

“Ontario’s Feed-in Tariff Program”

A presentation by

JoAnne Butler

Vice-President, Electricity Resources, Ontario Power Authority

to

**The Air and Waste Management Association
Ontario Section
Breakfast Series**

January 20, 2010

Toronto, Ontario

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ONTARIO POWER AUTHORITY

January 20,
2010



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(Slide 1 – Title slide)

Good morning. I'm delighted to be here to speak to you over our breakfast today about the Feed-in Tariff or FIT Program. This initiative offers excellent opportunities for many sectors and different groups to become involved, and there has never been a better time to invest in renewable energy in Ontario.

I have great respect for your association and its aim to increase the effectiveness of organizations to make critical decisions that benefit society. Don't we wish more groups would work toward this goal? The FIT Program is one that will definitely benefit our society, in more ways than one, so I'm happy to come and talk to you about it.

Presentation overview

- Background on OPA and Ontario's electricity system
- The Green Energy Act
- The Feed-in Tariff Program
- Transmission developments
- The microFIT program



(Slide 2 – Presentation overview)

I thought I would start off with a bit of background on the Ontario Power Authority – basically who we are and what we do. Then I'll mention the Green Energy Act, which provided the framework for the FIT Program. I'll then go into some details about FIT, including its objectives, pricing, key features, domestic content requirement, connecting to the grid, and incentives for certain groups to participate. Because transmission is an enabler of the program and of all generation, I'll talk about some transmission upgrades that are under way. I'll provide some details on the microFIT Program, which is for very small renewable energy projects. To wrap up, I'll give you an update on where we are today.

Ontario Power Authority



- Mandate: ensure a reliable, sustainable electricity supply for Ontario



- long-term planning
- procuring new supply
- coordinating conservation

(Slide 3 -- Ontario Power Authority)

Let me explain a little more about what we do at the OPA. Our organization was created four years ago, and our mandate is to create a sustainable and reliable electricity system for the future. We do this by leading and coordinating conservation initiatives, preparing a comprehensive long-term power system plan and ensuring investment in needed electricity supply resources. I head up the division in charge of procuring new supply.

We don't own or operate electricity generating facilities, and we don't own, construct or maintain transmission or distribution lines. We are collaborators and enablers.

This is an exciting time in Ontario's electricity sector because we are witnessing the transformation of the industry. An industry that has not really changed much in its first 100 years is certainly going to change a lot in the next 10.

Ontario's Electricity Industry

- Need to revitalize aging infrastructure
- Coal phase-out by 2014
- Need to improve environmental performance
- Goal is cleaner, greener electricity system
- Current need for economic stimulus and green jobs



(Slide 4 – Ontario’s Electricity Industry)

We’ve come a long way from the potential supply shortfall we faced a few years ago. But we have other challenges in Ontario’s electricity industry. One of the issues is our aging infrastructure. Our nuclear generating units – which now provide about 50 percent of our power – are nearing the end of their useful lives and will need replacing over the next 15 years. The transmission and distribution systems also need updating.

In addition, the coal-fired generating plants – which now produce about 20 percent of our electricity – will shut down to help improve air quality. As environmental professionals, I’m sure you applauded this decision. The Ontario government is committed to eliminating coal as a power source by the end of 2014, a move which will reduce our carbon-dioxide emissions by up to 30 megatonnes. It is the single largest climate-change initiative in Canada.

As an industry, we also recognized the need to improve our environmental performance. So the goal is a cleaner, greener electricity system. And the government saw the need to provide economic stimulus and to create green jobs.

Green Energy and Green Economy Act, 2009

- Recent legislation creates a new electricity paradigm for renewable energy:
 - Streamlined permitting and approvals process
 - Priority connection – “Right to Connect”
 - Fixed price contracts for power production
 - Ownership opportunities for private sector, municipalities, utilities, Aboriginal and community groups

(Slide 5 – the GEA)

So it was into this environment that the government introduced the groundbreaking legislation called Green Energy and Green Economy Act. It will chart a very different course for Ontario's energy future. It has essentially created for us a new electricity paradigm for renewable energy. It has streamlined the permitting and approvals process, incorporated a right to connect, included fixed price contracts for power generation, and offered ownership opportunities for the private sector, municipalities, utilities, Aboriginal and community groups.





I would be remiss if I didn't say a little bit about the Green Energy Act's equal focus on conservation and energy efficiency, at least to this audience. Conservation and energy efficiency will always be first on the OPA's list as a supply resource. After all, the cheapest megawatt of electricity is the one you don't use and don't have to generate in the first place.

We're already well on our way to meeting the provincial target of reducing peak demand by 6,300 megawatts by 2025. In fact, we're already one-quarter of the way there. Those are savings in the bank. And we're currently looking at ways to accelerate that target.

For Ontario, that 6,300 MW target is the equivalent of removing one in five electricity users from the grid. It's the largest conservation effort in the province's history and the most ambitious in North America. We're working with communities and individual consumers on every front to see how far we can go. We offer programs, incentives and now local utilities will have a share of that target as a condition of their license.

So, the Green Energy Act positions Ontario as a global leader in both conservation and renewable energy. It is expected to encourage billions of dollars of investment in Ontario's electricity sector and create 50,000 green collar jobs in its first three years.

FIT Program Key Features

- Open to various renewable energy supply technologies
 - Bio-energy technologies 
 - Solar PV 
 - Waterpower 
 - Wind 
- Different prices for different technologies and project sizes
- Long-term contracts
- Prices that aim to cover total project costs and provide a reasonable rate of return over the contract term

(Slide 6 – key features)

Which brings us to the Feed-in Tariff Program itself. FIT essentially opens the door to those wanting to invest in renewable energy projects in Ontario in ways that simply weren't possible before – whether it's wind, water, solar or bioenergy projects. It also provides developers and entrepreneurs attractive incentives to invest in projects and streamlines the approvals process.

More importantly, perhaps, is that our FIT Program offers stable, competitive prices under long-term contracts. Different prices are offered for different technologies and project sizes. The prices are designed to cover capital, operating, maintenance and connection costs and include a reasonable rate of return.

FIT Program – Objectives

- More than double Ontario's renewable energy supply to ensure adequate generation and reduce emissions
- Help Ontario eliminate coal-fired generation by 2014
- Simpler method to procure and develop generation
- Create new green industries through new investment and job creation
- Provide incentives for investment in renewable energy technologies
- Opportunities for promoting community-based and Aboriginal projects



(Slide 7 – FIT Program objectives)

The FIT Program was designed to achieve several objectives. It is expected to more than double Ontario's renewable energy supply, and will, of course, contribute to reduced emissions. It will help the province eliminate coal by 2014 by ensuring there is adequate supply. It was intended to simplify the way we procured and developed generation, while at the same time creating new green industries and jobs.

It is also expected to provide incentives to invest in renewable energy technologies and provide opportunities for municipalities, Aboriginal and community groups to become involved in developing renewable energy projects, which I'll say more about in a few minutes.

FIT and microFIT Program

- The FIT Program is divided into two streams – FIT and microFIT

FIT Program stream	microFIT Program stream
Small, medium and large renewable energy projects Generating over 10 kW of electricity.	Very small renewable projects such as home or small business installations Generating 10 kW or less.

- The microFIT program is highly simplified, and the contract issuance process is different from the FIT program

(Slide 8 – two streams)

The FIT Program is divided into two streams – FIT and microFIT. FIT is for small, medium and large renewable energy projects that will generate over 10 kilowatts of electricity. microFIT is for very small projects such as a home or a small business installation generating 10 kilowatts or less. The microFIT program is much simpler and straightforward to encourage more people to participate.

FIT Price Schedule

Renewable Fuels	Capacity Range	Price (¢/kWh)
On Farm Biogas *	≤ 100 kW	19.5
On Farm Biogas *	> 100 kW ≤ 250 kW	18.5
Biogas *	≤ 500 kW	16.0
Biogas *	> 500kW ≤ 10 MW	14.7
Biogas *	> 10 MW	10.4
Biomass *	≤ 10 MW	13.8
Biomass *	> 10 MW	13.0
Landfill gas *	≤ 10 MW	11.1
Landfill gas *	> 10 MW	10.3
Rooftop or Ground Mounted Solar PV	≤ 10 kW	80.2
Rooftop Solar PV	> 10 kW ≤ 250 kW	71.3
Rooftop Solar PV	> 250 kW ≤ 500 kW	63.5
Rooftop Solar PV	> 500 kW	53.9
Ground Mounted Solar PV *	> 10 kW ≤ 10 MW	44.3
Waterpower *	≤ 10 MW	13.1**
Waterpower *	> 10 MW ≤ 50 MW	12.2**
Off-shore Wind *	Any size	19.0
On-shore Wind *	Any size	13.5

* Eligible for Aboriginal or Community Adder

** Contract term for waterpower extended to 40 years

(Slide 9 – price schedule)

Here is the price schedule for FIT and microFIT projects. These prices would be for 20 years, 40 years for waterpower projects.

There is also a peak performance factor that applies to bioenergy and waterpower projects. This means you get a higher price if you can generate power during peak times.

If you have Aboriginal or community participation in the project for all technologies but solar rooftop, an adder would be included in the price and is on a sliding scale, depending on the level of participation.

FIT and Domestic Content

- Domestic Content

- Wind projects: 25% on or before Dec. 31, 2011, and 50% after
- Solar PV projects: 50% on or before Dec. 21, 2010, and 60% after
- Solar PV microFIT: 40% on or before Dec. 31, 2010, and 60% after
- Domestic content requirements are FIT contract obligations

(Slide 10 – domestic content)

You may have heard that there are domestic content provisions under FIT. This means that developers will be required to have a certain percentage of their project costs come from Ontario goods and labour at the time they reach commercial operation.

The percentage requirements are assessed on the total project cost. If designated activities are done in Ontario, developers receive a qualifying percentage towards their domestic content requirement. Criteria for designated activities range from manufacturing certain components in Ontario to retaining labour and consulting services provided by Ontario residents.

FIT Program – How it works

- Provisions for program launch
 - Connection capacity awarded based on project readiness
- Eligibility criteria
 - renewable energy projects located in Ontario
- Fees and securities
 - application fee
 - \$500 / MW of proposed contract capacity
 - application security
 - \$10,000 / MW for wind, waterpower, biomass
 - \$20,000 / MW for solar PV
 - \$5,000 / MW for >50% community-based or Aboriginal projects
 - first and second completion and performance securities
 - Required after contract is offered

(Slide 11 – How it works)

So, I wanted to talk a little bit about how the program actually works.

We've made special provisions for the program launch period, which began on October 1, when the OPA began accepting applications, and ran through to the end of November. For this period, connection capacity will be awarded based on project readiness. After the launch period, connection capacity will be awarded based on availability and when the application is received.

Unlike its predecessor, the Renewable Energy Standard Offer Program or RESOP, this program requires that the developers put some money on the table to indicate that they are serious about actually developing their project. While there is no application fee for microFIT, FIT requires an application fee that is based on the size of the project, application security that is based on the technology, and completion and performance securities. These securities are returned at various milestones along the process.

Connection Assessment

- Once the OPA has reviewed application for completeness and eligibility, the OPA will assess whether connection capacity is available
- Capacity allocation exempt projects
 - Proceed directly to contract
- Projects that require grid expansions will move through the following steps, as necessary:
 1. Transmission Availability Test (TAT) / Distribution Availability Test (DAT)
 2. Economic Connection Test (ECT)
 3. FIT Production Line
 4. FIT Reserve

(Slide 12 – connection assessment)

Once a FIT application has been reviewed for completeness and eligibility, the OPA will assess whether connection capacity is available, if the project is not capacity allocation exempt. Generally small projects less than 500 kW connected to the distribution system can be exempt, and they proceed directly to contract.

So the project undergoes tests to see if capacity is available. If it is, they get a contract. If it is not, they then undergo an economic test to see if it is worthwhile expanding the grid to accommodate them.

If the project passes the economic connection test, it goes into the FIT production line, which means that the grid upgrades that will enable connection will be included in grid expansion plans. FIT production line projects get a contract when the grid can accommodate them. If it does not pass this economic test, the project will go into the FIT reserve and stay there until conditions change so that the costs to connect the project become reasonable. These projects serve as inputs to future planning.

Incentives for Participation

- Municipal Renewable Energy Partnership Program
 - Reimbursement for direct costs incurred to host a renewable energy project
- Community Energy Partnership Program
 - Reimbursement for “soft” costs associated with development of renewable energy projects up to 10 MW
- Aboriginal Energy Partnership Program
 - Support for the development of community energy plans, soft costs of development of renewable energy projects, establish an Aboriginal Renewable Energy Network to share knowledge and best practices

(Slide 13 – Incentives for participation)

The Green Energy Act also provides the foundation for the creation of three funds – one specifically earmarked for municipalities, another for communities and a third for Aboriginal groups.

The Municipal Fund, for example, will reimburse municipalities for their direct costs related to the development of renewable projects.

The Community Fund is intended to help community groups by covering predevelopment costs.

And the Aboriginal Fund will help First Nation and Métis groups develop projects by enabling equity partnerships. It will address project development needs and help build capacity within Aboriginal communities.

Recent Transmission Directive



(Slide 14 – Transmission upgrades)

But there's little point in even talking about bringing new supply onto the grid without an acknowledgement that we desperately need to rejuvenate our transmission system. In early October, the government directed Hydro One to immediately proceed with planning and implementing major transmission projects across Ontario, to the tune of \$2.3 billion over the next three years. Six core transmission network upgrades are moving forward, primarily to unlock significant potential for greener, cleaner electricity all over the province. This will help developers across the province interested in connecting a project.

Participating in microFIT

- OPA expects that the microFIT Program will encourage the development of micro-generation installations
 - Mostly rooftop solar PV
 - Mostly residential, small commercial, institutional
- The program provides opportunities for a variety of business arrangements, for example:
 - Own your own project
 - Lease your roof
 - Lease project equipment
 - Community projects

(Slide 15 – participating in microFIT)

I thought I'd say just a few things about the microFIT program as well. We expect that this stream of the program will encourage mostly rooftop solar PV on residences, and small commercial and institutional buildings.

The program provides opportunities for a variety of business arrangements, for example, you can own your own project, lease your roof or property to someone else, lease project equipment rather than buy it, and community projects are encouraged through additional incentive payments.

microFIT Program Overview

1. OPA microFIT application
 - Applicant is assigned a reference number for the project
2. Applicant submits a connection request to the LDC
 - Applicant must provide microFIT reference number
3. Applicant installs project and obtain necessary approvals
 - e.g. Electrical Safety Authority
4. Applicant and LDC complete connection of project
 - Sign Connection Agreement, pay connection costs, install meter
5. LDC informs OPA of connection details
 - Use of web-based interface
6. OPA prepares and offers microFIT Contract
 - Electronic contracting
7. OPA informs LDC to start settlement

(Slide 16 – microFIT program overview)

There are six key steps in the microFIT program.

Step 1 – the proponent registers on the microFIT website.

Step 2 – then he submits a connection request to his local distribution company and discusses connection options with them.

Step 3 – the proponent will then install his project and obtain the necessary approvals from the Electrical Safety Authority.

Step 4 – the proponent and the local utility finalize the connection. The proponent must sign a connection agreement and pay connection costs. The utility is then responsible for installing the meter.

Step 5 – once connected, the utility will provide the OPA with important connection details that will be used to complete the contract.

Step 6 – the OPA will offer the contract electronically to the proponent. The proponent will accept the contract using established electronic contracting procedures.

FIT/microFIT Update

Began accepting applications on October 1, 2009

- Launch period to November 30, 2009

Total of 2,200 applications received

- 1,000 FIT applications (larger than 10 kilowatts)
- 1,200 microFIT applications, mostly rooftop solar

700 conditional contract offers sent to microFIT applicants in December

FIT applications still being reviewed, contract offers expected in Q1 2010

(Slide 17 – FIT/microFIT update)

So where are we today? Well, I'm pleased to report that we have seen a lot of interest in the program, both on FIT and microFIT.

During the launch period, which ran from Oct. 1, the date we began accepting applications, to Nov. 30, we received about 2,200 applications in total. About 1,200 of those were for the microFIT Program, mostly rooftop solar. The balance, about 1,000, are projects larger than 10 kilowatts that fall into the FIT Program.

The OPA issued about 700 conditional microFIT contract offers in December – helping those Ontarians celebrate a “green” holiday season. microFIT contract offers will be sent on a continual basis.

The FIT contracts are much more complex, so we are still assessing those applications. We expect to be out the door with the first FIT contract offers sometime during the first quarter.

I want to stress, however, that you can still submit FIT and microFIT applications – the only thing that is different now is that the program launch rules no longer apply.

Contact Us

microFIT and FIT: fit.powerauthority.on.ca/

Email: FIT@powerauthority.on.ca

(Slide 18 – contact us)

I've provided a high-level overview of the FIT and microFIT programs. I encourage you to visit the website for more information and further details on how to participate in the program.

I hope you'll agree that there has never been a better time for to consider investing in renewable energy in Ontario.

We are literally transforming the electricity industry in Ontario. We are seeing an unprecedented amount of investment in generation, transmission and conservation. As I said earlier, the goal is a cleaner, greener electricity system for the future. At the Ontario Power Authority, we are proud to be working to enable this transformation to happen. We hope you will take the opportunity afforded through the FIT and microFIT programs to join us.

Thank you, and I'll be happy to take any questions you may have.