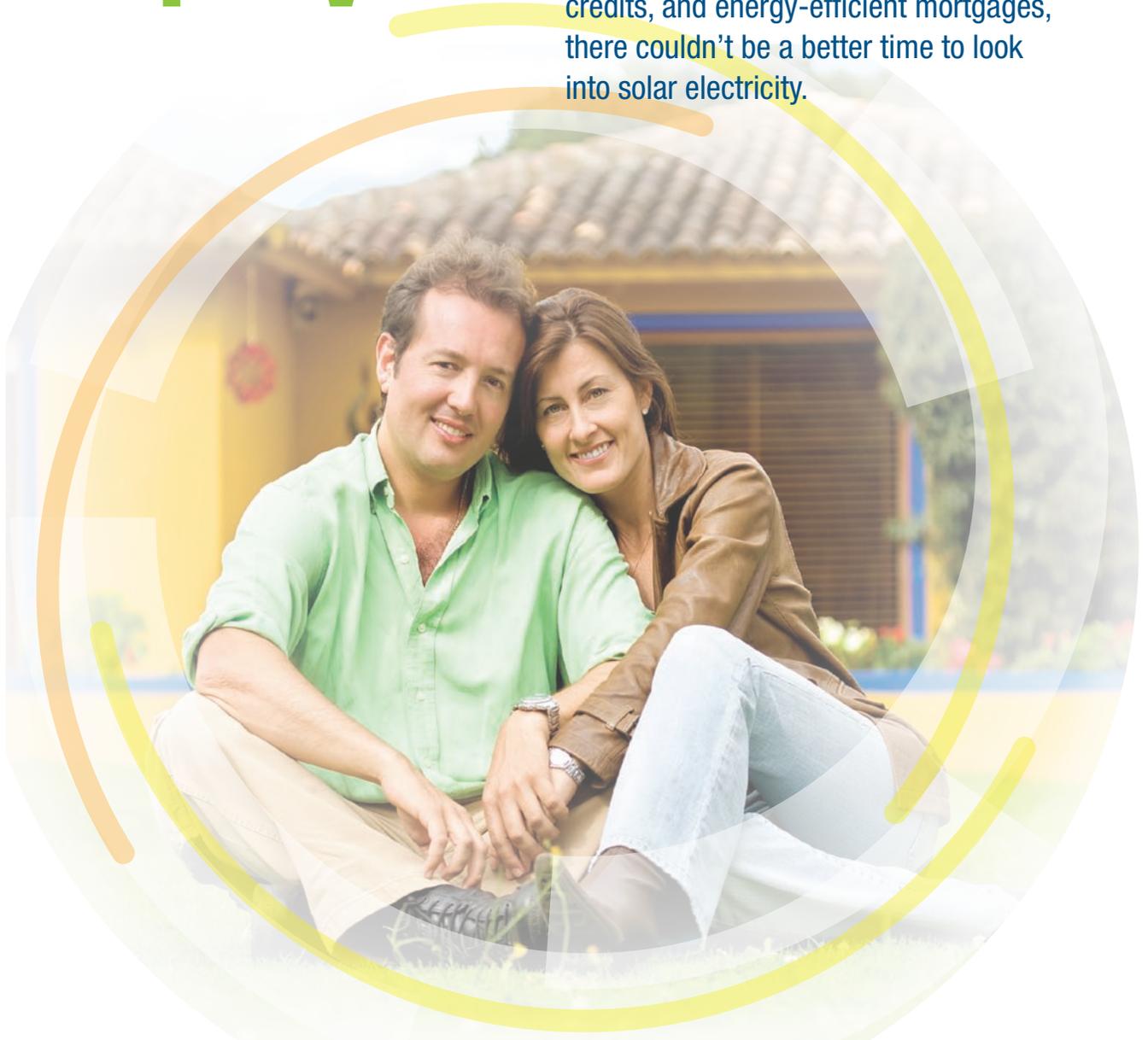


Planning for PV

The Value and Cost of Solar Electricity

With new building integrated solar technologies, state rebates, federal tax credits, and energy-efficient mortgages, there couldn't be a better time to look into solar electricity.



Why sell solar?

- Differentiates you from other builders
- Sells faster than homes without green options
- Saves money with shorter sales cycles and less inventory
- Complements good design and quality construction
- Enhances corporate image as environmentally responsible builder



U.S. Department of Energy
**Energy Efficiency
and Renewable Energy**

Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable

The Value of Solar

According to the *Appraisal Journal*, home value increases \$20 for every \$1 reduction in annual utility bills. So a solar energy system that saves \$200 per year would also add \$4,000 to the value of a home. Concerns about the environment, national security, and health have greatly increased interest in solar energy among home buyers. In a recent survey conducted by Japan's Sharp Electronics Corporation, eight of ten Americans want builders to offer solar power as an option for new homes. Half of those surveyed said they would pay up to 10% more for a solar-equipped house.

What are the homeowners' benefits?

- Positive annual net cash flow from a higher mortgage payment offset by lower utility bills
- Higher home resale value
- Contribution as environmental stewards
- Substantial tax credits for new buyers

Cost of Installed 2-kW Solar Systems after Rebates and Incentives (minimum 200 ft² roof area)

	Seattle, WA	San Diego, CA	Columbia, MO	Denver, CO	Concord, NH	Tampa, FL
Cost after rebates	\$14,000	\$11,000	\$16,000	\$7,000	\$16,000	\$8,000
Local electricity rates (¢/kWh)	6.05	12.10	7.37	9.13	13.64	9.46
Utility Rebate	0	0	0	0	0	0
State Rebate (max. of)	\$2,000	(\$22,000 or \$2.5/watt) \$5,000	0	(\$45,000 or \$4.5/watt) \$9,000	0	(\$20,000 or \$4/watt) \$8,000
Federal Rebate	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Increase in Property Value	\$1,720	\$6,040	\$2,800	\$3,880	\$4,960	\$3,880
Avg. Annual Util. Savings	\$144	\$507	\$235	\$326 - \$541	\$416	\$326
Greenhouse Gas Saved (tons)	41	61	50	54	45	52

The Cost of Solar

Solar electric system cost varies depending on many factors:

- System size/rating
- Roof-integrated system or system mounted on top of an existing roof
- Manufacturer
- Retailer
- Installer

Some builders choose to offset a small portion of a homes' energy needs. A 2-kW system, which will offset the electricity needs of an energy efficient home, will cost about \$8 to \$10 per watt (\$16,000 to \$20,000), although some areas of the country sell 4-kW systems for the same price after rebates.

The table shows the estimated cost after rebates and incentives for a 2-kilowatt (kW) solar electric system, which is the most common, at the national average installed cost (\$9 per watt). The initial cost is \$18,000.

Quick Cost Estimator

For builders who want to maximize south-facing square footage, the simple equation below will give you a rough cost estimate before rebates and incentives:

(No. of Homes) x (South-Facing roof area (ft²) per home) x (10 watts/ft²) x (\$9/watt) = estimated total retail installed cost

- Step 1** Determine the number of homes with ideal south-facing roof area
- Step 2** Determine the square footage of south-facing roof area per home
- Step 3** 10 watt/ft² is the average energy usage per ft²
- Step 4** \$9/watt is the average retail cost of a typical solar system installed
- Step 5** Calculate ballpark cost estimate
- Step 6** Contact an installer to discuss rebates in your area and actual system costs

Ways to Reduce the Cost of Solar

Rebates and incentives can reduce costs up to 50%. Builders who buy in bulk may receive wholesale discounts. Builders should contact a certified solar energy system installer to assist them with system sizing, rebates and incentives, and to do actual cost calculations based on power needs.

For more information on installing solar technologies, download the complete Building America *High-Performance Home Technologies: Solar Thermal & Photovoltaic Systems* publication at www.eere.energy.gov/buildings/building_america/pdfs/41085.pdf.

Additional Resources

Educational and Technical Assistance

U.S. Department of Energy Solar Program
<http://solar.energy.gov>

National Renewable Energy Laboratory
www.nrel.gov

DOE Building America Program
www.buildingamerica.gov

American Solar Energy Society
www.ases.org

Interstate Renewable Energy Council
www.irecusa.org

Solar Energy Industry Association
www.seia.org

Solar Electric Power Association
www.solarelectricpower.org

Economic Information and Tools

State Incentives
www.dsireusa.org

Solar Contractors and Cost Estimator
www.findsolar.com