



SUMMER 2013

# Community Power Co-operative Getting Started Guidebook



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## 1 Introduction

This guidebook is written for communities and individuals interested in establishing a renewable energy co-operative or a co-operative intended to develop renewable energy projects, particularly for those involved in such co-ops in the early stages. Organized in nine sections, this book will introduce you to the basics of renewable energy in Ontario including the various technologies, the Feed-in Tariff program and the Green Energy and Economy Act. It will also summarize and direct you through the basics of co-op development, project development and long-term co-op and project maintenance. By reviewing this guidebook, you should gain a solid understanding of the time, dedication and resources required to build and maintain a renewable energy co-operative or co-op and renewable energy projects. Further depth of information on these topics can be found through CP Fund's Capacity Building initiative.<sup>1</sup>

Note that the electricity sector is complex and ever-evolving. A renewable energy project is a large undertaking, so it is advisable that your research doesn't end here. Additional resources are referenced throughout the Guidebook to assist co-ops in continuing the research and planning required.

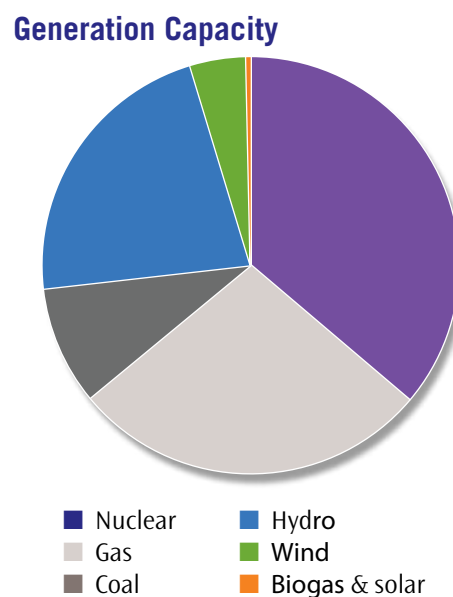
## 2 Introduction to Renewable Energy

### 2.1 What is Renewable Energy?

Renewable energy is energy generated using a source that is renewed by natural processes within short timeframes, including wind, water, solar, geothermal, and tidal energy.<sup>2,3</sup> Renewable energy differs from other forms of low-carbon generation by using sources that are available over wide geographical areas and that do not require significant modification of the source. Globally, growth in renewable energy has been supported by strong policy and government programs in response to issues including climate change, global warming and the rising cost of carbon-based fuels. In addition, different jurisdictions may define different sources of energy as "renewable" when establishing and amending policies.

Over the past decade, renewable energy generation has been growing globally at about 2.8% per year, and as of 2009 19.3% of the world's energy generation was produced from renewable sources.<sup>4</sup> Germany, China and the United States are currently at the forefront of non-waterpower renewable energy generation and are leaders in renewable energy development on their respective continents.<sup>5</sup>

As of 2009, 16.9% of Canada's total primary energy supply comes from renewable energy with waterpower and biomass energy leading in production nation-wide<sup>6</sup>. Since the introduction of the Green Energy and Economy Act and the Feed-in Tariff program in Ontario, renewable energy has grown to 26.7% of the total installed energy generation capacity<sup>7</sup>, and this portion is projected to grow to 32.8% by 2030<sup>8</sup>. Currently waterpower and wind energy are the dominant producers of renewable energy in the province, but wind and solar are experiencing the highest rate of growth.



**Figure 1:** Ontario's installed generation capacity from various renewable and non-renewable sources (source: Independent Electricity Systems Operator of Ontario).<sup>9</sup>

1 <http://cpfund.ca/capacity-building/>

2 <http://www.nrcan.gc.ca/energy/renewable/1297>

3 [http://www.e-laws.gov.on.ca/html/statutes/english/elaws\\_statutes\\_09g12\\_e.htm](http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_09g12_e.htm)

4 <http://www.iea.org/topics/renewables/>

5 [http://www.ren21.net/Portals/0/documents/GSR\\_2012%20highres.pdf](http://www.ren21.net/Portals/0/documents/GSR_2012%20highres.pdf)

6 <http://www.nrcan.gc.ca/energy/renewable/1297>

7 [http://www.ieso.ca/imoweb/media/md\\_supply.asp](http://www.ieso.ca/imoweb/media/md_supply.asp)

8 <http://www.energy.gov.on.ca/en/ltep/supply/>

9 [http://www.ieso.ca/imoweb/media/md\\_supply.asp](http://www.ieso.ca/imoweb/media/md_supply.asp)

## 2.2 What is Community Power?

Community power means renewable energy projects that are developed and owned in whole or in part by landowners and individuals, solely and collectively. Community power projects can take many forms including renewable energy co-ops, individual-citizen investment, farmer-owned projects, and projects purchased by neighbourhoods. Through this model of democratic and economic participation, the triple-bottom-line benefits (economic, social and environmental) of renewable energy project development are kept close to those who work, live and play in the communities that host infrastructure. By providing communities with decision-making power to participate in local projects that stimulate local economic development, community power increases quality of life while helping to diminish the environmental impacts of non-renewable energy generation.

This model has strong roots and demonstrable success in northern and central Europe. In Denmark, where there is a strong history of co-operative ownership and renewable energy constitutes 20% of the electricity supply, renewable energy co-ops (or “guilds”) have maintained a prominent presence in the energy market. Of the ~3,000MW of installed wind energy capacity in Denmark, ~600MW is owned by co-ops.<sup>10</sup> One of Denmark’s most famous co-ops is the Middelgrunden Wind Co-operative that consists of 8,552 community shareholders who collectively own a 20MW offshore wind farm with the local utility company.

In Germany, where 17% of the country’s energy generation is attributed to renewable sources with a target to expand to 35% by 2020 and 80% by 2050<sup>11</sup>, communities also play a key role in the shift to renewable energy generation. As the majority of renewable power projects are owned by private individuals, small businesses and farmers, most of the utility bill surcharge for renewable electricity flows directly back to communities where the power was generated.<sup>12</sup> Through fostering a combination of traditional co-op structures and other legal structures that facilitate community ownership of energy, community power has gained significant ownership over energy generation in Germany. As of 2011, 40% of all wind turbines were owned by co-ops and as of 2009, 40 solar PV co-ops were active in Germany. In the same year, it is estimated that 51% of all renewable generation (63,000 MW installed) in Germany was owned by co-ops, individuals and farmers.

In Ontario, with the Feed-in Tariff 2.1 revisions presented in late 2012, community power projects that have economic interest are defined as co-operative corporations as legislated in the Co-operative Corporations Act.<sup>13</sup> As described below, a co-operative is a legal structure in Ontario that allows individuals to become member investors who can purchase securities from the co-op for the purposes of owning and generating renewable energy projects.

Members may participate in co-op governance by running for the board of directors or joining committees. All members are entitled to one vote at the co-op’s annual general meeting regardless of how many securities they hold. Economic yields on member securities are paid in accordance with the co-ops’ financial performance and the revenues generated by their renewable energy projects.

Community power co-ops represent a growing sector in Ontario and to date have engaged over 3,000 residents of Ontario directly and thousands more indirectly through renewable energy and community power education. Community power co-ops are proving to be a strong model for engaging local residents in the direct economic benefits of green energy development in Ontario. As renewable energy continues to grow in the province, community power will expand in parallel, encouraging more economic and democratic participation from Ontario residents.

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10 [http://www.uk.coop/sites/storage/public/downloads/36247mr\\_0\\_0.pdf](http://www.uk.coop/sites/storage/public/downloads/36247mr_0_0.pdf)

11 <http://www.bmu.de/en/topics/climate-energy/renewable-energy/general-information/>

12 [http://www.boell.de/audio/publications/Moss\\_Power\\_and\\_Profits.pdf](http://www.boell.de/audio/publications/Moss_Power_and_Profits.pdf)

13 [http://www.e-laws.gov.on.ca/html/statutes/english/elaws\\_statutes\\_90c35\\_e.htm](http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90c35_e.htm)



## 2.2.1 Renewable Energy Technologies typically employed by Ontario co-ops

### *Solar PV (rooftop and ground-mount)*

Solar photovoltaic systems, or Solar PV, use solar panels (consisting of many solar cells) to convert sunlight into electricity. When sunlight hits a solar panel, the photons in the light excite semiconducting materials in the solar cells. This causes the materials to become charged, generating a unidirectional current. This current can be converted using an inverter and fed into the energy grid.



While there are many types of solar PV, a typical solar PV system consists of photovoltaic solar panels, an inverter that converts DC power into AC power and a racking system that holds the panels in place.

A collection of solar panels, or solar array, can be mounted to a roof or on the ground. Rooftop solar PV is typically static, but ground-mount systems may be static or may track the sun. Single-tracker systems only follow the zenith (how “high” the sun is) while dual-tracker systems will also follow the azimuth (where the sun is).

In addition, solar panels may be engineered using different materials and technologies. Table 1 outlines the various solar PV technologies available and their differences.

**Photo left:** rooftop solar panel installation  
(Credit: SolarShare)

**Photo right:** ground-mount solar array  
(Credit: SolarShare)

**Table 1: The common types of solar PV technology available and their key attributes**

Solar PV Technology	General Description	Key Attributes
<b>Crystalline</b>	The “traditional” solar PV system, PV panels are strung together in larger arrays.	More expensive Heavier and thicker Higher efficiencies More wattage per unit area
<b>Thin-film</b>	Solar module and cells are created in unison by layering materials over each other.	Less expensive technology Lighter and thinner Lower efficiencies Less wattage per unit area
<b>Concentrated</b>	Use lenses or mirrors to concentrate sunlight on high-capacity PV modules.	Expensive Heavier Introduce more complexity Increased production

### *Wind*

Wind energy generation converts energy in moving air masses into mechanical energy that can be used to generate electricity. This most commonly occurs through a modern horizontal-axis wind



**Photo 3:**  
Melancthon wind farm (Credit: John Vetterli)

turbine, consisting of a tall shaft with a nacelle (which houses the generator, gearbox, drivetrain and brake assembly) and blades attached to the top. Wind moving past the blades causes lift, rotating the blades and the shaft in the nacelle. This shaft spins a series of gears in the gearbox that drives the generator to produce power.

There are a number of variables that determine the electricity output of a wind turbine including:

- Wind speed – faster wind speeds create quicker rotations, which generate more electricity
- Blade radius – a larger blade radius or “swept area” produces more electricity
- Air density – denser air creates more lift and as a result, more electricity

The Government of Canada and other sources provide wind resource maps that indicate wind speeds around the county. However, most project developers will install an anemometer at the proposed project site to measure wind speed. Ideally, the anemometer should be installed directly on the project site and at the height of the proposed wind turbines to provide the most accurate results.



**Photo 4:** biogas plant, Lebach, Germany  
(Credit: Daniel W. Bittner)

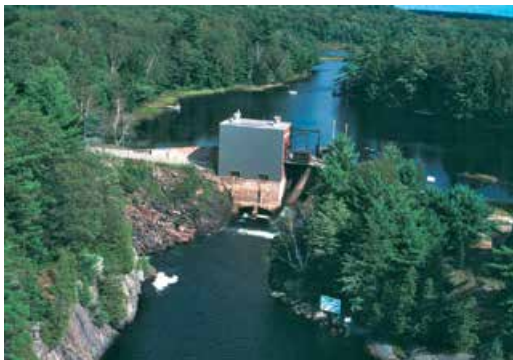
### **Bioenergy**

Bioenergy is energy derived from renewable organic biological materials (e.g. manure, food-waste, grease, etc.). Through either fermentation or anaerobic digestion (the decomposition of organic matter in an oxygen-free environment), methane gas is created from the breakdown of input materials. This methane gas can be burned in a generator to create electricity.

In addition to methane gas, anaerobic digestion in bioenergy can create a number of useful by-products. For example, heat generated by this process can be used to warm greenhouses, buildings or households. The liquid and solid fertiliser that is produced as digestate can be used in agriculture to grow and nourish farms.

### **Waterpower**

Waterpower harnesses the potential energy of water by taking advantage of a natural drop or by building a dam. Through the force of gravity, water flows from a river or a reservoir downward into an intake and through a penstock. A turbine is located at the end of the penstock and the movement of water spins the blades of the turbine. This turbine turns the shaft of the generator, generating electricity. Water that has flowed past the turbine passes through a draft tube and back into a river at a lower elevation.



**Photo 5:** Hanna Chute station  
(Credit: Ontario Power Generation)

## **2.2.2 Electricity Sector in Ontario**

### **Key Organizations**

The key organizations in Ontario’s electricity sector are: the Local Distribution Companies (LDCs), Ministry of Energy, Ontario Power Authority (OPA), Ontario Power Generation (OPG), Independent Electricity System Operator (IESO), Hydro One and the Ontario Energy Board (OEB). It is important to know which LDC is responsible for the area where a project is to be located, and to understand

the role that each sector organization plays and how these roles could impact a renewable energy co-op’s project.

Some resources that help understand the sector organizations are:

- To learn more about how the electricity sector make-up in general, the OPA website has some quick reference information: [www.powerauthority.on.ca/ontarios-energy-sector](http://www.powerauthority.on.ca/ontarios-energy-sector)
- The IESO website has a useful map of the LDC territories, but if the project will be on property close to where directors or members of the co-op live, checking a home electricity bill may help the co-op to determine the correct LDC: [www.ieso.ca/imoweb/pubs/local\\_distribution/Ontario\\_LDC\\_Map.pdf](http://www.ieso.ca/imoweb/pubs/local_distribution/Ontario_LDC_Map.pdf)
- Each organization's role can be researched via the respective website:
  - **Ministry of Energy:** [www.energy.gov.on.ca](http://www.energy.gov.on.ca)
  - **OPA:** [www.powerauthority.on.ca](http://www.powerauthority.on.ca) or [fit.powerauthority.on.ca](http://fit.powerauthority.on.ca) (for FIT specifically)
  - **IESO:** [www.ieso.ca](http://www.ieso.ca)
  - **Hydro One:** [www.hydroone.com](http://www.hydroone.com)
  - **OEB:** [www.ontarioenergyboard.ca](http://www.ontarioenergyboard.ca)

### *Renewable Energy Procurement Capacity*

Ontario's Long Term Energy Plan (LTEP)<sup>14</sup> is currently under review<sup>15</sup>, but in 2010 when it was originally released, it included 900MW of hydro electric capacity and 10,700MW of solar, wind and bioenergy by 2018. There has been indication that the LTEP review will encompass an examination of Ontario's electricity supply mix (gas, nuclear, renewable generation), conservation and the development of a large scale clean energy procurement process<sup>16</sup>. As a result, these may be adjusted and it is encouraged that co-ops follow the LTEP review to stay up to date on Ontario's renewable procurement plans and processes.

In a Directive to the OPA on June 12, 2013, Energy Minister Chiarelli indicated that starting in 2014, the OPA can procure up to 50MW in microFIT projects (projects that are less than 10kW) and 150MW small-FIT projects every year for four years<sup>17</sup>. Additionally, a small-FIT window that will procure up to 70 MW, plus any of the unused capacity from the 200MW small-FIT window that closed on January 18, 2013, is to be opened in the fall of 2013.

## 3 Policy Framework

### 3.1 Green Energy and Economy Act

The Government of Ontario has committed to phasing out coal-based energy production by 2014. In order to make this ambition a reality and as part of the government's Climate Change Action Plan, Ontario passed the Green Energy & Green Economy Act (GEA)<sup>18</sup> in May 2009. The GEA was drafted with the participation of representatives from First Nations, community organizations, environmental organizations and various other interest groups. This world-class legislation and its related programs aim to boost investment in renewable energy projects and thereby foster green job creation, economic growth, community empowerment and a culture of conservation.

The GEA was particularly important for the community power sector because it facilitated several related legislative amendments as well as the development of programs to support the act.

Many of the legislative changes and related programs were designed to support the development of community-based renewable energy projects. The Feed-in Tariff created a level playing field for generators making it possible for anyone to generate electricity and participate in the market. The amendments to the Co-operative Corporations Act made it possible for renewable energy co-ops to

14 [http://www.energy.gov.on.ca/docs/en/MEI\\_LTEP\\_en.pdf](http://www.energy.gov.on.ca/docs/en/MEI_LTEP_en.pdf)

15 <http://www.energy.gov.on.ca/en/ltep/>

16 <http://www.energy.gov.on.ca/en/ltep>

17 <http://www.powerauthority.on.ca/sites/default/files/MC-2013-1450-DirectionRenewableEnergyProgram.pdf>

18 <http://www.energy.gov.on.ca/en/green-energy-act/>

raise capital from their members to finance their projects, something that was generally not possible before. The Renewable Energy Facilitation Office<sup>19</sup> was created to act as a single access point for individuals, communities and municipalities looking for information on project development, and to help connect people with other appropriate agencies and resources. Finally, the Community Energy Partnerships Program (CEPP)<sup>20</sup> was created to assist communities with the soft costs of developing Feed-in Tariff projects.

### 3.1.1 Feed-in Tariff Program

The Feed-in Tariff (FIT) Program was enabled by the Green Energy and Green Economy Act, 2009. The Ontario Power Authority (OPA) is responsible for implementing the FIT Program. From the OPA's FIT website<sup>21</sup>:

*Ontario's FIT Program is North America's first comprehensive guaranteed pricing structure for renewable electricity production. The program provides a way to contract for renewable energy generation. It includes standardized program rules, prices and contracts for anyone interested in developing a qualifying renewable energy project. Prices are designed to cover project costs and allow for a reasonable return on investment over the contract term.*

Qualifying renewable technologies include bioenergy (biogas, renewable biomass and landfill gas), solar photovoltaic (PV), waterpower and wind power.

In 2011, the FIT Program underwent a two-year program review and in 2012, the Ministry of Energy and the Ontario Power Authority introduced FIT 2.0. Some of the changes to FIT 2.0, including new land-use restrictions, soil class regulations, price amendments and the introduction of a priority points ranking system, were established in response to public consultation. More importantly for community power, a community Contract Capacity Set-Aside (CCSA) was introduced alongside an Aboriginal Community Capacity Set-Aside.

Under the CCSA, 25 MW of contract capacity in the 200 MW FIT procurement window was reserved for projects with greater than 50% economic interest by a co-op. These co-ops also required at least 50 members who own property in the municipality in which the proposed project would be built. Any project meeting these requirements could compete for a contract within this set-aside, separate from projects with low levels or no community participation. Applicants in the latter group remained eligible for the open procurement of 150 MW.

Under this Priority Point system, Applications would be prioritized and ranked on eligible points based on project type. The more points an Application received, the greater the likelihood that a FIT Contract would be offered, subject to distribution and transmission limits. In the Priority Points schedule, co-ops and Aboriginal participation in projects are given the highest amount of points: 3 points each. Other criteria, including support from a local Municipal Council (2 points) or engaging an Education or Health sector partner (2 points) also earned application priority points.

Projects greater than 50% community participation were also awarded a price adder of 1.0 cents/kWh on top of the standard contract price. Projects with less than or equal to 50% community participation, but greater than 15% community participation are awarded a 0.5 cents/kWh price adder on top of the standard contract price.

A brief overview of the FIT Application and Contract process is outlined below. To learn more about the process, visit the FIT website:

- i. The FIT Application is submitted by the Applicant via the "My FIT Home Page";
- ii. The OPA reviews the application for completeness eligibility;
  - applications that are not complete are terminated and do not proceed further through FIT Application Review

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19 <http://www.energy.gov.on.ca/en/renewable-energy-facilitation-office/>

20 <http://www.communityenergyprogram.ca/>

21 <http://fit.powerauthority.on.ca>



- iii. The OPA ranks eligible applications by Priority Points and Timestamp;
- iv. OPA performs transmission and distribution testing subject to Procurement Limits
  - applications that do not pass the transmission and distribution testing are terminated and are not offered a FIT Contract
- v. The OPA offers Contracts to successful Applicants

If a FIT Application fails any step in this process, it may be rejected and not move on to the next step, so it is imperative that the co-op gets a full understanding of the requirements before preparing an application for submission.

## 3.2 Ontario Co-operative Corporations Act

The Ontario Co-operatives Corporations Act governs co-operative corporations in the province, establishing the definition of a co-op, the limits to their business and the regulations guiding their financial and administrative operations. Under this Act, there are currently two types of co-ops that are developing community power and renewable energy projects.

### 3.2.1 Renewable energy co-operatives and traditional co-operatives

Traditional co-operatives are member-based corporations that operate according to co-op principles outlined in Section 4.1. These co-ops can raise financing from members or access financing through traditional business means to develop renewable energy projects. Traditional co-ops, however, are required to conduct 50% of all their business with co-op members. CP Fund's case studies on AGRIS Solar Co-operative and AMBER Co-operative published on the CP Fund website<sup>22</sup> demonstrate how a traditional co-op can pursue renewable energy projects.

In 2010, the Co-operative Corporations Act was amended to include and define renewable energy co-ops. With the current electricity system in Ontario, it is impossible to determine how much electricity generated by a co-op is consumed by the co-op's members, making it difficult to comply with the co-op requirement that 50% of all co-op business be conducted with its members. To help rectify this challenge, the Act was amended to remove this requirement from renewable energy co-ops. As currently defined, renewable energy co-ops are limited to generating electricity produced from one or more renewable energy sources and selling, as a generator, the electricity it produces from these sources.

### 3.2.2 Financial Services Commission of Ontario

The Financial Services Commission of Ontario (FSCO) regulates and monitors co-operatives in the province. All co-op incorporation applications are submitted to FSCO for review and receipt. FSCO has the ability to remove co-op status from any business it determines is not operating according to co-op principles. FSCO also regulates offering statements and offering memoranda that co-ops must have receipted before selling securities to members. More details on the offering statement are provided in Section 5.4.

## 4 The Co-operative Model

### 4.1 Co-operative Corporations

A co-operative corporation is a member-based corporation that operates according to co-op principles. As outlined in the Ontario Co-operative Corporations Act, co-op principles mean that in a corporation:

- (a) each member or delegate has only one vote,
- (b) no member or delegate may vote by proxy,
- (c) interest on loan capital and dividends on share capital are limited to a percentage fixed by this Act or the articles of incorporation, and

22 <http://cpfund.ca/capacity-building/case-studies/>

(d) the enterprise of the corporation is operated as nearly as possible at cost after providing for reasonable reserves and the payment or crediting of interest on loan capital or dividends on share capital; and any surplus funds arising from the business of the organization, after providing for such reasonable reserves and interest or dividends, unless used to maintain or improve services of the organization for its members or donated for community welfare or the propagation of co-op principles, are distributed in whole or in part among the members,



**Photo 6:** The co-op model means democratic ownership  
(Credit: Highway Agency)

- (i) in accordance with the by-laws of the co-op if the corporation is a renewable energy co-op, or
- (ii) in proportion to the volume of business the members have done with or through the organization if the corporation is not a renewable energy co-op.

In more simple terms, a co-operative corporation operates according to the following seven values as outlined by the Ontario Co-operative Association and the International Co-operative Alliance<sup>23</sup>:

- v. **Voluntary and Open Membership** – Co-ops are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.
- vi. **Democratic Member Control** – Co-ops are democratic organizations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. In primary co-ops members have equal voting rights (one member, one vote) and co-ops at other levels are also organized in a democratic manner.
- vii. **Member Economic Participation** – Members contribute equitably to, and democratically control, the capital of their co-op. At least part of that capital is usually the common property of the co-op. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing their co-op, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the co-op; and supporting other activities approved by the membership.
- viii. **Autonomy and Independence** – Co-ops are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their co-op autonomy.
- ix. **Education, Training and Information** – Co-ops provide education and training for their members, elected representatives, managers, and employees so they can contribute effectively to the development of their co-ops. They inform the general public – particularly young people and opinion leaders – about the nature and benefits of co-operation.
- x. **Co-operation among Co-ops** – Co-ops serve their members most effectively and strengthen the co-op movement by working together through local, national, regional and international structures.
- xi. **Concern for Community** – Co-ops work for the sustainable development of their communities through policies approved by their members.

23 <http://ica.coop/en/what-co-op/co-operative-identity-values-principles>

On Co-op – The Ontario Co-operative Association provides a comprehensive guide to the Co-operative Corporations Act.<sup>24</sup>

## 4.2 Why the Co-op Model?

The legal and business structure of the co-op model has enabled it to be the leading structure for community power in Ontario. As described above, all members who join a co-op are entitled to one vote and are also allowed to invest in the co-op and earn returns from their investment. This structure enables a level of democratic and economic participation in renewable energy project development and management that is crucial to community power.

Residents or community members interested in green energy and its benefits can start or join a renewable energy co-op or a traditional co-op seeking to develop a renewable energy project. With an offering statement, the co-op can sell securities to these members to help finance the planning, development and building of renewable energy projects. These developed projects generate electricity that is sold at a fixed rate for the duration of their FIT Contract to produce revenues that the co-op can either choose to distribute to its members according to how much each member has invested, or to expend for social-benefit purposes.

## 4.3 For-profit vs. non-profit

Both renewable energy co-ops and traditional co-ops can be classified as either for-profit or non-profit. One of the first things a community must do when pursuing a renewable energy project is to decide on its organizational structure, which will have implications on whether it is able to access various sources of funding and how it plans to finance projects throughout the stages of project development. Although it is possible to undertake a community power project using other ownership models, this guidebook will focus on providing information on these two co-op structures.

In a for-profit co-op, surpluses generated from the co-op's activities are shared among members and investors. In return for purchasing shares from a co-op, members or investors become eligible to receive a return on their investment in the form of dividends, which they receive according to the number of shares they purchased. Some of the surplus may be set aside for other purposes including new project development and public education, if the membership agrees to this division at an annual general meeting. For-profit co-ops are able to sell both share equity and bonds. The case studies on Ottawa Renewable Energy Co-operative and AGRIS Solar Co-operative illustrate a for-profit renewable energy and a traditional co-op.

Non-profit co-ops must not retain any surplus and must generate revenue to match their costs of operations as closely as possible. Any revenue generated above the cost of operations may be reinvested into the co-op for future projects or used for education and public-benefit purposes. Non-profit co-ops may sell bonds, but are not able to sell share equity. The case studies on SolarShare Co-operative and ZooShare Biogas Co-operative discuss non-profit renewable energy co-ops.

## 4.4 Types of securities

Co-ops offer two main types of securities: share equity and bonds.

Share capital is generally considered to be equity and is usually used to purchase lands or equipment, or to provide working capital for the co-op. There are two types of shares that are offered by co-ops with share capital: membership shares, which are available only to those people wishing to become members of the co-op; and preference shares, which can be purchased both by members and outside investors. Cooperative members jointly own the co-op and are granted a vote in decision-making processes regarding the co-op's operations and governance. Investors solely receive a financial return on their preference share purchases without becoming members of the co-op.

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<sup>24</sup> [http://www.ontario.coop/programs\\_services/coop\\_development/on\\_coops\\_guide\\_to\\_the\\_cooperative\\_corporations\\_act](http://www.ontario.coop/programs_services/coop_development/on_coops_guide_to_the_cooperative_corporations_act)

Bonds are generally not considered equity, but can also be used by co-ops as working capital or to purchase land, equipment and renewable energy projects. Each bond is comprised of the following elements:

- **Principal** – the nominal amount on which the co-op pays interest to the bondholder
- **Maturity** – the date on which the co-op must repay the Principal
- **Interest** – the rate of return received from investing in the bond that is paid by the co-op; this is usually offered as a fixed rate over a fixed term

As noted above, bond returns are not tied to the generation revenue of the co-op, but rather, are tied to the interest rate described in the terms of the bond.

Non-profit co-ops wishing to allow bondholders to participate in the surplus generated by their activities can issue what are called participating bonds. The use of participating bonds is a blend of the for-profit and non-profit models, although legally it is accomplished through a non-profit co-op. Participating bonds are bonds that not only pay a fixed interest rate, but also allow bondholders to participate in the surplus. In so doing, they provide a greater sense of ownership to investors than the simple non-profit bond model. The disadvantage is that there is less money available to accomplish the social mission of the organization, unless the fixed rate is lowered to offset the participation payments.

## 5 Co-op Development

### 5.1 Incorporation and Governance

Incorporating a co-operative gives the corporation legal rights and recognition under the law, and provides some legal protection for members and directors. It also allows the co-op to borrow money, raise capital and own assets under its name, which is essential to any co-op planning on generating renewable energy. Any co-op that is incorporated must have the word co-op or co-operative in its legal name.

During the incorporation process, a co-op is required to submit for approval its Articles of Incorporation under the Ontario Business Corporations Act<sup>25</sup> with the Ministry of Government Services using ServiceOntario<sup>26</sup> or an authorized Service Provider. These Articles outline the basic structure and operations of a co-op:

- The legal name of the co-op
- The co-op's head office
- The founding directors and their expertise
- The maximum number of directors
- The business of the co-op
- The types of securities that will be offered and their:
  - Attached voting rights
  - Fate upon dissolution
  - Redemption rights
  - Delivery Note
- Any special provisions for membership

A co-op may also choose to develop and approve by-laws. While not required for incorporation or by the Act, by-laws are more specific than the Articles of Incorporation and provide a foundation and reference for how the co-op regulates its business and affairs. The first set of by-laws can be approved by the founding board of directors, but any amendments or new by-laws must be

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<sup>25</sup> [http://www.e-laws.gov.on.ca/html/statutes/english/elaws\\_statutes\\_90b16\\_e.htm](http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90b16_e.htm)

<sup>26</sup> <http://www.ontario.ca/serviceontario>



approved by the membership at an Annual General Meeting. By-laws cover a variety of processes including, but not limited to:

- Terms of membership
- Election of directors and delegates
- Officer positions
- Meeting of directors
- Annual General Meetings
- Use of capital
- Financing and audits

In addition to by-laws, a co-op can develop policies to outline internal guidelines and standards that are used to guide the day-to-day activities and decision-making processes of its members, staff and directors. Topics typically covered in policies involve:

- Privacy and protection of personal information
- Use and authority around petty cash
- Credit card use and authorisation

## 5.2 Business Planning

Business planning provides the foundation to any co-operative wishing to pursue renewable energy projects. A business plan outlines the unique value proposition the co-op brings to the marketplace and provides context for its goals, direction and operations. It also outlines the co-op's long-term operations and management strategies, including business administration, member and investment management, and refinancing if necessary.

All prospective members and investors will review this plan in order to understand the activities they will be participating in and how their investments will be used. They want to know the types of projects the co-op plans on pursuing, the timeline for these projects, the sales and marketing activities planned to help raise adequate financing and how surpluses will be used by the co-op if not paid out to investors. These fine details in the business plan are also used to write the offering statement that must be submitted to and accepted by FSCO before co-op securities can be sold to members.

A renewable energy co-op or a co-op whose primary business is generating renewable energy should consider including the following topics in its business plan:

- Business description
- Description of the market in which the co-op is participating
- Description of the technology and assets that will be employed in the business
- The co-op's advantage in the marketplace
- Project goals, present and future
- Business structure and operations
- Financing and financial structure

## 5.3 Financial Modeling

Building a robust and detailed financial model is important to the long-term sustainability of a co-operative. Typically, renewable energy financial models cover the entire length of the FIT Contract including project planning and development. Not only will the financial model provide a co-op with return on investment and breakeven projections, but the process of developing a model also encourages the co-op to review and understand the fluctuations in revenue from renewable energy projects and the costs of operating a business over an extended period of time. This process will also

provide the co-op with a strong understanding of the scale (both in terms of number of projects and generation capacity of projects) it needs to develop in order to be financially feasible.

Typically, a financial model is built on a spreadsheet, and outlines a co-op’s revenues, expenses and financial obligations (e.g. private loans, member securities) over a project’s life-span, typically a twenty-year term or longer. The financial model aggregates and analyses these inputs and outputs over this term to determine the financial feasibility and economic performance of the co-op’s investment in the project. The following is a non-exhaustive list of professionals that a co-op may want to consult with when developing a financial model:

- Lawyers
- Equipment manufacturers
- Bankers
- Lenders
- Tax professionals
- Other financial advisors
- Insurance advisors
- Technical/engineering consultants
- Other

The following table outlines some revenues, expenses and obligations to consider including in a financial model (please note that this is not an exhaustive list – co-ops may find certain listed considerations not applicable to their project, while other factors may be applicable but not listed below):

**Table 2: Examples of typical revenues, expense and obligations items to include in building a financial model.**

Revenues	
<b>Generation</b>	The revenue generated from the sale of electricity generated by the co-op’s renewable energy projects, the below variables should be considered but others may also be required to create an accurate estimate:
FIT rate	The cents/kWh that the project earns for the sale of electricity as agreed upon in the FIT Contract with the OPA
Capacity	The capacity of the renewable energy project can be used to predict how much electricity is produced by the project annually. Multiplying this projected generation with the FIT rate will provide an estimate of generation revenues for the year
Degradation	With some technologies, especially solar PV, the amount of electricity generated every year may decrease due to technology degradation. It is important to model for this degradation in any financial model with long-term revenue projections.
Dispatchability & Curtailment	Rules around dispatchability may have an impact on long-term revenue projections. Check the market rules on the IESO website regarding curtailment.
<b>Community financing</b>	This is the amount of financing expected to be raised from the community through the sale of community bonds or shares
<b>Private financing</b>	Private financing includes any funds brought in through angel investors or private loans
<b>Grants</b>	Any grant funding from foundations, governments or other social-benefit institutions

Expenses	
<b>Business Development</b>	Business development expenses are costs associated with the planning and legal establishment of a co-op, its long-term goals and activities and its preparation to sell co-op securities. These expenses typically include, but are not limited to, the following items.
Incorporation	These costs include preparing Articles of Incorporation, having them reviewed by a lawyer, and then submitting them to FSCO for approval.
Legal	These include the costs associated with exploring what activities the co-op can and cannot participate in regarding financing structure, project development structures and governance policies.
Offering Statement	This is the cost of writing the co-op's offering statement, submitting the draft to a lawyer for review and editing, and then submitting the document to FSCO for review and receipt. This process can take anywhere from four months to a year so it is important to budget conservatively in the financial model.
Consultants and/or Paid Staff	This includes the costs of consultants to provide advice to the co-op, including business planning and financial modeling. The co-op may also elect to hire paid staff to co-ordinate business development activities on behalf of the board or complete much of the business development work, should they be qualified.
<b>Operations</b>	Operations expenses are costs associated with the daily operations of the co-op and its projects after the business development and establishment of the corporation is complete. Some of the key operating expenses include the items listed below.
Office/Overhead	These include the costs associated with acquiring and maintaining an office space including rent, communications, postage and banking fees.
Insurance	Insurance coverage is important to protect the co-op, its staff and its directors from liability and damages. Typically, both General Liability and Directors and Officers insurance is essential to all co-ops. However, speaking with insurance companies, brokers and advisors about the co-op's situation and business to fully understand its insurance needs is crucial.
Technical and maintenance	Depending on the nature of the project, a co-op might be responsible for all the costs or a portion of the costs associated with maintaining and repairing the project to ensure it is producing as much electricity as possible. These costs occur every year during the project's life-span and with some technologies, like solar PV, hardware must be replaced every five to seven years. Understanding the nature of the technology the co-op is pursuing is essential to understanding and projecting these costs.
Paid staff/ Contract staff	As a professional business that is selling securities, a co-op must be active and diligent in its bookkeeping, accounting and investment management. These responsibilities are further detailed in Section 8.  The co-op may elect to hire staff to ensure that it meets its legal business obligations and can provide dividend or interest payments to members accurately and punctually. Some co-ops choose to contract out these responsibilities to achieve lower costs.

Expenses	
<b>Project Costs</b>	<p>Project costs include, but are not limited to, any and all costs associated with:</p> <ul style="list-style-type: none"> <li>● The technology or hardware</li> <li>● Resource assessments</li> <li>● Host site acquisition</li> <li>● FIT Application and associated testing/environmental assessments</li> <li>● Legal due diligence and financial due diligence</li> <li>● Construction of the project</li> <li>● Legal contracts for the construction of the project or purchase of the project</li> <li>● Any human resources allocated to project development</li> </ul> <p>The specific costs that are involved in project development may also vary depending on the project structure being employed. These structures are outlined in Section 6.</p>
<b>Sales and Marketing</b>	<p>These include the expenses associated with marketing the co-op and selling the securities it offers. This includes the costs of developing a marketing strategy, creating a community engagement plan and executing these. By developing a sales and marketing budget separately, a co-op can input the total cost of travel, marketing items (print and digital), sales staff, commission costs, etc. directly into its financial model.</p>
Obligations	
<b>Taxes</b>	<p>A co-op's tax obligations will depend on the total value of its capital assets, its capital cost allowance and its interest expenses. It is important to consult a tax expert on the co-op's tax obligations to ensure accuracy.</p>
<b>Capital Cost Allowance</b>	<p>A co-op's capital cost allowance is dependent on the total cost of the projects it owns. Capital cost allowance is an annual depreciation of the co-op's assets that can be used towards tax purposes. A tax expert can help allocate the capital cost allowance effectively.</p>
<b>Loan repayments and interest expenses</b>	<p>If the co-op is employing private loans in addition to community securities to raise financing for project development, it must incorporate the repayment schedule of these loans into its financial model, including both interest and principal payments. Interest payments can be claimed annually for tax purposes. A tax expert can help the co-op employ its interest expenses effectively.</p>
<b>Community securities yield and repayment</b>	<p>The co-op should project the estimated annual return it will pay its members on the shares or bonds they have purchased and also model for when the principal on these securities is returned. Like a private loan, interest paid on community bonds can be claimed annually for tax purposes. A tax expert can help employ interest expenses effectively.</p>

Combining the above revenues, expenses and obligations into a long-term financial model will help establish the co-op's return on investment and bottom line. Involving resources that are able to provide expertise and advice is essential to understanding the co-op's overall financial picture.

#### 5.4 Offering Statement

An offering statement is a co-operative's offering memorandum. It is similar in purpose and nature to the prospectus document that public companies must prepare and have approved before they are able to sell securities to the general public. While the Ontario Securities Commission regulates a prospectus, a co-op's offering statement is regulated by FSCO. Offering statements are "receipted" by the co-op regulator, as opposed to approved. In order to be receipted, FSCO must see that the offering statement provides, in clear and transparent language, a description of all aspects of the project (technical, financial and legal) including all potential associated risks. The FSCO website provides tips for co-ops regarding offering statements.



Once the offering statement is submitted to FSCO, the co-op will receive an official notice that it has been received for review. The co-op and FSCO will then engage in an iterative review process in which FSCO will provide comments on the offering statement and the co-op will make the requested changes and return the document to FSCO for another review. After the co-op has made the required changes, FSCO will receipt the offering statement. This process can require multiple iterations based on feedback from FSCO.

FSCO will only receipt an offering statement if it believes it meets their “full, true and plain” disclosure standard. A co-op needs to provide sufficient information to members and prospective investors to allow them to make reasonably informed decisions. In order to satisfy this criterion, a standard offering statement must include:

- The co-op’s name, incorporation number, date of incorporation, and the address of the head office
- The name, address and occupation of each member of the board of directors
- A description of the business carried on by the co-op, including a summary of the co-op’s most recent business plan (see Section 5.2)
- The co-op’s capital structure, including the nature and details of the securities being offered (expected return, term, rights, privileges and conditions)
- The authorized total capital as outlined in the Articles of Incorporation and any capital that has been issued to date
- A plan and clear description of how the securities described in the offering statement will be used
- A statement of the maximum and minimum amount of the offering
- An outline of the prioritization of debts and obligations, including any securities, mortgages, bonds, debentures and other debt obligations that would rank ahead of the co-op securities; if multiple types of securities are being offered, the ranking of these securities must be described
- A declaration of any material interest a director, employee or officer of the co-op may have in the operations of the co-op and any material legal proceedings in which the co-op is involved
- The co-op’s financial statements for the most recent completed financial year; if a co-op has not completed a whole financial year, financial statements from the most recent six months are acceptable
- A description of the risk factors of the co-op that may affect the performance of the security; for renewable energy co-ops or co-ops participating in renewable energy projects, this may include:
  - **Cash Flow** – Financial modeling should project for a positive cash flow every year. However, if any assumptions are incorrect and cash-flow is negatively affected, then returns on the securities may be negatively affected.
  - **New Venture** – If the co-op is just starting its operations and has no history of operating projects, it will not hold any significant assets nor will it have additional revenues aside from grants and private loans. It is important to identify whether the proposed projects in the offering statement will go ahead should insufficient financing be raised through the offering statement.
  - **Equipment Failure** – While many co-ops expect their projects to require low amounts of maintenance and maintain reasonable performance, equipment failure as a result of unpredictable circumstances may significantly hinder the amount of electricity generated. Severe interruptions in electricity generation would directly impact the co-op’s revenues, cash flow and its ability to pay returns on securities.

- **Financial Projections** – A co-op’s offering statement contains forward-looking statements and projections based upon numerous assumptions and hypotheses that the co-op believes to be reasonable. However due to risks and uncertainties inherent in these assumptions, it is important to state that actual results will vary, perhaps in a materially negative way, from these forecasts and projections.
- **Market for Securities** – As there is currently no open marketplace for co-op securities, no membership may be transferred without the express consent of the co-op’s board of directors. It is up to the co-op to determine whether it will use its best efforts to match buyers and sellers, but no guarantee can be made that members will be able to sell their securities before term.
- **Redemption of Securities** – A co-op must consider whether it is able to redeem securities before the end of their term and if so, what policy will be in place to select who can redeem their securities and to what total amount. Most projects will not be able to return all their securities until much later in their lifespan, so these guidelines and policies must be put in place if redemption of securities is to be allowed.
- **Profitability and solvency** – Unless it can legally guarantee returns on securities offered, a co-op cannot provide absolute certainty that it will be able to pay returns on securities every year if it would be detrimental to the co-op’s financial performance. For example, the board of directors might elect not to pay returns in order to protect the co-op from insolvency.
- **Long-Term Investment** – For most co-ops, the securities they offer should be considered long-term investments that are not suitable for investors who may need to sell their securities quickly in order to raise money. The co-op should state up front that it will require investor principal for the long term and that redemption opportunities will be limited.
- **Unknown Risk Factors** – Co-ops may also be subject to unknown or unforeseen risk factors that could potentially affect their profitability and solvency. Some of these risk factors could include, but are not limited to, failure to comply with new or revised governing statutes, or climate variability resulting in reduced performance.

An experienced co-op lawyer should be engaged to provide recommendations and amendments that may streamline and improve the offering statement approval process. It may also be helpful to review other offering statements that have been accepted by FSCO or reach out to other co-ops to gain insight from their experience.

Here are some tips to help co-ops through this review process:

- **Diligent writing and editing** – As a legal document that is regulated by a government body and read by all prospective investors, the offering statement is and must be a professional document. Errors in spelling, grammar, and diction, though seemingly secondary to the purpose of the offering statement, hinder the ability of the co-op to demonstrate its diligence to FSCO.
- **Document management** – The offering statement review process can be long and require multiple revisions. In order to provide consistency and prevent errors, a clean labeling and naming system should be created to organize iterations of the offering statement
- **Time management** – The co-op will be preparing its offering statement while developing its business, planning its projects, and developing its sales and marketing strategy. The offering statement requires careful attention to detail and response to FSCO’s comments must be made in a timely manner. It is important that the co-op sets aside time dedicated to offering statement work.

Writing an offering statement with all these considerations in mind can be very difficult and time consuming. The case studies on Solar Share Co-operative and the Ottawa Renewable Energy Co-operative describe how these co-ops developed their offering statements. Please see Section 9.2 for a list of case studies available. Furthermore, regardless of similarities in co-op models, every offering statement is unique and each co-op needs to take the time and seek-out the resources required to develop and ensure their offering statement is robust.

#### 5.4.1 Co-op Offering Statement Exemptions

Be advised that co-ops are not required to have an offering statement receipted by FSCO in the following cases:

- i. there are fewer than 35 security holders (members and non-members); or
- ii. a member is only buying up to \$1,000 in securities (shares or debt) in any year, and no member holds more than \$10,000 in securities; or
- iii. the co-op has less than \$200,000 in capital and the securities are being sold to members.

These exemptions may change from time-to-time so it is important to review and comply with the current legislation and regulations.

### 5.5 Sales and Marketing Strategy

A strong sales and marketing strategy is important to the co-op's ability to sell securities and raise the financing necessary to develop or purchase a renewable energy project.

All sales and marketing strategies need to be founded in solid market research. Market research allows the co-op to understand the opinions, values and demands of parties interested in purchasing socially responsible or social impact securities. It is also helpful in developing the messaging around the co-op's securities and positioning the product in the marketplace. Renewable energy co-ops and traditional co-ops typically use a combination of surveys, interviews and focus groups to complete their market research.

Using this research, a co-op can create a robust sales and marketing strategy that describes not only key messaging, but also sales targets, online and digital marketing activities, and even region-specific strategies. The co-op's sales and marketing goals will largely align with the number of securities it must sell to meet its financing needs in terms of both sales numbers and timeline. The strategy should describe in detail exactly how these goals will be achieved. For example, if the co-op's sales and marketing strategy includes a plan for it to have a presence at community events, this explanation should incorporate a list of community events to attend, how many staff members or volunteers will be at each event, what message these attendees will be communicating, which marketing items should they bring and what is the follow-up process for leads gained from attending community events.

The following is a suggested list of considerations for developing a sales and marketing strategy:

- How much financing needs to be raised and how long does the co-op have to make this goal?
- How will the co-op have a presence in its community? How will it establish an online presence?
- How is the co-op going to demonstrate its uniqueness compared with other socially responsible and social impact investments? How will it differentiate itself from other renewable energy co-ops?
- How many individuals, teams or volunteers are needed to implement the strategy?
- What marketing materials should be prepared and which ones should be disseminated in person or online?
- What does the co-op's sales process look like? How will the co-op follow-up with leads to sell memberships and securities?

- What metrics will the co-op use to measure success? How often will the sales and marketing strategy be revised?
- What is the co-op's sales and marketing budget and how does this impact the scale of its activities?

## 6 Project Development

### 6.1 Project Initiation

A project can be initiated in a number of ways, as outlined below. A co-operative may elect to initiate, plan, finance and develop a project on its own, or it may decide to purchase an existing project or develop a project with a partner. Deciding between these structures is dependent on variety of factors including:

- the knowledge and experience the co-op possesses in high-capital cost project development;
- the amount of time the co-op has to focus on developing a project;
- the amount of private debt or financing the co-op can access;
- the amount of community financing the co-op believes it can raise; and
- whether philosophically the co-op wishes to develop its own projects or participate in existing opportunities.

### 6.2 Key Project Steps

There are specific timelines and requirements in relation to the FIT Program that a co-op should be fully aware of and prepared to comply with. A high-level summary of the key milestones is provided below, but it is imperative that a co-op reviews and understands the FIT Program Rules, relevant program documents and other resources on the FIT website before submitting an application. The FIT website also provides information on the process and requirement if a FIT Contract Offer is made and subsequent contract management milestones.

These key milestones include:

- Contract Offer and Acceptance
- Notice to Proceed
- Commercial Operation
- Post-COD Contract Management

#### 6.2.1 FIT Application Process

For every project a co-op plans to develop, it must submit a FIT Application. Securing a FIT Contract is the prevalent way a co-op can connect a renewable energy project to the energy grid and receive revenue for the electricity it generates. FIT Applications are accepted in designated windows. Notice of application windows will be made by the OPA. The FIT Application process begins online with a registration process and an online application form submission. Hard copies of the prescribed forms and other supporting application material are also required and can be intensive to assemble. An application may not pass the application review process if any of the pieces are missing or provided incorrectly. For example, some forms require that the original documents with original signatures are submitted as opposed to copies. The timelines for the application review process may vary, but in the past it has taken 120 days on average to process the applications and offer FIT Contracts.

#### 6.2.2 Conditional FIT Contract Offer

If a FIT Application passes the application review process, the OPA sends the successful applicants a FIT Contract offer notice. Applicants have a limited time to return the signed contract to the OPA. The timelines are listed on the FIT website, but should also be provided in the FIT Contract offer package.



Generally, having a FIT Contract helps the co-op to begin to secure financing and the stability required to invest in further project development. However, it must be remembered that the FIT Contract is conditional at this stage because the co-op must continue to meet the requirements of the Contract (this includes the requirements related to reaching Notice to Proceed and Commercial Operation Dates identified below).

There are notable differences between FIT 1.0 and FIT 2.0 contract milestone requirements, so the co-op should be sure to review the appropriate information pertaining to the version of the FIT Program under which its FIT Contract is awarded.

It is strongly encouraged that the co-op reviews and ensures that the staff or co-op members accountable to meeting the contract requirements gain a full understanding of the detail contained in its FIT Contract as the OPA website only provides a general overview of the contract management process and requirements.

### 6.2.3 Notice to Proceed (NTP)

Before construction of the project, the OPA requires the co-op to file for NTP. This includes providing the results of additional assessments specific to the project's technology and demonstrating to the OPA that a financing plan for the project is in place. For Small FIT projects the co-op has to file for NTP no later than three months prior to the Milestone Date for Commercial Operation. Again, the details in the FIT Contract should be a co-op's guide for all requirements and timelines.

### 6.2.4 Commercial Operation Date (COD)

After project construction and connection to the energy grid, the co-op can file for COD. The OPA requires that the co-op provide proof of connection, independent engineering audits, workplace safety certificates and other due diligence clearances before allowing the project to reach COD. After COD, the co-op's project will be receiving revenues for the electricity it generates according to the assigned FIT rate.

### 6.2.5 Post COD Contract Management

Planning for Post COD Contract Management is just as important as all of the steps that a co-op takes to get to this point. The co-op's FIT Contract will contain all of the details regarding post COD requirements, but a co-op may need to take steps in order to comply with requirements related to:

- Contract Settlement;
- Domestic Contract Report;
- Additional Security Requirements; and
- Audits

## 6.3 100% Co-operative Ownership

100% co-operative ownership of a project means that a co-op must raise a majority of the financing for the renewable energy project and take the lead in the project planning and development stages. A co-op may include the following considerations if evaluating the option for 100% co-op ownership, namely, the co-op:



**Photo 7:** rooftop solar photovoltaic installation  
(Credit: Wayne National Forest)



**Photo 8:** safety certification to achieve COD  
(Credit: Wayne National Forest)

- possesses the knowledge and experience in developing high-capital cost projects or is willing to employ volunteers/individuals who are similarly skilled;
- possesses the large amount time and resources needed to develop a project;
- has access to private debt; and
- believes it can raise a large amount of financing through selling community securities.



**Photo 9:** renewable energy co-operative  
(Credit: Maryland AG)

## 6.4 Partnership with Commercial Partner

Developing a project through a partnership with a commercial developer means that the co-op will share the decision-making and financing associated with a renewable energy project. The co-op still needs to be extremely diligent in all stages of project planning, financing and development, but it must also be careful when negotiating the partnership agreement that dictates the roles, rights and responsibilities of both partners during project development. It is strongly encouraged that a co-op seeks the counsel of an experienced co-op lawyer if considering a partnership. The co-op is encouraged to consider the level of decision-making power it wants to maintain in the project.

A co-op may consider a partnership if it:

- does not possess the knowledge and experience to develop high-capital cost projects;
- does not possess the large amount of time needed to develop a project;
- cannot access private debt; or
- faces many challenges in raising the amount of financing it needs through selling community securities.

There are a variety of partnership models that may be used, which are outlined below:

### 6.4.1 Types of partnerships

#### *Joint Venture*

In a Joint Venture Partnership, both parties to the partnership remain as separate entities and the joint venture is not a separate legal entity. Both parties have unlimited liability in this partnership. Joint ventures are fairly flexible structures in that there are very few prescriptions, thus parties can negotiate and come to terms on the decision-making, financing and liability structure of the partnership.

#### *Limited Partnership*

A Limited Partnership (LP) is a legal entity that is comprised of two or more parties as limited partners. At least one of the limited partners must be a general partner in a Limited Partnership that typically possesses the ultimate management rights over the project. The other limited partners will largely contribute financially. In a Limited Partnership, each partner's liability is limited to the amount of capital they invest in the project. While not as flexible as a joint venture, an LP allows the parties to negotiate and come to terms on the decision-making, financing and liability structure of the partnership.

It is important to note that all tax calculations are completed for the Limited Partnership and these implications are handed down in proportion to the participation of each limited partner.

#### *General Partnership*

A General Partnership (GP) is a legal entity that is comprised of two or more limited partners. Each general partner shares the management rights and financial contribution to the project and their

liability is unlimited. While not as flexible as a joint venture, the parties in a GP can negotiate and come to terms on the decision-making, financing and liability structure of the partnership.

It is important to note that all tax calculations are completed for the General Partnership and these implications are handed down in proportion to the limited partners.

### *Subsidiary*

A subsidiary is a company that is controlled, managed and owned by another corporation. In this scenario, the co-op would likely be a subsidiary of the commercial developer who owns a majority of the shares in the co-op and therefore would control the direction and activities of the co-op.

## **6.4.2 Partnerships pre-development and post-development**

Some projects may be developed after a partnership agreement, in any of the forms listed above, is signed. In these circumstances, it is important for the co-op to negotiate and agree with the developer on its participation in the activities and decisions of project development. Some co-ops with minority economic interest and ownership might be excluded from responsibilities and making-decision altogether. Other co-ops, even if they have majority economic interest, may not feel equipped to handle all the decisions and will trust the experience of their commercial developer partner. For more information on the details of project development, please refer to CP Fund's Project Development Stages Maps.<sup>27</sup>

Post-development, the co-op should ensure that it participates in the decision-making and responsibilities involving the long-term maintenance and administration of the project. This includes managing the repair and inspections of the technology, ensuring that the appropriate bookkeeping and accounting is completed accurately for the partnership and holding regular management meetings with representatives from all partners.

If the co-op decides to join a partnership post-development, much of the project planning and construction decision-making and risk is removed from its responsibilities. In this scenario, it is important that the co-op completes the necessary technical and financial due diligence on the already developed project before committing to any partnership. Since the co-op was not involved in the project development phase, a strong understanding of how and why decisions were made during this process is essential to making an informed choice to join the partnership and participate in the project. When negotiating the partnership agreement, it is still important to consider the above-mentioned post-development tasks and responsibilities.

## **6.5 Purchase of Project**

A co-op on its own, or in a partnership, may elect to purchase an already constructed project. This is especially prevalent in the solar PV industry where there are many turnkey providers who will sell a completed project with a site lease to prospective buyers. When purchasing a project, technical due diligence is important to examine the quality of materials used, construction quality and operations history. Equally important is legal due diligence to review the terms of purchase including pricing and warranty, and to ensure that the site lease guarantees site access for the duration of the project's production contract. After purchasing the project, the co-op (or the partnership in which it is participating) is responsible for the long-term operations and maintenance of the project, requiring many of the tasks listed above to still be assigned and completed.

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<sup>27</sup> <http://www.cpfund.ca/capacity-building/>



## 6.6 Job Creation

The renewable energy sector is growing at a fast pace and creating green collar jobs for millions of people on a global scale. A significant accelerator in the progression of the renewable energy sector is a Feed-in Tariff (FIT) Program. In Germany, which first implemented such a program in 1990, roughly 380,000 people are now employed in the renewable energy sector, far more than in the country's conventional energy sector.<sup>28</sup>

The job creation impact of the FIT Program was also felt strongly in Ontario despite a global economic slowdown. Since the initiation of the Green Energy & Green Economy Act (GEA) in 2009, the province saw 31,000 direct and indirect jobs created in various sectors ranging from manufacturing to construction and maintenance.<sup>29</sup>

Renewable energy co-ops have the potential to further intensify the job creation impact of renewable energy projects. Pembina Institute's study prepared for CP Fund shows that over the next 20 years, community-owned wind projects in Ontario are expected to generate 47% more jobs, and community-owned solar projects are expected to generate 50% more jobs compared to traditional ownership models<sup>30</sup>. A similar study in the United States<sup>31</sup> also found that the impact of community-owned wind projects on job creation during the construction phase is 1.1 to 1.3 times higher than outside-owned projects, and 1.1 to 2.8 times higher during the operations period.



**Photo 10:** community power creates jobs  
(Credit: Victor1558)

On the ground, the co-op and its renewable energy project development activities will employ professionals from a variety of sectors and skill-sets. For example, during the co-op's development phase, community organizers, business developers and financial experts are employed to ensure that the co-op establishes a robust foundation and understands its financial projects in the short and long term. When planning a renewable energy project, the co-op will need to employ engineers, project managers and lawyers to assess the generation expected from the project, plan its construction and ensure that the appropriate approvals and contracts are in place. Manufacturers, construction labourers, engineers and electricians are essential during the project construction phase and will continue to be employed through the operation and maintenance of the project over the life of its FIT Contract.

The co-op will also need to employ administrative and customer service staff, contractors and/or service providers to ensure that it meets its legal business obligations (e.g. tax filing and reporting) and continues to engage with the local community both financially (through dividend and interest payments) and democratically. Through annual general meetings and consistent member communications, the co-op is responsible for ensuring that its members continue to be involved in project operations and co-op management through the long term. Employing the right people to diligently work towards this goal is essential to the principles of community power.

Overall, the 'local' aspect of community-owned projects means that the investments made by community members return to the community, which leads to more local dollars and local jobs. Besides encouraging the direct economic and democratic engagement of Ontarians in the energy sector, renewable energy co-ops also commit to strengthening the province's economy through the creation of local jobs and economic opportunities.

28 <http://energytransition.de/2012/10/key-findings/>

29 <http://news.ontario.ca/mei/en/2013/06/energy-agreement-secures-jobs-and-clean-energy.html>

30 <http://cpfund.ca/docs/research/analysis-of-community-power-projects-in-ontario.pdf>

31 <http://www.nrel.gov/docs/fy09osti/45555.pdf>

## 7 Project Finance

Regardless of a co-operative's project ownership structure, it must secure financing to fund the development of its projects either in full or in part, whether the project is developed under a partnership model or exclusively by the co-op.

### 7.1 Co-op Driven Finance

Before a co-op has a FIT Contract or has a receipted offering statement from FSCO, it will largely be unable to secure financing from its members or from private lenders. Rather, the co-op will have to raise funds through other means. For example, grant programs such as the Community Energy Partnerships Program offer support for some eligible costs. Alternatively, the co-op could try to access funds from grants or loans tailored to high-risk start-up businesses. The co-op will also have to rely heavily on the "sweat equity" or volunteer time of its board of directors and initial members.

#### 7.1.1 Pre-FIT Contract and Pre-Offering Statement

If the co-op must raise financing from its members and from the community it may do so through the following offering statement exemptions from FSCO:

- i. there are fewer than 35 security holders (members and non-members);
- ii. a member is only buying up to \$1,000 in securities (shares or debt) in any year, and no member holds more than \$10,000 in securities; or
- iii. the co-op has less than \$200,000 in capital and the securities are being sold to members.

Raising financing from co-op members and private investors can be very difficult without an offering statement and/or a FIT Contract. Many individuals will view the co-op as a high-risk investment and it may be difficult to find a critical mass of investors who can handle this risk. The case study on ZooShare Biogas Co-operative demonstrates; i) how these difficulties manifest in a renewable energy co-op's development and, ii) the solutions ZooShare found to overcome these challenges. The case studies for Green Timiskiming Development Co-operative and Lake of Bays Renewable Energy Co-op also outline early-stage financing difficulties.

#### 7.1.2 Pre-Project Construction and Post-Offering Statement Approval

Once its offering statement is receipted by FSCO, a co-op can raise financing from the community by selling securities to its members. If the co-op is unable to raise enough money from its members, it may elect to seek angel investors or bridge loans to access additional funds, especially if it has a conditional offer of a FIT Contract.

However, it must be remembered that funds raised at this stage will be considered high-risk investments as the project has not yet been constructed and is not yet generating any revenue for the co-op to pay its financial obligations. Additionally, the renewable energy co-op model and the traditional co-op model are both considered novel and unfamiliar to some investors. An ample amount of time must be spent with prospective investors to introduce them to the co-op model, the co-op itself and the technology behind renewable energy before loan terms can be discussed. Socially conscious angel investors and bridge lenders might be willing to provide a loan, but may require high interest rates.

The SolarShare Co-operative case study highlights some alternative methods for project financing outside of a co-op's membership to help overcome this high-risk stage of project development.

#### 7.1.3 Post-Construction and Long-Term Operations

A co-op may be able to access more community financing through the sale of member securities after its project is constructed and is generating electricity and producing revenues. Some members and investors might be extremely risk-averse and willing to invest only after a project is completed. Additionally, boutique lenders or banks may be willing to provide long-term debt to the co-op



during this lower-risk phase. This debt is typically offered at a lower interest rate than that from angel investors, and bridge loans may be used to buy out previous debt.

## **7.2 Partner Driven Finance**

If a co-op is participating in a partnership with a commercial developer or large institution, it may not have to provide financing through all stages of project development. The co-op will only be responsible for its portion of the costs as outlined in the partnership agreement.

### **7.2.1 Early-stage (Pre-FIT Contract and Pre-Offering Statement)**

If the co-op cannot afford the early stages of project development, its commercial partner may be willing to provide a loan or line of credit to the co-op to start its operations. This loan will be charged an interest rate determined by the partner, but it relieves the co-op from the stresses of applying for grants or selling securities under FSCO exemptions. If the co-op is entering into a project partnership post-development, the commercial partner may charge the co-op for its portion of early stage development in the purchase agreement.

If the co-op's partner is unwilling to provide any form of a loan, other financing options listed above can still be pursued.

### **7.2.2 Mid Stage (Pre-Project Construction and Post-Offering Statement Approval, NTP)**

With an receipted offering statement, a co-op will be responsible for raising its portion of the financing needed to complete project planning and construction. If the co-op cannot meet this commitment, the commercial partner may decide to lend it the remaining portion. However, it is important to demonstrate a strong effort and level of diligence in raising community financing to continue to build trust and confidence in the partnership.

If the co-op's partner is unwilling to provide any form of a loan, other financing options listed above can still be pursued.

### **7.2.3 Late Stage (Post-Construction and Long-Term Operations, COD)**

After the project is constructed and entering long-term operations, the co-op should be able to raise any financing from its members and to pay back loans to the commercial developer partner. The co-op will still be responsible for the interest payments on these loans. Depending on its cash flow and financial model, the co-op may elect to raise financing from its members to cover this interest, or to pay it directly from the co-op's revenue from generation.

## **8 Long-Term Considerations**

### **8.1 Co-op Administration and Operations**

As a legal entity and professional business, a co-op must comply with minimum tax filing and reporting obligations. This means that it will need an administrative system, including bookkeeping and accounting, to keep track of its revenues, expenses and legal business obligations. While a large office is not necessary, providing a central location where all the co-op's records are kept and an address to maintain contact with government regulatory agencies and other businesses is essential to efficient and diligent co-op administration.

### **8.2 Member Management**

Diligent record keeping and member management is essential to a co-op's building and maintaining trust with its membership and avoiding regulatory violations. However, this process can also be complex, time-consuming and costly. Being committed both to selling securities and building strong relationships with their members, co-ops must ensure that personal and financial information is kept secure, safe, and current, and that they are communicating with their members frequently. There are two sets of regulations that guide member management in co-ops:

### **Ontario Co-operative Corporations Act**

According to the Ontario *Co-operative Corporations Act*<sup>32</sup>, all co-ops must be able to provide certain information. The requirements include, but may not be limited to:

- a list of all current members with share capital
- a list of all current members with bonds, debentures other debt instruments
- a record of all money received and disbursed by the co-op
- a list of all members over the past ten years with names and addresses
- a record of annual general meetings for the membership

Most renewable energy co-ops have power purchase agreements with their government or power authority for 20 to 25 years. Ensuring that the membership is engaged and that their personal and financial information is kept secured and up-to-date for this length of time can be a resource-intensive and expensive responsibility.

### **Federal Personal Information Protection and Electronic Documents Act and the Privacy Code**

Under the federal government's *Personal Information Protection and Electronic Documents Act*, there are ten principles surrounding the privacy of personal information<sup>33</sup>. According to these principles, all client personal data and information must be protected from duplication, theft and loss, modification, and unauthorised use. All organizations must also have a designated person who is directly responsible for data privacy and handling any privacy complaints brought forward. This means that the organization must have a central individual or body who can consistently address privacy issues over 20 to 25 years.

In complying with these regulations and principles, the co-op needs to develop both organizational and tracking systems. Generally, this includes systems that can:

- Consistently track all membership applications and membership approvals
- Process and track all share/bond purchases by members
- Process and track all dividend/interest payments to members
- Keep a record of all past and current members with investments
- Send out newsletters and updates to members
- Plan and execute an Annual General Meeting (AGM)
- Demonstrate familiarity with privacy of information laws and standards in Canada
- Demonstrate in-office security procedures, limiting access to personal information according to industry standards
- Confirm multiple layers of electronic data security according to industry standards

In planning ahead to develop or access these systems, the co-op will need to consider the cost of staff, office space, software development and licenses, and other administrative services and responsibilities. It is important that these costs be incorporated in the co-op's financial model (Section 5.3) to ensure that these expenses are accounted for over the lifespan of the co-op and projects.

The case study for SolarShare Co-operative demonstrates the co-op's acknowledgement of these member management obligations and the solutions they have employed to meet these criteria.

## **8.3 Long-term Project Management**

If a co-op owns 100% of its projects, then it has primary responsibility over its projects' performance and up-keep. The co-op can choose to hire an individual or a team that is skilled in the maintenance of renewable energy technology or to engage an operations and maintenance provider that can

<sup>32</sup> Ontario Co-operative Corporations Act, 1990, Section 120

<sup>33</sup> Personal Information Protection and Electronic Documents Act, 2000, Schedule 1

service its projects with reasonable response times. Since generating electricity is the primary source of revenue for most renewable energy co-ops, it is important to have a strong operations and maintenance strategy to ensure that the co-op's projects are operational as often as possible.

If the co-op is engaged in a partnership, the responsibilities for operations and maintenance are outlined in the partnership agreement. If the co-op has minority economic interest and stake in the project, the majority partner will control these responsibilities. However, the co-op should be diligent in verifying that the majority partner does abide by its responsibilities in ensuring adequate availability and generation from the project. In some partnerships, a minimum accepted level of electricity generation may be negotiated.

The co-op may also choose to participate in and develop more projects to add to its portfolio.

The case studies on Ottawa Renewable Energy Co-operative and SolarShare Co-operative demonstrate some long-term goals of renewable energy co-ops and the resources they must have in place to reach them.

### **8.4 Decommissioning and Repowering**

At the end of the project's FIT Contract or power purchase agreement, the co-op must decide whether it will decommission its project or seek another way of selling electricity. If the co-op decides to decommission its project, the co-op will have to take down the technology and remediate the land to its original state prior to project construction or a state that is deemed acceptable according to regulation. The co-op will incur all the costs of decommissioning if it is a 100% owner of the project. If the project is owned under a partnership, the partnership agreement will outline the portion of these costs for which each partner is responsible.

If the co-op does not want to decommission its project and would prefer to repower the project, it must apply for another power purchase agreement. These agreements may be procured through government power production programs like the FIT Program or through other private negotiations as outlined in electricity regulations and policies. The co-op must be able to finance itself through these negotiations and agreement procurement processes and should also consider the operations and maintenance costs of running projects beyond twenty years.

## 9 Resources

### 9.1 List of Acronyms

- AGM – Annual General Meeting
- CCSA – Capacity Contract Set-Aside
- CEPP – Community Energy Partnership Program
- COD – Commercial Operation Date
- FIT – Feed-in Tariff
- FIT Contract – Feed-in Tariff Contract
- FIT Program – Feed-in Tariff Program
- FSCO – Financial Services Commission of Ontario
- GEA – Green Energy and Green Economy Act
- GP – General Partnership
- IESO – Independent Electricity System Operator
- kW – kilowatt
- LDC – Local Distribution Company
- LP – Limited Partnership
- MW – megawatt
- NTP – Notice to Proceed
- OEB – Ontario Energy Board
- OPA – Ontario Power Authority
- OPG – Ontario Power Generation
- PPA – Power Purchase Agreement

### 9.2 Case Studies

For further reading and reference, CP Fund's Capacity Building initiative makes available case studies<sup>34</sup> of the following co-ops that address several unique aspects of renewable energy project development in Ontario:

- AGRIS Solar Co-operative
- AMBER Energy Co-operative
- Green Timiskaming Development Co-operative Inc.
- Lake of Bays Renewable Energy Co-op (LOBREC)
- Ottawa Renewable Energy Cooperative Inc. (OREC)
- SolarShare Co-operative
- ZooShare Biogas Co-operative Inc.

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34 <http://www.cpfund.ca/capacity-building/case-studies/>

### 9.3 Additional Resources

The following is a list of some of the other resources available to co-ops that may also be of assistance in establishing and developing a co-op in Ontario for renewable energy project development:

**Community Energy Partnerships Program**

[www.communityenergyprogram.ca](http://www.communityenergyprogram.ca)

**Co-operative Corporations Act**

[www.e-laws.gov.on.ca/html/statutes/english/elaws\\_statutes\\_90c35\\_e.htm](http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90c35_e.htm)

**On Co-op – The Ontario Co-operative Association**

[www.ontario.coop](http://www.ontario.coop)

**On Co-op's guide to the Co-operative Corporations Act**

[www.ontario.coop/programs\\_services/coop\\_development/on\\_coops\\_guide\\_to\\_the\\_cooperative\\_corporations\\_act](http://www.ontario.coop/programs_services/coop_development/on_coops_guide_to_the_cooperative_corporations_act)

**Renewable Energy Facilitation Office**

[www.energy.gov.on.ca/en/renewable-energy-facilitation-office](http://www.energy.gov.on.ca/en/renewable-energy-facilitation-office)

### 9.4 Contact Information

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