

ABOUT US [LOGIN](#)

SOLAR ENERGY 101 MEMBERSHIP MARKET INTELLIGENCE GOVERNMENT & REGULATORY ISSUES TRAINING & EMPLOYMENT NEWS & MEDIA SOLAR CONFERENCES EVENTS SOLAR SHOP

What is Solar Photovoltaics (PV)?

This section will help you understand Solar Photovoltaics (PV), a technology that converts sunlight into electricity.

Solar PV is used primarily for grid-connected electricity to operate residential appliances, commercial equipment, lighting and air conditioning for all types of buildings. Through stand-alone systems and the use of batteries, it is also well suited for remote regions where there is no electricity source. Solar PV panels can be ground mounted, installed on building rooftops or designed into building materials at the point of manufacturing.

The future will see everyday objects such as clothing, the rooftops of cars and even roads themselves turned into power-generating solar collectors.

The efficiency of solar PV increases in colder temperatures and is particularly well-suited for Canada's climate. A number of technologies are available which offer different solar conversion efficiencies and pricing.

Solar PV modules can be grouped together as an array of series and parallel connected modules to provide any level of power requirements, from mere watts (W) to kilowatt (kW) and megawatt (MW) size.

The size of the solar array, battery bank, and AC inverter required for a typical solar PV application depends on a number of factors, such as the amount of electricity you use, the amount of sunlight at the site, the number of days without backup that you require, and the peak electricity demand at any given time. Sufficient battery storage can easily allow a solar PV system to operate fully independently of a utility or genset back-up.

On the technology side, it is easy to interconnect your PV system to your local utility company -- there are no technical barriers. There may be regulations, however, that you will need to work through with your utility, in order for them to allow you to generate your own electricity. The Canadian Electrical Code makes provision for you to generate your own electricity and to feed any excess back into the utility's power lines. Most solar PV equipment can be easily checked to ensure that it meets the provisions of the Code for safety purposes.

PV modules should be oriented between south-east and south-west (due south is best). Modules generally need an unobstructed view of the sun all the year. Systems can be sized to provide 100 percent of your electricity consumption at a cottage or campsite, or as a supplement to conventional utility electricity or genset electricity. A tracking system can orient the solar array to maximize its electricity production throughout the day and the year by tracking the movement of the sun, though this is typically not practical for most applications.

For an accurate assessment of your needs and your site, a qualified system designer can provide you with guidance that you need. We recommend that you rely on a CanSIA member, who has agreed to comply with CanSIA's Code of Ethics to ensure satisfaction for your specific installation.

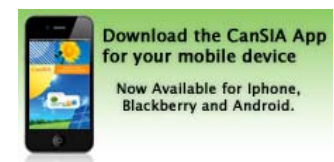
What is Solar Photovoltaics (PV)?

[What is Solar Water Heating?](#)

[What is Solar Air Heating?](#)

[Buying Solar](#)

[Archives](#)



[LEARN MORE](#)

Member Login

[LOGIN](#)

[BECOME A MEMBER](#) [FORGOT YOUR PASSWORD](#)





Shopping Cart

[View your shopping cart.](#)



[SEARCH NOW](#)

For Customer Service

Contact:

Canadian Solar Industries Association
 150 Isabella Street, Suite 605
 Ottawa, Ontario, Canada,
 K1S 1V7

Tel (613) 736-9077
 Fax (613) 736-8938
 Email info@cansia.ca



Solar Energy 101

- [What is Solar Photovoltaics \(PV\)?](#)
- [What is Solar Water Heating?](#)
- [What is Solar Air Heating?](#)
- [Buying Solar](#)
- [Archives](#)

Membership

- [Member Directory](#)
- [Online Application](#)
- [Member Benefits](#)
- [Membership Renewal](#)
- [Industry Leaders](#)
- [Code of Ethics](#)
- [Archives](#)

Market Intelligence

- [Ontario Solar PV Sector](#)
- [Solar Vision 2025](#)
- [Solar Photovoltaics](#)
- [Solar Thermal](#)
- [Labour Force Market](#)

Government & Regulatory Issues

- [National / Federal](#)
- [Provincial](#)
- [Municipal / Community](#)
- [Consumer Incentives](#)
- [Ontario Green Energy Act](#)
- [Archives](#)

Training & Employment

- [Solar Job Board](#)
- [CanSIA Solar Hot Water System Installer Certification](#)
- [Career Training Programs](#)
- [CanSIA & Other Solar Workshops](#)
- [Archives](#)
- [CanSIA Certified Hot Water System Installers](#)

News & Media

- [News and Media](#)
- [News From Members](#)
- [SOLutions](#)
- [Solar Beat](#)
- [Image Gallery](#)
- [Ontario Connection Study](#)
- Solar Conferences**
- [Past CanSIA Solar Conferences](#)
- Events**
- [Events Calendar](#)
- [CanSIA Webinars](#)

Solar Shop

[Privacy](#) [Delivery](#) [Refund Policy](#) [Sitemap](#)

[\[+ \] Website Feedback](#)

© 2011 Canadian Solar Industries Association
 150 Isabella Street, Suite 605
 Ottawa, Ontario, Canada, K1S 1V7
 Tel (613) 736-9077
 Fax (613) 736-8938