

# MICRO FEED-IN TARIFF PROGRAM

## Program Overview



*The Program Overview for the micro Feed-in Tariff (microFIT) Program (the “Program”) is provided only to assist you by giving you a general overview of the Program. Please note that the Program Overview does not contain the full details of the Program and is not binding on the OPA.*

*Further, the OPA may change, modify, amend or update the Program at any time and without notice. While the OPA will endeavour to keep the Program Overview current, the OPA cannot guarantee its accuracy or completeness.*

*Please refer to the microFIT Contract and the microFIT Rules for the most up-to-date and binding terms and conditions.*

# TABLE OF CONTENTS

INTRODUCTION .....	1
SECTION 1: LEARNING ABOUT THE MICROFIT PROGRAM.....	2
1.1 Participation opportunities .....	2
a. Owning your own project .....	2
b. Choosing a qualified installer .....	3
c. Leasing your property .....	5
d. Leasing equipment .....	6
e. Projects in your neighbourhood.....	7
1.2 Overview of microFIT Rules and contract .....	8
a. Project eligibility requirements.....	8
b. Rooftop solar PV.....	9
c. Incremental projects.....	10
d. Applicant requirements.....	10
e. Prices and length of the contract term.....	11
f. Domestic content requirements for solar PV .....	13
g. Steps to getting a contract.....	14
SECTION 2: RESEARCHING PROJECT REQUIREMENTS.....	15
2.1 Connection costs and requirements .....	15
a. Connection configurations .....	16
Indirectly connected in series (“load-embedded”).....	18
Indirectly connected in parallel.....	19
Directly connected .....	20
2.2 Permits and approvals required for microFIT projects .....	20
a. Building permits.....	20
b. Renewable energy approval.....	21
2.3 Tax implications for microFIT projects .....	22
a. Income tax and sales tax .....	22
b. Property taxes.....	22
SECTION 3: SUBMITTING AN APPLICATION.....	23
3.1 Register online with the OPA .....	23
3.2 Submit an application for your microFIT project.....	23
3.3 Conditional offer of microFIT contract .....	24
SECTION 4: CONSTRUCTING AND CONNECTING YOUR PROJECT.....	25
4.1 Submit a connection request to your local distribution company.....	25
a. Develop a project plan .....	25
4.2 Complete a safety inspection with the Electrical Safety Authority .....	26
4.3 Work with your local distribution company to complete your connection .....	27
SECTION 5: ACCEPTING YOUR CONTRACT OFFER.....	28
5.1 The microFIT contract .....	28
a. Start date of the contract .....	28
b. Contract price.....	29
5.2 Payment for electricity production.....	29
a. Payments for non-incremental projects .....	29

b.	Payment for incremental projects .....	30
5.3	Managing your contract .....	30
a.	Notices .....	30
b.	Terminating your contract.....	30
c.	Amending your contract .....	30
d.	Contract assignment: what if I move? .....	30
e.	Other issues.....	31
f.	Program review.....	32
SECTION 6:	CONTACT US.....	32

## INTRODUCTION

If you are a homeowner, farmer or small business owner, or if you manage an institution such as a school or place of worship, you have the opportunity to develop a very small or “micro” renewable electricity generation project – of 10 kilowatts (kW) or less in size – on your property. You’ll be paid for all the electricity you produce through the microFIT Program.

The microFIT Program is a stream of the Ontario Power Authority’s (OPA) Feed-in Tariff (FIT) Program for renewable energy in Ontario. It is intended to encourage the development of “micro-scale” renewable energy projects across the province. Owners of these projects will be paid a fixed price for the electricity they produce. Prices are set at a level intended to enable project owners to recover the costs of the projects, as well as to earn a reasonable return on their investment over the term of the contract.

<b>FIT Program</b>	<b>microFIT Program</b>
Small, medium and large renewable energy projects.  Generating more than 10 kW of electricity.  Refer to <a href="#">FIT Rules</a>	Very small renewable power projects, such as a home or small business installation  Generating 10 kW or less of electricity.  Refer to <a href="#">microFIT Rules</a>

Rooftop solar photovoltaic (PV) installations on homes and small businesses are expected to be the most common microFIT project; however, the program is available to other types of renewable technologies.

Projects eligible for the microFIT Program will receive:

- a long-term contract for the payment of electricity produced from the renewable energy project
- a fixed price for the full term of the contract.

The purpose of this overview is to introduce participants to the microFIT program, including participation opportunities and the microFIT Rules. You will learn about the requirements for developing a renewable energy project, including connection requirements, approvals and permits and possible tax implications. You’ll also find out about the process to connect your project to the electricity grid by working with your local distribution company. The final section describes how to accept a contract offer and explains how contract payments are made.

## SECTION 1: LEARNING ABOUT THE MICROFIT PROGRAM

### 1.1 Participation opportunities

The OPA has designed the microFIT Program to enable the development of micro-scale projects through a range of participation opportunities, including:

- owning your own project
- leasing your property to a renewable energy developer
- leasing equipment for your project
- developing a project with others in your neighbourhood.

Each participation arrangement has different benefits and risks that you should consider before proceeding with your project.

While considering your options, you should note the following typical costs of developing a micro-scale renewable energy project:

- equipment and installation
- inspection by the Electrical Safety Authority
- permitting and other approvals
- local distribution company connection costs
- local distribution company account charges and metering fees
- legal and insurance fees
- tax and accounting fees.

#### a. Owning your own project

Many microFIT Program participants will own and operate their projects and install the systems on their property. If you choose this option, you will be the microFIT contract holder and receive payments for the electricity your project produces.

As the owner of a renewable energy project, your **responsibilities** will include:

- hiring qualified installers
- sourcing and purchasing equipment
- arranging for project financing and insurance
- obtaining all necessary approvals (e.g., building permits)
- arranging for an electrical safety inspection

#### Quick Fact

There are a number of tools for estimating the amount of electricity your renewable energy project could produce.

For example:

RETScreen  
[www.retscreen.net](http://www.retscreen.net)

PV Watts  
[www.pvwatts.org](http://www.pvwatts.org)

- working with your local distribution company to connect your project to the grid
- obtaining and maintaining a microFIT contract
- paying for ongoing operating costs and local distribution company account fees
- advising the OPA and your local distribution company if you move.

Some of the **benefits** of owning your own project could include:

- having control over your own project
- receiving payments directly for the electricity produced.

Some of the **risks** of owning your own project could include:

- purchasing equipment that does not perform as well as expected
- being responsible for the costs associated with substandard equipment or installation
- being responsible for all ongoing project costs.

#### **b. Choosing a qualified installer**

Many people who choose to own their microFIT project will hire an installer to help develop their project. The renewable energy sector is a growing industry and there are likely to be many possible installers from which to choose. You therefore must take care to choose a qualified installer when you are developing your renewable energy project.

A qualified installer will:

- have experience installing grid-connected renewable energy projects in Ontario, with particular experience installing your technology of choice
- have the proper licensing and certifications as applicable
- have general liability insurance.

The OPA has prepared a list of questions to ask your installer before investing in your project.

- Do you have experience installing small renewable energy projects in Ontario or other jurisdictions? Can you provide a list of past customers who would be willing to provide references?
- Are your installers qualified to install the project? Do they meet all necessary safety regulations, licensing and certification requirements?

#### **Quick Fact**

If you choose to install a solar PV project, your project must meet a minimum level of domestic content as described in section 1.2 of this document.

You will be required to obtain *written confirmation* from any equipment supplier or installer of the activities contributing to the domestic content level.

- Do you have general liability insurance to cover property damage or injury?
- Are you registered with the Better Business Bureau (<http://www.bbb.org/canada/>)?
- Do you provide warranties on your labour and products?
- In addition to the installation, what other services do you provide? What are the costs of these services?
- Will you assess my property to ensure that the system is installed at an optimal location? For example, will you ensure that my solar PV system is not in a shaded area? Or, will you ensure that my site has appropriate wind for a micro-wind turbine?
- Will you order all the required equipment for the project? What is the full cost of the total installation?
- What are the ongoing operating and maintenance costs I can expect and who will be responsible for them?
- Will you arrange for all necessary approvals and permits? This includes:
  - building permits
  - authorization to connect from the Electrical Safety Authority
  - renewable energy approval, if required.
- Will you work with my local distribution company to arrange for connection to the grid? This includes:
  - preparing the connection configuration diagrams
  - arranging for payment of the connection costs
  - helping prepare the connection agreement with the local distribution company
  - arranging for installation and testing of the meter.
- Will you help me prepare my microFIT application?
- Will you provide any ongoing servicing or maintenance of the installed equipment?
- For solar PV projects, will you provide written confirmation of the activities contributing to the domestic content level required by the microFIT rules and contract?
- Can you arrange for me to see some of the other microFIT projects you have installed?

To find a qualified installer, you may wish to contact the appropriate industry association for the technology you are using:

- Canadian Solar Industry Association ([www.cansia.ca](http://www.cansia.ca))
- Canadian Wind Energy Association ([www.canwea.ca](http://www.canwea.ca))
- Ontario Waterpower Association ([www.owa.ca](http://www.owa.ca))
- Canadian Bioenergy Association ([www.canbio.ca](http://www.canbio.ca))
- Directory of Ontario Solar Energy Manufacturers and Suppliers (<https://www.showreg.net/OSEI2009/>)

### c. Leasing your property

#### August 13, 2010 update

This arrangement is not currently permitted under the microFIT Program. However, the newly created microFIT advisory panel will review this issue and determine the best method to allow applicants who do not own the land on which a project is located to participate in the program.

You may choose to lease a portion of your property to a developer rather than purchasing and installing your own renewable energy project.

For example, you could lease your rooftop to a solar PV project developer. This means that the developer would install and own the solar panels located on your property and you could receive payments from the developer for access to your property (e.g., lease payments).

The project developer would be the holder of the microFIT contract and would receive payments for the electricity produced. The project developer should maintain responsibility for ongoing operations and maintenance costs associated with the microFIT project. The developer also should have insurance to cover problems that might arise.

As a lessor or “host” of a microFIT project, your **responsibilities** could include:

- negotiating a leasing agreement with the project developer. We recommend that you consult a lawyer for this.
- ensuring that the project developer obtains all necessary approvals. For example, building permits, electrical safety inspection, etc.
- arranging for property insurance, if necessary
- maintaining an ongoing relationship with the project developer
- considering restrictions with respect to the resale of your home, such as where a home buyer does not wish to take over the existing lease.

Some of the **benefits** of leasing your property could include:

- receiving steady income from your leasing agreement. Note that the payments to you may be taxable as business income. We recommend that you consult the Canada Revenue Agency or a tax professional.
- no upfront capital investment.

Some of the **risks** of leasing your property could include:

- damage to your property if the project is poorly installed



- non-payment from the project developer
- penalties for terminating the lease agreement.

#### **d. Leasing equipment**

You may choose to lease the equipment required for your microFIT project instead of purchasing and installing your own renewable energy project. For example, you might decide to lease solar PV panels and an inverter<sup>1</sup> from an equipment supplier.

You would receive microFIT contract payments for the electricity produced from the project, but you would also be responsible for making lease payments for the equipment to the supplier.

Your equipment supplier may provide additional services to assist in your project development. For example, the supplier might:

- provide ongoing maintenance of the project
- assist in the installation of the project.

As a microFIT contract holder leasing equipment for a project, your **responsibilities** could include:

- negotiating a lease agreement with the equipment supplier
- obtaining all necessary approvals (e.g., building permits, electrical safety inspection)
- making lease payments to the equipment supplier
- connecting your project to the grid
- obtaining and maintaining a microFIT contract
- paying ongoing operating costs and local distribution company account fees.

Some of the **benefits** of leasing equipment for your microFIT project could include:

- receiving payments directly for all the electricity produced
- having minimal upfront capital costs.

Some of the **risks** of leasing equipment for your microFIT project could include:

- the equipment you have leased does not perform as well as expected
- penalties for terminating the lease agreement
- the financial viability of the equipment supplier.

---

<sup>1</sup> An inverter is used to convert power from the solar panels into power that is usable on the electricity grid. In other words, it converts direct current (DC) power produced by the solar panel to alternating current (AC) power that is used on the electricity grid.

## e. Projects in your neighbourhood

You may choose to develop a microFIT project in collaboration with members of your community. For example, you could develop a project with:

- a local school
- a community centre, place of worship or library
- a non-profit organization
- a community cooperative
- a neighbourhood group.

As a community, you could work together to develop your microFIT project by:

- raising money for your project
- selecting a qualified installer and equipment supplier
- choosing an appropriate site location
- connecting your project to the grid
- ongoing maintenance and management.

The community organization would be the microFIT contract holder and would receive payments for the electricity produced from the project. This organization would be responsible for distributing the profits from the project to its members.

Some of the **benefits** of developing a community-owned microFIT project could include:

- sharing the costs and risks of developing the microFIT project
- contributing to the development of renewable energy projects in your local community.

Some of the **risks** of developing a community-owned microFIT project could include:

- decision-making within the group could be slow and not everyone might agree
- the equipment you have purchased does not perform as well as expected
- investors leave and new investors cannot provide the required financial support (i.e., the financial viability of the project becomes at risk).

## 1.2 Overview of microFIT Rules and contract

You should ensure that your project complies with the program rules before you start developing your project with the intention of receiving a microFIT contract. In this section, you will learn about project eligibility requirements, applicant requirements, price schedule and contract terms, domestic content requirements and how to get a contract.

### a. Project eligibility requirements

1. Projects must use one of the following renewable energy technologies:

- biogas
- biomass
- landfill gas
- solar PV – rooftop and ground-mounted\*
- waterpower
- wind.

#### Quick Fact

The “distribution system” is a system for distributing electricity to homes and businesses. It includes wires, structures and other equipment and is operated by a local distribution company.

\* includes all non-rooftop solar PV technologies.

2. Projects must be located in Ontario.

3. Projects must not be the subject of an existing OPA contract<sup>2</sup>.

4. Projects must be connected, directly or indirectly, to a distribution system. For more information on acceptable connection configurations, please refer to connection configurations in section 2.1 of this document.

5. Projects must have a nameplate capacity of 10 kW or less. The nameplate capacity is the manufacturer’s total installed rated capacity of the project to generate electricity.

6. Projects must have metering that is suitable for data collection and payment calculation as specified by the local distribution company. All microFIT projects require a separate generation meter, so that the amount of electricity produced by the project can be accurately measured. As described further below, you need to contact your local distribution company to set up a generator account.

7. The applicant must qualify as an eligible participant. The OPA has developed an eligible participant schedule to identify which types of applicants are eligible to

---

<sup>2</sup> Note: RESOP contract holders can apply to the microFIT Program if they sign a “RESOP to microFIT Transition Agreement”. This document, along with further details, is available on the microFIT website under “microFIT Rules/Transition Options.”

submit an application to the microFIT Program. The schedule also identifies the requirements for an eligible participant. The schedule is intended to ensure that the microFIT Program is primarily focused on non-commercial applicants. Similar to the microFIT price schedule, the eligible participant schedule may be updated from time to time to include new eligible participants. For example, updates may be made based on recommendations from the microFIT Advisory Panel.

### **Important note on project splitting**

Projects cannot be divided into smaller projects to qualify for the microFIT Program. The OPA will only permit 10 kW per renewable fuel for each legal property to be contracted through the microFIT Program.

#### ***Example:***

You could have a 10 kW solar project, and a 10 kW wind project on your legal property.

If the OPA suspects that project splitting has occurred, it may ask the applicant for a legal description of the property, as well as the name of the registered owner of the property and the Property Identification Number (PIN). If the OPA determines that project splitting has taken place, it may reject all the applications relating to the projects that have been split.

Please plan your project carefully. If you wish to develop a larger project, you must apply to the OPA's FIT Program and not to the microFIT Program.

More information about project splitting can be found on the FIT Program website at [www.fit.powerauthority.on.ca](http://www.fit.powerauthority.on.ca) under Program Resources/Rules and Exhibits. From this page you can download a copy of the *FIT Guidelines – Multiple FIT Projects on one Property*.

## **b. Rooftop solar PV**

Rooftop solar PV prices are intended to encourage the development of solar PV projects on **existing permanent buildings**, such as schools, commercial buildings, condominiums and small businesses that have walls, a roof and a permanent foundation.

To qualify as a rooftop facility, the OPA must be satisfied that the building on which the solar PV project is located on is an appropriate type of building and that the primary intent of the building is not to support a solar installation.

Projects located on buildings and structures such as steel storage containers and parking lot shelters do not qualify as rooftop facilities. Pole-mounted projects are considered to be non-rooftop. Projects located on buildings or structures that do not qualify as a rooftop facility are encouraged to submit an application as a ground-mounted project.

### c. Incremental projects

An incremental microFIT project is an expansion of an existing renewable energy project. You can apply for an incremental project under the microFIT program, as long as the sum of the existing project and the incremental project is less than 10 kW.

For example, if you already have a three kW solar PV system, you can add additional solar PV panels to this project. The additional capacity could receive a microFIT contract.

To qualify as an incremental project, you must meet these **three additional** eligibility requirements:

1. you must be the owner of the existing renewable energy project
2. the incremental project must use the same technology as the existing renewable energy project
3. the incremental project must use the existing renewable energy project's connection and metering.

### d. Applicant requirements

#### **Important note**

In addition to the basic eligibility requirements, a **microFIT contract holder** must be:

1. The person who or legal entity that holds the local distribution company **generator account** associated with the microFIT project.
2. The person who or legal entity that signs the **connection agreement** with the local distribution company for the microFIT project.

Your microFIT project will have its own generation meter that is used to measure the amount of electricity generated by the project. When you connect your project, you will be required to set up a new customer account with your local distribution company specifically for your microFIT project.

This customer account, called the “generator account” will be separate from any other existing customer account you have for the supply of electricity to the building (e.g., your home). You may not have this account established when you submit a microFIT application. If so, your local distribution company will provide the OPA with this account number before you are offered a contract.

A “connection agreement” is the contract you sign with your local distribution company when you connect your project to the distribution system. The connection agreement is a standard agreement used by all local distribution companies and is prescribed by the Ontario Energy Board. It is also known as the “Micro-Embedded Generation Facility Connection Agreement”.

The agreement includes:

- eligibility for connection to the distribution system, i.e., consistent with the local distribution company’s conditions of service
- technical requirements, such as disconnection devices, maintenance
- liabilities, including responsibilities for damages, etc.
- compensation and billing, including payments for electricity generation
- conditions for termination and assignment of the agreement.

**e. Prices and length of the contract term**

Once you have entered into a microFIT contract, you will be guaranteed a fixed price for the electricity your project produces over the term of the contract. The prices are designed to cover typical capital and operating costs and provide a reasonable return on the investment.

The prices presented are extracted from the OPA's FIT price schedule. The OPA will review the FIT price schedule regularly (approximately every two years).

**Quick Fact**

Local distribution companies are responsible for distributing power to homes in Ontario. They are also responsible for connecting renewable energy projects to the distribution system.

These companies are regulated by the Ontario Energy Board ([www.oeb.gov.on.ca](http://www.oeb.gov.on.ca)).

Currently, there are 80 local distribution companies in Ontario. You can use the local distribution company locator tool available on the microFIT website to find the applicable local distribution company for your project.

## Prices for microFIT Projects (10 kW or less)

August 13, 2010

Renewable technology	Price (¢/kWh)	Contract term (years)	Percentage escalated (%)
Solar PV			
• Rooftop	80.2	20	0
• Ground-mounted	64.2	20	0
Wind	13.5	20	20
Waterpower	13.1	40	20
Biomass	13.8	20	20
Biogas	16.0	20	20
Landfill gas	11.1	20	20

*Notes:*

You must apply to the **FIT Program** if you intend to apply for the on-farm biogas price, the community price adder or the aboriginal price adder.

Projects under the microFIT Program will not receive peak and off-peak pricing<sup>3</sup>.

For technologies other than solar PV, 20 percent of the price will escalate annually based on increases in the Consumer Price Index. Please refer to the microFIT contract for more details.

<sup>3</sup> Peak and off-peak pricing is an incentive offered in the FIT Program to generators that encourages them to produce electricity during times of high electricity demand.

## Domestic content requirements for solar PV

If you are applying for a solar PV microFIT contract, your project must meet domestic content requirements. Domestic content requirements ensure that a portion of your solar PV project is manufactured or produced in Ontario.

Note: domestic content requirements are only required for solar PV projects. They are not required for other fuel types under the microFIT Program.

### Requirements

- For solar PV projects that reach commercial operation on or before December 31, 2010, the minimum required domestic content level is **40 percent**.
- For solar PV projects that reach commercial operation on or after January 1, 2011, the minimum required domestic content level is **60 percent**.

The table below outlines the components or “designated activities” that will contribute to meeting the domestic content requirements.

Designated Activity	Does your project meet the criteria?	Qualifying Percentage
1. Silicon that has been used as input to solar photovoltaic cells manufactured in an Ontario refinery.	<input type="checkbox"/>	10
2. Silicon ingots and wafer, where silicon ingots have been cast in Ontario and wafers have been cut from the casting by a saw in Ontario.	<input type="checkbox"/>	12
3. The crystalline silicon solar photovoltaic cells, where their active photovoltaic layer(s) have been formed in Ontario.	<input type="checkbox"/>	10
4. Solar photovoltaic modules (i.e., panels), where the electrical connections between the solar cells have been made in Ontario, and the solar photovoltaic module materials have been encapsulated in Ontario	<input type="checkbox"/>	13
5. Inverter, where the assembly, final wiring and testing has been done in Ontario.	<input type="checkbox"/>	9
6. Mounting systems, where the structural components of the fixed or moving mounting systems, have been entirely machined or formed or cast in Ontario. The metal for the structural components may not have been pre-machined outside Ontario other than peeling/roughing of the part for quality control purposes when it left the smelter or forge. The machining and assembly of the mounting system must entirely take place in Ontario (i.e. bending, welding, piercing, and bolting).	<input type="checkbox"/>	9
7. Wiring and electrical hardware that is not part of other designated activities (i.e., items 1 to 6 and 8 of this table), sourced from an Ontario supplier.	<input type="checkbox"/>	10
8. All on- and off- site labour and services. For greater certainty, this designated activity shall apply for all contract facilities.	<input type="checkbox"/>	27
<b>Total</b>		<b>100</b>



### *Example*

To meet the domestic content requirements for a solar PV project reaching commercial operation on or before December 31, 2010, the project could be constructed with:

1. a made-in-Ontario mounting system (9 percent)
2. made-in Ontario hardware (10 percent)
3. Ontario labour (27 percent).

This project would be deemed to have a domestic content level of 46 percent, which is greater than the minimum required domestic content level of 40 percent.

Before you can complete your microFIT contract, you will be required to “check off” which of the designated activities are achieved by your microFIT project.

You must obtain written confirmation from any equipment supplier or installer providing equipment or services contributing to the domestic content level of your project. This confirmation must indicate which components qualify as designated activities. Make sure that you keep this written confirmation on record, as well as other related documents (e.g., receipts). The OPA may ask you to provide these records if your project is audited at a later date.

## **f. Steps to getting a contract**

### *Step 1: Submitting an application*

- a. register to create your own “My microFIT home page”
- b. create and submit an application for your microFIT project
- c. receive a “conditional offer of microFIT contract”.

### *Step 2: Getting connected*

- a. discuss connection options with your local distribution company
- b. submit a connection request form to your local distribution company
- c. install your project after receiving all approvals and permits
- d. complete an electrical safety inspection of your project
- e. work with your local distribution company to finalize your connection and metering.

### *Step 3: Accepting your contract*

- a. receive a microFIT contract offer notification from the OPA
- b. log in to your My microFIT home page
- c. review the microFIT contract offer
- d. choose to accept and execute the contract, following the instructions provided.

## SECTION 2: RESEARCHING PROJECT REQUIREMENTS

### 2.1 Connection costs and requirements

#### **Measurement Canada in-series connection update**

**August 27, 2010**

The OPA has received a response from Measurement Canada to its proposal to address in-series connection configurations. The OPA proposal has been assessed by Measurement Canada and was determined to be capable of complying with the *Electricity and Gas Inspection Act*.

For more information on Measurement Canada's decision on in-series connected projects, please refer to <http://www.ic.gc.ca/eic/site/mc-mc.nsf/eng/lm04345.html>.

The OPA is undertaking an assessment of a possible implementation plan for the in-series connections proposal in cooperation with the Ministry of Energy and the Ontario Energy Board.

For load customers who have in-series connections to microFIT projects, charges must demonstrate four distinct trade transactions from the two bi-directional meters used to calculate the customer's electricity usage. Bill presentation is regulated by Ontario Regulation 275/04 and changes to billing systems can be costly. Therefore, more information will need to be collected to understand the full cost of implementing the proposal.

Upon completion, if the implementation plan is justifiable, the plan will be presented to Measurement Canada and the Ontario Energy Board for final review.

The connection of new projects using an in-series configuration will not be permitted until local distribution companies are able to connect in-series customers in compliance with the requirements set out in the accepted proposal.

Please note that if your project is already connected in-series and you have a microFIT contract, your contract will be honoured by the OPA.

Before you start constructing your project, you should contact your local distribution company and the Electrical Safety Authority to find out more about connecting your project.

Your local distribution company will inform you of metering requirements, metering configurations, typical costs, time requirements and account charges that may be applied.

This will include information on:

- approvals requirements
- technical requirements

- contractual requirements (i.e., the connection agreement)
- the connection request.

*Questions to ask your local distribution company:*

- What are the costs associated with the different connection configurations?  
These are:
  - in-series connection (also known as “load-embedded”)
  - in-parallel connection
  - direct connection.<sup>4</sup>
- What are the ongoing account fees or metering charges that will be associated with my microFIT project?
- What can I expect in terms of timing to connect my project?
  - Are there any technical or equipment requirements for connecting my project safely to the grid?
  - What information do you require on your connection request?

The Electrical Safety Authority will provide you with information about electrical safety codes and guidelines, safe installation practices and the costs associated with a safety inspection.

This will include how to:

- choose safe electrical equipment (e.g., equipment certifications and standards)
- schedule and complete a safety inspection.

**Quick Fact**

The Electrical Safety Authority is responsible for public electrical safety in Ontario.

[www.esainspection.net](http://www.esainspection.net)

*Questions to ask the Electrical Safety Authority:*

- What are the safety standards that apply to my microFIT project?
- What is involved in a safety inspection?
- What is the cost of a safety inspection?
- What can I expect in terms of timing for my electrical safety inspection?

**a. Connection configurations**

Your microFIT project can either be connected **indirectly** or **directly** to the electricity distribution system.

An **indirect** connection to the distribution system is where your project is connected

**Quick Fact**

“Load customer” is a term used to describe a person who has a home or building connected to the distribution system and who purchases electricity from the distribution system.

The demand for electricity is often referred to as an “electrical load”.

---

<sup>4</sup> These terms are defined in the next section.

to an existing customer or building that is connected to the distribution system. A common type of indirect connection is called an “in-series” connection. This is also known as a “load-embedded” connection. A project can also be indirectly connected “in-parallel”.

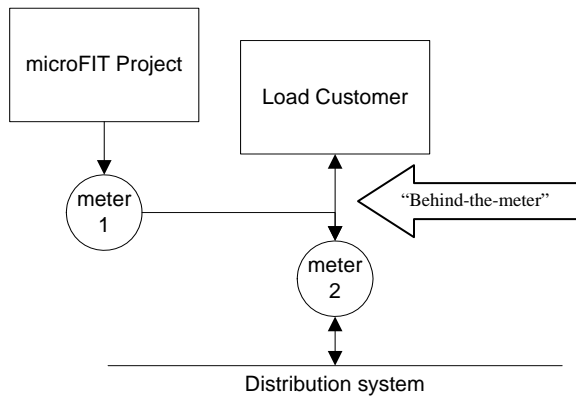
A **direct** connection is where your project is connected to the grid separately from any other customer or building.

The different types of connection configurations are described below. They each have different advantages and disadvantages that you should discuss with your local distribution company.

*Indirectly connected in series (“load-embedded”)*

**Important note**

The microFIT contract holder will receive payment for all electricity produced, as measured at the generation meter (“meter 1”).



**Figure 1:** This figure shows a project that is **in-series** or **load-embedded**. The meter connected to the microFIT project is connected “behind –the meter” of the load customer.

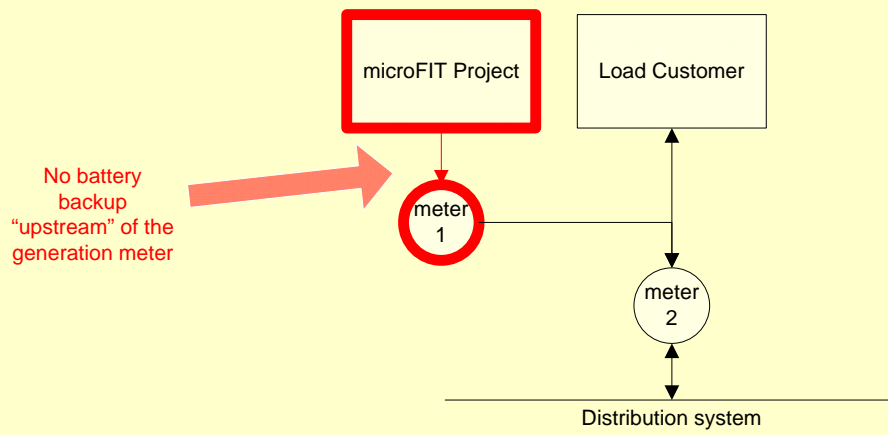
Electricity produced from the microFIT project flows through the household’s electricity system. Electricity not used by the household will flow to the distribution grid.

**Advantage:** typically less costly than projects that are directly connected or connected in parallel. This connection is also generally simpler as it does not require the load customer to be disconnected from the electricity grid while the project is connected.

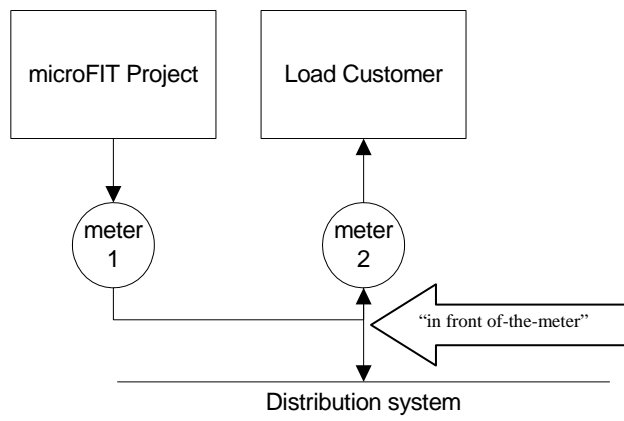
**Disadvantage:** the microFIT project’s connection to the grid relies on the load customer’s connection to the grid. In other words, if the load customer is disconnected, the project will not remain connected to the grid. If the project is disconnected from the grid, it is not eligible to receive payment for electricity generation while the project is disconnected.

### Important note – Batteries

If you are planning to install a battery backup system, it must be located “downstream” of the microFIT projects generation meter. In other words, it cannot be connected behind the generation meter (“meter 1”).



### Indirectly connected in parallel



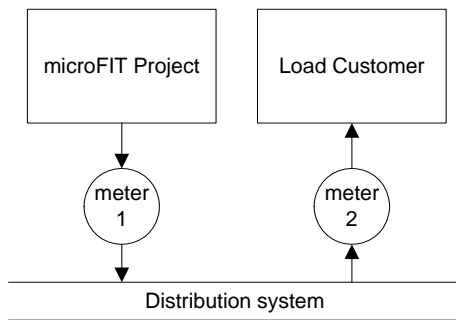
**Figure 2:** This figure shows the connection configuration of an **indirectly** connected project using a **parallel** configuration. The meter connected to the microFIT project is connected “in front of” the load customer’s meter.

Electricity produced from the microFIT project will flow either to the distribution grid or to the load customer.

**Advantage:** the connection to the grid does not rely on the load customer’s connection to the grid. In other words, if the load customer is disconnected, the project will remain connected to the grid.

**Disadvantage:** may be more costly compared to the load-embedded connection configuration. It also requires the load customer to be temporarily disconnected while the connection of the project takes place.

### Directly connected



**Figure 3:** This figure shows the connection configuration of a **directly** connected project using a separate connection. The meter connected to the microFIT project is completely separate from the load customer meter, or there may not be a load customer at all on the property.

Electricity produced from this microFIT project will flow directly to the distribution grid and does not flow directly to the load customer.

This type of connection might be chosen if the project is located at a significant distance from the existing load customer (e.g., the house) and is located closer to the main distribution system.

**Advantage:** the connection to the grid does not rely on the load customer's connection to the grid. In other words, if the load customer is disconnected, the project will remain connected to the grid.

**Disadvantage:** typically more costly compared to the load-embedded connection or in-parallel connection configuration. This type of connection requires a separate transformer for the project.

## 2.2 Permits and approvals required for microFIT projects

In addition to the approval from the Electrical Safety Authority, you may be required to obtain additional permits and approvals before you can build your project. These may include a building permit from your local municipality and a renewable energy approval from the Ministry of the Environment. Not all projects need these permits or approvals. It is up to you as the project developer to determine if your project requires them.

### a. Building permits

Under Ontario's *Building Code*, a building permit is required when certain construction activity is undertaken. You must contact your local municipality before you start constructing your microFIT project to determine if a building permit is needed.

If you have hired an installer, the installer will often arrange for the building permits required.

#### Quick Fact

The Ministry of Municipal Affairs and Housing administers Ontario's *Building Code*.

[www.mah.gov.on.ca](http://www.mah.gov.on.ca)

[www.ontario.ca/buildingcode](http://www.ontario.ca/buildingcode)

*Questions to ask your municipality:*

- Will my microFIT project require a building permit?
- What are the costs of obtaining a building permit?
- What can I expect in terms of timing to obtain my building permit?
- What plans will I need to show on my application?
- What happens during construction?

**b. Renewable energy approval**

Certain microFIT projects will require a renewable energy approval before construction can begin. For example, rooftop solar PV projects **do not require** a renewable energy approval. Wind power projects that are greater than three kW **do require** a renewable energy approval.

**Quick Fact**

A renewable energy approval facilitates the development of renewable energy in the province.

To find out more about renewable energy approval requirements, please visit [www.ene.gov.on.ca](http://www.ene.gov.on.ca).

*Questions to ask the Ministry of the Environment:*

- Does my project require a renewable energy approval?
- What steps are required to obtain a renewable energy approval?
- What are the typical costs of obtaining a renewable energy approval?
- What can I expect in terms of timing to obtain a renewable energy approval?

**The Renewable Energy Facilitation Office**

Depending on its size, type, and location, your renewable energy project may be subject to regulatory approval(s) through the Ministry of the Environment and/or the Ministry of Natural Resources. The Renewable Energy Facilitation Office can help you navigate through this process by:

- providing access to information
- connecting you to the right resources at the appropriate ministries, agencies and governments
- setting up a coordinated scoping meeting to discuss your project's requirements.

For more information, please visit [www.ontario.ca/renewableenergyprojects](http://www.ontario.ca/renewableenergyprojects).



## 2.3 Tax implications for microFIT projects

### a. Income tax and sales tax

By participating in the microFIT Program, you are entering into a business relationship with the OPA and will be receiving business income. We strongly advise you to consult the Canada Revenue Agency or a tax professional to learn about the rules for reporting business income and collecting and remitting goods and services tax (GST) on business income.

For information on GST registration and collection, please visit <http://www.cra-arc.gc.ca/tx/bsnss/tpcs/gst-tps/menu-eng.html>, or call 1-800-959-5525.

*Questions to ask your accountant, tax advisor or the Canada Revenue Agency:*

- Am I required to become a GST registrant and to collect and remit GST for the revenue attributed to my project?
- How do I become a GST registrant?
- What are the costs associated with becoming a GST registrant?
- What can I expect in terms of timing to obtain a GST registration number?
- How do I remit GST?
- Am I required to declare the revenue paid to me under the microFIT contract as income? Personal income or business income?
- What deductions am I entitled to if I must declare the income?

You must inform the OPA if you are a GST registrant at the time you submit an application for the microFIT Program. If you are a GST registrant, you will be paid GST and will be responsible for remitting the GST to the government.

### b. Property taxes

By installing a renewable energy project, you will be adding value to your property. In some cases this may mean that your property taxes will increase as a result of your installation. As with any home improvement, there may be changes in your property's assessed market value. The Municipal Property Assessment Corporation (MPAC) is a provincial agency that determines property assessment values. MPAC will send someone to your property to assess your renewable energy project and will assign a monetary value to your panels. For more information, please visit [www.mpac.on.ca](http://www.mpac.on.ca), or call 1-866-296-6726 to discuss your specific microFIT project.

## SECTION 3: SUBMITTING AN APPLICATION

### 3.1 Register online with the OPA

Applicants to the microFIT Program will be required to register on the OPA’s microFIT Program website. When you register, a unique web page will be created that will only be accessible by username and password.

#### Quick Fact

To learn more about registering and setting up your “My microFIT home page”, please refer to the microFIT **registration** instructions.

Your “My microFIT home page” will provide you with the necessary tools and features to enable you to participate in the microFIT Program. These include completing an application and tracking the communications you receive from the OPA’s microFIT Program team.

#### Important note: use your legal name

When you register with the OPA, it is very important that you use your legal name, **not** a nickname, or any other name. The name that you provide at registration will be used on your microFIT contract. If you are an individual, you should use the name that appears on your driver’s licence, passport, or birth certificate. If you are applying as a business, you should use the name that appears on the articles of incorporation of the business.

### 3.2 Submit an application for your microFIT project

When applying to the microFIT program, you will be required to provide the information set out below.

General applicant information:

- applicant legal name
- name of the microFIT project for applicant tracking purposes
- applicant primary contact information and secondary contact information, if applicable
- type of applicant, e.g., homeowner, commercial, institutional, etc.
- GST registration number, if applicable.

Project specific information:

- whether the project is converting from a net-metered project
- whether the project has an existing OPA contract. If yes, the application cannot be submitted.

#### Quick Fact

For more information about the microFIT application, please refer to the microFIT **application** instructions.

- name of the local distribution company serving the microFIT project
- the local distribution company customer account information for the existing load customer, if applicable
- address of the proposed microFIT project
- type of renewable energy technology
- capacity of the proposed microFIT project
- estimated date to submit a connection request to the local distribution company
- whether the project is an incremental project. If yes, provide details of the existing project.
- if the applicant will receive additional grants or funding for the microFIT project
- if the system will be connected to a battery backup system<sup>5</sup>
- a brief description of the project, e.g., name of manufacturers, installers.

When you submit an application, your project will be given a microFIT project **reference number**. This will be used for tracking purposes by the OPA and your local distribution company.

### 3.3 Conditional offer of microFIT contract

The OPA will review each application to ensure that the project meets the microFIT Program eligibility requirements. If your project meets these requirements, the OPA will provide you with a “conditional offer of microFIT contract”. The conditional offer cannot be transferred to another person or entity.

#### Quick Fact

The conditional offer of microFIT contract provides you with a guarantee that you will receive a microFIT contract provided that you meet the conditions of the offer.

#### Important note

The conditional offer will expire 12 months from the date it was issued. If your project is not connected in 12 months, your conditional offer will expire and you will need to submit a new microFIT application.

The offer is conditional on the following:

- you must comply with the microFIT Rules
- your microFIT project must be connected to the distribution system with appropriate metering
- your microFIT project must comply with domestic content requirements
- the OPA must receive your microFIT project connection details
- you must accept the microFIT contract.

<sup>5</sup> Battery backup systems cannot be connected “upstream” of the generation meter. For more information, please refer to section 2.1 of this document.

## **SECTION 4: CONSTRUCTING AND CONNECTING YOUR PROJECT**

### **4.1 Submit a connection request to your local distribution company**

The next step is to submit a connection request to your local distribution company. This is a formal application to request a connection to the distribution system. You must remember to include your microFIT project reference number on your connection request.

When submitting your connection request, you will be required to provide information about your project. This information includes:

- type of renewable energy technology
- nameplate capacity of the project
- location of the project, including the address and generation account number with the local distribution company where available.

#### **a. Develop a project plan**

You will need to put together an installation plan for your project. This plan includes the size and type of the project, the metering configuration, grid connection and project timeline. In most cases, you will work with your installer to develop your project plan. In many cases, your installer will help you prepare a project plan. You should discuss this plan with your local distribution company before submitting a connection request.

The project plan includes:

- type of renewable energy technology, e.g., solar PV, wind, etc.
- capacity of the installation in kW
- location of the project, e.g., on a roof or ground-mounted
- size of the project in square metres
- size and type of inverter
- wiring layout
- location of the inverter.

Connection and metering includes:

- service upgrade requirements
- type of meter required
- location of the generation meter
- location of project disconnection point
- wiring layout
- connection configuration, e.g., in-series, in-parallel or directly connected.

Items to include in your project plan timeline:

- obtaining building permits, if applicable
- completing a renewable energy approval, if applicable
- installing the project
- scheduling and completing a safety inspection
- installing the meter.

Your local distribution company will review your connection request and make you an offer to connect your project within **15 days**, provided that your application is complete.

Your local distribution company will inform you of the requirements, costs and timing to connect your project. The offer to connect remains in effect for **30 days** and you must indicate your intention to connect within this time frame.

Once you receive an offer to connect from your local distribution company, you will need to make a final decision to proceed with your project. You should consider all the costs to connect your project, as well as all ongoing costs that will be associated with your project, including account charges from your local distribution company.

After reviewing all the connection information, if you accept your local distribution company's offer to connect and decide to install the project, you will:

- commit to paying the local distribution company for upgrades, i.e., metering
- begin to install your project
- apply to the Electrical Safety Authority for an electrical inspection
- prevent delays by working closely with your local distribution company, the Electrical Safety Authority and any other organizations from which work, inspections, or approvals are required, e.g., building permit inspection.

#### **4.2 Complete a safety inspection with the Electrical Safety Authority**

After your project has been installed, you must complete a safety inspection with the Electrical Safety Authority. In many cases, your installer will help you arrange and prepare for the electrical safety inspection. Your project will not be connected to the grid until your local distribution company receives a letter of authorization from the Electrical Safety Authority.

The inspection will be thorough and will include an assessment of the following:

- Is the equipment approved for usage in Ontario?
- Does the installation have the required devices to protect against short circuits and circuit overloads?

- Does the installation have the required disconnection features?
- Does the installation make use of an appropriate inverter system?
- Does all wiring comply with provincial safety requirements?
- Do all devices display the proper safety labels?

For more information about the Electrical Safety Authority and its inspection requirements, please visit [www.esainspection.net](http://www.esainspection.net) or call toll free: 1-877-372-7233.

#### 4.3 Work with your local distribution company to complete your connection

Once your project is installed and has passed a safety inspection, you will need to finalize your connection to the grid. Before your local distribution company will finalize your connection, you must provide the following:

- a letter of authorization to connect from the Electrical Safety Authority
- payment for the connection costs
- a signed connection agreement.

##### Quick Fact

The microFIT contract holder will be responsible for paying all fees associated with the local distribution company generator account.

You should discuss these account fees with your local distribution company.

It is very important that the name on the connection agreement be the same as:

- the name on the customer account for the microFIT project, i.e., the generator account
- the name used on the microFIT Program application to the OPA.

Once your local distribution company has received all required documents and payments from you, it will respond to you within **five days** to complete the generation meter installation.

## SECTION 5: ACCEPTING YOUR CONTRACT OFFER

### 5.1 The microFIT contract

Once you have completed the connection of your project, your local distribution company will provide the OPA with information about your project, including the date of your connection request and the connection date of the project. The OPA will offer you a standard microFIT contract and send you a contract offer by email to your My microFIT home page after receiving the information from your local distribution company.

You will be required to access your My microFIT home page to view the contract. Follow the directions provided in the offer notice to review your contract offer. The contract will include:

- your legal name, if a homeowner, business or institution
- the microFIT project reference number
- your project characteristics (e.g., renewable technology, size, location)
- local distribution company information (i.e., account numbers)
- connection date
- effective date and end date of the contract
- contract price and contract payment terms
- GST information.

You should review the contract carefully before accepting it. If there are any errors in the contract, please report them to the microFIT Program team. To contact the microFIT Program team, please email [microFIT@powerauthority.on.ca](mailto:microFIT@powerauthority.on.ca).

If you are satisfied with the contract offer, you can accept the offer by clicking the “I Accept” button online.

Note: You must accept the contract offer within 45 business days. If you do not, the offer will be withdrawn.

#### a. Start date of the contract

If you accept the contract offer, your microFIT contract will be deemed to start on the **connection date** for your project.

Note: The connection date is the later of:

- the date of the conditional offer of contract, and
- the date your project is physically connected to the distribution system or load customer with suitable metering configurations and established generator account for the project.

## **b. Contract price**

The conditional offer will guarantee that you will receive a microFIT contract with the price specified in the FIT price schedule at the time the conditional offer was made.

*The conditional offer will expire 12 months from the time it was issued.*

The FIT price schedule will be reviewed regularly, approximately every two years.

## **5.2 Payment for electricity production**

After you have accepted your microFIT contract, you will begin to receive payment for each kilowatt-hour (kWh) of electricity produced from your microFIT project for the duration of the contract. In this section, you will learn how contract payments are calculated and how payments are made to you.

You will receive contract payments from your local distribution company for the electricity produced from your microFIT project. Your local distribution company makes these payments on behalf of the OPA. These payments will be made to you according to the regular billing cycle of your local distribution company.

### **Important note**

The load customer (e.g., the homeowner) is responsible for paying for all electricity consumed, regardless of whether the electricity was supplied by the microFIT project or the local distribution system.

## **a. Payments for non-incremental projects**

You will receive a payment equal to the contract price multiplied by the metered electricity output from your microFIT project. For a load-embedded project, you will be paid for all electricity produced by your project, even if this electricity is used by the load customer (e.g., your house).

For example, a three kW solar PV rooftop microFIT project could produce 280 kWh in one month at a contract price of 80.2 cents per kWh.

**The microFIT generation payment is calculated as 280 kWh x \$0.802/kWh = \$225**



## **b. Payment for incremental projects**

For microFIT projects that are “incremental projects” (i.e., additions to existing projects), only the proportion of electricity that is attributed to the microFIT project will receive the microFIT contract price. The attributed amount is determined using the incremental project ratio.

For example, a four kW solar PV rooftop microFIT project is installed as an incremental project to an existing one kW solar PV rooftop system for a total project of five kW. The total project could produce 468 kWh in one month. The payment would be calculated as follows:

1. The incremental project ratio is 4 kW divided by 5 kW = 0.8.
2. The electricity attributed to the microFIT project is 468 kWh x 0.8 = 375 kWh
3. The microFIT payment is 375 kWh x \$0.802/kWh = \$300

## **5.3 Managing your contract**

### **a. Notices**

During the contract term, you may wish to change your contact information. If you change your contact information, such as your email or mailing address, you must provide the OPA with written notice of the change. This is a simple process and does not require a contract amendment.

### **b. Terminating your contract**

You should also note that your contract could be terminated in certain instances. For example:

- You may request that your contract be terminated. You must provide the OPA with 30 business days’ notice if you wish to do so.
- The OPA may terminate your contract for any breach of the contract.
- Your contract will terminate automatically if your connection agreement with your local distribution company is terminated.

### **c. Amending your contract**

During the contract, you must notify the OPA if there are any changes in your GST registration status or to your microFIT project. Both the OPA and you must agree to the changes.

### **d. Contract assignment: what if I move?**

A microFIT contract holder may choose to move or sell his or her home before the end of the contract term. In this case, the microFIT contract can be assigned to the

new homeowner who can take over the contract for the remainder of the contract term.

For example, if you have a 20-year microFIT contract and you assign it after 15 years to a new homeowner, the new microFIT contract holder will receive contract payments for the remaining five years of the contract term. It is up to you (and your real estate agent) to determine the value of the microFIT project when you are selling your home.

To assign your microFIT contract to a new homeowner, you must complete these steps:

1. You must first assign your local distribution company's connection agreement to the new homeowner
2. The new homeowner must set-up a generator account with the appropriate local distribution company and register for the microFIT Program.
3. You must obtain the microFIT registration ID from the new homeowner and provide this ID during the assignment process.
4. You must give the OPA notice that you intend to assign the contract and the OPA must agree to the assignment.

The OPA will not withhold consent to an assignment of contract unreasonably.

You cannot "move" your microFIT contract to your new home. You can either assign it to the new owner as described above, or you can terminate your microFIT contract and submit a new microFIT application for your new home address.

**e. Other issues**

During the contract term, the OPA may do the following:

- audit your microFIT project
- request that you provide copies of all statements and invoices from the local distribution company
- request evidence of domestic content compliance
- ask to inspect your microFIT project.

**f. Program review**

The OPA intends to review and amend the microFIT Program at periodic intervals. It may also amend the program at any time in response to government direction, changes in laws and regulations, significant changes in market conditions or other circumstances. Future changes or amendments to the program will not affect existing microFIT contracts or applicants who have received a conditional offer of microFIT contract.

**SECTION 6: CONTACT US**

Thank you for your interest in the OPA’s microFIT Program for renewable energy developers.

If you have questions about the microFIT Program, please contact the OPA as follows:

<b>microFIT Program</b>	<a href="mailto:microfit@powerauthority.on.ca">microfit@powerauthority.on.ca</a> .
<b>microFIT contract issues (e.g., assignment, amendment, termination)</b>	<a href="mailto:microFIT.contract@powerauthority.on.ca">microFIT.contract@powerauthority.on.ca</a>
<b>For problems with the website or technical support</b>	<a href="mailto:webmaster@powerauthority.on.ca">webmaster@powerauthority.on.ca</a> .
<b>microFIT Program call centre</b>	1-888-387-3403
<b>OPA contact information</b>	Ontario Power Authority c/o microFIT Program Suite 1600 120 Adelaide Street West Toronto ON M5H 1T1  <a href="http://www.powerauthority.on.ca">www.powerauthority.on.ca</a> <a href="mailto:info@powerauthority.on.ca">info@powerauthority.on.ca</a>