

Chapter 4

Ministry of Energy

Section 4.03

Electricity Sector— Renewable Energy Initiatives

Follow-up to VFM Section 3.03, *2011 Annual Report*

Background

The Ontario government has proposed that the province rely increasingly on renewable energy—especially wind and solar power. One reason for this is to help replace the power lost from the phasing out of coal-fired generation plants, to be completed by 2014. In 2009, the government enacted the *Green Energy and Green Economy Act* (Act)—now called the *Green Energy Act, 2009*—to help attract investments and jobs in renewable energy, promote energy conservation and reduce greenhouse gas emissions.

The Ministry of Energy (Ministry) has developed programs and policies to implement the Act, and the Ontario Power Authority (OPA) has played a key role in planning and procuring renewable energy by contracting to buy power from developers of renewable energy projects. Under the Act, the Minister is provided with the authority to supersede many of the government's usual planning and regulatory oversight processes in order to expedite the development of renewable energy.

Wind and solar power will add significant costs to ratepayers' electricity bills. It was felt that the higher costs associated with renewable energy were

an acceptable trade-off given the environmental, health and anticipated job-creation benefits. As well, these energy sources are not as reliable as traditional sources, and they require backup from alternative energy sources, such as gas-fired generation.

In our *2011 Annual Report*, we noted the following:

- Ontario is on track to shut down its more than 7,500 megawatts (MW)—the capacity as of 2003—of coal-fired generation by the end of 2014, to be replaced by nuclear power from refurbished plants, an increase of about 5,000 MW of gas-fired generation, and renewable energy, which is projected to increase to 10,700 MW by 2018.
- Because the Ministry and the OPA aimed to implement the Minister's directions as quickly as possible, no comprehensive evaluation was done on the impact of the billion-dollar commitment to renewable energy on such things as future electricity prices, net job creation or losses across the province, and greenhouse gas emissions.
- When the Act was passed, the Ministry said implementing the Act would lead to modest increases in electricity bills of about 1% annually. This was later increased to 7.9%

annually over the next five years, with 56% of the increase due mainly to the cost of renewable energy.

- The OPA was directed to replace a successful program—the Renewable Energy Standard Offer Program (RESOP)—with a much more costly Feed-in Tariff (FIT) program that required made-in-Ontario components and encouraged both larger and smaller generation projects, but provided renewable energy generators with significantly more attractive contract prices than RESOP.
- Although the OPA made a number of recommendations that could have significantly reduced the costs of FIT, these were held in abeyance until the two-year review of the FIT program could be undertaken so as to ensure price stability and maintain investor confidence.
- A Korean consortium contracted by the Ministry to develop renewable energy projects is to receive two additional incentives if it meets job-creation targets: \$110 million in addition to the already attractive FIT prices; and priority access to Ontario’s already limited transmission capacity. However, no economic analysis or business case was done to determine whether the agreement with the consortium was cost-effective, and neither the Ontario Energy Board nor the OPA was consulted about the agreement.

We made a number of recommendations in our *2011 Annual Report* for improvement and received commitments from the Ministry and the OPA that they would take action to address our concerns.

Status of Actions Taken on Recommendations

Our review indicated that some progress has been made on all of our recommendations, and substantial progress on several of them. For example, the

Ministry and the OPA reviewed and reduced FIT prices for new solar and wind power projects by about 20% and 15% respectively in 2012; FIT prices for new solar projects were further reduced on average by one-third in 2013; the OPA has been working with the Independent Electricity System Operator (IESO) to implement new market rules that require renewable generators to turn down or off when there is an oversupply of power; and Hydro One has been upgrading a number of transmission stations to connect the renewable projects. We noted that additional work is under way to fully address some of our recommendations. For example, the Ministry is planning to launch more online tools and to post more information online to help consumers understand their electricity bills. As well, a review of Ontario’s Long-Term Energy Plan is scheduled to be finalized before the end of 2013.

The status of the action taken on each of our recommendations is as follows.

COST IMPACT OF RENEWABLE ENERGY ON CONSUMERS

Recommendation 1

To ensure that electricity ratepayers understand why their electricity bills are rising at a much higher rate than inflation, the Ministry of Energy and the Ontario Power Authority should work together to increase consumer awareness of the concept of the Global Adjustment and make more information available on the cost impact of its major components.

Status

In our *2011 Annual Report*, we noted that the OPA had entered into a number of fixed-price renewable energy contracts that had significantly contributed to higher electricity charges. A number of consumer surveys have indicated that although consumers generally supported renewable energy, they were for the most part unaware of its impact on prices. In its responses to our report, the Ministry acknowledged that it would increase public awareness about energy prices, and the OPA indicated that it

would provide comprehensive, consistent information about the total cost of electricity.

At the time of our follow-up, we noted that the Ministry had provided consumers with information about Ontario's energy sector, including electricity costs, on its website. We also found that the Ministry had made changes to its website to make it more user-friendly, such as improving search capabilities, using plain language, increasing accessibility, and providing updated descriptions of Ontario's energy sources and provincial programs. The Ministry has been collaborating with the Ontario Energy Board to launch other online tools that are intended to help consumers understand their electricity bills. As well, the Ministry has used social media tools such as Twitter to educate consumers, and has undertaken market research to further improve consumer awareness of the concept of the Global Adjustment and its impact on electricity costs.

We noted that the OPA has incorporated the latest 2012 data related to electricity costs in a Generation Procurement Cost Disclosure, which was posted on the OPA's website in September 2013 to provide consumers with more context for and explanation of electricity costs. The OPA has also revamped its quarterly supply report to make it more accessible to the average reader. At the same time, the OPA is working with the Ministry and other agencies to communicate to consumers initiatives related to electricity costs.

DEVELOPMENT OF ENERGY PLAN AND RENEWABLE ENERGY POLICY

Recommendation 2

To ensure that senior policy decision-makers are provided with sound information on which to base their decisions on renewable energy policy, the Ministry of Energy and the Ontario Power Authority should work collaboratively to conduct adequate analyses of the various renewable energy implementation alternatives so that decision-makers are able to give due consideration to cost, reliability, and sustainability.

Status

In our *2011 Annual Report*, we noted that the *Green Energy and Green Economy Act, 2009* provided the Minister of Energy with the authority to direct certain aspects of planning and procurement of electricity supply through ministerial "directives" and "directions." The frequent exercise of such authority had resulted in less thorough analysis and assessment of different policy options and the cost-effectiveness of alternative approaches. In their responses to our report, the Ministry and the OPA agreed to work collaboratively to provide decision-makers with the best advice, giving due consideration to cost, reliability and sustainability.

At the time of our follow-up, the Ministry had launched a review of the FIT program on October 31, 2011, following the program's first two years of operation. During the review, the Ministry worked with the OPA, Hydro One and the Independent Electricity System Operator to obtain their input and advice. The Ministry also reviewed international best practices, experience and perspectives. Both the Ministry and the OPA engaged with community groups, municipalities, the energy industry and associations, Aboriginal communities and organizations, environmental groups, consumer advocacy groups and interested individuals. They received over 2,900 responses from individuals and organizations to an online survey and about 200 written submissions. The input and advice were reviewed and considered as part of the review of the FIT program.

As part of its review activities, the OPA commissioned two independent consulting companies to produce technical reports regarding the development of renewable projects in Ontario. These reports supplemented the independent analysis performed by the OPA's internal staff and formed the basis of the OPA's recommendations to the Ministry regarding proposed changes to the FIT program. At the completion of the FIT program review, the Ministry issued a report on March 22, 2012. To address the report's recommendations, the Minister of Energy issued five directives instructing

the OPA to continue with the FIT program and to implement certain policy changes with regard to FIT prices, capacity allocation and prioritization of projects. The Ministry's Renewable Energy Facilitation Branch was continuing to meet regularly with the OPA to exchange information, ensure consistent tracking of renewable energy project data, discuss policy-related issues and conduct policy analyses.

PROCUREMENT OF RENEWABLE ENERGY

Procurement Methods

Recommendation 3

To ensure that the price of renewable energy achieves the government's dual goals of cost-effectiveness and encouraging a green industry, the Ministry of Energy and the Ontario Power Authority should:

- *work collaboratively to give adequate and timely consideration to the experiences of other jurisdictions and lessons learned from previous procurements in Ontario when setting and adjusting the renewable contract prices;*
- *work with the Independent Electricity System Operator to assess the impact of curtailing renewables as part of its energy planning in order to identify ways to optimize the electricity market; and*
- *ensure that adequate due diligence is undertaken, commensurate with the size of electricity-sector investments.*

Status

In our *2011 Annual Report*, we noted that there was minimal documentation to support how FIT prices were calculated and a lack of independent oversight on their reasonableness. We also noted that there had been inadequate assessment of the potential costs of curtailing renewable energy (a situation where the IESO instructs generators to reduce all or part of their output to mitigate an oversupply of energy) even though there was a strong likelihood of curtailment occurring in the future. At the time of our 2011 audit, FIT contracts offered renewable energy generators an additional contract payment

to compensate them for any revenue lost as a result of a curtailment instruction. We also found that the normal due diligence process had not been followed for the \$7 billion Green Energy Investment Agreement with the Korean consortium and that no comprehensive and detailed economic analysis or business case had been prepared prior to the Minister entering into that agreement. In its responses to our *2011 Annual Report*, the Ministry noted that it would work with the OPA to undertake a mandatory review of the FIT program at the two-year mark, and would continue to work with the IESO to develop new rules and tools to better integrate renewable energy sources into the market and provide full analyses of new investments in renewable energy projects.

At the time of our follow-up, the Ministry's FIT program review team considered the experiences of other jurisdictions in setting and adjusting prices for renewable energy, as well as global and local factors that influence pricing for renewable energy projects. The Ministry intends to continue reviewing FIT programs in other jurisdictions, indicating that 92 other jurisdictions have implemented FIT programs and that it was common practice to review them regularly.

In reviewing the FIT program, the OPA also included an assessment by external consultants of price-setting in other jurisdictions, a global scan of jurisdictions and comparable programs, a review of stakeholder input and further analysis by the OPA. The review recommended reducing FIT prices for some forms of renewable energy. The OPA's recommendations on FIT prices were presented to the government during the first quarter of 2012, resulting in a new FIT Price Schedule for 2012. To balance the interests of all Ontarians while continuing to encourage investment, FIT prices for new projects in 2012 were reduced on average by more than 20% for solar power and by approximately 15% for wind power. At the time of our 2011 audit, there were over 3,000 project applications representing more than 10,400 MW yet to be committed. As of July 2013, about 150 MW of renewable

energy projects had been committed at the new, reduced FIT prices. At the time of our follow-up, 2013 FIT prices had been further reduced after a stakeholder consultation undertaken by the OPA. For example, the price for new solar projects under the FIT program was further reduced by about one-third effective August 26, 2013, meaning the new price is about 50% lower than the original price when the FIT program was launched.

Regarding other investments in renewable energy projects, the government has revised its Green Energy Investment Agreement with the Korean consortium, which includes Samsung C&T Corporation. The total commitment for renewable energy projects has been reduced from 2,500 MW to 1,369 MW, representing an estimated \$3.7 billion reduction from the \$9.7 billion contract cost (at the time of our 2011 audit, the estimated amount of the investment was \$7 billion). On June 12, 2013, the Minister of Energy directed the OPA not to procure large projects (greater than 500 kilowatts) under the FIT program and to develop a new competitive procurement process with input from stakeholders, municipalities and Aboriginal communities to help identify appropriate locations and siting requirements for new large projects. On June 17, 2013, the OPA and the IESO launched a province-wide initiative to increase awareness and seek input on regional electricity planning and the siting of large electricity infrastructure. In September 2013, the OPA submitted interim recommendations to the Minister following extensive consultations.

With respect to the impact of curtailing renewable energy, throughout 2012 the OPA supported the IESO on a dispatch management approach for renewable generation. The OPA engaged with renewable energy suppliers to address generators' concerns about the impact of the IESO's Renewable Integration Market Rule amendments that require renewable generators to turn down or off when there is an oversupply of energy in the system. To support the efficient implementation of these market rules, the OPA renegotiated with renewable

energy suppliers to deal with the impact of these market rules on their contracts. The OPA indicated that it has reached an agreement with most suppliers and intends to continue working with the remaining suppliers. This agreement will provide financial certainty to suppliers and reduce costs to electricity consumers in that suppliers will bear the costs for a certain number of curtailed hours rather than receiving additional contract payments to compensate them for any revenue lost as a result of curtailment. According to the IESO, the implementation of these market rules is expected to result in savings ranging from \$70 million to \$200 million in 2014.

Co-ordination and Planning for the Procurement of Renewable Energy

Recommendation 4

To avoid unintended costs arising out of changes to regulatory requirements and changes to supply and demand situations, the Ontario Power Authority and the Ministry of Energy should work collaboratively with other ministries and agencies to ensure that they are made aware on a timely basis of anticipated policy and regulatory changes.

Status

In our *2011 Annual Report*, we noted several instances where renewable energy initiatives had led to litigation and potentially unnecessary compensation because of conflicts with environmental impact and planning decisions. In their responses to our report, the Ministry and the OPA acknowledged the importance of close collaboration with other ministries and agencies on proposed policy and regulatory changes.

At the time of our follow-up, the Ministry was collaborating with other ministries, including the Ministry of the Environment and the Ministry of Natural Resources, to streamline regulatory approval processes and eliminate some unnecessary delays or duplication. Specifically:

- The Ministry of the Environment has implemented amendments to the Renewable Energy Approval regulation as part of the response to the FIT program review. Two sets of amendments were enacted, on July 1, 2012, and November 2, 2012, respectively. The amendments are intended to clarify requirements and improve turnaround times for applications by streamlining the regulatory process while maintaining environmental protection. The Ministry projected that these efforts could help improve timelines for project approvals by up to 25%. The Ministry of the Environment has also initiated a new registry for certain small-scale ground-mounted solar projects, to align requirements with environmental impacts. This new approach came into effect on November 18, 2012.
- During 2012, the Ministry of Natural Resources posted to the Environment Registry for comments proposed policy changes for renewable energy projects on Crown land. The proposed changes are intended to align the release of Crown land with provincial energy supply needs and transmission availability. The Ministry of Natural Resources also developed a new Crown Land Site Report document in order to align access to provincial Crown land with the updated FIT program.
- In 2012, the Ministry of Energy created a Clean Energy Task Force that included industry experts to advise the Ministers of Energy and Economic Development and Innovation (now Economic Development, Trade and Employment) and to help connect all the companies in the energy sector. The task force is to provide advice on ways to increase collaboration between industry, utilities, academia and government; identify challenges innovative companies face when implementing new clean energy technologies and services in Ontario; and provide advice on export market opportunities for the clean energy sector.
- The government created a new Renewable Energy Committee in 2012 that included

senior officials from relevant ministries to help monitor the progress of projects through the approvals process.

The OPA has also continued collaborating with other agencies and ministries, such as Ontario Power Generation (OPG), the IESO, Hydro One, the Ministry of Energy, the Ministry of the Environment and the Ministry of Natural Resources, to assess and manage the impacts of incorporating new generation resources on the electricity system. During the FIT program review, the OPA formed technical working groups to ensure that multiple parties were aware of the changes being proposed and associated solutions. OPA staff are to continue working with the Ontario Energy Board on several initiatives, including the Renewed Regulatory Framework for Electricity (RRFE). The RRFE is a new approach to rate-setting that is intended to support cost-effective modernization of the electricity network by aligning the needs of the sector with the expectations of consumers for reliability and affordability; offering distributors a choice as to how their rates are set to better suit their circumstances; and establishing co-ordinated and optimal planning through greater harmonization and regional planning processes. OPA planning staff are also to continue collaborating with Hydro One, the IESO and local utility companies on a number of regional planning and transmission initiatives to address local supply adequacy and reliability in the Kitchener-Waterloo-Cambridge-Guelph region, York Region and Toronto. The OPA intends to continue its planning activities with the Northwest Ontario First Nations Transmission Planning Committee on the grid-connection of remote communities.

RELIABILITY OF RENEWABLE ENERGY

Recommendation 5

To ensure that the stability and reliability of Ontario's electricity system is not significantly affected by the substantial increase in renewable energy generation over the next few years, the Ontario Power Authority should continue to work with the Independent Electricity System Operator to

assess the operational challenges and the feasibility of adding more intermittent renewable energy into the system, and advise the government to adjust the supply mix and energy plan accordingly.

Status

In our *2011 Annual Report*, we noted that there was a lack of correlation between electricity demand and intermittent renewable energy, resulting in operational challenges such as power surpluses and the need for backup power generated from other energy sources such as natural gas. We also noted that the backup requirements had both cost and environmental implications. In their responses to our report, the Ministry and the OPA agreed that system reliability and stability is a key element in energy system planning and committed to work collaboratively with IESO to improve the integration of renewable energy into the supply mix.

At the time of our follow-up, the Ministry was working with the IESO in developing the Renewable Integration Market Rules, published in 2012. These rules are intended to enhance the IESO's ability to reliably and efficiently manage an electricity system that includes a significant amount of variable generation from renewable energy sources. At the time of our follow-up, all of the market rule amendments had come into effect.

As the IESO implements the market rules, the OPA intends to continue working with the IESO and renewable energy suppliers on integrating renewable energy into the Ontario system and ensuring that renewable energy generators turn down or off when there is an oversupply of energy in the system.

The Ministry was consulting on and working with the OPA and the IESO to develop an updated Long Term Energy Plan (LTEP), which was expected to be finalized before the end of 2013. The Ministry developed an interactive tool and consumer survey in summer 2013 on the review of the LTEP, and a series of educational poster boards for consultations scheduled to be launched on the Ministry's website in November 2013.

DELIVERY OF RENEWABLE ENERGY

Recommendation 6

To provide investors who have submitted applications for Feed-in Tariff (FIT) projects with timely decisions on whether their projects can be connected to the grid and to ensure that adequate transmission capacity is available for approved projects, the Ontario Power Authority should work with the Ministry of Energy and Hydro One to:

- *identify practical ways to deal on a timely basis with the FIT investors who have been put on hold; and*
- *prioritize the connection of approved FIT projects to the grid.*

Status

In our *2011 Annual Report*, we noted that Ontario's existing transmission and distribution systems had already been operating at or near capacity when the FIT program was launched and that this limitation had hindered the timely connection of renewable energy to the grid. In their responses to our report, the Ministry said it would expedite infrastructure upgrades and work with the OPA to prioritize and effectively connect renewable projects.

At the time of our follow-up, in keeping with the interest of providing generators with more information about system availability, one recommendation arising from the review of the FIT program was for the OPA to update its Transmission Availability Tables on a regular basis. These tables indicate to proponents where transmission capacity will be available for connecting their renewable energy projects. At the time of our follow-up, these tables had most recently been posted in December 2012 for upcoming small FIT projects.

The Ministry also informed us that Hydro One has been making progress on upgrading a number of transmission stations to enable small-scale renewable energy projects. For example, six upgraded Southwestern Ontario stations have been placed in service. In June 2012, Hydro One announced that it had brought the Bruce to Milton Transmission Reinforcement Project online six

months earlier than anticipated. The project is to connect more than 3,000 MW of clean energy from both nuclear and renewable power resources. Hydro One received approval from the Ontario Energy Board in November 2012 to rewire an existing transmission line west of London. This project, which is expected to be in service at the end of 2014, is to enable connection of an estimated 500 MW of renewable capacity, depending on project type and location. In addition, at the time of our follow-up, Hydro One had initiated upgrades to five key transmission stations in Toronto, Ottawa and St. Catharines that are to remove limitations to connecting more renewable generation in some areas of the province.

With respect to the prioritization of connecting FIT projects to the grid, the report released by the Ministry on March 22, 2012, included a detailed discussion on the revised FIT and microFIT application and contracting processes. This discussion was included to provide clarity to applicants regarding the application steps, timelines, and prioritization for contracting. The OPA has been working with the Ministry to identify applicants who received conditional offers of contracts for their microFIT projects but have been unable to connect their projects at their original locations owing to connection constraints. The OPA noted that there were 180 applicants eligible to participate in the relocation options. These applicants collectively hold 2,671 projects accounting for 26.4 MW. Their projects are to be relocated to places where they would be able to obtain connection.

SOCIO-ECONOMIC, ENVIRONMENTAL AND HEALTH IMPACTS OF RENEWABLE ENERGY

Socio-economic Impacts

Recommendation 7

To ensure that the provincially reported estimate of jobs created through the implementation of the renewable energy strategy is as objective and transparent as

possible, the analysis should give adequate consideration to both job-creation and job-loss impacts, as well as job-related experiences of other jurisdictions that have implemented similar renewable energy initiatives.

Status

In our *2011 Annual Report*, we noted that it was unclear how the 50,000 new renewable jobs projection was calculated and whether it was a gross or net number of jobs. We also noted that Ontario's estimate was not consistent with the experiences of other jurisdictions that have longer histories with renewable energy. In its response to our report, the Ministry said that lessons learned from other jurisdictions with respect to the impacts of job creation and job losses would be taken into account.

At the time of our follow-up, we noted that the Ministry's calculation of 50,000 jobs to be created through the implementation of the renewable energy strategy relied on standard Ontario government methodology, including standard investment and job multipliers. This figure of 50,000 has always been characterized by the Ministry as a mix of long-term and short-term jobs. The Ministry estimated that by the end of 2012, Ontario's clean energy policies had created over 30,000 jobs in different areas including construction, installation, energy auditing, operations and maintenance, engineering, consulting, manufacturing, finance, IT and software. The Ministry projected that most new jobs will be construction- or installation-related, while the remaining jobs are expected to be in operations and maintenance, equipment manufacturing and engineering design.

The Ministry has been monitoring the development of renewable energy in other jurisdictions as well as the potential competitive and job impacts that higher electricity costs could have on industries sensitive to energy costs. In addition, the government has responded to industries sensitive to energy costs by introducing the Industrial Electricity Incentive Program. Eligible new and expanding industrial companies can qualify for a reduced

electricity rate if they create jobs and bring new investment to Ontario. The program is intended to encourage existing industrial companies to expand their operations and create jobs. Stream 1 of the program (for large new investments) closed for applications in February 2013, while Stream 2 (for smaller expansions and new facilities) launched in April 2013.

The OPA has been supporting the Ministry's job-creation statistics by providing the Ministry with data available that would be helpful in assessing the socio-economic impact of renewable energy. Further, as part of the management of the FIT program, the OPA has conducted random audits on a number of FIT contracts to ensure compliance with the terms of the contracts, including the domestic content provisions for the purpose of creating jobs in Ontario. However, Japan complained to the World Trade Organization (WTO) in September 2010 that the domestic content requirement breached world trade rules by being unfairly biased against non-Ontarian manufacturers. The Ministry advised us that Ontario intends to comply with the WTO rulings and has been given 10 months, from May 24, 2013, to bring the FIT program into compliance by phasing out the domestic content requirement.

Environmental and Health Impacts of Renewable Energy

Recommendation 8

To ensure that renewable energy initiatives are effective in protecting the environment while having minimal adverse health effects on individuals, the Ministry of Energy should:

- *develop adequate procedures for tracking and measuring the effectiveness of renewable energy initiatives, including the impact of backup generating facilities, in reducing greenhouse gases; and*
- *provide the public with the results of objective research on the potential health effects of renewable wind power.*

Status

In our *2011 Annual Report*, we noted that the Ontario's estimated reduction in greenhouse gases had not been reduced to take into account the continuing need to run fossil-fuel backup power-generating facilities. We also noted that the report issued by Ontario's Chief Medical Officer of Health citing no linkage between wind turbine noise and adverse health effects was not objective. In their responses to our report, the Ministry and the OPA acknowledged that the impacts of increasing renewable energy should be quantified where possible and underpinned by objective research.

The Ministry informed us at the time of our follow-up that the government will continue to rely on the Chief Medical Officer of Health to provide advice on the potential health impacts of renewable energy generators. The Ministry of the Environment is to continue monitoring the latest findings on low-frequency noise and infrasound from wind turbines. In 2010, the Ministry of the Environment began providing funding for a five-year term to an independent research team from the University of Waterloo to undertake research on the potential health impacts of renewable energy generators. The team has been studying noise levels at houses near wind turbines and their potential health effects.

In May 2012, the OPA expanded and incorporated environmental performance and social responsibility into its energy-planning and decision-making processes. We noted that the OPA has been tracking CO₂ emissions from the electricity sector on a regular basis and intends to continue to do so as part of its ongoing energy planning. The OPA's latest tracking results at the time of our follow-up show that CO₂ emissions increased slightly from 12.2 megatonnes (MT) as of December 2011 to 12.6 MT as of December 2012. The increase in emissions was due to an increase in the amount of energy produced and exported.

Glossary

additional contract payment—the monetary compensation offered in the Feed-in Tariff (FIT) contract to renewable energy generators for any revenue lost as a result of curtailment.

curtailment—a reduction in the output of electricity generators ordered by the Independent Electricity System Operator (IESO) to mitigate an oversupply of electricity.

domestic content requirement—a requirement in the Feed-in Tariff (FIT) contract that renewable energy generators use certain made-in-Ontario components; the requirement is intended to promote job creation in Ontario.

Feed-in Tariff (FIT)—a program to procure renewable energy launched in September 2009 under the direction of the Minister of Energy, providing renewable energy generators with significantly higher contract prices than the previous procurement initiative, the Renewable Energy Standard Offer Program (RESOP), which it replaced.

Generation Procurement Cost Disclosure—an online disclosure of information on electricity costs provided by the OPA for consumers.

Global Adjustment—a component of electricity bills whose amount is calculated to make up the difference between the revenues obtained from the electricity market price and the total payments made to regulated and contracted generators (whose prices are guaranteed) and the Ontario Power Authority's conservation programs.

Green Energy and Green Economy Act—the Act enacted in May 2009 with provisions intended to attract investment in renewable energy, promote a culture of energy conservation, create a competitive business environment, increase job opportunities and reduce greenhouse gas emissions.

Green Energy Investment Agreement—the 2010 agreement between the Ministry of Energy and a consortium of Korean companies whereby the consortium committed to develop 2,000 megawatts of wind energy projects and 500 megawatts of solar energy projects in Ontario in five phases by 2016, with commitments for equipment to be manufactured in Ontario.

Hydro One—the corporation that distributes electricity across the province.

Independent Electricity System Operator (IESO)—the entity responsible for the day-to-day operation of Ontario's electrical system.

Ontario Energy Board (OEB)—the entity that regulates Ontario's electricity and natural-gas sectors.

Ontario Power Authority (OPA)—the entity responsible for forecasting electricity demand and procuring electricity supply to meet the province's power needs.

renewable energy—energy generated by natural processes, the four major forms of which are hydro (energy generated from the movement of water), wind (energy generated by turbines from air currents), solar (energy generated by photovoltaic cells that capture radiant light and heat from the sun) and bioenergy (energy generated by burning organic forestry residues and agriculture wastes).

Renewable Energy Standard Offer Program (RESOP)—a program to procure renewable energy launched in November 2006, providing fixed, standard prices to generators supplying up to 10 megawatts of renewable energy.