

Watt's Happening? #84

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Solar Energy Myths

Did you know that enough solar energy strikes the Earth every hour to power our entire global society for a year?

Did you know that the amount of solar power installed around the world has increased almost 50X over the last decade?

Did you know that the cost of solar power has dropped by 99 percent since the late 70's?

Yep, solar power is quickly becoming the most plentiful, the fastest growing and cheapest energy source the world has ever seen.

But myths about solar power abound – which I suppose is understandable, considering how quickly this technology has changed. Lets have a look at a few of these myths, and then put these issues aside for good.

Myth #1: there's not enough solar

It's hard for folks to let go of the idea that energy is stored in a fuel that has to be burned to release that energy. We've been thinking that way ever since we started cooking our meat over an open fire.

Renewable energies like solar don't have to be created, just harvested. They just keep happening, constantly renewed by the forces of nature. All we have to do is collect them as they happen around us.

Each year, some 9 million kilowatt-hours of solar energy fall on each acre of generally sunny earth. The figure generally used to estimate the solar energy potential of a given area is 1000 watts per square meter.

That means that the solar energy falling on the roof of your home, for instance, even at the modest conversion efficiency of a modern solar panel (about 20%) is enough to power your house.

There is lots of solar power and everybody has some, ripe for the harvesting.



This small solar array supplies electricity to the author's home near Dawson Creek. Some of these solar modules have performed flawlessly without maintenance for more than 20 years.

Myth #2: solar energy is too expensive

This one is really out of date, and harkens back a decade or so when solar WAS expensive. Not any more.

The average cost of solar panels fell some 75 percent between 2009 and 2014, and as global solar panel production continues to ramp up, the cost of solar continues to fall. In many parts of the world, it is already competitive with most other forms of energy.

Some new, large solar farms are proposing to supply power to their local electrical grids at the

amazingly low wholesale price of 3 cents per kilowatt-hour!

Solar power has all the advantages of an ideal energy source: constantly renewed, very low maintenance, easy to mass produce and install on any scale anywhere – huge for utility-grade solar farms, small for your home or office, or tiny to power your watch.

We are quickly heading for a world powered in large part by sunlight, and it will be the cheapest (and least polluting!) power ever made.

Myth #3: solar doesn't work where it is cloudy or cold

Overcast reduces the power that a solar panel puts out, but it still produces enough power to be totally useful. Germany, not exactly a sunny or warm place, is a world leader in solar.

Also, solar likes cold. The efficiency of solar panels (the amount of sunlight they convert to electricity) increases as the temperature decreases. In our northern climates, this significantly increases the amount of solar produced by a rooftop solar array in

the winter, just when it is needed the most. Sunlight reflected from snow also boosts winter output.

Myth #4: solar panels are unreliable

I keep hearing this, and have no idea where it comes from. Exactly the opposite is true. Solar panels are utterly reliable!

Most panels will produce power for at least 30 years, probably much longer. I have one on my rooftop solar array at home near Dawson Creek, for instance, that has been helping to power my home for 35 years, and most of my array is at least 20 years old. All working just fine, thanks, and haven't touched them or even thought much about them since I put them up there. No problem. Very reliable.

There are more myths, lots of them, and perhaps I'll bust a few more next week. Meanwhile, rest assured that solar power is practical, abundant and affordable. And that's a very good thing.

(Material for this article was adapted from many sources, including www.climaterealityproject.org)

Quick Facts:

Alberta to transform its grid

Alberta is putting the finishing touches on a grid transformation plan that will allow the proportion of renewable energy in Alberta to hit 30% by 2030. That's the goal, and bidding on the contracts to make it happen are to begin by the end of this year.

Saskatchewan going renewable

SaskPower, the provincial utility, is ramping up its commitment to large-scale wind and solar, while the City of Saskatoon, which has its own electrical utility, is looking to expand its small-scale renewable power assets, like roof-top solar. Many smaller independent grids like this are moving quickly to renewables, and will become world leaders in the new "distributed" local energy generation trend, incorporating new ideas like "energy sharing" among neighbours.