




Welcome to AESP's Brown Bag

Ontario's Green Energy Act:
Steering a New Course for the Electricity Sector

Copyrighted: AESP (2009)

A thick, solid blue horizontal bar spans the width of the slide at the bottom.



ONTARIO POWER AUTHORITY

September 9, 2009



Ontario's Green Energy Act: Steering A New Course For The Electricity Sector

Ben Chin, Vice President, Corporate Communications

Overview of Ontario's Green Energy Act

- Framework
- Legislative Changes
- First Nations and Métis participation in Electricity Sector
- Feed-in Tariffs
- Smart Grid
- System Connection
- Approvals
- Other Changes

Framework

- Facilitating renewable energy development and use
- Enabling First Nations and Métis partnership and participation in electricity sector
- Supporting capacity development in First Nations and Métis communities
- Increasing conservation and culture of conservation
- Creating green jobs
- Developing “smart grid”

Framework Continued

- Renewable Energy Source
 - “...renewed by natural processes and includes wind, water, biomass, biogas, biofuel, solar energy, geothermal energy, tidal forces and such other energy sources as may be prescribed by the regulations...”
- Next Steps
 - Completion of all Regulations

Legislative Changes

- Green Energy Act, 2009
 - Amendments to many other Acts:
 - Electricity Act
 - Ministry of Energy Act
 - Ontario Energy Board Act
 - Environmental Protection Act
 - Clean Water Act
 - Environmental Bill of Rights
 - Ontario Water Resources Act
 - Co-operative Corporations Act
 - Building Code Act
 - Planning Act
 - Ministry of Natural Resources Act
 - Conservation Authorities Act
 - Niagara Escarpment Planning and Development Act
 - Provincial Parks and Conservation Reserves Act
 - Public Lands Act
 - Repeals Energy Efficiency Act and Energy Conservation Leadership Act

Legislative Changes

- Green Energy Act
 - New Act that replaces Energy Conservation Leadership Act and Energy Efficiency Act
 - Incorporates provisions of these Acts with some modifications including energy audits on sale of a home
 - Allows for by-law and other restrictions to be over-ridden for renewable projects
 - Creates Renewable Energy Facilitation Office to assist proponents through approvals processes
 - Gives Minister power to direct ministries on energy and environmental standards in government facilities

Smart Grid

- Smart grid involves “advanced information exchange systems and equipment” enabling the increased use of renewable resources, demand response and conservation
- Government may direct Ontario Energy Board (OEB) to facilitate development of smart grid
- Government may make regulations on:
 - Timeframes for smart grid development
 - Roles and responsibilities
 - Communications standards

System Connection

- Transmitters and distributors must connect renewable energy facilities that
 - Make a written request for connection; and
 - Meet all technical, economic and other relevant requirements
- Transmitters and distributors must provide priority connection access to renewable energy facilities that meet relevant regulatory requirements
- Minister may direct OEB to enable connection of renewable resources to transmission or distribution systems (e.g., reinforcements, expansions)

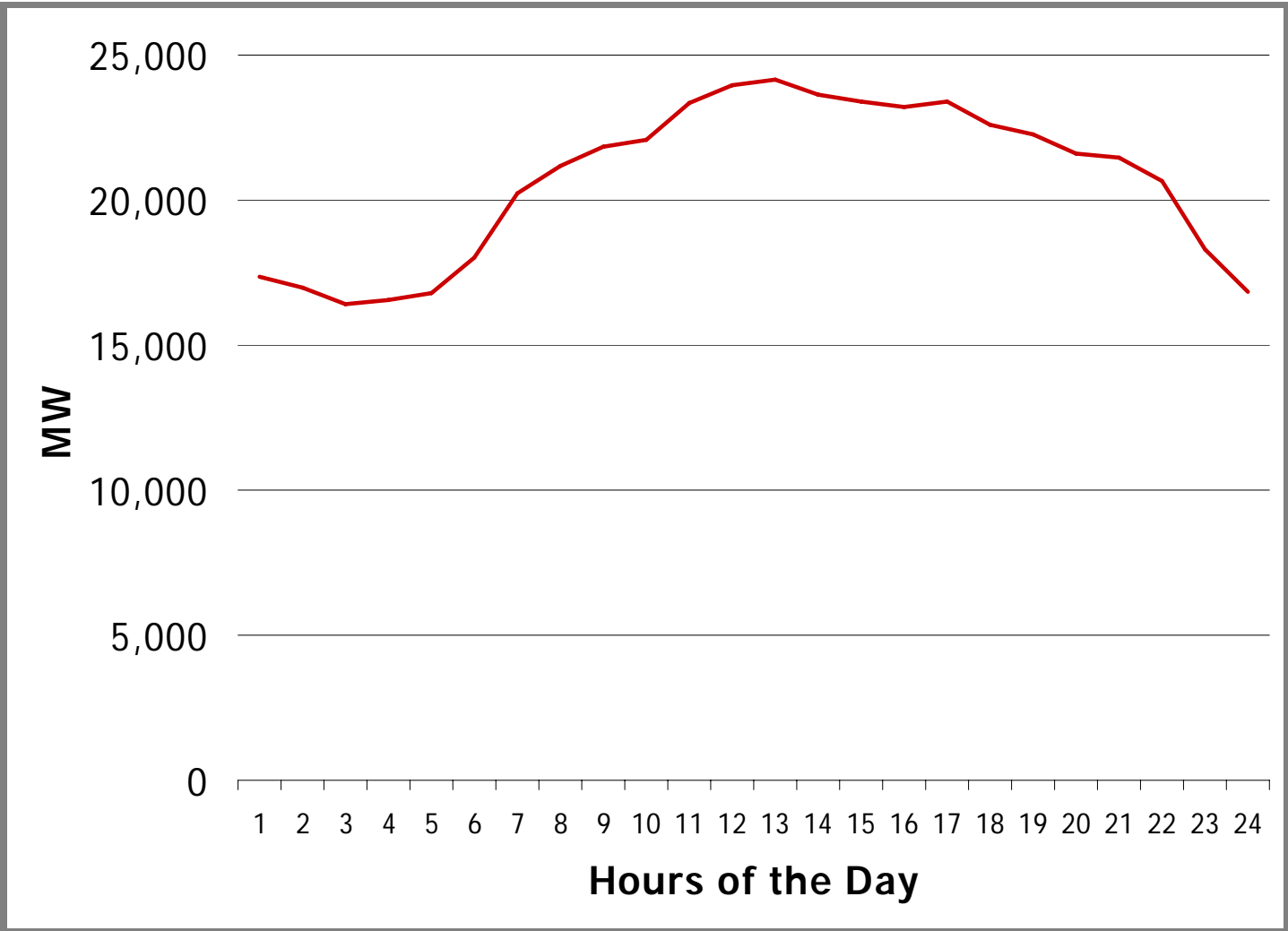
System Connection

- Regulations may require timelines for connection assessments
- Transmitters and distributors required by license to prepare plans on expansion of their systems to accommodate renewable generation and smart grid

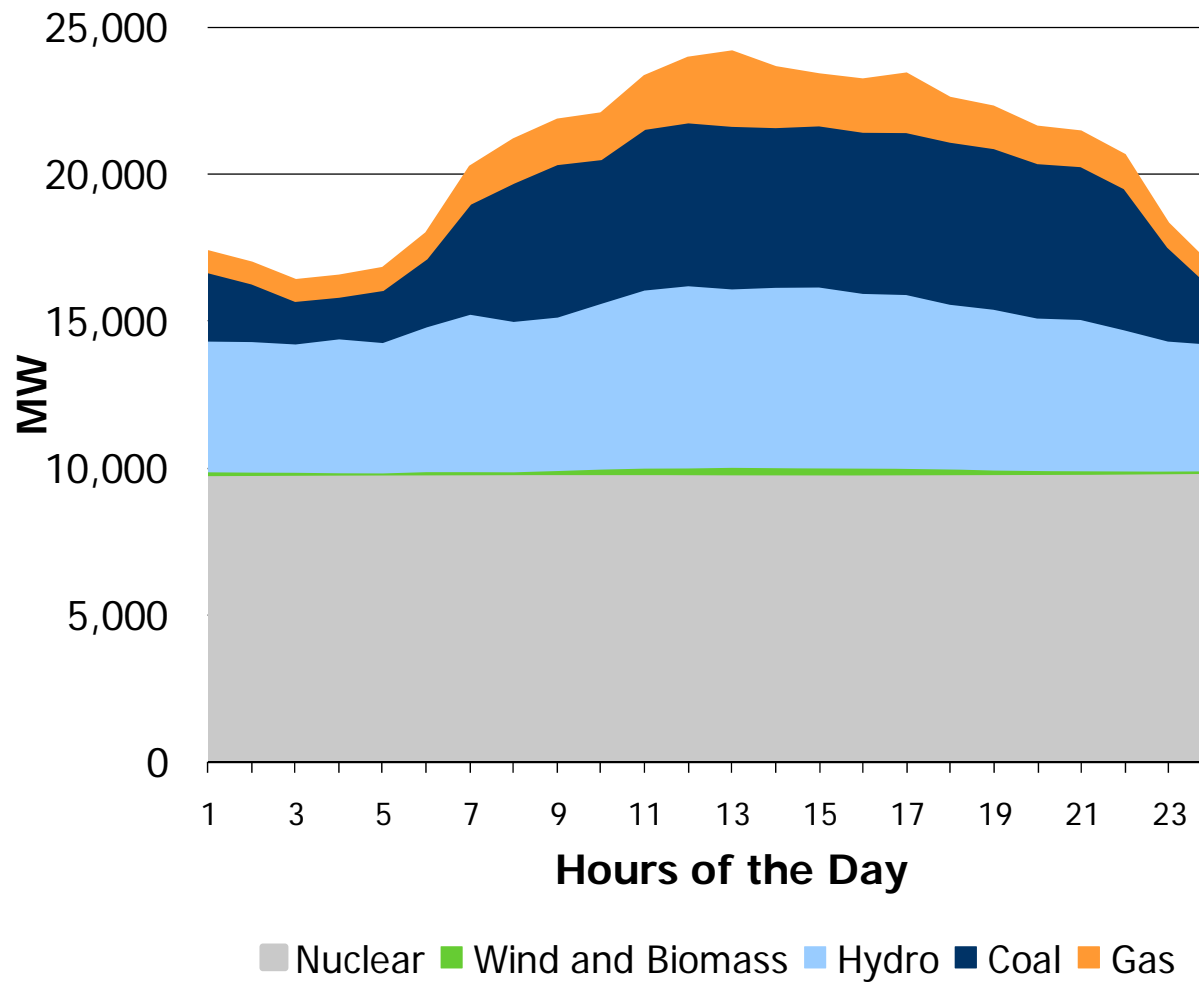
Other Proposed Changes

- Distributors and municipalities may own some types of generation ($\leq 10\text{MW}$)
- Provides for renewable energy co-operatives
- Minister may direct OEB to establish conservation and demand management targets for distributors and other licensees
- Distributors can choose between conservation program they develop with OEB approval and OPA program

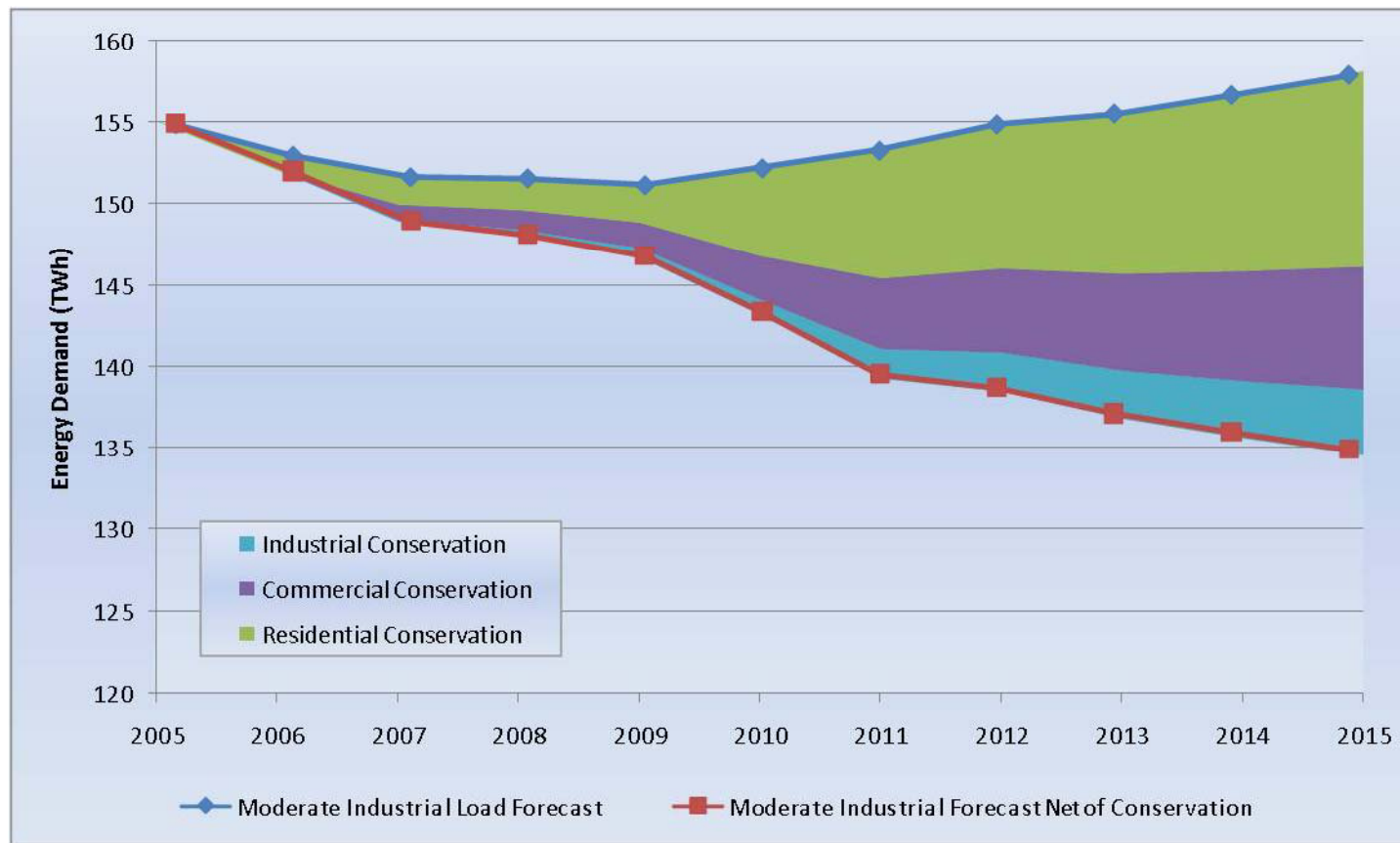
The Big Picture: A Hot Summer's Day: Demand



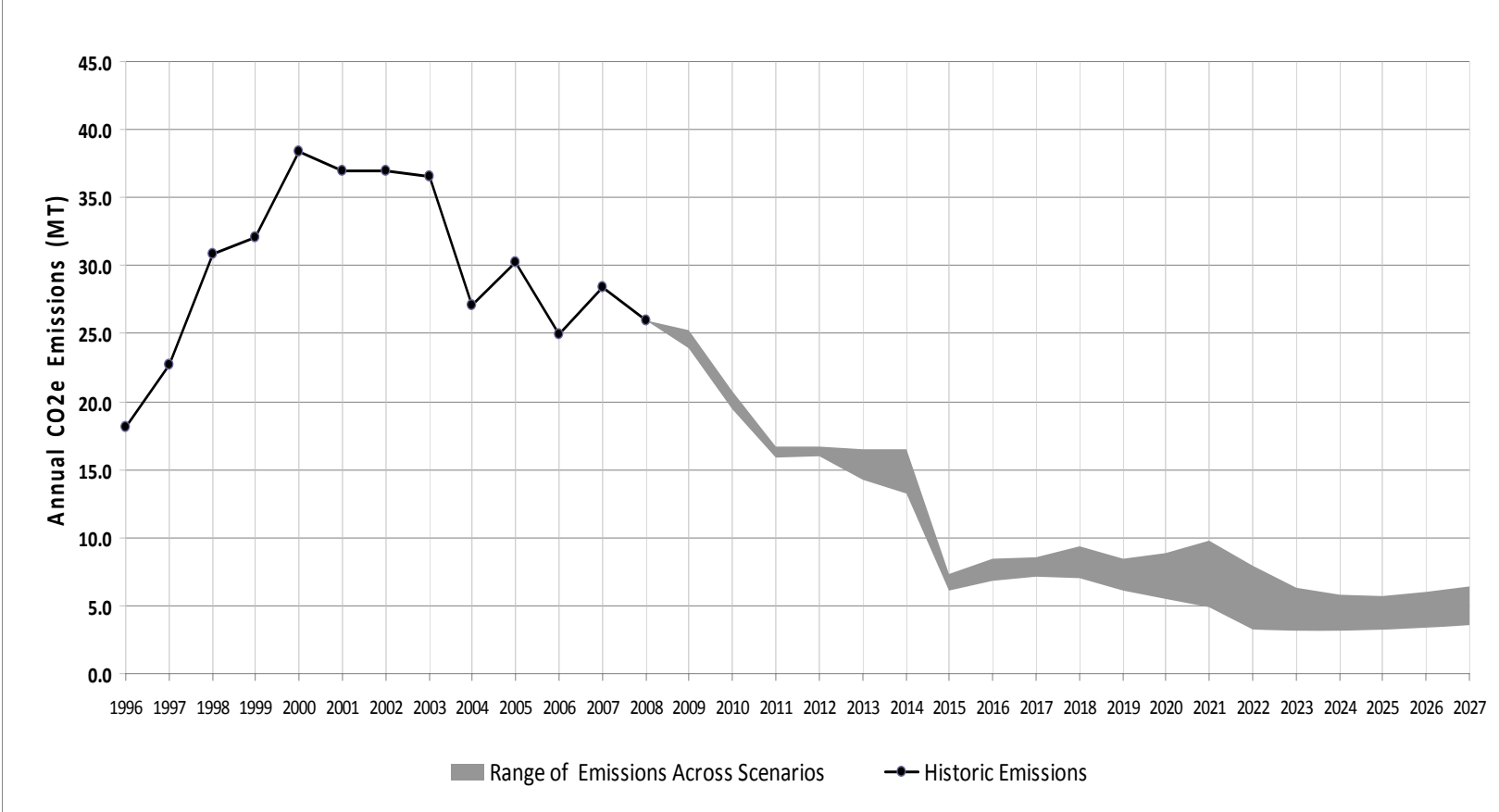
A Hot Summer's Day: Generation



Conservation Could Reduce Demand By 20% By 2015



Environmental: Greenhouse Gas Emissions From Electricity Generation Will Decline By 75%



Renewable Energy

- North America's first comprehensive Feed-in Tariff
 - Stable, competitive prices under long-term contracts
- Creating local industries and jobs
- Contributing to a cleaner environment
 - Coal fired generating plants to be phased out by end of 2014
 - Largest climate change initiative in North America
- New Partnerships with First Nations and Metis communities
- New opportunities for Municipalities and Community groups



Conservation Is Our First Priority



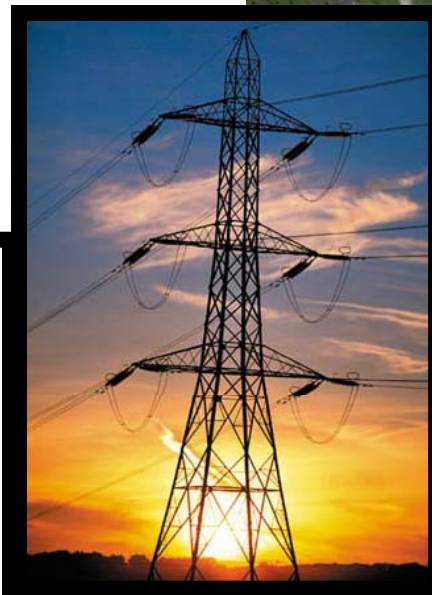
- Benefits of conservation: economy, environment, employment
- Ontario's conservation target: largest in North America
 - equivalent to removing 1 in 5 users from the grid
- GEA will raise energy conservation's profile in Ontario

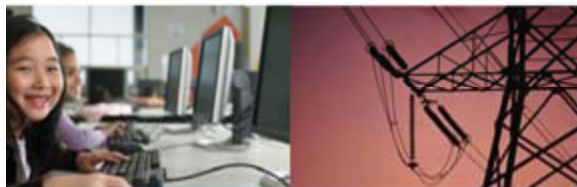
Our Vision

- **Leading the development of North America's most sustainable, reliable and cost-effective supply of electricity**



Questions ?





ONTARIO POWER AUTHORITY

Sep 10, 2009







Ontario Feed-in Tariff Program Overview

Jason Chee-Aloy

Director, Generation Procurement

Feed-in Tariff (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

Benefits of Ontario FIT Program

- Increase renewable energy supply to ensure adequate generation and reduce emissions
- Simpler and standardized method to procure and develop renewable energy supply
- Provide incentives for investment in renewable energy supply and associated technologies
- Opportunities for promoting community-based and Aboriginal projects
- Create new green industries through new investment and job creation

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 a 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

Draft FIT Price Schedule

Renewable Fuels	Capacity Range	Proposed 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 water power extended to 40 years

Overview of FIT Program

- 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

Aboriginal and Community Projects

- Reduced security payments
 - Projects for which the Aboriginal group has a 50% interest is eligible for reduced Application Security and Completion and Performance Security (\$5000/MW, regardless of Renewable Fuel)

- Price adder
 - If Aboriginal has $\geq 10\%$ Economic Interest in Supplier, then a proportionate share of the applicable price adder applies

Technology	Wind	PV (Ground Mounted)	Water	Biogas	Biomass	Landfill Gas
Maximum Aboriginal Adder (cents / kWh)	1.5	1.5	0.9	0.6	0.6	0.6
Maximum Community Adder (cents / kWh)	1.0	1.0	0.6	0.4	0.4	0.4

My FIT Homepage

- Applicants create My FIT Homepage in order to:
 - Create, save drafts and submit applications
 - Receive messages and status updates from the OPA
- Tools available on the My FIT Homepage:
 - Ontario Transmission System Map
 - Transmission Availability Tables
 - Transmission Expansion Plans
 - LDC Locator

FIT Application

- Consultation with LDC/ transmitter
 - Applicant must meet with the applicable LDC/transmitter to discuss connection options and costs
- Required Application information and documents
 - Mandatory application materials (ex: site access)
 - Application fee
 - Application security
- Applicant completes and submits application on-line
 - Applicant submits application package by mail to OPA within 5 business days

Connection Assessment

- Once the OPA has reviewed application for completeness and eligibility, the OPA will assess whether connection capacity is available
- 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
- Capacity allocation exempt projects
 - Proceed directly to contract

Connection Assessment

- **Transmission Availability Test**
 - The transmission availability test will be performed by the OPA to determine if there is sufficient connection availability on the transmission system to connect a project.
- **Distribution Availability Test**
 - The distribution availability test will be performed by the local distribution companies on projects that pass the transmission availability test and are connected to the distribution system.
 - It will to determine if there is sufficient connection availability on the distribution system to connect a project

Connection Assessment

- Economic Connection Test
 - The economic connection test determines whether the shared cost of the required grid upgrades fall within a reasonable threshold and can be included in grid expansion plans
- FIT Production Line
 - Required upgrades are proceeding and approvals are being requested, if necessary
 - Contract awarded when the expansions are expected to be ready by the time the project must reach COD
 - A portion of the Application Security is at risk
- FIT Reserve
 - No plans to go ahead with required upgrades at this time
 - Projects serve as inputs for future planning
 - Application Security is fully refundable

Contract milestones

1. First Completion and Performance Security
 - \$50,000/MW for solar PV
 - \$20,000/ MW for all other projects
 - \$5,000/MW for community-based or aboriginal projects with greater than 50% community or aboriginal participation levels.
2. CIA/SIA
3. Notice to Proceed
 - Completed Renewable Energy Approval
 - Provincial Content Plan (if applicable)
 - Completed CIA/SIA
 - Financing plan
4. Second Completion and Performance Security
 - \$25,000/MW for solar PV
 - \$10,000/ MW for all other projects
 - \$5,000/MW for community-based or aboriginal projects with greater than 50% community or aboriginal participation levels.
5. Commercial Operation within 3 years (four for off-shore wind, five for water)

MicroFIT Program

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


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



QUESTIONS???

Copyrighted: AESP (2009)

A thick, solid blue horizontal bar spans the width of the slide at the bottom.