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Clean Technology (CT) Investment Tax Credit (ITC) Technical Guide: Photovoltaic Electrical Generation Equipment

Canada

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Clean Technology (CT) Investment Tax Credit (ITC) Technical Guide

Photovoltaic Electrical Generation Equipment

Publication details

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As stated in subsection 127.45(20) of the *Income Tax Act*, “for the purpose of determining whether a property is a clean technology property, any technical guide, published by the Department of Natural Resources and as amended from time to time, is to apply conclusively with respect to engineering and scientific matters”. This technical guide is with respect to the category of *clean technology property* that is photovoltaic electrical generation equipment.

This is the first edition of the *Clean Technology (CT) Investment Tax Credit (ITC) Technical Guide: Photovoltaic Electrical Generation Equipment* and it reflects the *Income Tax Act* and *Income Tax Regulations* current as of September 29, 2025.

The Class 43.1 and 43.2 Secretariat also maintains the *Technical Guide to Class 43.1 and 43.2* and the *Technical Guide to Canadian Renewable and Conservation Expenses (CRCE)* under separate cover. Taxpayers are advised to consult those guides for specific information on the types of properties eligible for inclusion in Class 43.1 and/or CRCE.

This Guide may be amended from time to time to reflect amendments to the *Income Tax Act* and *Income Tax Regulations* with respect to *clean technology property*. Taxpayers should consult the latest versions of the *Income Tax Act* and *Income Tax Regulations* whenever they are considering a project to ensure that decisions are based on the legislation in force at the time.

General description

Photovoltaic electrical generation equipment (described in subparagraph (d)(i) of the definition *clean technology property* in subsection 127.45(1) of the *Income Tax Act*, which references property described in subparagraph (d)(vi) of Class 43.1 in Schedule II to the *Income Tax Regulations*) includes fixed location photovoltaic equipment that is used primarily for the purpose of generating electrical energy from solar energy.

Eligible properties

Eligible properties for photovoltaic electrical generation equipment include the following:

- solar cells or modules, including a solar cell or module that is integrated into a building;
- related equipment, including inverters, control and power conditioning equipment;
- support structures for the solar array; and
- *transmission equipment*.

Ineligible properties

Ineligible properties for photovoltaic electrical generation equipment include the following:

- *distribution equipment*;
- a building or part of a building other than a solar cell or module that is integrated into a building;
- auxiliary electrical generating equipment (e.g., diesel engine-powered generator sets, main electrical transfer switches or power bars); and
- property that would otherwise be included in Class 10 or certain parts of Class 17 (e.g., certain pieces of moveable equipment and portable tools, certain automotive equipment, electronic data processing equipment and system software, telephone and related equipment and access roads, sidewalks, parking areas, crane pads and other similar surface construction).

Additional guidance

In this section:

- [General requirements](#)
- [Electrical energy storage equipment](#)
- [Fixed location equipment](#)
- [De-icing equipment](#)
- [Support structures](#)
- [Equipment that is a Building or part of a building](#)
- [Power generation equipment](#)
- [Power transmission equipment](#)

General requirements

In order to qualify, in addition to other limitations, *clean technology property* **must**:

- Be equipment that is situated in and intended for use exclusively in Canada;
- **Not** have been previously used or acquired for use or lease, for any purpose before acquisition by the taxpayer; and
- Be acquired and become available for use between March 28, 2023 and December 31, 2034.

Electrical energy storage equipment

Electrical energy storage equipment used to store and discharge electrical energy generated from photovoltaic electrical generation equipment described in Class 43.1 may also be eligible for the CT ITC (please see [Clean Technology \(CT\) Investment Tax Credit \(ITC\) Technical Guide: Electrical Energy Storage Equipment](#)).

Fixed location equipment

Eligible photovoltaic electrical generation equipment must be installed in a manner that causes it to remain in a fixed location relative to the ground. Equipment affixed to a vehicle or other mobile object (like a trailer) is ineligible.

De-icing equipment

To the extent that de-icing equipment is required for the proper functioning of eligible photovoltaic electrical generation equipment and used for that purpose it may be eligible.

Support structures

Racking or mounting systems used to support photovoltaic electrical generation equipment may be eligible.

Equipment that is a building or part of a building

The cost of reinforcing a building's existing roof structures or walls, such that they can support the weight of photovoltaic electrical generation equipment is ineligible.

Power generation equipment

Eligible electrical energy generation property includes generators and equipment used at the first level of power transformation. The first level of transformation includes equipment used for phase synchronization and voltage regulation. After the first level of transformation, generation stops, and the electricity is ready for use (e.g., ready to be put on transmission lines). Typically, the eligible system boundary for electrical energy generation equipment is located after the first level of transformation at isolation switches that allow a utility to lock out a generating plant's power production.

Power transmission equipment

Eligible *transmission equipment* is site specific and is dependent on the electrical grid configuration near the site. In general, it includes transmission lines (and related equipment) from the electrical energy generating equipment up to the interface with the electrical grid or the isolation switch of the local electrical utility, or up to the point where, on an annual basis, more than 75 percent of the electrical energy transmitted by the *transmission equipment* is electrical energy generated by the photovoltaic electrical generation equipment, whichever point comes first.

Costs typically included in the capital cost of *clean technology property*

Costs typically included in the capital cost of photovoltaic electrical generation equipment that is *clean technology property* include:

1. Construction of working platforms that are not an integral part of a building or other structure.
2. Installation of support structures for photovoltaic modules (e.g., foundations, anchors, mounting frames for systems mounted on the ground or mounting brackets and rails for systems mounted on a roof or wall).
3. Purchase and installation of solar photovoltaic array (e.g., cells, modules, panels and related equipment).
4. Purchase and installation of controls, power inverters, and power-conditioning equipment.
5. Purchase and installation of power transformer(s).
6. Purchase and installation of electrical transmission line, including switches and meters.

Note: The Department of Finance has [published draft legislation in August 2024](#) that included proposed amendments to Section 127.45 that would provide that, for the purpose of computing a taxpayer's CT ITC, the capital cost of *clean technology property* would not include any amount that is an expenditure in respect of a "preliminary work activity". Once enacted, these amendments would apply retroactively as of March 28, 2023.

Proposed definition

Preliminary work activity means an activity that is preliminary to the acquisition, construction, fabrication or installation by or on behalf of a taxpayer of property including, but not limited to, a preliminary activity that is

- a. obtaining a right of access to a project site or obtaining permits or regulatory approvals (including conducting environmental assessments);
- b. performing front-end design or engineering work, including front-end engineering design studies, or process engineering work for the project, including
 - i. collecting and analyzing of site data,
 - ii. calculating energy, mass, water or air balances,
 - iii. simulating and analyzing the performance and cost of process design options,
 - iv. selecting the optimum process design, and
 - v. conducting feasibility studies or pre-feasibility studies;
- c. clearing or excavating land;
- d. constructing a temporary access road to the project site; or
- e. drilling of a well.

Schematics of qualifying equipment

A typical configuration of solar cells or modules and related equipment that would qualify as photovoltaic electrical generation equipment is shown in the schematic below.

Key to notes on schematic for photovoltaic electrical generation equipment

PVE-1

For eligible properties, see Eligible Properties section this Guide.

PVE-2

For ineligible properties, see Ineligible Properties section of this Guide.

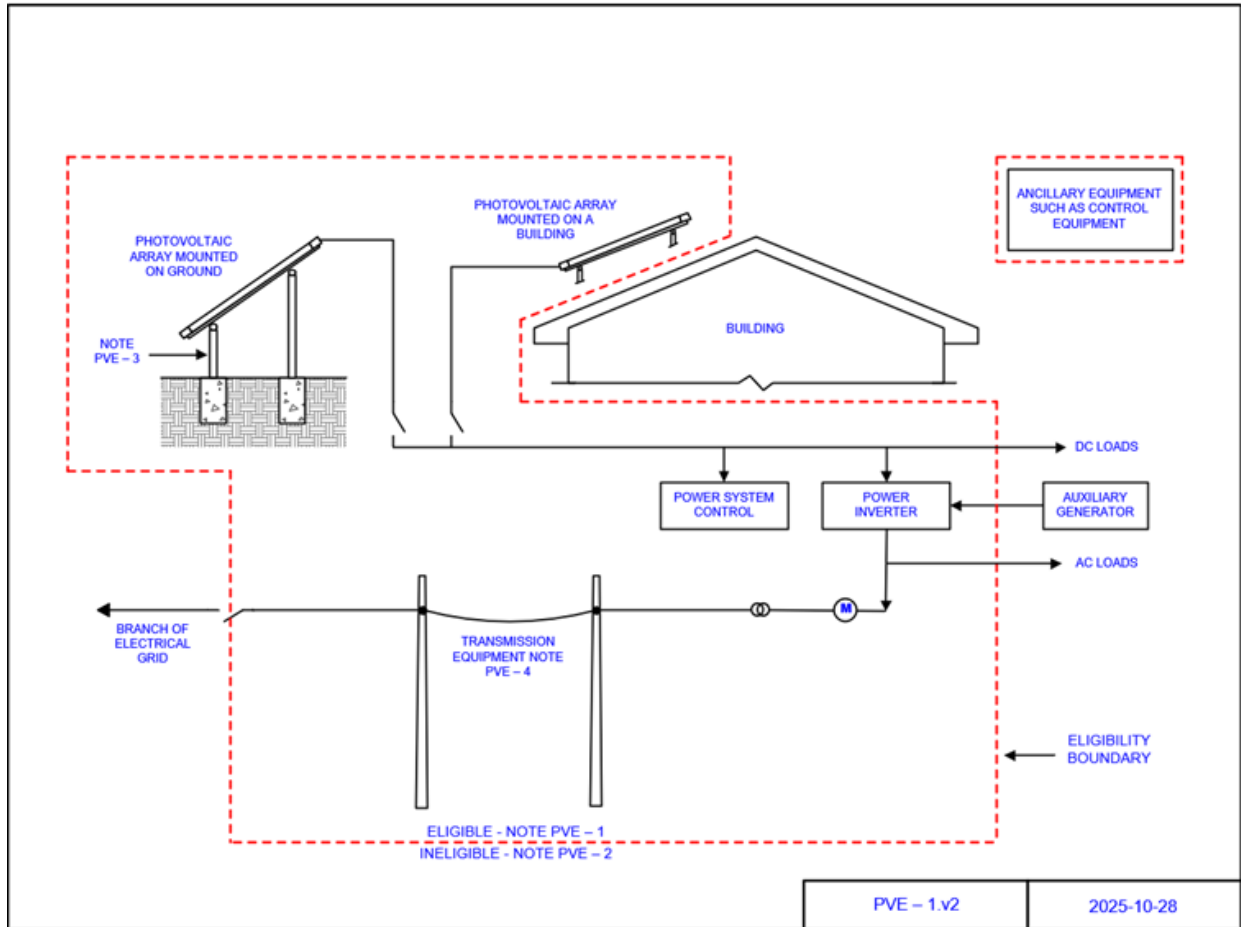
PVE-3

Support structures and equipment to automatically orient photovoltaic panels toward the sun are eligible. Structures to mount and orient photovoltaic panels on buildings are eligible but buildings and modifications to buildings to support photovoltaic panels are ineligible.

PVE-4

Eligible *transmission equipment* is site specific and is dependent on the electrical grid configuration near the site. In general, it includes transmission lines (and related equipment) from the electrical energy generating equipment up to the interface with the electrical grid or the isolation switch of the local electrical utility, or up to the point where, on an annual basis, more than 75 percent of the electrical energy transmitted by the *transmission equipment* is electrical energy generated by the photovoltaic electrical generation equipment, whichever point comes first.

Figure 1 - Photovoltaic electrical generation equipment



Text version of Figure 1