

## SOLAR ENERGY - PHOTOVOLTAICS

### IN THE HIGH PERFORMANCE BUILDING PROCESS PHOTOVOLTAICS CAN:

- Assist with achieving net zero energy use.
- Minimize building operating expenses.
- Reduce reliance on fossil fuel based energy sources.
- Use net metering to eliminate the need for battery storage.

#### harnessing solar energy

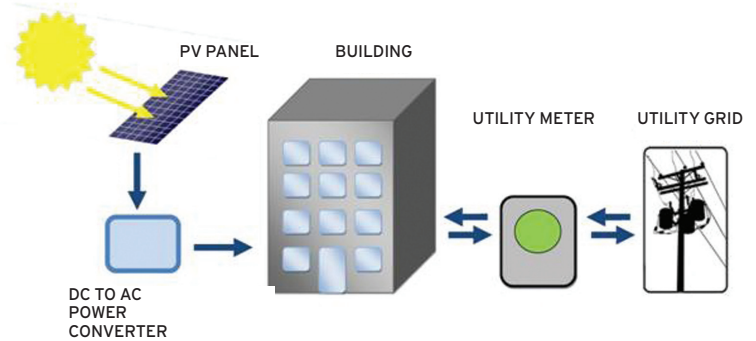
With its abundant sunshine, Colorado is an ideal location for harnessing solar energy. Photovoltaic panel technology provides a means to capture available solar energy and convert it into electricity. Using photovoltaic panels, a building can reduce its reliance on the electrical utility grid, lower its operating costs, and reduce its carbon footprint.

A common misconception is that the electricity generated by a photovoltaic system needs to be stored in a battery system. While this is possible, a more typical installation is “net metering.” In this arrangement, a building receives power from both the electrical utility company and a photovoltaic system. When solar power is available, the photovoltaic system provides power to the building, and if additional power is still needed, the electric utility grid supplements the photovoltaic system.

When power generated by the photovoltaic system exceeds the building’s needs, excess electricity is supplied to the utility grid. Effectively causing the electrical meter to “spin backwards,” this results in a billing credit. Buildings that put as much energy back into the grid as they take out over the course of a year are often called “Net Zero Buildings.”

#### rebates and incentives

Many utility companies offer substantial rebates and incentives to both residential and commercial customers who install a photovoltaic system. The amount and availability of these incentives varies frequently, so check with your utility company to obtain the latest information. If you are unsure of the utility



### Net Metering Photovoltaic System

company in your area, the Governor’s Energy Office has compiled a listing of utility companies throughout Colorado at: [http://rechargecolorado.com/index.php/residential\\_resources/geo\\_rebate\\_overview/](http://rechargecolorado.com/index.php/residential_resources/geo_rebate_overview/)

#### installation

Installing a photovoltaic system can be a quick process, and Colorado is home to a number of experienced photovoltaic designers and installers. The Colorado Solar Energy Industries Association website ([www.coseia.org](http://www.coseia.org)) can help you find an installer in your area. These professionals can work with you to determine what system is right for your project. Many will even handle the paperwork needed to obtain any rebates or tax incentives that are available.

Solar power is one of Colorado’s tremendous renewable energy resources. Installation of a photovoltaic system can be an economical way to reduce your energy bills and decrease your reliance on fossil fuels.

#### further assistance

To learn more about photovoltaic systems, visit the following web sites:

**Governor’s Energy Office:**

[www.rechargecolorado.com](http://www.rechargecolorado.com)

**Colorado Solar Energy Industries Association:**

[www.coseia.org](http://www.coseia.org)

**Colorado Renewable Energy Society:**

[www.cres-energy.org](http://www.cres-energy.org)