

## SOLAR ENERGY

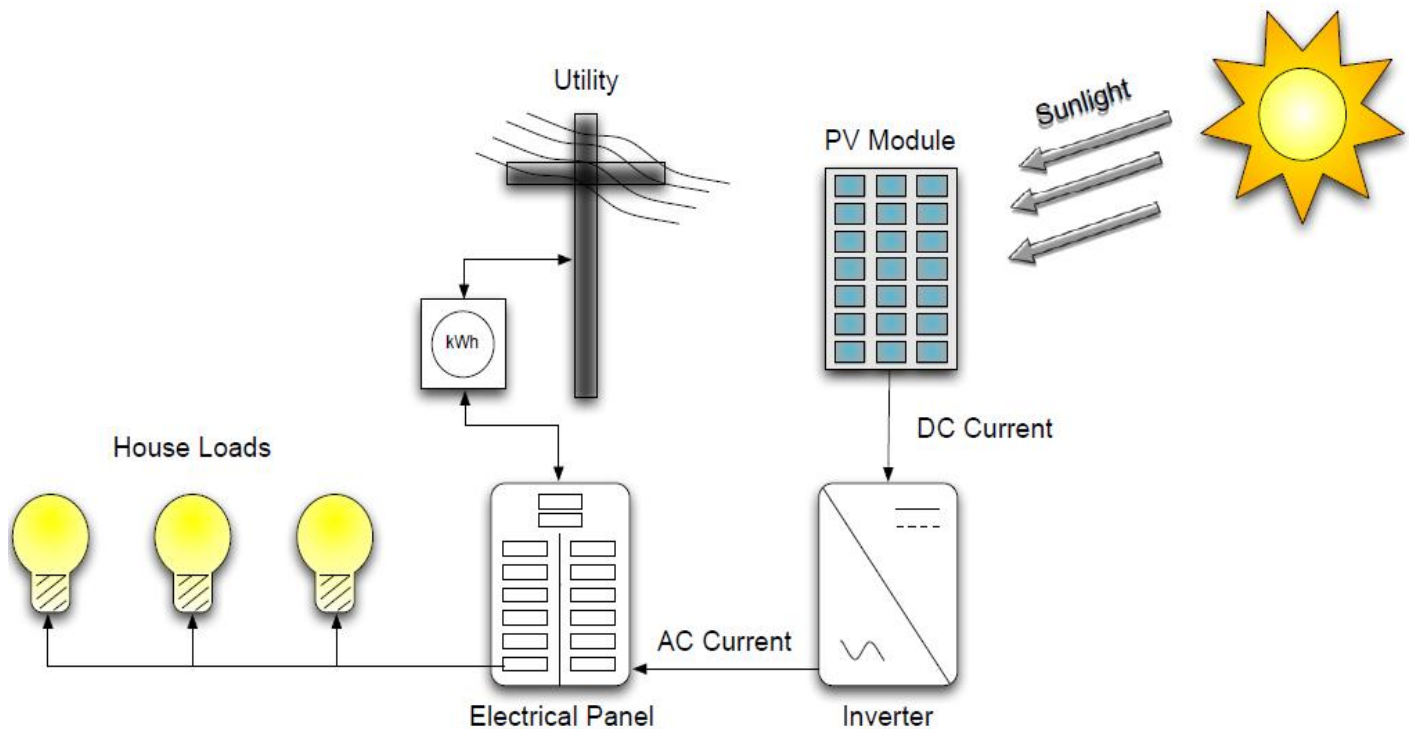
### PHOTOVOLTAIC SYSTEM

#### OVERVIEW

Photovoltaic (PV) systems convert the sunlight into electricity for a direct use in the home. It is a good way to provide some or all of your home's electricity need from a clean and natural source of energy. Solar panels convert the light from the sun to electricity to be used in the home.

When you install a PV system, the utility company replaces the conventional electric meter with a new "net meter" for free. The net meter measures as the difference between the electricity produced by your solar installation and the electricity consumed from your utility. There are significant reductions in your electric bill

Your electric bill is now based on the net difference and you can even earn money from your utility company by selling unused PV electricity back to your utility company.



*Image S+H Construction*

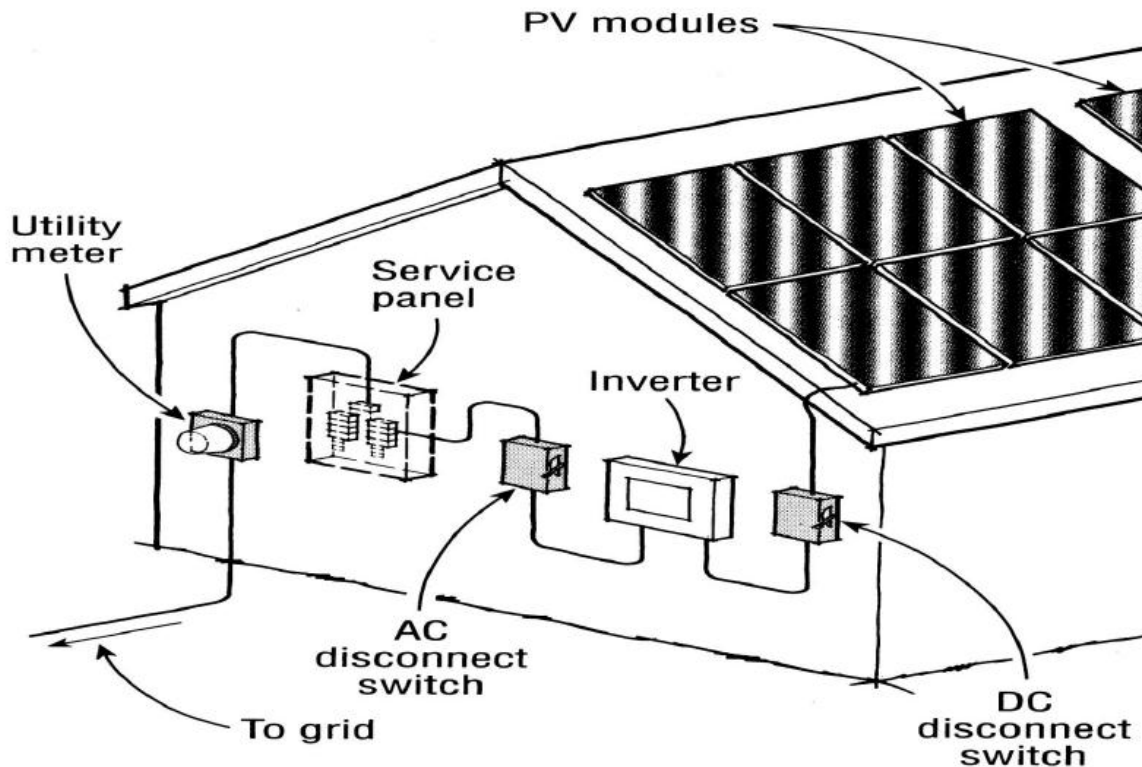


Image from Journal of Light Construction March 2005

## ENERGY BENEFITS

The City of Cambridge has a good solar energy potential. The average annual solar insolation is about 3.58 kWh/m<sup>2</sup> per day. A typical sizing for a residential installation is between 2 and 5 kWh of electricity produced per year. A 5 kW installation is able to generate between 80%- 100% of your home's electricity, with a 4-7 year payback period (after rebates and incentives).

## FINANCING OPTIONS

There are several types program which aim to help you to finance your photovoltaic project. Here are the different programs available for Cambridge residents (please see the details to make sure you qualify).

- **Commonwealth Solar II Rebate Program:**
  - The system size must be between 1 kW and 10kW but the rebate is capped at 5 kW
  - Base : \$0.75/watt installed (3750 dollars for a 5 kW installation)
  - MA component adder : \$0.10/Watt installed
  - Moderate home value or moderate income adders : \$0.85/Watt installed

For more information about this program, please visit the Massachusetts Clean Energy Center website : [www.masscec.com](http://www.masscec.com)

- **Federal Tax Credit** : 30% of cost with no upper limit
  - The system must provide electricity for the residence
  - Can be for a principal or second residence (existing home or new construction)
  - Must meet applicable fire and electrical code requirement
  
- **Net Metering** : If your solar panels generate more power than you need, the excess electricity will be send to the grid. Your utility will purchase the excess electricity via your meter at a special rate.
  
- **Renewable Energy Equipment Sales Tax Exemption** :
  - Massachusetts law exempts from the state's sales tax "equipment directly relating to any solar, windpowered; or heat pump system, which is being utilized as a primary or auxiliary power system for the purpose of heating or otherwise supplying the energy needs of an individual's principal residence in the commonwealth."