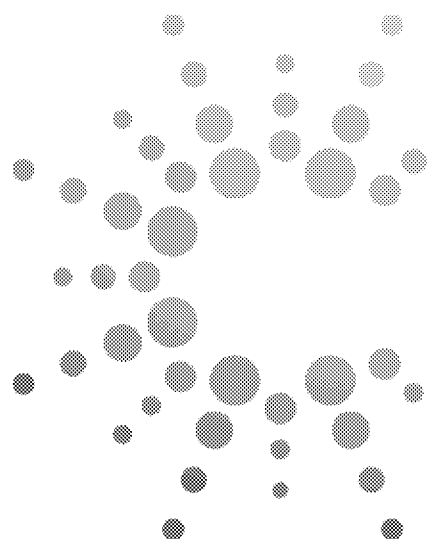




CanSIA

CANADIAN SOLAR
INDUSTRIES
ASSOCIATION

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INDUSTRIES SOLAIRES
DU CANADA

Program Design Considerations for Green Ontario Fund's Solar Rebate Program

October 25, 2017

www.cansia.ca

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1. Introduction and Background

The Canadian Solar Industries Association (CanSIA) is a national trade association that represents the solar energy industry throughout Canada. CanSIA's vision for Canada's solar energy industry is for solar electricity to be a mainstream energy source and an integral part of Canada's diversified electricity mix by 2020, operating in a supportive and stable policy and regulatory environment within a similar time frame.

The *Climate Change Mitigation and Low-carbon Economy Act (2016)* brought about the implementation of Ontario's cap-and-trade program. As a key component of this legislation, the Green Ontario Fund was established as a new non-profit provincial agency with responsibilities of managing programs funded through cap-and-trade proceeds and helping to build Ontario's low carbon economy and meet emission reduction targets. The programs to be delivered in the near term have been specified through the Climate Change Action Plan which was released in June 2016.

In August 2017, the Independent Electricity System Operator (IESO) was directed by the Minister of Energy to *"collaborate with the Ministry of the Environment and Climate Change (MOECC) to support the establishment of the Green Ontario Fund, and to ensure that this new entity complements and builds on the success of the Province's existing suite of CDM programs. The IESO will enter into agreements with the MOECC or the Green Ontario Fund to support the design and delivery of Green Ontario Fund Programs with a focus on reducing greenhouse gas emissions associated with energy usage and energy sources from Ontario residences and businesses."*

The announcement of the Green Ontario Fund programs is timely as Ontario's solar industry is at a crossroads. For the past 8 years the industry has largely focused on building Feed-in Tariff (FIT) and microFIT projects. Since the introduction of these programs Ontario has seen impressive growth in the amount of solar that has been connected to the electricity grid. In total, Ontario has reached over 2,200 MW of installed solar, with approximately another 500 MW in the pipeline.¹ These projects have put Ontario amongst the global leaders for total installed capacity, contributed to job creation, investment, and GHG emission reductions.

However, the future for solar energy technology in Ontario is less than certain due to the FIT and microFIT Programs slated to end in 2017. To ensure the viability and future success of the solar industry in Ontario, it is paramount that both a commercial and residential net metering solar incentive program be launched in a timely manner prior to the end of 2017. A delay in either the commercial or residential programs may result in additional company layoffs and deferred capital investments.

CanSIA, in collaboration with Power Advisory LLC, have prepared this recommendation report for the development of the proposed Green Ontario Fund's Solar Rebate Program (GOF-SRP). Specifically, this recommendations report focuses on program elements such as guiding principles and industry best practices, eligibility criteria, linkages to statutory framework for Ontario's electricity sector (e.g., OEB Codes, Net Metering Regulation, etc.), overview of program rules and application process, process for the development of qualified vendor list, and considerations for industry training, consumer protection and education.

¹ Independent Electricity System Operator, A Progress Report on Contracted Electricity Supply, Forth Quarter 2016, Pg. 11. Retrieved on June 12, 2017 from <http://www.ieso.ca/en/power-data/supply-overview/distribution-connected-generation>.

1.1 Our understanding of the Green Ontario Fund's direction

Based on discussions with the MOECC and the IESO, CanSIA understands that the following program design characteristics are being considered:

- The program shall be customer-facing;
- The program must be available province-wide;
- Grid connected, load displacement generation and off-grid systems shall be eligible;
- Rebates are intended to directly offset the costs to customers;
- The program should be streamlined; and,
- The program should be up and running as quickly as possible before year end 2017.

Our recommendations have been prepared in alignment with these program constraints and requirements.

1.2 Content of this report

To achieve our objective, CanSIA prepared draft recommendations and hosted a webinar with CanSIA members to obtain feedback. The contents of this report reflect the results of that engagement with members. The report includes the following:

- A summary of a jurisdictional scan, which helped identify some key elements of current solar rebates issued in other North American jurisdictions;
- A discussion of the guiding principles that are key for the GOF-SRP program design;
- A review of key consumer protection measures;
- A summary of key program elements, such as qualifications, eligibility criteria, application requirements, terms and conditions, and notification procedures;
- A discussion with respect to rebate methodology; and
- A review of program administration options and the role of the Local Distribution Company (LDC) in program delivery.

2. Summary of Jurisdictional Scan

Solar rebate programs from 10 jurisdictions were reviewed:

1. Energy Efficiency Alberta's Residential and Commercial Solar Program
2. Taunton Municipal Lighting Plant - Residential PV Rebate Program - Massachusetts
3. Residential Solar Investment Program - Connecticut
4. New York - Sun PV Incentive Program
5. California Solar Initiative - Single-Family Affordable Solar Housing (SASH) Program
6. Colorado Springs Utilities - Renewable Energy Rebate Program
7. Solar Electric Incentive Program - Oregon
8. Reading Municipal Light Department - Business Energy Efficiency Rebate Program - Massachusetts
9. Pasadena Water and Power - Solar Power Installation Rebate - California
10. Austin Energy - Commercial Energy Management Rebate Program - Texas

A summary of the key features of the programs is provided in the table below. As illustrated, the programs vary in terms of design features. No two programs are identical, and each program has been tailored to meet specific requirements, local constraints and policy objectives.

Many of the jurisdictions reviewed permit third party ownership and eligibility for the solar rebate. In addition, most jurisdictions required that the applicant work with a program approved vendor of record. This indicates that solar companies often have a lead role in promoting the programs and working with customers through the rebate application process.

We also observed that some of the jurisdictions we reviewed required that participants partake in an energy audit prior to the solar installation, and that a few jurisdictions indicated specific requirements for system design. Finally, many of the programs also require specific warranties for system equipment and installation.

Further details of the programs that have been reviewed are provided in the Appendix.

	Efficiency Alberta	MA Taunton	CT Residential	NY Sun	CA SASH	CO Springs	OR SEIP	MA Reading Municipal	CA Pasadena	TX Austin
Third Party	N	N	Y ¹	Y ²	Y	Y	N	N	Y ³	N
Energy Audit First	N	N	Y	N	N	N	N	N	Y	
Approved Vendors	Y ⁴	N	Y	Y	Y	N	Y	N	N	Y
Warranties	N	N	N	Y	Y	Y	Y	N	Y	Y
Design Factor	N	N	Y	N	Y	N	N	N	N	N
Performance based incentive option	N	N	Y	N	N	N	N	N	Y	Y

1 – Performance based incentives available to third party system owners.

2 – Third party ownership is being piloted

3 – Performance based incentives available to third parties. The system must be operating for 20 years with an initial lease term of 10 years.

4 – CanSIA membership required to qualify as an approved vendor.

3. Guiding Principles

Two key principles have guided the development of these program design recommendations for the GOF-SRP.

Customer Oriented and Accessible

First, the program must be customer oriented and accessible. As such, the program should provide options to customers in respect of their participation and recognize that there is a significant investment required for the installation of a solar system. In that respect as well, the program should clearly establish consumer protection mechanisms.

Program should be cost effective, streamlined and simple.

Second, the administrative process for the program should be cost effective, streamlined and simple. From the customer's perspective, there should be coordination between agencies, LDCs and vendors. Therefore, the program must be program consistent with regulatory framework. It is also advisable to leverage some of the mechanisms and experience with Ontario's existing programs, such as the saveONenergy programs. This will enable quick market adoption and ensure the program is rigorous and verifiable.

4. Consumer Protection

Consumer protection is essential for the success of the GOF-SRP. With any new landmark program, it is inevitable that issues will surface between consumer and vendors due to reasons such as unethical practices, poor workmanship, or simply misunderstandings between parties. Ensuring that consumers are protected should be one of the Ontario government's top priorities. To do this, consumers should be directed to work with vendors that have agreed to abide by a strict code of conduct while also giving consumers the option to go through a robust complaint resolution and disciplinary process to deal with any vendor issues should they arise.

Working with the IESO and the US Solar Energy Industry Association (SEIA), CanSIA has developed an updated, robust and comprehensive Solar Business Code of Conduct, Complaint Resolution and Disciplinary Process, and a Going Solar Guide for consumers. To learn more about the CanSIA Consumer Protection program see the sections below or visit www.cansia.ca/consumer-protection.html.

The Solar Business Code of Conduct contains provisions for how CanSIA members shall conduct themselves in their interactions with consumers, what information they need to make available, and best practices for advertising and marketing. The Solar Business Code of Conduct has been implemented as a required condition of membership within CanSIA to ensure that consumers can rely on the same standards of service from all CanSIA members.

The Complaint Resolution and Disciplinary Process sets out the process for how CanSIA will handle complaints and information regarding members that may lead to disciplinary action. A standard form has also been created that consumers can use to identify alleged non-compliance with the Solar Business Code of Conduct to CanSIA. CanSIA then utilizes this submission to engage directly with our member companies. The Complaint Resolution and Disciplinary Process is intended to allow CanSIA, our members, and consumers to reach a mutually satisfactory resolution for any complaints that may arise. However, if a mutually satisfactory resolution is unattainable, CanSIA, in the form of non-renewal, suspension or expulsion of a member, can exercise disciplinary authority over a member related to non-adherence to the Solar Business Code of Conduct.

Going Solar: A Guide for Consumers is intended to help consumers navigate various solar options and help identify the right solutions for their circumstances. Whether a consumer is buying a solar system outright or entering a long-term agreement with a solar company, this guide aims to help consumers understand the basics of solar energy, investigate important considerations, and identify what questions to ask their solar professionals.

CanSIA recommends that the GOF-SRP require all program vendors be a corporate member of CanSIA and comply with CanSIA's *Solar Business Code of Conduct* and its *Complaint Resolution and Disciplinary Process*, to be eligible for placement on the GOF-SRP pre-approved vendor list. Similar solar incentive programs throughout Canada, including the *Energy Efficiency Alberta Solar Program*, and certain Requests for Proposals², now require solar companies to be CanSIA members.

Furthermore, CanSIA would be happy to work collaboratively with the MOECC, the GOF and the IESO to review the current CanSIA Consumer Protection program and update it to ensure it is tailored to the new GOF solar programs. Also, CanSIA would be happy to discuss collaborative communications strategies to ensure consumers are educated about solar technologies, consumer protection measures available to them, and making informed decisions.

5. Program Design Elements

5.1 Qualified Solar Vendor

CanSIA recommends that the GOF-SRP require that applicants work with vendors that have been pre-qualified. The approach could be modelled after the saveONenergy Heating and Cooling program in which the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) establishes qualification for the participating contractors. Contractors wishing to participate in the program must register with HRAI (via an online form) and email the required licence and documentation to HRAI for review. The contractors must also complete an online orientation and training program and enter into a contractor participation agreement. To be eligible for a rebate, customers must work with a participating contractor and the contractor takes the lead in submitting the rebate application on behalf of the customer in respect of the eligible measures.

For the GOF-SRP, CanSIA is the natural organization to fulfill the role of managing qualifications for the solar industry.

Companies seeking to become a **Qualified Solar Vendor** for the purposes of the rebate program would be required to become CanSIA members (Corporate I, II or III level), submit required documentation to CanSIA and comply with CanSIA's *Solar Business Code of Conduct*. The vendor will be required to complete an online training course offered by CanSIA and would enter into a participation agreement. The responsibilities of the Qualified Solar Vendor would include:

- Assessing the home for suitability for solar;
- Estimating the total expected annual production of solar system;
- Submitting application rebates to the GOF-SRP program agents;
- Obtaining all required permits;
- Designing, procuring, installing the system; and,
- Coordinating Electrical Safety Authority (ESA) inspection and interconnection.

² One RFP example includes the following: <http://vendor.purchasingconnection.ca/Opportunity.aspx?Guid=7A099F1F-B804-495F-874F-54CB3244505B>

The Qualified Solar Vendor would work with the homeowner or building owner to install an eligible solar system. They may sell systems outright to customers or they may lease equipment to customers to further improve program accessibility. Furthermore, the Qualified Solar Vendor may offer services with respect to financing.

Additionally, a Qualified Solar Vendor should have the option to provide a “point of sale/lease” discount to customers to directly offset the costs of the solar system. This is like the process that is available to customers when applying for rebates for electric vehicles via the Ministry of Transportation. At the time of sale, the customer’s invoice for the electric vehicle is reduced by the rebate amount and the customer agrees to assign the rebate to the car dealership. Alternatively, the customer can pay the full cost of the electric vehicle upfront and apply for the rebate themselves.

CanSIA also understand that the Ministry of Energy is considering “third party ownership” as part of further amendments to the Net Metering Regulation (O. Reg 541/05). In other words, a company can install a solar system on the rooftop of a home or building they do not own and enter into an agreement with the homeowner or building owner for the supply of electricity from the solar facility. Should these revisions come into effect, it is recommended that eligibility of applicants who are not the owner of the home or building be restricted to Qualified Solar Vendors. In this model, the Qualified Solar Vendor would be the applicant to the GOF-SRP and eligible for the rebate. They would be required to comply with all applicable codes, laws and regulations, including the requirement to obtain an electricity retailer licence from the OEB, if applicable.

5.2 Residential Solar Stream

5.2.1 Eligibility Requirements

For the residential stream, the following eligibility requirements would apply:

1. The applicant may be a homeowner, building owner or Qualified Solar Vendor.
2. The project must be a Solar Photovoltaic system that is 10 kW AC or less.
3. The project must not have been constructed or installed prior to the launch of the program.
4. The project must be geographically located in Ontario.
5. The project must be located on the rooftop of a single-family home (including detached, semi-detached, and townhomes and rowhouses, etc.) or multi-residential building. Carports are also eligible.
6. Net Metered System, Load Displacement Generator (i.e., all electricity consumed behind-the-meter), or Off-Grid Systems.
7. Net Metered Systems must comply with Net Metering Regulation (O. Reg 541/05).
8. Net Metered Systems and Load Displacement Generators must submit a notice to the LDC prior to application submission.
9. The project must not have been subject to any other Federal or Provincial sources (e.g., microFIT program), however, is not restricted to apply for local improvement charges or accelerated depreciation, etc. Projects may be co-located with existing solar projects which may have been part of a federal or provincial incentive program.

5.2.2 Terms and Conditions

The following terms and conditions apply:

- The project must comply with the GOF-SRP program eligibility requirement.
- The applicant must work with a Qualified Solar Vendor to install an eligible solar system on the rooftop of their home or building.
- The applicant understands that they are responsible for all the costs to develop, install and maintain a solar system.
- The applicant agrees to obtain an Offer to Connect from the LDC within 60 days of application approval.
- The applicant will maintain records of project installation, proof of purchase, insurance, etc.
- The applicant agrees to share their solar production and load consumption data with the GOF or other program agents upon request.
- The applicant agrees to participate in compliance audits as requested by GOF or other program agents upon request (e.g. proof of program eligibility).

5.2.3 Application Requirements

All applications must include:

- Name of Applicant.
- Type of Applicant (e.g. homeowner, building-owner, Qualified Solar Vendor).
- Form of Owner Authorization (e.g., confirmation from the homeowner or building-owner that they agree to install a solar system and they are aware of the rebate application). This should be a standardized form created by the IESO or other such delivery agent.
- Address of project location.
- Total expected capacity of solar modules (kW DC) and inverter capacity (kW AC).
- An estimate of the total annual energy output generated from the solar system.
- Expected installation date.

If the application is for a Net Metered System or Load Displacement Generator, the applicant must notify the LDC in advance of application submission. Applications for Net Metered Systems that have received an Offer to Connect will be deemed to have met this requirement.

If the application is for a Net Metered System, the applicant must receive an Offer to Connect for the project from the LDC within 60 days of application approval. Applicants may choose to submit confirmation that an Offer to Connect has been issued for the project at the time of application. Applications for projects which do not notify the program administrator of the receipt of the Offer to Connect within 60 days will be deemed to be withdrawn from the program. In such cases, applicants will be permitted to re-apply to the program.

If the applicant agrees to receive a “point of sale/lease” discount from the Qualified Solar Vendor, an Assignment Agreement Form (e.g. confirmation that the applicant agrees to assign the rebate to the Qualified Solar Vendor) must be provided at the time of application.

Applications that have been reviewed, deemed complete and eligible for the rebate will be issued a notice of application approval which will be a binding commitment to the applicant from the Green Ontario Fund. The receipt of the rebate will be conditional on meeting notice of completion requirements.

5.2.4 Notice of Completion

Notice of Completion must be submitted by the Qualified Solar Vendor within 12 months of application approval.

Form requirements:

1. Confirmation of all Program Eligibility Requirements.
2. Make, model and specifications of the system's solar modules and inverter(s) (including total number of modules installed). The total installed capacity (kW AC) of the as-build facility shall be within 20% of the capacity proposed at the time of application. An updated estimate of the total annual production from the solar facility shall also be provided.
3. If the project is Net Metered System, the applicant must have entered into a Connection Agreement.
4. If the project is a Load Displacement Generators and Off-grid Systems must submit confirmation of final ESA inspection.
5. Proof of purchase.

5.3 Non-Residential Solar Stream

5.3.1 Program Eligibility Requirements

For the non-residential solar stream, the following eligibility requirements would apply:

1. The applicant may be a building owner or Qualified Solar Vendor.
2. The project must be a Solar Photovoltaic system (no capacity limits).
3. The project must not have been constructed or installed prior to the launch of the program.
4. The project must be geographically located in Ontario.
5. The project must be located on the rooftop of a building. Carports are also eligible.
6. Net Metered System, Load Displacement Generator (i.e. all electricity consumed behind-the-meter), or Off-Grid Systems.
7. Net Metered Systems must comply with Net Metering Regulation (O. Reg 541/05).
8. Net Metered Systems and Load Displacement Generators must submit a notice to the LDC prior to application submission.
9. The project must not have been subject to any other federal or provincial sources (e.g., FIT program), however is not restricted to apply for local improvement charges or accelerated depreciation, etc. Projects may be co-located with existing solar projects which may have been part of a federal or provincial incentive program.

5.3.2 Terms and Conditions

The following terms and conditions apply:

- The project must comply with the GOF-SRP program eligibility requirement.
- The applicant must work with a Qualified Solar Vendor to install an eligible solar system on the rooftop of their home or building.
- The applicant understands that they are responsible for all the costs to develop, install and maintain a solar system.
- The applicant agrees to apply for a CIA from the LDC within 60 days of application approval. They also understand that application security may be at risk if this condition is not fulfilled.
- The applicant will maintain records of project installation, proof of purchase, insurance, etc.

- The applicant agrees to share their solar production and load consumption data with the GOF or other program agents upon request.
- The applicant agrees to participate in compliance audits as requested by GOF or other program agents upon request (e.g. proof of program eligibility).

5.3.3 Application Requirements

All applications must include:

- Name of Applicant.
- Type of Applicant (e.g. building-owner or Qualified Solar Vendor).
- Form of Owner Authorization (e.g. confirmation from the building-owner that they agree to install a solar system and they are aware of the rebate application). This should be a standardized form created by the IESO or other such delivery agent.
- Address of project location.
- Total expected capacity of solar modules (kW DC) and inverter capacity (kW AC).
- An estimate of the total annual energy output generated from the solar system.
- Expected installation date.

If the application is for a Net Metered System or Load Displacement Generator, the applicant must notify the LDC in advance of application submission. Applications for Net Metered Systems that have applied for a CIA will be deemed to have met this requirement.

If the application is for a Net Metered System, the applicant must provide one of the following:

- Application security; or
- Proof that the applicant has applied for a CIA.

If proof of CIA application for a Net Metered System is not provided at the time of application, the applicant must apply for a CIA within 60 days of application approval. Applications for projects which do not notify the program administrator of CIA application within 60 days will be deemed to be withdrawn from the program and the application security will not be refunded. In such cases, applicants will be permitted to re-apply to the program.

If the applicant agrees to receive a “point of sale/lease” discount from the Qualified Solar Vendor, an Assignment Agreement Form (e.g. confirmation that the applicant agrees to assign the rebate to the Qualified Solar Vendor) must be provided at the time of application.

Applications that have been reviewed, deemed complete and eligible for the rebate will be issued a notice of application approval which will be a binding commitment to the applicant from the Green Ontario Fund. The receipt of the rebate will be conditional on meeting notice of completion requirements.

If a project is unable to receive a CIA because of an connection constraint, the application security is not at risk and would be refunded.

If a project receives a CIA but does not proceed to a Connection Cost Agreement, per the Distribution System Code, CanSIA recommends that the LDCs be requested to notify the program administrators. In some situations, projects may not proceed due to interconnection and costs constraints. If a project is not proceeding, the GOF may terminate an application and allow for the reallocation of the rebate funds to other eligible projects.

5.3.4 Notice of Completion

Notice of Completion must be submitted by the Qualified Solar Vendor within 18 months of application approval.

Form requirements:

1. Confirmation of all Program Eligibility Requirements.
2. Make, model and specifications of the system's solar modules and inverter(s) (including total number of modules installed). The total installed capacity (kW AC) of the as-build facility shall be within 20% of the capacity proposed at the time of application. An updated estimate of the total annual production from the solar facility shall also be provided.
3. If the project is Net Metered System, the applicant must have entered into a Connection Agreement.
4. If the project is a Load Displacement Generators and Off-grid Systems must submit confirmation of final ESA inspection.
5. Proof of purchase.

5.4 Other Considerations

Ground-mounted systems

Given complexities with respect to ground-mounted system, it is recommended that the first version of GOF-SRP be restricted to rooftop solar system only. Ground-mounted solar systems may have additional permitting and approval requirements. In the past, the FIT and microFIT programs have implemented various rules for set-backs and screening. With the priority to move the GOF-SRP to market quickly, the review of added complex information in the program risks additional administrative burden at this time. That said, CanSIA recommends that ground-mounted solar PV projects be eligible for future versions of the GOF-SRP.

Offer to Connect and CIAs

While implementing a requirement for Net Metered System to obtain an Offer to Connect (for Residential Systems) or a completed CIA upfront was considered, there with respect to inconsistency of timing and requirements of LDCs across the province. For example, certain LDCs can process applications for micro-generation connections in a few days, while other LDCs may take a few weeks. Therefore, in the interest of equal treatment and opportunity for all Ontarians to participate, it is recommended that these requirements be post application but within a reasonable time period to ensure that applications are moving steadily through the queue process.

Given that there is risk that connection constraint may prevent a project from proceeding, it is important to ensure that approved applications can proceed with interconnection. If a project is unable to proceed, the rebate value should be reallocated to other projects.

Definition for Buildings

Past FIT and microFIT programs had specific definitions for buildings and restrictions for unconstructed buildings. Given that the program has now evolved to a behind-the-meter program, which requires an existing load, it is not recommended to complicate the program with restrictive definitions. Furthermore, unconstructed buildings should not be restricted as they would be subject to the same timelines for completion as other projects within the program.

Technology Future Proofing

Although the focus of this program design submission is on solar PV, CanSIA recommends that additional technologies be contemplated in the design phase to ensure that future technologies such as solar heating and energy storage technologies be easily added to this program when practically possible. For example, developing storage ready solutions, using advanced smart inverters, would allow for solar installations to provide customers with future resiliency benefits that customers could capitalize on later.

Warrantees

Several programs across North America require specific warrantees in respect of the equipment. While it certainly may be a reasonable requirement, it also places risk on the program administrator in terms of dictating requirements (e.g. onus on the program administrator to justify the level and may add unintended costs). It is therefore recommended that the discussion of warrantees be left to the Qualified Solar Vendor and industry best practices. Information packages available to consumers should clearly explain these options and risks.

Eligible Applicants and Eligible Buildings

CanSIA recommends that the GOF-SRP not be restricted to certain eligible participants or eligible buildings. Past FIT programs offered advantages for certain type of projects (e.g., municipal, Indigenous, co-operatives). Such restrictions would add complexity to the program and would restrict open access of the program to Ontarians.

Build and design requirements

CanSIA recommends that there should not be any restrictions on the system design, as the current net metering regulations provide clarity on the sizing of systems. While the FIT programs had restricted DC/AC overbuild, such a restriction is no longer necessary as standardized FIT prices are not being applied to the generation output. Furthermore, such restrictions limit the efficiency of a project and reduce the financial benefit of the program to the customer.

Energy Audits

Some jurisdictions require applicants undertake an energy audit prior to applying for a solar rebate. In the interest of making solar rebates available to customer in the short term, it is not recommended that the GOF-SRP adopt this approach because it risks additional program administration and creates “bottlenecks” for program accessibility.

6. Rebate

There should be separate rebate levels for residential and non-residential streams given the economies of scale and efficiencies of non-residential installations.

The rebate should be based on a “\$/W cap” as well as a maximum rebate per project.

If the rebate is based on percentage of project costs, it would require that the program identify “eligible costs” which adds to the administration and complexity of the program.

If the decision is to base the rebate on percentage of system costs, we recommend that the eligible costs be modelled after the saveONenergy retrofit program. For net metered Systems, eligible costs would also include LDC interconnection costs, including any application or permit fees and studies. Roof upgrades should not be considered eligible costs.

7. Program Administration

CanSIA is aware that the IESO is seeking feedback on program administration options including options for LDC-led administration of the program. The following options have been prepared for the IESO's consideration. It is noted that certain CanSIA members have expressed some concern regarding LDC administration of the program with respect to ensuring that the program is offered consistently across the province, ensuring that the program can be implemented expediently (i.e., accounting for time of LDC-GOF negotiation), and the ability for LDCs to manage real or perceived conflicts of interest (e.g., approving applications for their own projects). That said, some members felt that LDC administration of the program could be advantageous given their experience with CDM program delivery and given that LDCs are directly involved with the interconnection of solar systems to the grid.

7.1 Option One – Centralized

The application process would be as follows:

1. Applications are submitted to the IESO by the Qualified Solar Vendor.
2. Applications are reviewed on a first come, first serve basis. IESO will endeavor to meet at 10-day service standard for application review.
3. Applications that are incomplete or ineligible will be rejected. Applicants may choose to resubmit anytime.
4. Applications that are deemed complete and eligible will be notified of their application approval.
5. Notifications of application approval will be sent to a) the Qualified Solar Vendor, as applicable, b) the homeowner or building owner, as applicable, and c) the LDC.
6. Funds will be reserved for approved applications for a 12-month/18-month period, as applicable. If the applicant is required to provide notice of Offer to Connect or CIA, they must do so within the required timeframe.
7. Once IESO receives Notice of Completion, the IESO will review it for completeness. If incomplete, IESO will request revisions from the Qualified Solar Vendor.
8. Once IESO has confirmed Notice of Completion requirements have been met, the IESO will issue the rebate to the Qualified Solar Vendor, as applicable.
9. If the program is oversubscribed, the IESO will maintain an application waitlist. If an approved application has been withdrawn, another eligible project will be approved.

7.2 Option Two – Decentralized

The application process would be as follows:

1. GOF, IESO and LDCs enter into an Agency and Transfer Payment Agreement. LDCs are allocated a LDC Budget for the GOF SRP, for projects located in their service territory. LDCs would be entitled to a fee for program delivery.
2. Applications are submitted to the LDC by the Qualified Solar Vendor.

3. Applications are reviewed on a first come, first serve basis. LDC will endeavor to meet at 10-day service standard for application review.
4. Applications that are incomplete or ineligible will be rejected.
5. Applications that are deemed complete and eligible will be notified of their application approval.
6. Notifications of application approval will be sent to the Qualified Solar Vendor, as applicable, as well as the homeowner or building owner, as applicable.
7. Funds will be reserved for approved applications for a 12-month/18-month period, as applicable. If the applicant is required to provide notice of Offer to Connect or CIA, they must do so within the required timeframe.
8. Once LDC receives Notice of Completion, the LDC will review the for completeness. If incomplete, LDC will request revisions from the Qualified Solar Vendor, as applicable.
9. Once LDC has confirmed Notice of Completion requirements have been met, the LDC will issue the rebate to the Qualified Solar Vendor, as applicable.
10. LDCs will be required to provide GOF/IESO with regular updates with respect to the subscription of the LDC Budget. LDCs may apply to the IESO for additional funds to increase the LDC Budget if program is oversubscribed. LDCs will maintain a waitlist of eligible applications. LDCs will also be required to notify the IESO of any withdrawn applications.
11. LDCs that do not allocate their LDC Budget by the Target Date will be required to transfer funds back to the GOF/IESO, and the GOF/IESO may reallocate the funds to other LDCs.

7.3 Option Three – Combined

Option Three is a combination of Option One and Option Two. LDCs may choose to be agents for the delivery of the GOF-SRP. Applications for projects that are located within the service territory of a LDC acting as GOF-SRP agent would apply through the LDC, and projects that are not located within the service territory of a LDC acting as an GOF-SRP agent would apply through the IESO. LDCs may also enter into agreements with other LDCs for program administration services (e.g. customers within their service territory may apply via a partner LDC who has become a GOF program delivery agent.) If a LDC affiliate is the applicant, they would need to submit the application to the IESO.

8. Conclusion

The announcement of the Green Ontario Fund programs is timely as Ontario's solar industry is at a crossroads. For the past 8 years the industry has largely focused on building Feed-in Tariff (FIT) and microFIT projects, however, the future for solar energy technology in Ontario is less than certain due to the phase out of FIT and microFIT Programs in 2017. To ensure the viability and future success of the solar industry it is paramount that both a commercial and residential net metering solar incentive program be launched in a timely manner prior to the end of 2017. A delay in either the commercial or residential programs may result in additional company layoffs and deferred capital investments.

CanSIA, in collaboration with Power Advisory LLC, have prepared this recommendation report for the development of the proposed Green Ontario Fund's Solar Rebate Program (GOF-SRP). As discussed, the recommendations within this report have been informed by preliminary discussions with the MOECC and IESO, a review of solar rebate programs available in other North American markets, a review of other Ontario conservation and rebate programs, and feedback from CanSIA members.

Given the development of CanSIA's Solar Business Code of Conduct and the established procedures complaint resolution and disciplinary action, CanSIA is well positioned to play a key role in helping to ensure consumers best interests are protected as they move to invest in solar. These mechanisms should be leveraged for the establishment of Qualified Solar Vendors, as key program partners for the GOF-SRP.

With respect to eligibility requirements, it is recommended that:

- The program be divided into two streams (residential under 10 kW, and non-residential);
- Application submission should be coordinated through the Qualified Solar Vendor;
- Qualified Solar Vendors should have the option to provide "point of sale/lease" discounts to customers;
- The program should offer equal opportunity for customers across Ontario;
- The application process should align with project interconnection requirements and timelines; and
- Applicants have the ability to receive confirmation of program funding in advance of system installation.

The report also provided considerations for both centralized and decentralized program administration. CanSIA recognizes the important role that Ontario's LDCs will have with respect to the success of the GOF-SRP. At minimum, LDCs will provide a key customer interface for project interconnection.

As a next step, CanSIA, the IESO and the Green Ontario Fund could work together to develop information packages for customers seeking to participate the program. Consideration could be provided with respect to:

- Information about the Green Ontario Fund, IESO, CanSIA, LDCs, OEB, ESA, etc.
- Program eligibility requirements;
- Interconnection restrictions (acknowledging areas of the province that may have grid capacity constraints);
- Options for participation;
- Applications processes; and
- Complaint resolution mechanism.

Furthermore, if the recommendations herein are adopted, CanSIA could immediately begin discussions with the Green Ontario Fund and the IESO to solidify requirements for vendor qualification to ensure that resources are available for customers at the time of program launch.

APPENDIX – JURISDICTIONAL SCAN

Energy Efficiency Alberta's Residential and Commercial Solar Program

- The applicant must own the property or have long-term rights to the property with sufficient solar exposure.
- The solar photovoltaic (PV) system must be grid connected in accordance with Alberta's Micro-Generation Regulation (AR27/2008)
- System is designed and installed by a qualified installer (not self-installed) and system components meet the Canadian Standards Association (CSA) requirements for electrical safety, or equivalent certification to applicable Canadian standards.
- An electrical inspection is completed by the municipality prior to system energization.
- Application for the rebate is submitted after the system has been installed and energized. The contractor may submit the application on behalf of the customer.

Taunton Municipal Lighting Plant - Residential PV Rebate Program - Massachusetts

- Customer has an active residential or non-profit account with the TMLP for at least 6 months, has a zero balance, and has not received a previous rebate in the same calendar year.
- The arrays can be any size, rebate is \$1.50 per watt up to 3kW, and applicant must be the owner of the single-family residence.
- Application requires information about the installer, solar module manufacturer and model number, system rating in kW, inverter manufacturer and model number, and inverter rating in kW
- No third party owners allowed in this program.
- Funds are released 6 to 8 weeks after final review and inspection by TMLP.
- They do not require the use of approved vendors, but project must be completed by a licensed, professional contractor and licensed electrician.

Residential Solar Investment Program - Connecticut

- Limited to owner-occupied primary residences. Only customers of Eversource and United Illuminating are eligible.
- Maximum size of 20 kW. System must have a Design Factor (efficiency rating based on panel type, tilt, shading, and orientation) greater than 75% in order to receive the full amount. Systems with a Design Factor below 75% will receive an adjusted incentive. Separate incentive for third-party owners.
- The state requires that the customer must work with an eligible contractor and/or eligible third party PV system owner. The residential incentive is paid directly to the Eligible Contractor on the owner's behalf when the system is complete. The contractor manages permits and the incentive application process.
- Before installing a solar system, a home energy audit is required. The Green Bank issues the payment to the contractor after the Green Bank verifies the submitted documents.
- Performance Based Incentives are available to system owners for third parties that either lease or sign a power purchase agreement.

NY-Sun PV Incentive Program

- Customers of investor-owned utilities, of NYPA, and municipally owned utilities are able to participate. The systems can be installed on single-family homes or larger multifamily buildings.
- To be eligible for the Affordable Solar program, owners must have a household earning less than 80% of the area or state median income. The Affordable Solar program doubles the NY-Sun incentives and lowers the upfront cost of installing solar.
- The program supports a maximum of 25kW solar PV systems. Incentives are different for different regions of the state. There are three regions part of the NY-Sun program.
- The contractor handles all permitting and applications. Incentives are paid to the contractor after the PV system has been connected to the utility grid.
- They require that the customer must work with an approved vendor.
- They have a third-party owner pilot (300 projects), financed through leasing or a power purchase agreement as part of the Affordable Solar program.
- Five-year system warranty for purchase agreements

California Solar Initiative - Single-Family Affordable Solar Housing (SASH) Program

- Customers of Pacific Gas and Electric, Southern California Edison, and San Diego Gas and Electric may participate. The household's total income must be 80% or less of the area median income.
- Minimum system size is 1 kW CEC-AC and the maximum size is 5kW CEC-AC. It must meet 85% design factor requirement.
- Program Manager at Grid Alternatives reviews applications – includes proof of residence, copy of electric bill, federal income tax return.
- The system must be inspected in order to prove installation.
- Funds will be released after the system has been inspected and interconnected.
- Inverters and modules must each carry a 10-year warranty.
- Systems must be installed by SASH program approved licensed solar contractors.
- If using a third-party owner, the applicant must assign the right to receive the incentive payment to another party by completing a Payment Assignment form with SASH.

Colorado Springs Utilities - Renewable Energy Rebate Program

- Must have a current account with Colorado Springs Utilities that is non-delinquent.
- The eligible system size is between 0.5kW and 10kW for residential PV.
- Application form requires a site plan and a signed interconnection agreement.
- After the initial reservation request form has been submitted and a reservation confirmation letter is sent, the installation contract must be submitted within 30 days. The rebate claim form must be submitted 120 days from the reservation confirmation.
- The funds will be released after the utility conducts a post-installation inspection and approves the interconnection.
- The PV system and inverter must have a minimum 5-year warranty.
- Third-party owners are allowed, with no special requirements.

Solar Electric Incentive Program – Oregon

- Available for customers of Pacific Power and Portland General Electric Co.
- The Energy Trust matches interested customers with an approved solar contractor. The solar contractor assesses the solar potential of the property, provides a bid, and answers questions about incentives, etc.
- An employee of Energy Trust will come in person to verify that the system was installed properly. After that step, the funds will be released.
- Customers must use approved vendors.
- Systems must carry a minimum 2-year warranty, inverters must carry a minimum of 5-year warranty, and panels must carry a minimum 20-year warranty.
- No third-party ownership allowed as part of this program.

Reading Municipal Light Department – Business Energy Efficiency Rebate Program – Massachusetts

- The program is available to all non-residential Reading Municipal Light Department customers with an active meter. The customer account must be in good standing with no past due balance. Must be in the cities of Reading, North Reading, Wilmington, or Lynnfield Center.
- Must fill out an application and supporting documentation as well as an interconnection application.
- Applications must be submitted within one year of project completion.
- No third-party owners allowed in this program.
- The light department will conduct an inspection once the project has been installed. The rebate will be issued 60 days after the inspection. Incentive amounts of \$500.00 or less will be automatically applied as an account credit.

Pasadena Water and Power – Solar Power Installation Rebate – California

- The solar energy system must be between 1kW and 1,000 kW CEC-AC. It must be permanently installed on the same premises where the customer's electricity demand is located and it must be connected to the electrical distribution grid.
- The utility provides lump sum and performance-based rebates. Lump sum rebates are for systems 1-100 kW CEC-AC. Performance-based rebates are for systems 100-1,000 kW CEC-AC.
- The customer must have an energy efficiency audit/assessment report. The application needs a site plan, electrical drawing, net metering enrolment, and interconnection agreement. To prove installation, building and fire inspectors will inspect the system. In order to receive the incentive amount, solar installation must be completed within 18 months of application approval. Inverters and modules must each carry a 10-year warranty.
- The funds are released 2-3 weeks after the system has been inspected and all final invoices/receipts are received by the utility.
- For third-party owners under a Purchase Power Agreement, only the performance-based rebate applies. The PV system must be operation and operated for a minimum of 20 years. The lease or PPA has a minimum initial term of 10 years.

Austin Energy - Commercial Energy Management Rebate Program - Texas

- Applicants must have an Austin Energy commercial electric utility account.
- The performance based incentive program has three tiers (Small, Medium, Large) and is provided as a monthly credit on the electric bill for a period of 120 months locked in at the rate specified in the Letter of Intent.
- Customers must first find a participating contractor and request bids. The participating contractor will submit an application to Austin Energy on the customer's behalf.
- City Council approves incentives for projects where the performance-based incentive payments could exceed the City Manager's administrative spending authority. This approval can take 6 to 8 weeks. Once the application is approved, Austin Energy issues a Letter of Intent.
- Austin Energy will conduct a final inspection to prove installation.
- Funds will be released once the system is energized.
- The solar energy system must be new and have a minimum 10-year warranty.
- Austin Energy requires that customers select a contractor from their approved list.
- Third-party owners are not allowed in this program