

LEED Pilot Credit Library

Pilot Credit 56: Renewable Energy – Distributed Generation

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Applicable Rating Systems

This credit is available for pilot testing by the following LEED project types:

- All Building Design & Construction rating systems
- All Existing Buildings: Operations & Maintenance rating systems

Intent

To support the installation of distributed renewable energy generation.

Requirements

Obtain structural engineer verification that the design and constructing of the building is capable of supporting planned photovoltaic technologies on the roof.

AND

Enter into a rooftop lease agreement committing to provide renewable, solar energy for distributed generation¹ that meets the following requirements:

Solar facility capacity	Points ²
250 kW	
500 kW	
1,000 kW	

¹ Distributed generation is the use of small-scale power generation technologies located close to the load being served. These systems reduce the amount of energy lost in transmitting electricity because the electricity is generated very near where it is used. Distributed generation systems are typically smaller than 10,000 kW. For purposes of this credit, distributed generation systems must deliver power to the utility distribution grid rather than to an individual building.

² As a pilot credit, project teams will earn one point regardless of the threshold achieved. USGBC is indicating multiple thresholds to display the credit's intended structure.



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The agreement must specify an expected commercial operation date for the solar facility that is within 18 months of building construction completion.

Capacity of the solar facility shall be determined by summing the photovoltaic module (PV) power listed on the nameplates of the PV modules in units of watt and then dividing by 1,000 to convert to kilowatt (kW).

The PV module power ratings are for Standard Test Conditions (STC) of 1000 W/sq. meters solar irradiance and 25oC PV module temperature.

While projects may use electricity from the solar facility, the facility cannot count towards the achievement of EAc2: On-site Renewable Energy (BD&C rating systems) and EAc4 On-site and Off-site Renewable Energy (O&M rating systems).

The building is prohibited from receiving or claiming ownership of environmental attributes generated by the on-site renewable energy facility. Environmental attributes shall include, without limitation, any and all carbon credits, renewable energy credits, emissions reductions, reporting rights, offsets and allowances attributable to the electric energy produced by the solar facility.

Credit Submittals

General:

- 1. <u>Register for Pilot Credit(s) here</u>.
- 2. Register a username at LEEDuser.com, and participate in online forum
- 3. <u>Submit feedback survey</u>; supply PDF of your survey/confirmation of completion with credit documentation

Credit Specific:

- 1. Copy of structural engineer verification, indicating that the building and roof are capable of supporting the anticipated solar loads.
- 2. Copy of the signed rooftop lease agreement that shows compliance with the solar size/capacity and schedule requirements. A letter of intent is not acceptable.
- 3. Copy of the grid interconnection approval, signed by the local utility
- 4. Indication of total kW size, module type, number of modules, and nameplate rating of module.
- 5. Proof that the building owner does not have a claim to the Renewable Energy Credits from the project (in the roof lease agreement).

Additional Questions

1. With what utility are is the project engaged for the distribution?



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- 2. What is the minimum and maximum allowable size of distributed rooftop generation systems in the project area?
- 3. Is the project participating in a state- and/or utility-sponsored program? If so, which one?

Background Information

This credit developed from conversations in the Warehouse-Distribution Center Adaptation Working Group (the work of which is seen in the W-DC credit requirements in the <u>LEED rating system drafts</u>). Working group members strongly believed that the large roof sizes of these space types presented excellent opportunities for generating renewable (specifically, solar) energy. Due to the typical size of these roofs, the capacity of the roofs to generate power often far exceeds the buildings' ability to utilize the power. In order to optimize the use of the resource, the energy produced would be distributed to the local power grid. Financial and regulatory hurdles have to date limited the wide-spread adoption of this strategy, known as distributed generation for rooftop photovoltaic projects.

After many conversations with the Energy & Atmosphere Technical Advisory Group, the credit evolved into the version seen here. EA TAG input strengthened the credit to prohibit counting the power from solar facilities in this credit for the current EAc6: Green Power; to prevent the project from claiming the environmental attributes; and to broaden it to all space types beyond warehouses and distribution centers.

While the solar facility size/generation capacity thresholds do not have associated points, since (as a pilot credit) this has not been incorporated into the broader collection of LEED credits. The multiple thresholds, however, are the way in which the EA TAG can monitor how well a project performs against the requirements. The three thresholds are listed in ascending level of difficulty and are intended to reward more points with higher levels of power generation.