

JOIN the solar energy revolution

As energy prices soar and concerns about climate change grow, more people are choosing the clean, abundant power of the sun.

Powered on stored sunshine

“The night we hooked up our solar electrical system,” recalls Minneapolis homeowner David Boyce, “we all stood outside looking at the lights shining from the windows. That’s when the magic of solar power hit us: the panels just sit there in the sunlight all day, generating electricity and charging batteries. The Sun sets, and we tap energy as we need it.”

Housecleaning inspired by dirty coal plant

Observing a nearby coal-burning power plant inspired the Boyces to choose emissions-free solar energy.

“Burning coal to make electricity emits carbon dioxide (CO₂) and mercury,” David explains. “CO₂ is a greenhouse gas that helps cause global warming. Mercury is a neurotoxin that poisons our water. Whenever we turned on the lights, the coal plant had to run. We decided that we had to change how we got our electricity.”

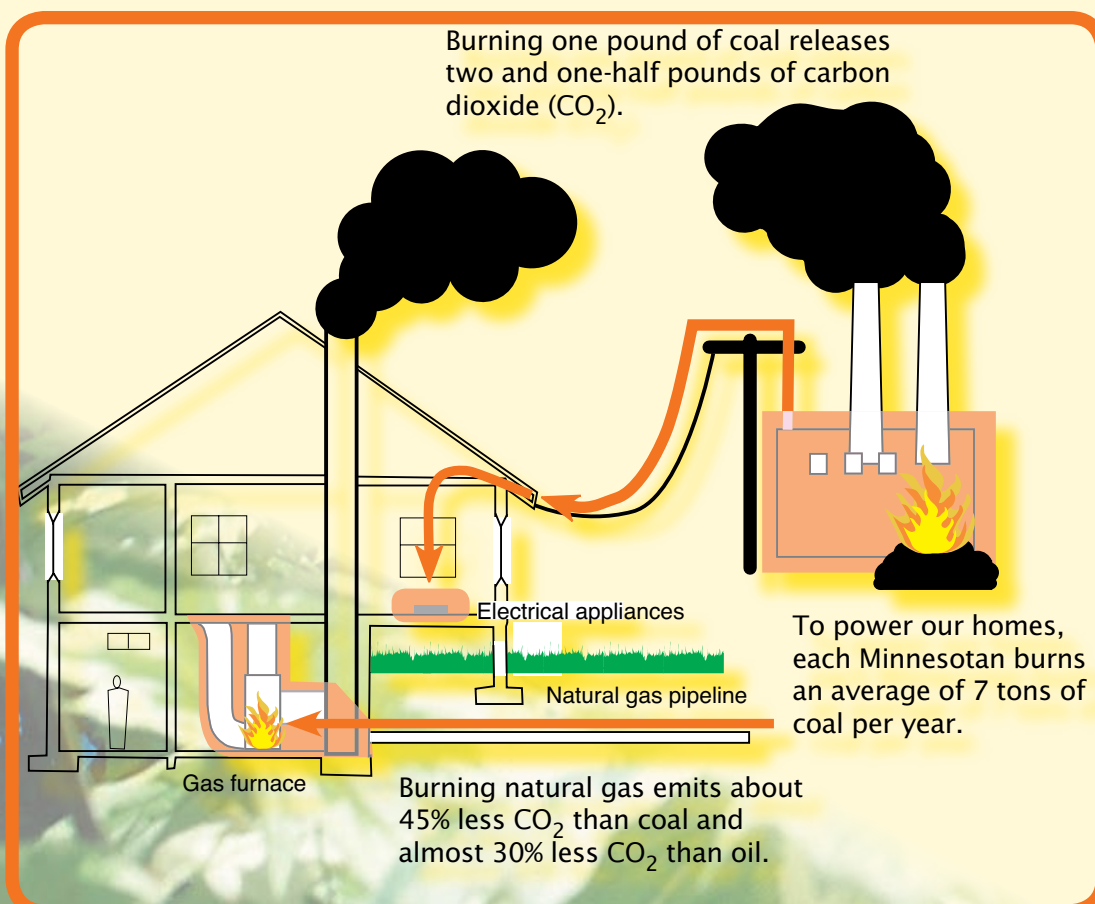


The Boyces receive more than half the electricity they need from a modest-sized photovoltaic array on the roof of their house.

Fun Fact

Every hour, enough sunlight energy reaches the Earth to meet the world’s energy demand for a whole year.

—U.S. Department of Energy



Coal-fired homes fuel global warming

CO₂ is a greenhouse gas that absorbs heat and a primary contributor to global warming.

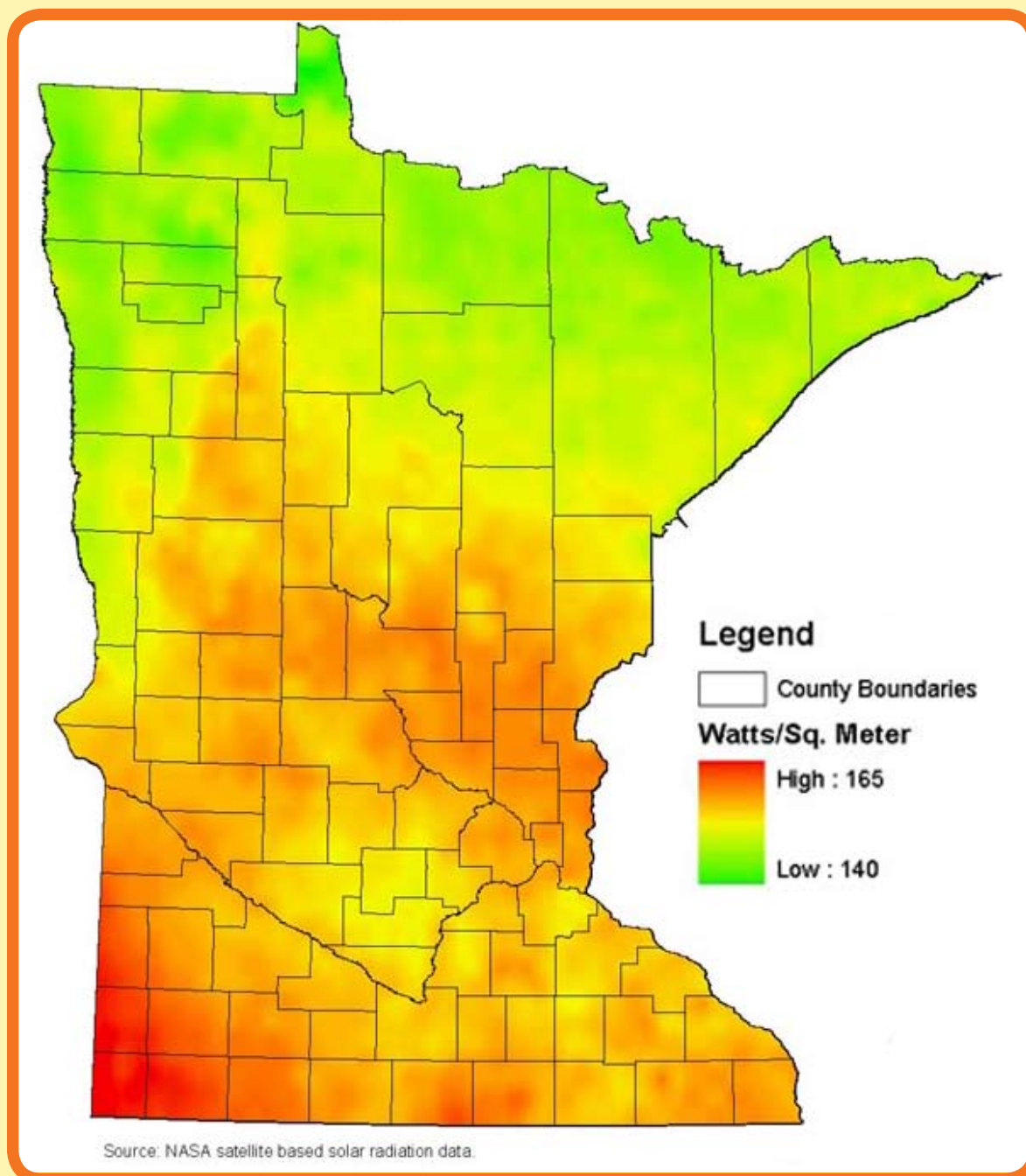
Minnesota generates 75% of its electricity by burning coal. The U.S. has more than 600 coal plants, each burning an average 1.4 million tons of coal per year. That’s two billion one hundred million tons of carbon dioxide emitted annually by coal plants alone.

Minnesota Renewable Energy Society (MRES)
www.mnrenewables.org

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Solar Power works in Minnesota

Cold winter temperatures have no effect on the sun's energy. While the amount of sunlight varies with the seasons, Minnesotans using solar power can count on receiving about four and one-half hours of good sunlight per day.



Solar's no snowbird

This map shows that Minnesota received plenty of good sunlight, especially in the south. In fact, the state receives as much sun as Jacksonville, Florida.



Some like it cold

Solar electric panels actually transform sunlight into electricity most efficiently in the cold. This solar electric system in Austin, Minnesota produces half of the owner's electricity. He plans to double the system's size.

Solar power quiz: Watts a Btu?

Good sunlight charges panels to capacity

"Good sunlight" means sunlight strong and sustained enough for a solar panel to generate near the rated power specified by its manufacturer.



Solar thermal panels generate heat. Their power is measured in British thermal units (Btus) per hour. A Btu is equal to the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.



Solar electric panels create electricity from sunlight. Their power is measured in watts. A watt-hour (Wh) is a unit of energy equal to the power of one watt acting for one hour. A kilowatt (kW) equals 1,000 watts. A megawatt (mWh) equals one million watts.