs, OPG, and Hydro One;
- Market participants who control their demand to an extent, but remain price-takers;
- In some cases, employees and pensioners of electricity companies;
- Intervenors during OEB rate hearings; and,
- Generators, benefitting from Government policies such as solar feed-in-tariffs.



## 3.2 Government Actions

Successive governments have taken an activist approach in the electricity sector. Although there are some like Queen's Bryne Purchase who argue that the 'Electricity sector should not be used for job creation, regional development or income redistribution' (5), government continues to consider the political, social, and economic effects arising from energy policy.

For example, successive Ontario governments committed to ending coal-fired electricity generation in the province. In doing so, they addressed both the health and environmental consequences of emissions from these plants. A 2004 study estimated that the coal shutdown would prevent 650 premature deaths, 900 hospital admissions, and over 1,000 emergency room visits per year. Reductions in emissions of nitrogen oxides, sulphur oxides, particulate matter, mercury, and carbon dioxide were predicted to save over \$200 million a year in losses from environmental damages. Ontario's provincially controlled generation system has reduced its output of carbon dioxide by 30 megatons due to the coal closure alone (Ontario Ministry of Energy, *Ontario Coal Closure*). The net benefit of the coal shutdown to the Ontario economy is expected to be approximately \$4.4 billion each year (DSS & RWDI, iv-v).

The McGuinty Government elected to take a proactive approach in addressing climate change as it gained traction in public discourse. Through the Renewable Energy Standard Offer Program and later the *Green Energy and Economy Act, 2009*, the government sought to establish Ontario as a leader in renewable generation. The government also aimed to create 50,000 jobs within three years, develop a new green manufacturing sector, and promote a culture of conservation (Smitherman). Conservation and demand management (CDM) programming, smart meters, and time-of-use pricing – all government initiatives – help, in part, to reduce emissions by lowering or smoothing energy demand.

For the sake of discussion, this section is critical of the *execution* of electricity policy in Ontario: that it has been inconsistent and realized in a manner intrusive upon those tasked with their implementation. It is not an evaluation of the policy objectives themselves, which have sought to empower consumers, stimulate economic growth, and combat climate change.

### 3.2.1 Inconsistency and the Green Energy Case Study

Policy direction has been inconsistent between energy ministers from the same government. On renewable procurement, Minister Donna Cansfield introduced RESOP in 2006 with a goal of procuring 2,700MW; in 2007, Minister Dwight Duncan raised the target to 15,700 MW. Then Minister Gerry Phillips ended RESOP in 2008. Minister George Smitherman introduced the *Green Energy and Economy Act* in 2009, restricting RESOP to biogas. Finally, Minister Brad Duguid implemented FIT/microFIT in 2010. Within five years, renewable energy policy changed at least six times:

- 2004: Renewable Energy Supply (RES I);
- 2005: RES II;
- 2006: Renewable Energy Standard Offer Program (RESOP);
- 2008: RES III;
- 2008: RESOP suspended;

- 2009: FIT/microFIT; RESOP limited to biogas (Singh).

Leadership at the Ministry has also been ever changing. Some ministries – like Health (Minister Deb Matthews) and Finance (Ministers Dwight Duncan and Charles Sousa) – have had long-serving ministers. The minister of energy, however, has changed 12 times since 2002; the average tenure of a minister averages just over a year (Fremeth 4). Further, from 2007 to 2010, the minister had the additional responsibility for Infrastructure. There has been significant turnover in the deputy minister’s office as well (Conway). That said, the current Minister has held the Energy portfolio for two years as of February 2015.

Consistency is important for the development of any market. A 2008 survey found that policy stability was one of the top three most important investment factors for solar, wind, and energy technology firms. In that survey, these companies rated Ontario’s policy stability in the bottom three of 15 factors (Holburn, “Regulatory Governance and Policy Risk” 6-9).

### **3.2.2 Ministerial Intervention and the OPA Case Study<sup>1</sup>**

The Government established the OPA in 2004 to create a long-term integrated power system plan (IPSP). As work was ongoing at the OPA, the Minister issued a June 2006 supply mix directive that mandated targets, including 6,300MW of conservation and 15,700MW of renewables by 2025. The use of ministerial directive to guide the IPSP process was supposed to be temporary, abandoned when the OEB approved the plan (Carlson et. al 9).

In August 2007, the OPA submitted the IPSP for OEB review. During the review, the Minister issued another directive to the OPA with new renewable targets. The review process was suspended; the government instructed the OPA to amend the IPSP and resubmit to the OEB within six months (Carlson et. al 9). The OPA halted development on the IPSP in 2009 due to the substantial policy changes forthcoming in the *Green Energy and Economy Act* (Lyle 2).

In 2010, the Ministry released the *Long-Term Energy Plan (LTEP)*, a 20-year vision for Ontario’s electricity sector. In early 2011, the Minister asked the OPA to develop a new IPSP based on the *LTEP* (Carlson et. al 9). Again, the OPA suspended the IPSP process, while the Ministry released an updated *LTEP* in 2013. Accordingly, no independent body has reviewed a long-term electricity plan. The two long-term plans in the past decade have come from the Ministry, and the power of ministerial directive remains (Carlson et. al. 5).

Even though the OPA is Ontario’s designated electricity planner, it is clear that the ultimate authority for long-term energy planning is securely in the domain of the Ministry. The Auditor General noted that: “...OPA staff acknowledged that the existence of two plans—the Ministry’s and its own—could lead some to conclude that the OPA has only limited authority as an energy planner and that the Ministry’s *LTEP* is Ontario’s ‘true’ plan for the future” (2011 *Annual Report* 96-97). He also wrote “...from the public’s perspective, this could lead to some ambiguity as to which entity is responsible for electricity planning in Ontario” (90). The Mowat

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<sup>1</sup> This analysis precludes any consultation that the government may have had with the IESO, OPA, and/or OEB prior to issuing ministerial directives or *LTEPs*. Indeed, the OPA provided the data that informed the 2013 *LTEP*.

Centre study noted that in every province except Ontario, “the government only sets the overall policy framework; the actual electricity plans are developed by expert, arm’s length entities” (Carlson et. al. 21).

Government control of policy implementation extends beyond the planning process. In 2011 and 2013, the Auditor General found that government ignored or bypassed its agencies and boards, and that government decisions led to avoidable costs for consumers. For instance:

- The Ministry ignored an OPA proposal to reduce FIT rates for ground-based PV by 9% that could have saved Ontarians \$2.6 billion;
- Later, the government took six months to implement a second OPA recommendation to cut ground-based PV FIT rates. When the adjustment was made, pending applications at the time of the adjustment “grandfathered” into the program; adding about \$950 million to the overall cost;
- The OEB, OPA, and IESO note that the Ministry did not undertake a cost-benefit analysis or independent investigation of effects of the *Green Energy and Economy Act* prior to its introduction;
- The government did not consult with the OPA or OEB on the contract with the Samsung-led Korean consortium tasked with building renewable electricity projects;
- The decision to move the Mississauga project originated from a campaign promise made by the Liberal Party during the 2011 general election. The time it took to officially implement the policy weakened the OPA’s bargaining position with the contractor;
- That the costs of relocating the TransCanada Oakville plant would have been lower had it not been for the intervention of the Premier’s office; and,
- The Premier’s Office shut out the OPA from their discussions with TransCanada (2011 *Annual Report* 90-91, 97; *Mississauga* 8, 13; *Oakville* 9, 15).

Between 2005 and June 2013, the minister of energy has issued 66 directives to the OPA alone (Goulding 7). They continue to use this tool to dictate process and policy to the OEB and OPA. For example, a recent ministerial directive ordered the OPA and IESO to develop a plan to procure 50MW of energy storage (Ontario *Minister's Direction to the Ontario Power Authority*, 4). They presented a plan to the Minister in January 2014: an IESO-led first phase, procuring 25-30MW by July 2014, with an OPA-led procurement process for the remainder. The Minister has issued another directive, expressing his opinion that phase I will include 35 MW, and all contracts for both phases were to be signed by the end of September 2014 (Chiarelli 1).

### 3.3 The OEB

The Ontario Energy Board interprets its mandate as to “... oversee... the Province’s electricity and natural gas sectors through effective, fair and transparent regulation and... promote a viable, sustainable and efficient energy sector that serves the public interest and assists consumers to obtain reliable energy services at reasonable cost” (“What We Do”).

The OEB’s mandate for regulating the electricity sector as articulated in the Ontario *Energy Board Act, 1998* are:

1. To protect the interests of consumers with respect to prices and the adequacy, reliability and quality of electricity service;
2. To promote economic efficiency and cost effectiveness in the generation, transmission, distribution, sale and demand management of electricity and to facilitate the maintenance of a financially viable electricity industry;
3. To promote electricity conservation and demand management in a manner consistent with the policies of the Government of Ontario, including having regard for the consumer's economic circumstances;
4. To facilitate the implementation of a smart grid in Ontario; and,
5. To promote the use and generation of electricity from renewable energy sources in a manner consistent with the policies of the Government of Ontario, including the timely expansion or reinforcement of transmission systems and distribution systems to accommodate the connection of renewable energy generation facilities (Ontario Energy Board Act).

Objective five mandates that the OEB “promote” the connection of renewable “consistent with the policies of the Government of Ontario...” Accordingly, the OEB must balance its regulatory responsibility to maintain a cost effective electricity system (objective one) with its mandate to implement government policy on renewable generation by ensuring LDCs connect distributed generation to their systems.

In approving rates, the OEB has oversight over only a portion of the electricity bill, mainly transmission and distribution. It had no authority over the former Debt Retirement Charge. The drivers of increasing electricity costs – generation and contract costs captured in the Global Adjustment – are beyond the reach of the OEB (Auditor General, *2011 Annual Report* 73-74).

Finally, the OEB is also subject to ministerial directives, a tool we argue has been used liberally. According to Warren and Powell, ministerial intervention to guide green energy policy “has most fully employed the use of directives and, in the process, stripped the OEB of much of its discretion and, therefore, its independence to carry out its core functions,” and that the “use of directives derogates from the ability of the OEB to carry out its core public policy obligations of setting just and reasonable rates that protect the interests of ratepayers and utilities” (7-8).

### **3.4 LDCs and Conservation and Demand Management**

On March 31, 2010, a ministerial directive to the OEB mandated a four-year CDM program, with reduction targets of 1330MW off peak demand and 6000GWh less consumption (Ontario, Ministerial Directive O.C. 437/2010 1). The CDM Framework had several shortcomings. The Ministry of Energy's *Renewed Vision for Energy Conservation in Ontario* acknowledged problems with the program, including:

- A failure to recognize the varying capacities and needs of different LDCs;
- The limited influence of LDCs on program design and operation;
- No LDC control or input on OPA CDM programming;
- A slow, costly process to develop and gain OEB approval for LDC CDM initiatives; and,

- Poor response to changing market or customer conditions, such as already reduced demand from a slowing economy (12-13).

The 2013 *LTEP* introduced the 2015-2020 CDM “Conservation First” framework. Changes specific to LDCs:

- There will be long-term, stable funding for conservation so that customers and LDCs have the certainty they need to implement and deliver programs; and,
- LDCs will have accountability for meeting their assigned conservation goals, and will be provided the authority and means for meeting them cost-effectively (26).

By ministerial directive, the OPA has begun consultations and work on developing a plan to find 7000 GWh of energy savings by 2020. The OPA consulted LDC groups through April and May about the new framework; LDCs are scheduled to file their plans by May 1, 2015 (“Conservation First Framework (2015 - 2020)”; *2015 – 2020 Conservation First Framework* 1).

### 3.5 LDCs and Smart Meters

The 2004 ministerial directive to develop a plan for the rollout of smart meters dictated that the distribution sector install 800,000 smart meters by the end of 2007, with full implementation in Ontario by December 31, 2010 (Ontario, Ministerial Directive O.C. 1411/2004 1-2).

The OEB provided an implementation plan to the Ministry in 2005. Ultimately, the government sets the minimum requirements for smart meter technology, cost recovery mechanisms, priority distributors, and procurement principles (OEB, *G-2011-0001 Guideline* 4-5). For the most part, LDCs completed the project on time (OEB, *Monitoring Report: September 2010* 2; *Monitoring Report: December 2010* 5).

In 2014, the Auditor General found that the costs of smart metering in Ontario exceeded the benefits to consumers. Further, she cited several problems with the cost-benefit study eventually undertaken for the project, that TOU pricing had little effect on peak demand, and that the program failed to meet its conservation targets. In their response, the Ministry of Energy reminded readers of the benefits of the program into the future: “The deployment of 4.8 million smart meters has brought a number of benefits to the province, including the ability of consumers to respond to price signals. Going forward, smart meters, as the base technology for a modern grid that enables emerging technologies and applications like electric vehicles, electricity storage and innovations to make Ontario homes smarter, will continue to deliver value to Ontario” (*2014 Annual Report* 367-8, 370).

### 3.6 Upcoming Government Policy

The post-election Wynne Government’s *Speech from the Throne* outlined:

“...Ontario's conservation efforts and clean energy initiatives have moved our province down the road to a sustainable energy future. A growing renewables and energy innovation sector can become an important export industry for our province and our country. It can help to reduce climate change-causing emissions in other areas of Canada's energy sector and elsewhere in the world... Your government

also knows that climate change solutions need to span borders. Ontario will work with other provinces and territories to develop a Canadian Energy Strategy, which includes co-ordinated efforts to reduce greenhouse gas emissions, and which recognizes the important role of renewable energy and energy conservation...” (Ontario, *Building Ontario Up: Speech from the Throne*).

The government has reintroduced their 2014 Budget, which includes or reaffirms the following:

- Completing the merger of the OPA and IESO;
- An extension of the Industrial Electricity Incentive, which discounts electricity rates for new job-creating industrial users;
- A rebate of two cents per kilowatt-hour for large Northern industrial customers;
- Expanding saveONenergy and on-bill financing for small business;
- Expanding the Industrial Conservation Initiative to include customers that demand between three and five MW of electricity at peak. These firms can save up to 20% for reducing their consumption during peak periods;
- Tax credits for low-income and Northern electricity consumers;
- \$3-million to prepare Northern Aboriginal communities for connection to the Hydro One transmission network;
- Forthcoming action on electricity sector pension plans;
- Conducting an asset review that may result in the sale of a part of or all of OPG and Hydro One; and,
- The elimination of the Debt Retirement Charge on residential bills and the expiry of the Clean Energy Benefit at the end of 2015 (Ontario Ministry of Finance *Clean, Reliable and Affordable Energy* 1-6; *2014 Ontario Budget* 156, 161, 164, 256).

In their platform, the Liberals made the following commitments:

- Ensuring that “new buildings are as energy efficient as possible;”
- Expanding on-bill financing for energy conservation projects; and,
- Increasing access to natural gas for farms;
- \$200 million in interest-free loans for communities to connect to natural gas supplies; and,
- An additional \$30 million grant to help facilitate natural gas connections for “those projects with a clear economic development potential” (“Building the Next Generation of Infrastructure” 9; “Clean, Sustainable and Liveable Communities” 5).

The Liberals have also introduced legislation to ban coal-fired generation in the province permanently.

The *LTEP* directs the IESO to explore moving towards a capacity market to complement the existing contract-based energy market. The IESO’s Director of Markets notes “... like many other wholesale electricity markets around the world, Ontario’s wholesale market has not proven sufficient, on its own, to attract new entrants into the system and to ensure a sufficient level of capacity” (Rivard 1). The OPA has contracted much of the current supply; the

difference between market clearing prices and regulated prices are embedded in the Global Adjustment (GA).

In a capacity market, generators are paid based on their ability to produce rather than their production alone. They note that these markets:

- Have led to lower costs in other jurisdictions;
- Create a more transparent marketplace;
- Better accommodate new technologies such as energy storage;
- Lead to a more efficient and transparent market by separating capacity and commodity costs;
- Flexibility to purchase needed supply in a period of uncertain future supply needs;
- Shift market risk away from the consumer towards the generator; and,
- Create a market for demand response and conservation (IESO 2-4; Rivard 3-4).

By setting targets and holding auctions years in advance, this market could provide revenue certainty to innovators going forward. Of particular interest to LDCs, the most effective capacity markets allow consumers or aggregators to bid on capacity as a demand response entity. A number of questions remain before the introduction of a capacity market:

- Would IESO set capacity levels for different types of generation?
- Would capacity level be set for regional needs or system-wide?
- Would such a market expand into demand response and CDM? What role would the consumer play, and as such, what input and responsibilities would occur to LDCs because of this market?
- Could LDCs apply for capacity based on system wide efficiency improvements?

### **3.7 Considerations for the Future**

Government, its agencies, its boards, and LDCs all have a role in a complex and crowded energy space. The government has the added burden of ensuring that energy policy fits within the context of their broader vision for the province.

To ensure that decisions on electricity policy are clear, consistent, and guided by experts, the government should restrict itself to setting broad policy objectives. The government should curtail or eliminate the practice of ministerial directives. The government must clearly separate its multiple functions in the electricity space. The OEB should have as much oversight as possible, including the power to review long-term plans. Government should base their appointments to the OEB, LDCs boards, the IESO, OPG, Hydro One, and the OPA on merit and competence, with terms long enough to encourage independence and expertise.

## 4.0 Electricity Governance in Canada

### 4.1 Regulation

Although we have been critical of the government's interference with independent bodies, Guy Holburn writes that in all provinces, the ministries of energy hold substantial power over their regulators:

“Regulatory governance in many provinces in Canada is quite exposed to political influence, subjecting regulatory agencies and hence the electricity industry to a greater degree of direct political control than is the case in some other jurisdictions (e.g. the United States where multiple political checks and balances confer a degree of autonomy on regulatory agencies). In each province, individual ministers have substantial authority to issue directives to agencies, to make specific regulatory policies, to establish budgets and/or to make appointments. The role of provincial legislatures in monitoring, reviewing or approving agency or ministerial actions is limited, further concentrating power in the ministry. Although there are some differences between the provinces, these are mainly a matter of degree. There is thus considerable scope to improve the quality of regulatory governance.

The ability of single ministers to exert political control over many aspects of agency decision-making has fundamental consequences for the development pattern of regulatory policy over time. In particular, political control puts at risk the long-term stability and credibility of policy since key dimensions may be modified at the discretion of an individual minister by initiating directives to agencies or even simply by proposing to do so. Changes over time in ministerial policy preferences, which may occur in response to the appointment of new ministers, shifting party political priorities or lobbying by organized interest groups, can thus lead to rapidly shifting agency decisions. Yet research studies find that private sector energy firms tend to rate energy policy stability as highly important in their investment allocation decisions across different jurisdictions” (*Guidelines for Governance* 8).

In reviewing energy regulatory and policy processes in Europe and North America, Makhholm argues that the provincial model of parliamentary democracy appears to continue to weaken regulators (7). Indeed, British Columbia demonstrates that Ontario is not the only province with a weak regulatory model.

#### 4.1.1 Case Study: British Columbia<sup>2</sup>

Like Ontario, BC has committed to a green energy future, while attempting to maintain reasonable electricity rates. In that province, electricity policy direction comes from the Minister

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<sup>2</sup> We encourage readers to consider Hoberg, George, and Rowlands, Ian H. *Green Energy Politics in Canada: Comparing Electricity Policies in BC and Ontario* for a more in-depth analysis.



of Energy and Mines. The sector is regulated by the BC Utilities Commission, which oversees the large, vertically-integrated BC Hydro and several smaller firms. In the past decade, the BC government has actively intervened in the energy regulatory process.

In 2001, Gordon Campbell's BC Liberals defeated the incumbent NDP government. Among their pledges was to increase the independence of the BC Utilities Commission. Their first energy vision was articulated in 2002's *Energy for Our Future: A Plan for BC*, which included:

- The end of an NDP-imposed rate freeze and the reintroduction of regulated rates;
- Outsourcing some BC Hydro operations like billing and human resources;
- Restricting new generation construction to private "independent power producers"
- Introducing performance-based regulation; and,
- Removing disincentives for distribution companies to provide CDM programming (British Columbia, *Energy for our Future* 9, 19, 27).

In 2006, the BC Hydro filed a Long Term Acquisition Plan (LTAP), later approved by the regulator. A year later, the government changed course, introducing a new policy statement that included a stronger commitment to clean energy, aiming to maintain a "high standard [of green energy] which places us among the top jurisdictions in the world" (British Columbia, *The BC Energy Plan* 13). New commitments included:

- Mandatory net-zero emissions requirements for existing coal plants, thermal plants, new generation projects;
- A target to meet half of BC Hydro's supply needs to 2020 through CDM;
- An Innovative Clean Energy Fund of \$25 million; and,
- Reaching electricity self-sufficiency by 2016 (3-4).

BC Hydro submitted a new LTAP in 2008 to the government's new plan. Upon review, the BC Utilities Commission found that BC Hydro failed to implement the government's vision. Accordingly, they rejected the LTAP in its entirety, finding that: "...the parts of the LTAP it has rejected represent a level of individual and collective materiality that removes the underpinnings of the entire 2008 LTAP. Accordingly... BC Hydro's 2008 LTAP is not in the public interest and [The Commission] rejects it" (BCUC 131).

In its decision, the regulator ordered that BC Hydro should rely more on one of its thermal plants, in contrast to government policy to reduce reliance on emitting generators (BCUC 115). Cabinet issued a directive overriding the regulator's decision on the facility (Walz).

Next, the government introduced the *Clean Energy Act (British Columbia), 2010* that set the goal for the province to become a net exporter of green electricity. It increased or moved forward many of its previous green energy targets. It also stripped the Commission of its power to approve BC Hydro's long-term plans, and denied it any authority over several projects, including smart metering (Palmer; Christian & Manning 1-2).

In 2011, BC Hydro proposed a 30 percent increase in rates. The regulator suspended a 10

percent interim rate increase after the government announced a review of BC Hydro’s business practices. When such efforts failed, the Clark government ordered the regulator to cap price increases to no more than 17 per cent over three years, effectively circumventing its rate review powers. In doing so, the Minister accused the Commission of keeping rates higher than necessary, despite cost-savings found in the BC Hydro Review (“BC Hydro ordered”). Although Ontario has also effectively taken control of the long-term energy planning process in this province, British Columbia did the same and significantly weakened its regulator.

## 4.2 Comparison: Generation Mix and Green Energy

The next sections examine the composition and structure of electricity markets in Canada. Hydroelectric power is the dominant source of electricity in BC, Quebec, Manitoba, and Newfoundland; while coal powers Nova Scotia, Saskatchewan, and Alberta. Most of Ontario’s generation comes from nuclear power. We have included OPA-ENE updated output statistics for 2013 and projected output in 2025, which calls for increased reliance on renewables. The IEA recognizes that future growth in green energy will be led by Ontario, Quebec and Alberta (“Medium-Term Market Report”). This province is the Canadian leader in both solar and wind production and capacity.

The provinces have been using a number of policy tools to promote clean energy, including carbon offsets, feed-in-tariffs, net metering, standard offer programs, renewable targets, and requests-for-proposals. Ontario is the only province to have all of these methods in use, with exception of carbon offsets, a practice restricted to Alberta.

	Hydro	Nuclear	Thermal	Tidal	Wind	Solar
<b>NL</b>	96.7	-	3.0	-	0.3	-
<b>PEI</b>	-	-	0.1	-	100	-
<b>NS</b>	9.9	-	86.8	0.2	3.1	-
<b>NB</b>	34	-	61.2	-	5.2	-
<b>QC</b>	97.2	1.7	0.8	-	0.3	-
<b>ON 2013 OPA<sup>4</sup></b>	25	59	13	-	3	1
<b>ON 2025 OPA</b>	26	38	19	-	11	3
<b>ON</b>	24.7	61.8	11.8	-	1.6	-
<b>MB</b>	98.4	-	0.5	-	1.1	-
<b>SK</b>	20.1	-	76.8	-	3.1	-
<b>AB</b>	2.8	-	93.9	-	3.3	-
<b>BC</b>	92.1	-	7.9	-	-	-

<sup>3</sup> Adopted from (CEA, *Key Canadian Electricity Statistics 1*)

<sup>4</sup> Imports are included as gas. Adopted from (OPA 28)

### 4.3 Comparison: Market Structure and Prices

Ontario’s electricity sector was one of few to engage in deregulation. In Saskatchewan, Manitoba, and Quebec, markets remain monopolized by one, vertically-integrated Crown company. Nevertheless, private entities are increasingly participating in the energy space. Nova Scotia Power was privatized 1992, but it remains vertically-integrated. Yukon and the Northwest Territories rely on Alberta’s ATCO Corporation for distribution. Fortis provides distribution service in Newfoundland and Labrador. New Brunswick has attempted deregulation to various degrees – including a proposed sale of NB Power to Hydro-Quebec – but remains a monopolistic market with a few local distributors. BC is encouraging new, private generation to enter the market otherwise dominated by BC Hydro.

Province <sup>5</sup>	Market Properties
<b>NL</b>	Vertically-integrated Crown corporation and investor-owned distribution utility
<b>PEI</b>	Procures electricity from New England market and long-term contracts with New Brunswick
<b>NS</b>	Wholesale open access; Investor-owned utility regulated on cost-of-service
<b>NB</b>	Wholesale open access; Returning to vertically-integrated utility model
<b>QC</b>	Wholesale open access; Vertically-integrated Crown corporation; Expanding IPP development
<b>ON</b>	Industry unbundling in 1998; Wholesale & retail open access since 2002; Hybrid regulation and competition model
<b>MB</b>	Wholesale open access; Vertically-integrated Crown corporation
<b>SK</b>	Wholesale open access; Vertically-integrated Crown corporation
<b>AB</b>	Mandatory Power Pool; wholesale & retail open access since 2001 Fully competitive wholesale market
<b>BC</b>	Wholesale & industrial open access; Vertically-integrated Crown corporation serves 94% of customers

The Government of Alberta has never owned an electricity company and is the only province to operate a deregulated market. Previously, Alberta’s electricity was provided by three private, vertically-integrated companies. The Alberta Energy and Utilities Board reviewed proposals for new generation and set electricity prices based on cost-of-service, later adopting uniform, provincial-wide pricing.

Deregulation progressed from 1995 to 2001. The three firms that owned generation facilities retained ownership, but the rights to market and sell their electricity was auctioned off to third parties. These marketers pay the generators for the costs of production plus a rate of return, and then sell the power to wholesalers. Albertans can purchase their power from retailers that offer long-term fixed contracts, or premium contracts for green power, or they can choose to purchase power from a regulated rate provider that charges customers based on a rate approved by the Alberta Energy Board month-to-month (CEA 9).

<sup>5</sup> (CEA Canada's *Electricity Industry*, 10)

The Ontario government established the current market structure, generation mix, and green energy policy within the province. Despite the intervention of the political and policy apparatus of the state into the sector – intervention that is certainly not unique to Ontario – the government’s policy initiatives have made this province Canada’s leader in non-hydroelectric renewable resources and adopting new technologies like smart meters. Finally, although electricity prices are increasing in the province, Ontario’s rates remain less than all of the provinces that lack significant hydroelectric generation capacity.

<b>Average Cost of Electricity, Residential in ¢/kWh, less tax<sup>6</sup></b>	
<b>Province (City)</b>	<b>Cost</b>
<b>NS (Halifax)</b>	15.45
<b>PEI (Charlottetown)</b>	14.87
<b>AB (Calgary)</b>	14.81
<b>SK (Regina)</b>	13.15
<b>NL (St. Johns)</b>	12.55
<b>ON (Toronto)</b>	12.48
<b>NB (Moncton)</b>	11.82
<b>BC (Vancouver)</b>	8.91
<b>MB (Winnipeg)</b>	7.63
<b>QC (Montreal)</b>	6.87

## 5.0 Electricity Consumers

### 5.1 Education and Literacy

During our sessions, participants have noted a need to improve “energy literacy” among Ontarians. Indeed, the OPA found that only 14 percent of respondents thought renewable energy would cause the price of electricity to increase (Auditor General, *2011 Annual Report* 94). The recent IESO/OPA review on regional planning found that “...common theme that emerged from the feed-back received from the engagement sessions and face-to-face meetings was the need for a major education effort about Ontario’s electricity needs, including a better understanding of the electricity planning and siting processes” (7).

A 2012 University of Calgary study found that 53 percent had at least “a little knowledge” on energy distribution. Further,

“...in terms of overall ‘literacy,’ which can be described as a combination of knowledge and behavior consistent with that knowledge, there are significant differences that are not consistent geographically or by population density. P.E.I., Ontario, Saskatchewan and Alberta are clearly deficient in overall energy literacy...” (Turcotte, Moore & Winter 28).

A 2010 Angus Reid survey suggests that Canadians are not actively seeking ways to reduce their energy costs. For example, only 13 percent of those surveyed had “researched different ways... to make their homes more energy efficient” (25).

The actors in the sector are making an effort to encourage energy literacy among Ontarians. For instance, the Ministry included the following initiatives in the *LTEP*:

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<sup>6</sup> (Hydro-Québec 20)

- “...working with Ontario EcoSchools to bring more information about energy conservation into classrooms, encouraging students to reduce energy use in the classroom and providing them with skills they can take back home.”
- “continu[ing] to introduce public education tools to improve energy literacy, [and] a strategy to increase public understanding of our energy needs, the options for meeting them, and opportunities for people to get involved” (22, 63).

Recently, the Ministry launched the emPOWERme program. The emPOWERme website features:

- Videos on generation, transmission, smart grid, conservation, and measuring electricity
- Graphics on electricity bills, outages, clean energy, the electricity sector in Ontario, innovation, and the Green Button Initiative, among other topics; and,
- Interactive tools on supply mix options, understanding electricity bills, and time-of use (“EmPOWERme”).

The IESO provides information on electricity pricing and the smart grid in Ontario, as well as *10 Smart Meter Lane* that helps consumers understand the cost of electricity use in their homes based on appliances (“10 Smart Meter Lane”). The OEB offers several websites dedicated to those looking to understand their bill, time-of-use pricing, the *Renewed Regulatory Framework for Electricity*, customer service requirements for utilities, and a bill calculator that allows for Ontarians to compare costs between retailers and utilities (“Consumer Protection”).

In 2014, the Chair of the OEB outlined her vision to increase energy literacy as part of the Board’s focus on customer-centric regulation. New OEB initiatives include:

- Providing clear information to customers by:
  - Increasing the amount of information available on the OEB website;
  - More information in public notices;
  - Communicating Board decisions in plain and clear language;
  - The LDC scorecard;
- Make the hearing process more inclusive:
  - Increase the reach and visibility of public notices;
  - Providing regular updates to consumers on an application before the board;
  - Accepting letters from customers in all Board proceeding;
  - Holding consultations outside of Toronto;
  - Requiring 4<sup>th</sup> generation applications to explain how the customer base was consulted, and how an LDC’s application reflects the wishes of its customers; and,
- The use of focus groups and surveys (Leclair 4-12).

LDCs provide information to their customers to help them understand their bill and their line items, and ways to reduce their energy usage. Finally, the OPA includes educational material in its coupon books for energy efficient products.

The government could introduce a greater focus on energy literacy in the Ontario curriculum. This is not without precedent: after the 2008 financial crisis, then Education Minister Kathleen Wynne announced her intention to embed financial literacy into lessons from Grade 4 to 12. Since then, the Working Group on Financial Literacy filed its investigative report, and aspects of financial literacy are imbedded in multiple disciplines within the primary and secondary curriculum (“Financial Literacy Education in Ontario Schools”).

Any effort to educate Ontarians through institutional means will require a willingness by consumers to seek information from both LDCs and government. That same 2010 Angus Reid poll found that only 26 percent get information on energy matters from local energy providers, 17 percent from government, and eight percent from industry associations (27).

Electricity is ubiquitous: usually always there, always on. In a previous paper, we noted that concerns about electricity reliability increase in the immediate weeks after an interruption. Like other public goods – roads, health care, and education – consumer’s interests seem to be directly tied to moments when their provision is delivered in a less than desirable manner. Perhaps the road to more energy literacy is to help the consumer become more cognisant of the value of electricity to the economy, to society, and to the functioning of everyday life.

Finally, literacy and clarity go hand-and-hand: information about the sector should be easy to understand to facilitate greater literacy. For instance, Ontarians may be well served by understanding the components of their electricity bill. For instance, the line item for “electricity” includes the generation and the global adjustment (GA). The GA is the main driver for increasing electricity prices in the province. Indicating the impact of the GA on their bills could make it clear to customers what exactly they are paying for. Even so, the GA is a difficult concept to understand and requires explanation.

## **5.2 Social Acceptance for Infrastructure Projects**

Gaining public support for electricity projects can be a challenge. Throughout the province, there has been considerable opposition to wind farm projects. Despite former Premier McGuinty’s declaration that “NIMBYism will no longer prevail [in Ontario]” in February 2009 (Ferguson & Ferenc), it was opposition to gas plants in Mississauga and Oakville that led, in part, to their relocation. In Oakville, there were six anti-construction bylaws and five challenges before the Ontario Municipal Board when the government cancelled the project. Oakville’s Mayor told the Auditor General he was willing to appeal all the way to the Supreme Court (*Oakville* 9).

Ontario is working towards improving the process to earn social acceptance of energy infrastructure projects. The “most comprehensive consultation and engagement process the Ministry of Energy has ever undertaken” informed the 2013 *LTEP*. The Ministry held sessions online and around the province with municipalities, Aboriginal communities, stakeholders and the public. The Ministry intends to “make continued engagement a priority” (Ontario, *LTEP* 2).

Two recent studies made several recommendations for obtaining social acceptance. The Mowat Centre’s *Getting the Green Light* recommends:

1. Legislate a community participation charter;
2. Create a public energy consumer advocate;
3. Define the role of ministers and elected officials and limit the use of ministerial directives.
4. Require a provincial energy plan prepared by an independent expert agency;
5. Enhance the OEB's review criteria;
6. Give the OEB the ability and resources to review and approve the OPA procurement plans and leave-to-construct applications for new generation, as it does for transmission and distribution; or alternatively, create an independent generation siting board;
7. Require regional energy plans be approved by the OEB;
8. Require municipalities to include energy planning in their infrastructure plans;
9. Require integration between levels of planning;
10. Improve statistical availability, analysis and reporting;
11. Consider imposing a moratorium on further electricity generation procurement pending the preparation of the next Integrated Power System Plan; and,
12. Require policy changes and directives to be submitted to the legislature (Carlson et al. 2-3).

In their May 2013 report, the OPA and IESO made the following recommendations:

1. Strengthen processes for early and sustained engagement with local governments/public;
2. Provide local governments and communities with greater voice and responsibility in planning and siting;
3. Support inter-ministerial coordination;
4. Foster ongoing relationships with First Nations and Métis and recognize the Duty to Consult;
5. Create regional electricity planning Advisory Committees;
6. Invite local representatives to participate in the regional electricity planning;
7. Develop stakeholder engagement strategies and plans with Advisory Committee input;
8. Integrate electricity needs into relevant municipal plans;
9. Integrate relevant municipal information into regional electricity plans;
10. Promote community energy planning;
11. Recognize broader provincial and local interests in electricity system planning;
12. Facilitate a seamless transition from regional electricity planning to generation infrastructure siting;
13. Consider broader criteria in the electricity generation procurement process, such as local priorities;
14. Strengthen review processes;
15. Review mechanisms for planning and procurement;
16. Increase awareness of electricity needs and how these needs can be met; and,
17. Increase transparency of, and access to, useable data and information (4-7).

We all must work towards improving energy literacy and public participation in the planning process. Education for all ages, along outreach, clarity, transparency, and accessibility will help all Ontarians understand and participate in our energy future. In doing so, we envision an electricity sector in the coming decades driven by expertise, guided by sound public policy, and that engages an increasingly informed customer base.

Ultimately, we need a process that is recognized as fair by all parties involved, and that agreed-upon process is the vehicle to resolve disagreements. This would ensure that all views have been fairly considered, but decisions will be respected.



## The Future of the Distribution Sector: Government

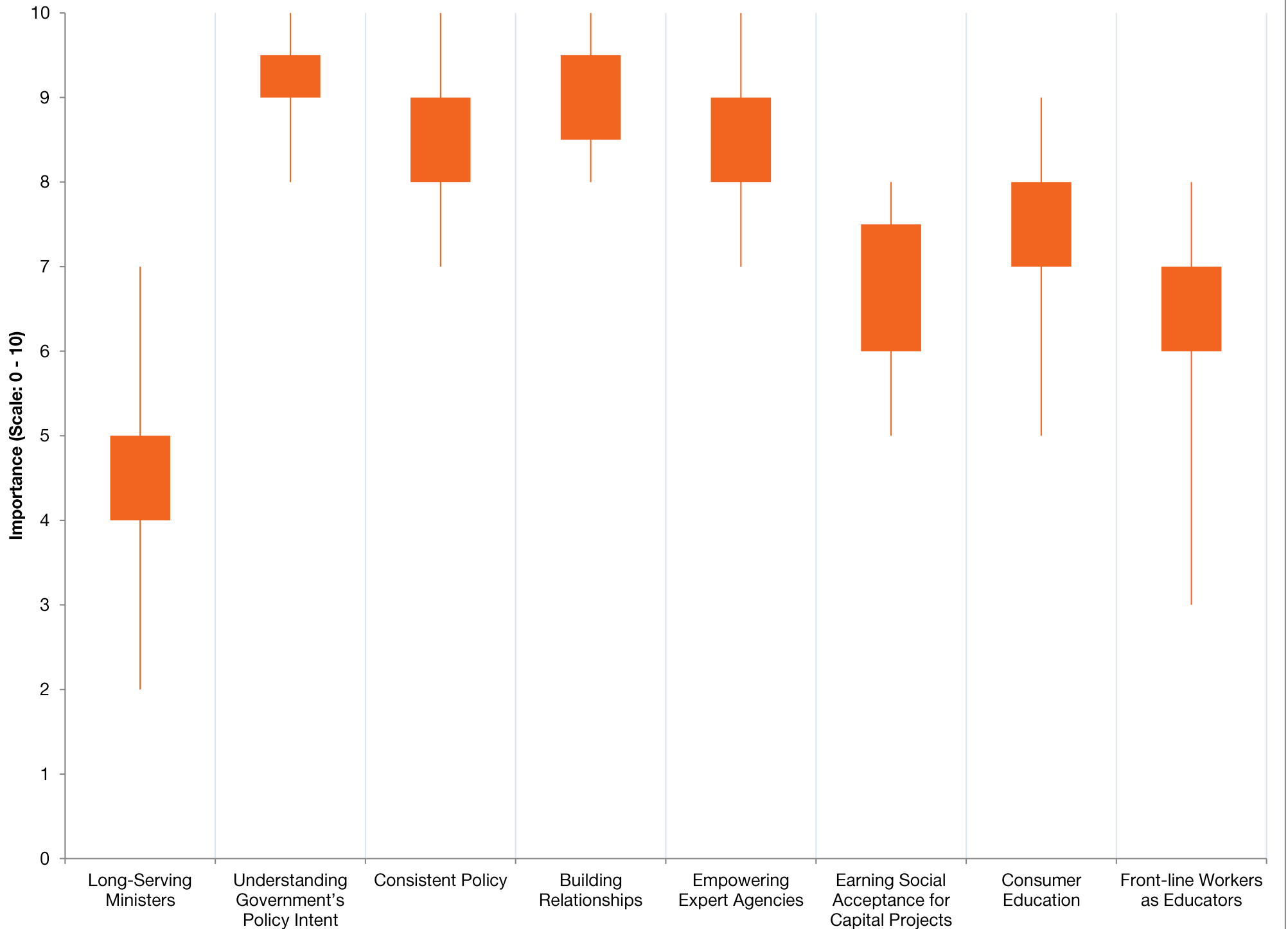
### Visual:

An analysis of the potential importance of government policy and action to a well-functioning LDC sector. Projected importance is ranked from one to ten on the vertical axis. Each topic on the horizontal axis includes a “bar and line.” The line represents the possible range of the topic’s importance, while the bar represents our predicted importance.

### Observations

- Government, the regulator, the consumer, and increasingly the private sector have many roles in the electricity sector; sometimes these many roles come into conflict. For instance, the government has a vested interest in sector consolidation as owners of the largest LDC, and appoints members to the regulator;
- Government uses energy policy as a tool of economic and social development, a function that appears to be becoming more prevalent;
- Consultation will be critical to the success of future policy choices. The government undertook its largest consultation yet with the 2013 *Long-Term Energy Plan*, and has signaled its intent to continue to reach out to stakeholders.
- Recent policies have cut emissions, reduced stress on the health care system, and made Ontario a leader in non-hydro renewable energy and the smart grid. Government leadership is required in a risk-averse industry;
- Our system of governance concentrates power with the minister; this centralization is not unique to Ontario. Nevertheless, ministerial directives have eroded the planning, regulation, and implementation functions of agencies staffed by experts;
- Significant turnover at the ministerial and deputy ministerial level, along with changes in policies that have come with each minister signals inconsistency to the market, which can discourage investment;
- Government policy should be grounded in strong business cases, asset lifecycles, and address the unique needs of different LDCs;
- Sector participants should work together to encourage energy literacy among Ontarians;
- This programming must be tangible, clear, consistent, relevant, and help customers understand the value of reliable electricity;
- There may be merit in establishing a central location for Ontarians to learn about the electricity sector, possibly from an independent, trustworthy source removed from the policy process;
- With new distributed generation, social acceptance of siting capital projects will become an increasing challenge for LDCs;
- A strong communications and outreach plan executed early in the asset planning process is critical to gaining social acceptance;
- As a point of first contact, front-line workers should be trained to educate consumers.

# Predicted Importance of Institutional Action to the LDC Sector





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