

Beating Global Warming with Solar Power

Contributed by Wendy Hawthorne
Friday, 03 August 2007

Every time we use electricity, we contribute to our "carbon footprint" or greenhouse gas emissions. For every kilowatt-hour we use, almost 2 lbs of carbon dioxide are released into the atmosphere from the coal burned at the power plant. However, some NW Denver families are changing that equation and reducing their carbon footprint by getting their electricity from the sun using photovoltaic panels.

One great example can be seen in the Highland neighborhood. Owners, Donna Vetrano-Pryor and William Pryor installed a 5 kilowatt photovoltaic system on the roof of their garage. Donna reports that they installed the system "out of a sense of social responsibility and for general concern for the environment". The system has been running since October 2006 and has cut their electricity bills by about 75%. Another example can be seen on new townhomes in the Sunnyside neighborhood on W. 43rd Ave. between Alcott and Bryant. Best seen from the alley, the entire southern wall of the buildings is covered in photovoltaic panels. The new owner, just moving in when I spoke with her, said the solar energy system played a large role in their decision to buy the home.

Solar electric panels can easily be installed on the older homes in the neighborhood too, as long as there is a south-facing, unshaded roof available.

Photovoltaic panels are different from the solar panels that many people installed on their roofs in the 1970s and 80s. The older solar panels collected heat that was brought into the house typically for hot water. The systems involved pumps, pipes, and storage tanks. Photovoltaics, on the other hand, convert sunlight directly into electricity. They are mounted on the roof and wired directly to your electric meter. When the sun shines, electricity is fed into the meter where it can be used by the lights and appliances in the home. Sometimes, when the panels produce more than you need in the house, your electric meter runs backwards for a credit on your bill. My system has been driving my meter backwards for the last four months, giving me a credit on my bill for the winter when the sun doesn't shine as much.

Solar Electricity Economics

You can buy a photovoltaic system of any size, as long as it fits on your south-facing, unshaded roof. The percentage of your bill that it will cover depends on how many people live in the house, how many lights, appliances, and other electronics you have, and how "conserving" you are about electricity. A great rebate from Xcel Energy plus a federal tax credit make the system much more affordable.

System output: 2 kilowatts
Physical size: 16 ft x 11 ft
Installed Cost: \$16000
Rebate from Xcel: \$9000
Federal tax credit: \$2000
Final Cost: \$5000
Electricity saved: 2917 kWh per year
Carbon dioxide reduced: 2.8 tons per year
Reduction on bill: \$251 per year

So, if electricity rates stay the same as today, the system would pay itself off in 20 years. If rates go up, it pays back sooner. In the meantime, you can feel good about reducing your carbon footprint and investing in the health of the planet. Wendy Hawthorne is the Executive Director of Groundwork Denver, a non-profit organization located in the Highland neighborhood. Please contact her if you want to share information about how you are reducing your greenhouse gas emissions at home or work. Email wendy.hawthorne@groundworkdenver.org or call 303-455-5600. ***