

Solar Energy Systems

Before You Start

Before you install a Solar Energy System, your plans must be reviewed by the City of Edmonton for approval. Depending on the category of building to which you wish to add a solar energy system, you must complete one of four different applications:

Existing Residential Buildings (excluding multi-family): Residential Development & Building Application

New Single Detached Dwelling (House) Construction: New Single Family House Permit Application

New Semi-Detached or Duplex Dwelling: New Semi-Detached or Duplex Housing Application

New and Existing Commercial/Industrial/Multi-Family: Commercial Development Permit Application

Solar Thermal Systems

A Solar Thermal System uses the sun's radiation to heat water. Solar thermal flat plates are mounted on a roof, and a heat transfer fluid is pumped through tubes in the plates. The heat transfer fluid is circulated to a heat exchanger, which transfers usable heat to a home's hot water system.

All Solar Thermal Systems require:

- Application, Review & Approval from the City of Edmonton Development, Heating, Ventilation & Air Conditioning (HVAC), and Building sections.

Solar PhotoVoltaic (PV) Systems

A Solar PhotoVoltaic system converts sunlight into electricity. PhotoVoltaic solar panels are mounted on a framing system or flush with the surface of the building to capture sunlight and provide power to a home.

All Solar PhotoVoltaic Systems require:

- Application, Review & Approval from the City of Edmonton, Development, Electrical, and Building sections.
- Solar PV systems also fall under the provincial Micro-Generation Regulation, which allows Albertans to generate their own environmentally friendly electricity and receive credit for any power they send into the electricity grid. Compliance with this Regulation requires an application also be made with EPCOR. Both the City of Edmonton and the EPCOR processes are described on the reverse side of this page.

General Submission Requirements

All applications for Solar Energy Systems must include:

- 1 set of drawings for Residential Applications (excluding multi-family developments)
- 3 sets of drawings for Commercial/Industrial/Multi-Family Applications

These drawings must consist of:

1. A Site Plan/Real Property Report or Google Maps aerial screenshot showing:
 - All existing and proposed structures
 - Distances from existing and proposed structures to property lines
2. Elevation drawing showing the following:
 - Show the proposed solar panels in relation to any existing and proposed structures
 - Dimension the height of any existing and proposed buildings and structures
3. Detail drawing - showing the following:
 - Dimension the angle between the proposed solar panels and the mounting surface (ex. 15 degrees)
 - Dimension the distance between the proposed solar panels and the mounting surface (ex. roof)
 - Solar panel dimensions (thickness of panel, width, length)
4. Certificate of title - Required for Free Standing solar panel structures only
5. Drawings of device stamped by manufacturers engineer
6. Details of attachment to existing building stamped by engineer including:
 - Roof slope
 - Snow and weight loads
 - Attachments (ie to sheathing or to framing)

Solar Thermal Submission Requirements

A Hydronic layout diagram showing collectors, piping, equipment, and connection method to building HVAC and/or DHW system. Provide all equipment specification sheets with applicable safety certifications.

Additional Permits Required: Heating, Ventilation, & Air Conditioning (HVAC)

Note: New commercial and residential construction may NOT require a separate HVAC Permit for a Solar Thermal System.

- System installer must supply a signed copy (1 per address for each application) of the attached Solemn Declaration for Solar Thermal Installation to the City's mechanical section by email to: SDCurrentPlanning@edmonton.ca
- System installer must also request a final inspection.

Solar PhotoVoltaic Submission Requirements

A Single Line Diagram provided by an electrical contractor with the following details:

- Module brand, model, certification mark, quantity, combined STC output & Location
- Service entrance information (line phase, voltage, wire service provider, etc)
- All bonding and grounding conductors (or WEEB's) and system grounding electrodes(s)
- All sub and main panel bus bar ratings and feeder breaker sizes
- Solar breaker size, sub and main panel between inverters and grid, with location on site
- DC and AC disconnect locations on site
- Minimum conductor size & length
- Inverter brand, module, certification mark, individual and combined output rating (Current voltage, current, and power), quantity and location
- Combiner box details and fuse ratings where applicable
- Solar array DC circuit rating per module for micro-inverters or DC Optimizers, or combined string ratings, at Standard Testing Conditions: Voltage Open Circuit, Max Power Voltage, Max Power Current, Show number of modules per string.

Additional Permits Required: Electrical

Note: All new commercial and residential construction require a separate Electrical Permit for a Solar PhotoVoltaic System.

- Submit a completed Generation Project Notice Form to EPCOR's Customer Engineering Services (CES) at: distgen@epcor.ca
- After installation and before booking inspections, system installer must supply a signed copy of a Solemn Declaration letter for each bi-directional meter being installed. Send to: electricaltechnicaladvisors@edmonton.ca
- System installer must also request a final/service inspection for each bi-directional meter at the same time as requesting the final electrical service inspection for that project.
- Owner/contractor must contact EPCOR's Meter Room at 780-412-3810 to make arrangements to have the meter installed.

Contact

For application forms, fees, and additional information:

Phone

311

Outside Edmonton: 780-442-5311

Web

www.edmonton.ca/solarenergysystems

Email

sdcurrentplanning@edmonton.ca

In Person/Mail

Current Planning Service Centre
5th Floor, 10250 – 101 Street NW
Edmonton, Alberta T5J 3P4

Office Hours

8:00 a.m. – 4:30 p.m.
Monday through Friday

Fees depend on the scale of your project. Full fee schedule is available online.

Note This is a general guide. Additional information may be required.

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