How much does a PV system cost?

The price of your PV system will depend on a number of factors, including system size and the energy efficiency of your home or office building. A one-kilowatt system, which will offset a large percentage of the electrical needs of a very energy-efficient home, may cost $6,000 to $10,000 installed, or $6 to $10 per watt. At the high end, a five-kilowatt system, which will completely offset the energy needs of many conventional homes, may cost $30,000 to $40,000 installed. For an existing building, past electricity bills can be used to determine electrical demand. Before you size your system, however, try to reduce the energy consumption of your home or office building by making it more energy efficient. Ultimately, both commercial and residential PV system costs will depend on your system’s configuration, your equipment options, and other factors, such as how you incorporate PV into your building’s architectural design. Your local PV supplier can provide you with estimates or bids.

What incentives are available to help reduce the cost?

In some states and municipalities, incentives are available to help “buy down” the cost of PV systems or otherwise make them easier to finance. These incentives may include tax credits, state grants, and low-interest financing packages. Businesses may be entitled to a 10% federal tax credit and accelerated depreciation on the PV system. These tax benefits can substantially reduce the effective cost of your PV system and should be thoroughly investigated. Contact your state energy office to find out what grants and incentives are available in your state for the purchase of PV systems. We must emphasize that some state programs and incentives may save you up to 50% of the cost of a PV system, so it is definitely worthwhile to contact your state energy office before making a purchase decision.

How can I finance the cost of my PV system?

Several options are available, including new state and federal programs and tried-and-true financing approaches such as mortgage loans. Mortgage financing options include your primary mortgage, a second mortgage such as a U.S. Department of Housing and Urban Development Title I loan, or a home equity loan that is secured by your property. If mortgage financing is not available, look for other sources of financing, such as conventional bank loans. Because your PV system is a long-term investment, the terms and conditions of your PV financing are likely to be the most important factor in determining the effective price of your PV-generated power.

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How can a PV dealer help?
PV dealers can help you:
- Assess the amount of sunlight you get in your geographic location
- Determine the kind and size of PV system you need
- Analyze costs of different PV or utility systems
- Install and maintain your PV system
- Assist with permitting issues such as building and electrical permits, homeowner associations, and required National Electric Code and IEEE certifications.

What can I do with the extra electricity? If you can’t use it all, your utility company may pay you for it. In some places, you can sell your PV system’s output to the local utility. This is called “net metering.” Your PV system may also help you reduce your utility bills while providing clean electricity for your home or office.

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U.S. Department of Energy
Energy Efficiency and Renewable Energy Network
P.O. Box 3048 • Merrifield, VA 22116
1-800-363-3732
www.eren.doe.gov

Solar Energy Industries Association (SEIA)
1616 H Street, 8th Floor • Washington, D.C. 20006-4999
202-628-7745 • fax 202-628-7779
www.seia.org/main.htm

National Center for Photovoltaics
National Renewable Energy Laboratory
1617 Cole Blvd. • Golden, CO 80401
303-384-NCPV (6278)
www.nrel.gov/ncpv

The President’s Million Solar Roofs Initiative
www.MillionSolarRoofs.org

Consumer’s Guide to Buying a Solar Electric System Online
www.nrel.gov/ncpv/pdfs/26591.pdf

Home Energy Saver Tips Online
www.eren.doe.gov/consumerinfo/energy_savers

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How much does a PV system cost?
The price of your PV system will depend on a number of factors, including system size and the energy efficiency of your home or office building. A one-kilowatt system, which will offset a large percentage of the electrical needs of a very energy-efficient home, may cost $6,000 to $10,000 installed, or $6 to $10 per watt. At the high end, a five-kilowatt system, which will completely offset the energy needs of many conventional homes, may cost $30,000 to $40,000 installed. For an existing building, past electricity bills can be used to determine electrical demand. Before you size your system, however, try to reduce the energy consumption of your home or office building by making it more energy efficient.

Ultimately, both commercial and residential PV system costs will depend on your system's configuration, your equipment options, and other factors, such as how you incorporate PV into your building's architectural design. Your local PV supplier can provide you with estimates or bids.

What incentives are available to help reduce the cost?
In some states and municipalities, incentives are available to help "buy down" the cost of PV systems or otherwise make them easier to finance. These incentives may include tax credits, state grants, and low-interest financing packages. Businesses may be entitled to a 10% federal tax credit and accelerated depreciation on the PV system. These tax benefits can substantially reduce the effective cost of your PV system and should be thoroughly investigated. Contact your state energy office to determine the effective price of your PV-generated power.

How can I finance the cost of my PV system?
Several options are available, including new state and federal programs and tried-and-true financing approaches such as mortgage loans. Mortgage financing options include your primary mortgage, a second mortgage such as a U.S. Department of Housing and Urban Development Title I loan, or a home equity loan that is secured by your property. If mortgage financing is not available, look for other sources of financing, such as conventional bank loans. Because your PV system is a long-term investment, the terms and conditions of your PV financing are likely to be the most important factor in determining the effective price of your PV-generated power.

Who can I contact for more information?
We recommend that customers contact the U.S. Department of Energy for general PV questions or for a copy of Consumer’s Guide to Buying a Solar Electric System. The National Center for Photovoltaics is another source of information about PV. SEIA can help you with selecting a qualified installer in your area. Contact your state energy office about programs, incentives, or grants available in your state for the purchase of PV systems.

We must emphasize that some state programs and incentives may save you up to 50% of the cost of a PV system, so it is definitely worthwhile to contact your state energy office before making a purchase decision.