

PHOTOVOLTAIC SYSTEM FUNDING GUIDELINES

Introduction

A photovoltaic (PV) system is a form of renewable energy which uses solar cells to convert sunlight into electricity. PV systems are one of the fastest growing forms of renewable energy. Opportunities exist at State of Wisconsin facilities to install PV systems for production of electricity, education and research.

The State of Wisconsin supports agency efforts to utilize renewable technologies. The Department of Administration, Division of Facilities Development (DFD) is issuing this guidance document and establishing economic criteria to assist agencies in determining funding options for photovoltaic projects.

Steps to Follow

1. Contact the Department of Administration, Division of Facilities Development to determine if energy conservation funding is available. If unavailable, the Agency may elect to proceed with the project funding it entirely with Agency funds.

2. The Agency shall contact Focus on Energy and the local utility company to determine available incentives. Incentive programs are subject to change, so make sure the information is up to date.

3. The Agency shall perform a solar electric site assessment to determine the technical feasibility for installing the PV system. Information on site assessments can be found on the Focus on Energy web site at:

<http://www.focusonenergy.com/Renewable/Renewable-Energy-Site-Assessment.aspx>

The estimated AC kWhr production from the PV system must be calculated using one of the following websites or software programs (or equal).

PVWatts
PV-Design Pro
PVsyst
Solar Pathfinder Assistant

4. The Agency shall evaluate the economics as part of the site assessment. The economic evaluation must include all project costs, including engineering fees, construction costs, on-going maintenance and the cost to replace the inverter once at year 10 of the system's life. Any costs for structural modifications to the building must be included in the overall PV project costs. These items would include structural bracing, roof modifications, extension of existing roof warranty, penetrations into the building envelope, etc.

To be eligible for energy conservation funds, the overall payback period for a project may not exceed 20 years with debt service and inflation included (or a simple payback of 16.07 years without debt service and inflation). Payback analysis is calculated with the debt service on 5.25% State energy bond financing and an energy inflation rate of 3.0% included. The energy bond and interest rate may be adjusted at any time by the DOA Capital Finance Office to match current economic conditions. The bond and interest

rates shall be approved by DOA Capital Finance Office at least every two years in conjunction with the DOA biennial capital budget schedule.

If the payback period exceeds the energy conservation funding limitation, the Agency may contribute funds to buy down the amount of energy conservation funding contribution.

5. If the Agency decides to proceed, the Agency shall submit a project request to the Division of Facilities Development. The project request shall include a copy of the site assessment report including the economic analysis.

For projects less than \$150,000, the Agency will submit a small project request to DFD. For projects over \$150,000, the agency submits the project for Building Commission approval.

6. For PV systems that are part of a larger overall project, energy conservation funding may be available if the system meets payback guidelines and is identified as a funding candidate at the time of project request. The Agency must first identify the PV system cost so DFD can determine if funds are available. A payback analysis must be prepared and approved by DFD before energy conservation funds can be submitted for Building Commission authorization.

7. Upon completion of the construction phase, the Agency shall review the operation and maintenance manuals, and take part in training.

8. After substantial completion, the Agency becomes responsible for maintenance of installed systems and equipment. Annually for the duration of the investment recovery period, the Agency shall prepare a performance measurement and verification report to validate energy savings and payback. Actual measurement data shall be used and is preferred over calculated or stipulated savings.

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