MUNICIPAL ENERGY GENERATION PROGRAM

Solar PV Basics – Permits & Approach

September 2024

This document provides municipalities with information to install solar PV on their facilities, reduce permitting and tax barriers to solar PV in communities, and engage community members on the benefits of producing power.

Municipal
Climate Change
Action Centre

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1.0 RESEARCH APPROACH & STAKEHOLDERS

Best practices are based on literature research from Canadian and U.S. sources and grounded by input from permitting and approval process experts, including municipal and solar PV installers.

Jurisdictions consulted include:

- City of Edmonton, Jenny Hong
- City of Calgary, Justin Pockar
- Town of Valleyview, Marty Paradine

Solar developer and installers include:

- ENMAX Solar Program, Adam Gagnon
- SkyFire Energy, Tim Schulhauser and David Vonesch
- HESPV, Ed Knaggs
- Green Sun Rising, Klaus Dohring

The Canadian Solar Industries Association (CanSIA) and the Solar Energy Society of Alberta (SESA) were also consulted as external reviewers.

2.0 KEY INFORMATION AND HOW TO READ THIS DOCUMENT

This document is designed for planners and permitting officials in a municipality that wants to make it easier to install solar in its community. Municipalities can reduce or remove critical barriers to developing a market for solar PV in their communities. This document outlines key considerations for improving the permitting process for solar PV projects. These considerations are shared in the form of best practice recommendations, supporting their value to both municipalities and the solar industry in reducing, respectively, administrative burden and project costs.

Municipalities looking to install solar on their own buildings should refer to document "Solar PV Basics: Technology, Installation, and Cost".

Introduction — Describes the value for both municipalities and projects in adopting best practices and the governance and process principles that guide best practices. Key considerations for the roles of specific stakeholders in reviewing the permit process and making changes are shared.

Development, building and electrical permits — Shares best practices for development, building and electrical permits. Because each municipality varies in size and capabilities, and current level of engagement for solar PV, recommendations are made according to principles that may be adapted to different contexts.

Planning and solar access — In addition to permits, a municipality can make proactive decisions on how to plan and incorporate renewable energy in their community. This section shares some insights on how to best make use of solar energy.

Property tax assessments — Solar PV projects add value to properties, but sizable tax increases can be a disincentive. The best practice is to exclude solar PV from their property tax assessments.

This document includes a **Best Practice Checklist** for designing a permit process tailored to municipalities in Alberta.

3.0 INTRODUCTION

Solar-friendly municipalities lay the foundation for low-barrier and low-cost solar photovoltaic (PV) system deployment by project developers and community members, residents, businesses, non- profits, and public institutions. This includes employing best practices in permitting and approval processes, and property tax assessment.

Municipalities can reduce, and in many cases remove, barriers to developing solar PV projects in their communities by using an effective permitting and approvals process that ensures that systems operate safely and efficiently. From the perspective of the system owner and installer this minimizes red tape and cost. For municipalities, it reduces administrative burdens. A fluid permitting process can expedite and further encourage solar deployment. Other stakeholders such as provincial regulators and the electric utility companies are also positioned to benefit.

The primary objective of this document is to share best practices that:

1. Reduce cost and barriers from development, building and electrical permits.
2. Guide land use planning (e.g. setbacks, visual impact mitigation) to ensure systems are well integrated into neighborhoods.
3. Ensure fair treatment of solar PV system for property assessment and taxation.

Many of the recommendations in this document are based on local Alberta and Canadian experience and can be directly applied.

4.0 VALUE OF ADOPTING BEST PRACTICES

Adopting best practice permitting and approvals processes ensures that approval processes are streamlined while all safety requirements are met, lowers the total cost of solar PV systems, and reduces the administrative burden for municipalities.

Project Benefits — Solar PV costs have been steadily declining over the past handful of years, making solar PV a more affordable option for electricity generation. As much of the cost declines can be attributed to lower cost equipment, the "soft" costs such as permitting, labor, etc., now make up a greater portion of the total cost. Today, costs specific to permitting including paperwork, lack of consistency, wait times, and lengthy inspections can make up a significant portion of the total system cost.

Some municipalities have already adopted best practices, but developers and installers are still subjected to a wide range of processes across Alberta. The need to deal with different rules in different regions drives up overhead costs and acts as a barrier to growth for installers looking to expand to other municipal districts. While changes to underlying electrical and building codes may help reduce some of the "soft" cost, the biggest potential is in streamlining local processes and reducing variation between municipalities. This is why the U.S. Department of Energy has led initiatives to develop an expedited permit process, a simpler set of rules and requirements for electrical and building permits for solar PV projects.[1]

[1] The expedited permit process was designed by the Solar America Board for Codes & Standards, which has partnered with 25 cities to help implement the process, and funds outreach programs in many more cities.

Municipality Benefits — Municipalities can benefit from best practice guidance for both the process development and implementation. Following best practices reduces the need for staff time compared to developing a permit and approvals process from scratch. While lower permit fees will reduce project soft costs, a municipality needs to consider the fees required to recover permitting expenses and can't simply lower these fees. Adopting best practices for permitting and approvals reduces the cost to municipalities of administering the process by reducing variation in how systems are inspected. These best practices extend to the education of municipality and inspection authority staff on solar PV technology to clarify how inspectors interpret code and find the right balance between reducing the number of inspections to reduce costs and ensuring high levels of safety and quality.[2]

In addition to following best practices, municipalities can benefit from economies of scale: as the number of solar PV installations grows and municipalities become more familiar with the process, the costs will inevitably trend downward.

4.1 Guiding Principles for Streamlining the Permit Process

Before describing best practices for structuring the necessary permits, it is important to highlight several principles that guide choices in designing the permit process. These principles can be classed as *governance principles*, which pertain to the general approach, including transparency, assurance and culture, and *process principles,* which refer to things like timing and availability of applications and staff.

4.2 Governance Principles

The municipality should be consistent and align the solar PV permitting processes with its general approach to planning, permitting and approvals. While some municipalities prefer a hands-off approach that values self-regulation, others may choose to provide additional assurance through handholding. In both cases the municipality should balance risk of public liability, safety, and environmental concerns with reducing the cost of using solar power and working with the solar industry to establish public trust in its self-regulation.

1. *Specific* — Municipalities should design a permitting process for solar PV system that is unique, rather than lumping solar PV in with other technologies with very different requirements that do not make sense for solar.

2. *Transparent and consistent decision-making* — The municipality should be transparent in how it applies permitting rules among all types of solar installations, including residential and commercial roof-top and ground-mount systems. This means that local authorities share publicly how proposed PV systems can conform to permit requirements. Where more than one option is available to meet permit requirements, these should be communicated to installers. For example, municipalities could provide a decision tree or permitting matrix, such as used by the City of Calgary, to clarify when and where permits are required. These should clearly describe options for meeting permit requirements based on the city's bylaws and procedures.

3. *Assurance* — The permitting process should provide assurance without being overly onerous. Some self-regulation among generic solar PV installations, or in cases of specific building and land use types, should be considered. This expedites the permitting process and reflects a balance of assurance and reducing red tape.

2 Klaus Dohring, Green Sun Rising, personal communication, October 27, 2016.

4. *Supportive culture* — While bylaws may be revised to expedite permit processes, it is equally important to educate municipal staff and accredited inspecting authorities who are inspecting electrical and mounting components. All permitting staff must understand the solar PV requirements so that they can help residents and installers throughout the process efficiently and without confusion. Moreover, informed staff, and those knowledgeable about solar PV, are more encouraged and empowered to streamline permit processes and further facilitate installation. Creating a supportive culture is as important as amending bylaws.

5. *Monitoring and evaluation* — It is good practice to monitor the permitting process, including the number of applications, the time from application to approval and fees charged. This information helps gauge interest in solar PV and inform permit process and fee schedule changes, as well as guide development of an effective financing or incentive program.

4.3 Process Design Principles

Timing, availability of information, accessibility of staff and fees are some of the key issues to consider when designing a streamlined permit and approval process:

1. *Minimize permit review and inspection time* — Shortened review and inspection turnaround time provides solar installers certainty, and reduces their staff cost in the review. The time from when the installer submits a permit application to decision (approval, request for more information, or denial) should be less than three business days. When the system has been installed, an inspection should be scheduled within two business days. Inspection appointments should be defined by a two-hour timing window. This reduces the cost of contractors (e.g. electricians, engineers) needed on-site for cutting building power, re-connection, and costs to the electric utility, and ensures that installed systems don't sit unnecessarily idle.

2. *Minimize reviews and multiple inspections* — The permit approval process should be coordinated by the municipality so as to ensure the minimum number of site visits and reviews / inspections by professionals, e.g. engineers, electricians, utility staff and inspectors. For example, to expedite the permitting process, the installer should co-ordinate with electrical and building inspectors, and the electric utility, to have all personnel on-site for same-day inspection and the building "cut and reconnect." This practice will benefit the installer most, but the municipality can play an active role in coordination.

3. *Over the counter and on-line permitting* — Where possible, approve permit applications over the counter where there are no application errors — as opposed to submission, review, and delayed decision with multiple day turn-around. Also, make it possible to submit applications online.

4. *Make information easily available* — Permit requirements, including a checklist, should be available online. Information should help maximize transparency in the permit decision-making process. A checklist guides installers and proponents through the permit process, minimizing errors and inefficiencies.[3]

5. *Staff should be accessible and facilitate permitting* — Municipal staff should be available to answer questions and facilitate the process. The best practice is to establish a single point of contact online for solar permits. Likewise, enough inspectors should be available to meet the demand for inspections. Solar installers typically install in the summer, which may conflict with staff vacation times.

3 NREL, Permitting Best Practices Make Installing Solar Easier (2013) http://www.nrel.gov/docs/fy13osti/57104.pdf

6. *Fees should recover cost and be clear and reasonable* — Permit fees should be based on a cost recovery model and be consistently applied among different types of projects. One option is to use a flat fee so that installers pay the same fee for similarly complex systems. Alternatively, a fee schedule may be used to easily determine fees based on the size (kW) of the system. A permit should not cost more than $250, or a similar amount proportionate to both the size and total cost of the installed system.

4.4 Involvement and Roles of Key Stakeholders

Developing a best practice permit and approvals process means involving several local and provincial stakeholders to ensure that the resulting process addresses needs and concerns without creating unnecessary barriers. (See the Solar Toolkit Document Community Engagement & Municipal Strategies for community and stakeholder engagement ideas.) Important stakeholders and roles are:

1. *Fire department* — The permit and approvals process should involve the local fire department to ensure building and electrical permit requirements reflect local firefighting and prevention expectations. The knowledge of the experts can be used to address issues.
2. *Local electric utility (wires owner)* — To expedite the grid-connection process, the municipality should develop a positive relationship with local representatives of the electric utility (wire owners or wire service providers). At a minimum, the utility should understand requirements for general connection of solar micro-generators and metering.
3. *Accredited inspection authority* — It is the responsibility of the solar industry and inspecting authorities to be informed and develop a good relationship with each other, like other building industries. This ensures inspectors interpretation of the code is harmonized and reduces unexpected changes to project execution and soft costs. It is also important for inspection authorities to share experiences interpreting code with municipalities and Municipal Affairs.
4. *Solar installers and leading proponents* — Solar PV system designers and installers, and leading proponents who have installed systems in the community, should also be included in developing a best practice permit process as they will have feedback on what is working (or not working) with the current system.

5.0 DEVELOPMENT, BUILDING AND ELECTRICAL PERMITS

There are three types of municipal permits that are relevant for solar PV project development and installation for systems installed under the Alberta Microgeneration Regulation: development, building and electrical. Best practices are described below for each, as well as several principles and recommendations for streamlining the entire process. In addition, microgeneration projects require an interconnection agreement with the wire services provider, which is outside of the scope of this document.

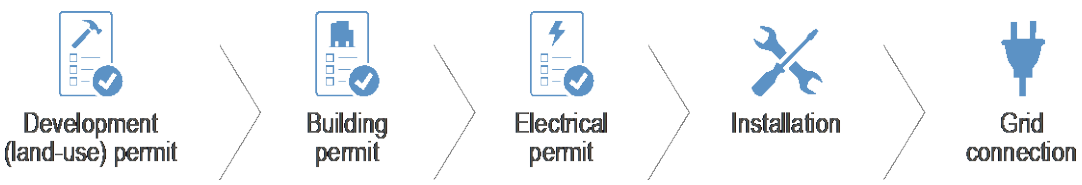

Figure 1: Solar PV project development and permit process

5.1 Development Permits

A development permit is used by municipalities to ensure that changes to land use adhere to the rules and intentions of the local land use bylaws. Generally, this ensures land use is aesthetically pleasing, fits with the neighborhood and does not interfere with or significantly impact the fair use of adjacent properties. Typical rules include restrictions to placement of buildings within a land parcel, the projection of specific building elements into restricted land, called "setbacks," and limits on building and equipment height.

Land use is typically regulated by municipalities through zoning bylaws. Depending on the municipality, zones may also be known as "districts," as designated by the City of Calgary. The zoning of a particular parcel of land is described in the land use bylaw. The Municipal Governance Act of Alberta regulates the parameters of bylaws and what rules and restrictions are within municipal jurisdiction. A land use bylaw may effectively restrict or support solar PV projects depending on definition of these installations and if they are treated as permitted or exempted.

Land Use Bylaws

A typical bylaw provides a definition of solar PV within the context of other renewable energy devices. Best practice is to then exempt installers from obtaining a development permit for solar PV, as long as their installation and use complies with permitted practices, as described in subsequent sections of the bylaw.

Definition of technology — A bylaw should clearly define renewable energy devices. A broad definition of solar collectors would encourage simplified rules that apply to both solar PV and thermal systems. While PV technology generates electricity, thermal systems are typically used for heating domestic water. The City of Calgary bylaw (1P2007) uses the following definition: "solar collector" means any device used to collect sunlight that is part of a system used to convert radiant energy from the sun into thermal or electrical energy." The technology definition may also specify the use of PV modules with anti-glare coatings.

Exemption — A land use bylaw may exempt changes to a site, such as installing a solar PV system, from a development permit. Such exemptions typically come with several general restrictions (e.g. solar PV modules may not extend beyond roof edge) and further rules that apply depending on a site's specific land use designation (zone).

A development permit is needed and must be approved by the municipality on a discretionary basis, for any land use change that is not exempted by the bylaw.

Permit Exemptions

The best practice for incorporating solar PV systems into land use bylaws and the development permit process is a broad permit exemption, not limited by system generating capacity.

Broad exemption for all types of land use — Exempt solar PV systems from requiring development permits for all types of land uses, including residential, commercial, industrial, and special purpose zones such as parks, public institutions etc. Some example restrictions to this broad exemption include installation on heritage buildings or zones of special concern; some municipalities limit exemption based on the physical size or power output. Other exemptions are discussed in the section below.

Exemption is not limited by system generating capacity — Exemption from a development permit should not be restricted by the system rated power output (kW installed), as this does not encourage efficient sizing of solar PV in relation to available roof space, nor is it within the jurisdiction of a municipality to regulate electricity generating output. Limitations should be based on possible physical impacts.

Permit Requirements

When a development permit is exempted, the solar PV system is considered a "permitted use." This means the system may be installed without permits as long as it complies with bylaw requirements. These are addressed separately for each of the municipality's land use zones. This allows a municipality the flexibility to specify different restrictions depending on where in a community the solar PV system is installed. Instead of detailing rules for each land parcel, the bylaw uses zones to describe land uses, with different rules for different zones. In residential zones it is common practice to be more restrictive, whereas commercial and industrial zones are more lenient. The following are best practices that may apply to various extents in all zones:

Installation location — Rules may depend on whether solar PV is installed on the parcel's main or ancillary buildings, or whether the system is ground-mounted. Options for mounting on buildings include roof, walls, and integrated systems, such as roof shingles, window shading and façades. All ground-mounted systems should require development permits.[4] Permitted uses for wall-mounted systems may restrict projections into building setbacks and size. Unrestricted wall mounting may lead to broad expanses of mono-colored walls with low aesthetic appeal.

Projection into setbacks — Solar PV systems may be allowed to project into regulated building setbacks from property lines. This means solar collectors are permitted uses in building-integrated designs where the solar PV module behaves as both a generator and shading device, or when wall mounted.

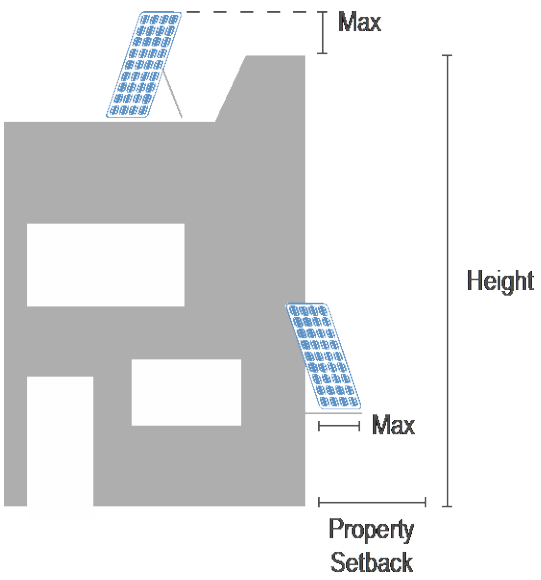

Figure 2: Building height and setback restrictions for solar PV systems.

Specific requirements for zones — Residential zones may restrict where PV modules can be placed to ensure they are not installed too close to the property line. Height projection allowance should increase with roof slope. Other zones may increase maximum allowable projection and reduce offset requirements from the property line. Rules are designed to minimize visibility impacts for adjacent properties. Generally, the stringency of rules for each type of land use zone are summarized in Table 1.

[4] Ground-mount systems may negatively impact neighborhood aesthetics or impede fair use of adjacent properties. These systems should always require a development permit, except in specially determined zones, e.g. remote and/or industrial sites.

Table 1: Stringency of rules for land use zones

Zone type	Location, projection, and height	Fire safety
Residential	**low**	**high**
Commercial	**moderate**	**moderate**
Industrial	**high**	**moderate**

5.2 Building Permits

A building permit ensures that solar PV systems are properly attached to buildings and ground mounted attachments in a way that conforms to building and fire safety codes — assuring safety and property protection. This means any changes to the building's structure (e.g. roof reinforcement) requires a building permit. Generally, any proposed ground mount system attached to an existing structure should require a building permit.

Permit Exemptions

To expedite solar PV permitting, it is best practice to exempt installers from "pulling" a building permit for less complicated installations. In these cases, the municipality may prescribe minimum requirements. However, while development permit applications are quite onerous, a building permit may be a low-barrier alternative for the municipality to retain some protection of community acceptance and aesthetic.

Different Approaches to Exemptions

A variety of approaches exist that exempt solar PV installations from building permits. For smaller municipalities with few installations and minimal experience, the best practice is to exempt all flush-mounted [5] solar PV systems from a building permit. All other types of systems must apply for permits. Alternatively, a more comprehensive approach uses a requirements checklist. A building permit is not required when the plan meets all minimum requirements.

For municipalities with more installations and experience, the best practice is to exempt installations from building permits if the following three criteria are met:

> *Maximum weight* — Distributed weight is less than 5 lb / ft^2 (25 kg / m^2); maximum attachment point-load is less than 50 lb (22 kg) per connection (a typical flush mounted system is below this level).
>
> *Mounting location* — PV module racking is directly attached to roof rafters or trusses and no part of the PV modules project above roof ridge height.
>
> *Mounting equipment* — Pre-engineered and CSA/ULC approved product is used and installed according to specification.

Alberta building roofs are designed to accommodate 21 lb / ft^2 (100 kg / m^2) of excess loading for snow accumulation. For flush-mounted solar PV on sloped roofs the risk of structural overloading is minimal.

[5] Flush-mounting means PV modules are attached in parallel to roof surface with up to 10 cm (4") spacing.

Findings from the Sandia National Laboratory Rooftop Structural Strength Study[6] support exemptions for parallel roof mount residential solar PV installations. The study, which stressed wood rooftop structures to the point of failure and compared the data with allowable loads identified in the International Residential Code and the National Design Standard found that "on average, the rafter-based tests demonstrated a 330 percent excess load-bearing capacity compared to values computed in the National Design Standard. There is a misperception in the building industry that existing residential rooftops lack the strength to carry the weight load of rooftop solar photovoltaic installations. Solar PV systems represent little additional weight and roofs are very strong. A well-built home that meets local building standards and has not been adversely modified or damaged should have enough load-bearing capacity to support a roof- mounted PV system."

However, building permits are always advisable when installing solar PV on flat roofs with ballasted racking, or heritage buildings. The combination of snow-loading and additional weight of ballasts may require additional structural assessment of the building and roof; heritage buildings may have roofs that are not code compliant. Building permits should also always be required when installation involves structural changes to the roof or is on flat roofs with edges or significant obstructions.

Permit Requirements

Where a permit is required, best practice applications include a simplified structural drawing and, if requested, calculations showing the system meets Alberta Building Code and Fire Safety Code requirements. Drawings will typically need to be signed off (stamped) by a professional engineer. Specific document requirements for permit application (preferably online) include:

1. *Application form* — Building permit application with completed checklist and fee.
2. *Plan and layout drawing* — Roof, wall or ground-mount plan indicating spacing, height, title, and layout of solar PV system components. The distance between the roof surface and parallel-mounted needs to be specified.
3. *Racking system information* — Includes type, specification, and product drawings (to professional engineering standards) where these are required to assess adequacy of racking system and building structural members. Rack to structure attachment details must be specified.

Expedited Process

Best practices for expediting the permit process means requesting the following information as part of the permit checklist: roof type and material (lightweight options include metal, asphalt shingles, and cedar shakes; compared to heavier masonry); rack attachment details, weather sealing and layering (single or multiple layers require additional investigation).

When many similar buildings require permits (e.g. multiple dwellings in one development), a generic option should be communicated online and in the permit application. This means one application may be submitted for multiple installations.

6 Sandia National Laboratories, *Structural Code Considerations for Solar Rooftop Installations* (2014). http://energy.sandia.gov/wp-content//gallery/uploads/dlm_uploads/SAND2014-20601_Code_2- 11-15.pdf

Permit Inspection

Installations that require building permits should have drawings reviewed. If plans meet the minimum code requirements, they should be approved before work begins. Once the system is installed, building and electrical inspections (see below) should be scheduled for the same time window, reducing contractor cost and expediting grid connection. Some municipalities will require the structural engineer to field inspect the installation in which case Alberta Building Code schedules may be necessary – but this requirement varies by jurisdiction and is in flux.

Building code inspectors will rely heavily on design plans and drawings as due diligence in their inspection process. Raising awareness and knowledge of solar PV systems among inspectors, including the above best practices for permit requirements and expedited process, should minimize inspection time.

5.3 Electrical Permits & Safety

An electrical permit is required to ensure safe installation and operation of solar PV systems. Regardless of development and building permit exemptions, an electrical permit is always required.

Permit Exemptions

All solar PV installations require an electrical permit, but the minimum requirements vary depending on the size and complexity of the system installed. The most common requirement is for a professional engineer's sign-off (stamp) of electrical line diagrams for larger solar PV systems. For smaller systems a line diagram is required but it does not need to be stamped.

Permit Requirements

Best practice for permit application includes a single-line diagram showing the connection of all system components, including PV modules, inverters, disconnects, electric panels, and where applicable, energy storage and transformer devices.

Specific document requirements for permit application (preferably online) include:

1. *Application form* — Electrical permit application with completed checklist and fee.
2. *List of components* — Includes modules and inverters with description of make, model and specification.
3. *Single-line diagram* — Showing component connections (AC and DC circuits), with specific care for grounding and grid connection.

Helping Firefighters Stay Safe

A variety of options for solar PV installation are available to municipalities and their fire departments to help firefighters stay safe when they are doing their job. These options may be implemented as part of education and awareness workshops, guidelines, or included as requirements in the electrical permit process. In addition, including the fire department early in the permitting design process can identify areas where PV system design does not pose a risk to normal firefighter practices, reducing the number of constraints on solar PV system installation while maintaining safe operation for firefighters.

1. *Roof access for firefighters* — Providing roof access for firefighters means leaving continuous space from eaves to ridge on each roof slope, typically 0.5 to 1 meter pathways. In the City of Calgary, however, early consultation identified that fire departments do not access residential roofs, making this requirement unnecessary for residential installations.

2. *Rapid shutdown* — The 2015 Canadian Electrical Code contains new requirements to address the safety of fire personnel. The wiring of solar PV systems attached to inhabited buildings must have the ability to be de-energized to 30V or less within 3m of the solar panels in ten seconds or less. New systems installed in Alberta must have this capability.
3. *Labelling* — Clear and easy-to-understand labelling that strikes a right balance between enough information and usability is important to help firefighters make informed decisions.

Expedited Process

Several options are available to expedite the permit process; however, a significant number of Alberta municipalities would need to adopt them for these to be effective. These include:

- *Standardized single-line diagram* — Similar drawing requirements and layouts could be required.
- *Complexity and size* — Reduce requirements for small (e.g. 10 kW) and less complicated systems (e.g. using engineered and CSA/ULC approved product racking).

An application checklist facilitates the permit process, including exemptions and minimum requirements. Where the municipality chooses to exempt solar PV installation from a building permit (further expediting the process), one option is to include several building-related requirements in the electrical permit application.

Permit Inspection

Electrical system inspection should coincide with development and building permit inspections where applicable. The completed permit application and all documentation should be available to the inspector. Once the installation is approved and the finalized electrical permit is submitted to the Wire Service Provider the utility will come to the site, install the bi-directional meter and the solar system can be switched on.

6.0 PLANNING AND SOLAR ACCESS

Solar access refers to legal or otherwise bi-lateral assurance that a property owner has access to sunlight. This may be indefinitely or within a defined period. Solar access is critical for planning and investing as changes in access can render a solar PV system worthless. Figure 3 illustrates solar access principles, whereby shading from adjacent buildings could reduce solar access in winter months.

Municipalities may exercise significant influence on solar development through proper planning and accounting for rights to solar access. In the 1980s, Brampton, Ontario, established guidelines to create solar envelopes that protect access to sunlight, but these requirements were difficult to enforce.[7] Brampton is the only jurisdiction in Canada that has enacted a legal right to sunlight. In Alberta, a 1980 bill (Bill 228) attempting to introduce a complete right to sunlight failed to pass. Still, these attempts show interest in solar access.

[7] Alberta Environmental Research Trust, *A Legal Review of Access to Sunlight in Sunny Alberta* (1981).
http://www.hme.ca/sdplans/A%20Legal%20Review%20of%20Access%20to%20Sunlight%20in% 20Sunny%20Alberta.pdf

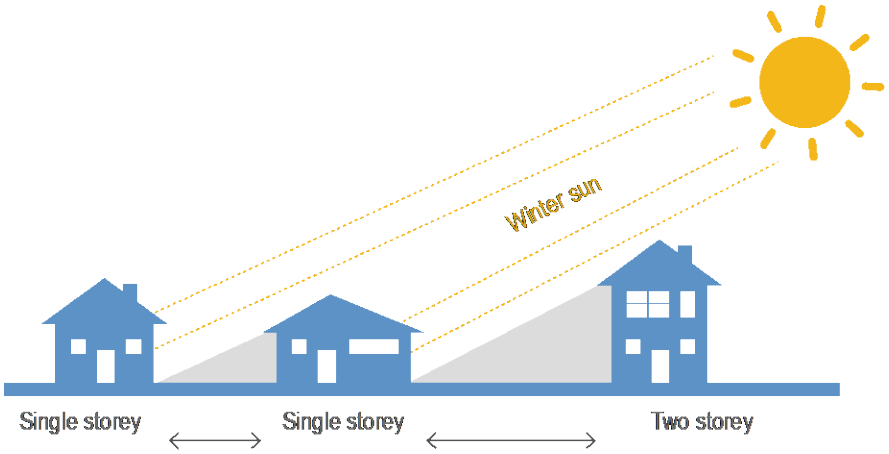

Figure 3: Solar access as part of community planning

A review of these Canadian precedents and U.S. experiences suggests there are two avenues to help ensure solar access. First, the municipality can incorporate solar access principles into land use planning. Second, the municipality may facilitate "solar easements," which are agreements between adjacent property owners for the right to sunlight contingent on conditions mutually agreed-upon by property owners.

Solar access principles — These are incorporated as part of a comprehensive land use planning framework, which may include one or more of the following:

- No restrictions at the local (community or neighborhood) level to prevent or discourage solar PV installations.
- Allow trimming of protected trees where they significantly inhibit solar access, while protecting removal of heritage objects for cultural and environmental reasons.

Solar easements — Developers can restrict the type of building and choice of vegetation, as well as subdivision plans, in order to promote or allow solar access. These restrictions may be signed as part of a covenant — a bi-lateral agreement among the developers working closely with the municipality. Examples of conditions and restrictions as part of the solar easement include:

- Provisions for trimming existing and new vegetation.
- Restricting placement of new vegetation or structures
- Expressed definition of easement in terms of physical dimension

7.0 PROPERTY ASSESSMENTS

The value of property is increased when solar PV systems are installed, as has been shown in California, Connecticut, Florida, Massachusetts, Maryland, North Carolina, New York, and Pennsylvania. Homes sold between 2002 to 2013 showed a price premium of $4.51 and $3.58 per watt respectively for existing and new homes (above similar homes sold without solar PV).

To encourage, not penalize, the installation of solar PV systems, a municipality may choose not to levy property taxes on the solar PV premium as part of the property value. To encourage residential take-up, Ontario's Assessment Act was amended to ensure that residential property owners who install solar PV would not be assessed for their premium. While there is no data available on solar premiums, this best practice pre-emptively

ensures solar PV system owners are not penalized for adopting the technology. Specifically, the amendment exempts residential systems up to 10 kW from property tax; medium-sized systems (up to 50 kW) are taxed at the regular rate, while utility-scale systems continue to be taxed at a corporate rate.

Without amending provincial tax laws, the best practice would be to not account for additional price premiums of solar PV systems installed on residential and small commercial buildings. This is the approach in Halifax, Nova Scotia, where its Property Valuation Services Corporation has not increased residential property values where solar PV is installed.

8.0 CONTACT US

Questions about the AMSP program may be directed to:
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