



Here Comes the Sun: America's Solar Boom, in Charts

It's been a bit player, but solar power is about to shine.

—Tim McDonnell on Fri. November 7, 2014 6:30 AMPDT



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Last week, an energy analyst at Deutsche Bank came to a startling conclusion: By 2016, solar power will be as cheap, or cheaper, than electricity from the conventional grid in every state except three. That's without any changes to existing policy. In other words, we're only a few years away from the point where, in most of the United States, there will be no economic reason not to go solar. If you care about slowing climate change or just moving toward cleaner energy, that is a huge deal.

And solar energy is already going gangbusters. In the past decade, the amount of solar power produced in the United States has leaped 139,000 percent. A number of factors are behind the boom: Cheaper panels and a raft of local and state incentives, plus a federal tax credit that shaves 30 percent off the cost of upgrading.

Still, solar is a bit player, providing less than half of 1 percent of the energy produced in the United States. But its potential is massive—it could power the entire country 100 times over.

So what's the holdup? A few obstacles: pushback from old-energy diehards, competition with other efficient energy sources, and the challenges of power storage and transmission. But with solar in the Southwest already at "grid parity"—meaning it costs the same or less as electricity from conventional sources—Wall Street is starting to see solar as a sound bet. As a recent Citigroup investment report put it, "Our viewpoint is that solar is here to stay."

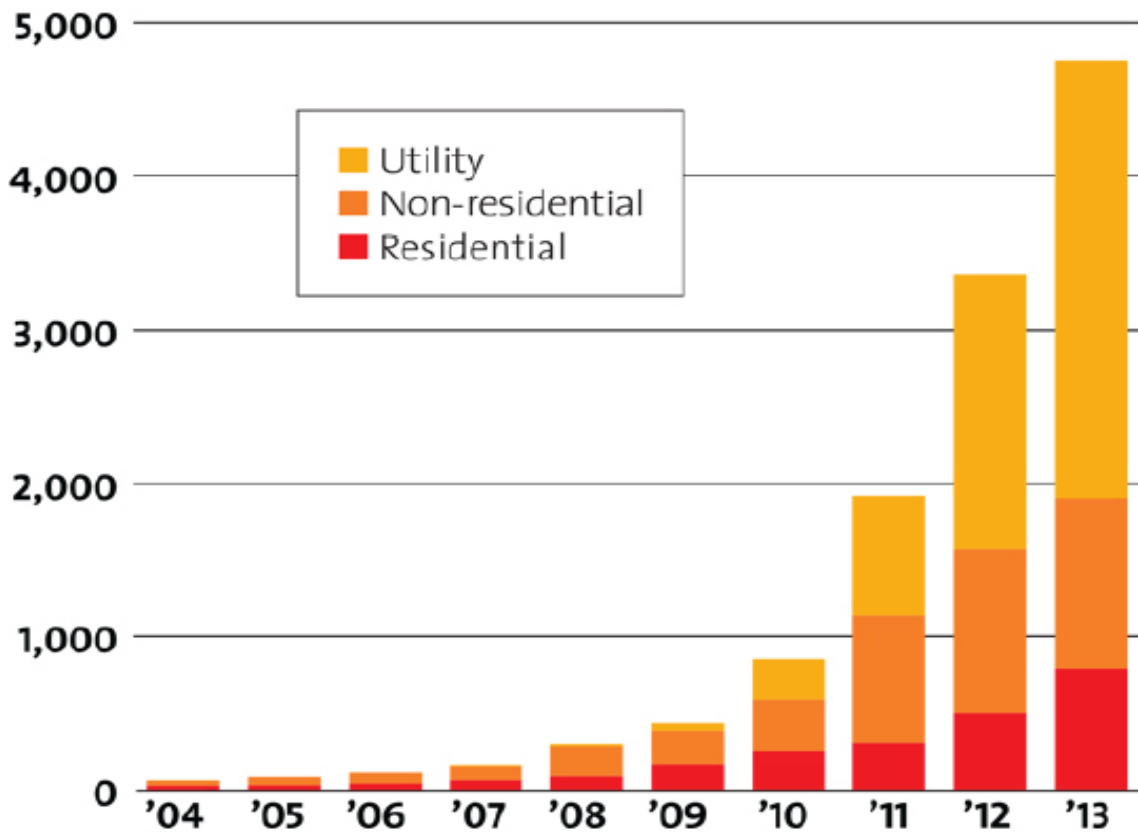
Some numbers that tell the story:

Solar is growing rapidly

Since the mid-2000s, the power generated by **new solar installations** has grown, on average, **66% a year**, far **outpacing** any other energy source.

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New solar installations in the United States (in megawatts)



Source: SEIA

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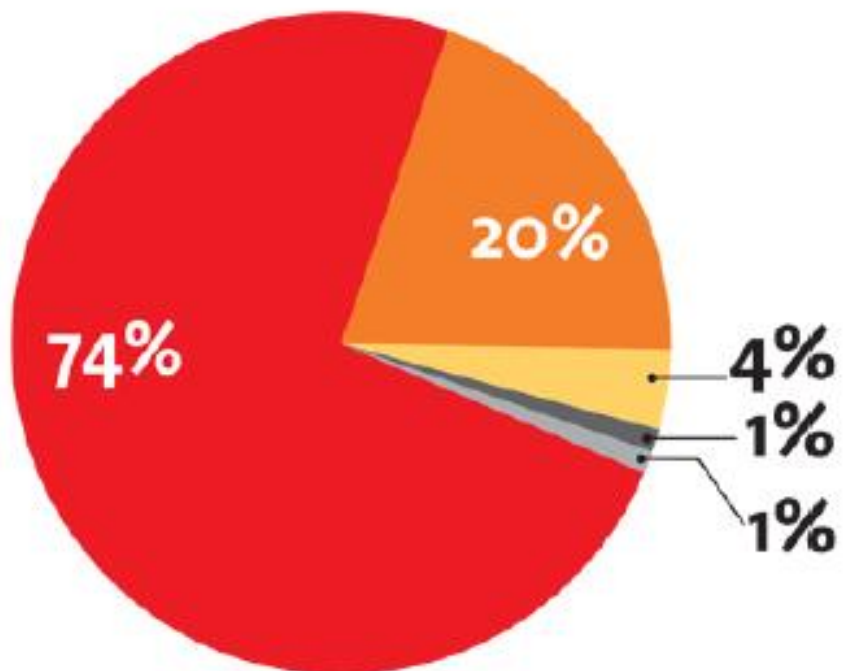
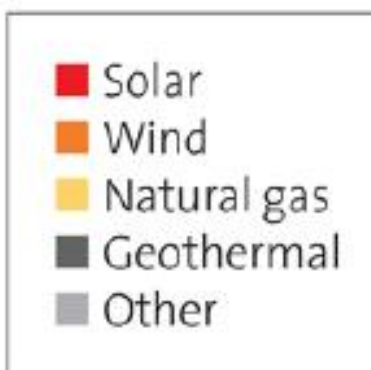
There's plenty of sun to go around

Enough sunlight strikes Earth **every 104 minutes** to power the entire world **for a year.**

The United States has the **space and sunlight** to provide **100 times** its annual power demand with **solar.**

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New electricity generating capacity installed in the United States, first quarter of 2014



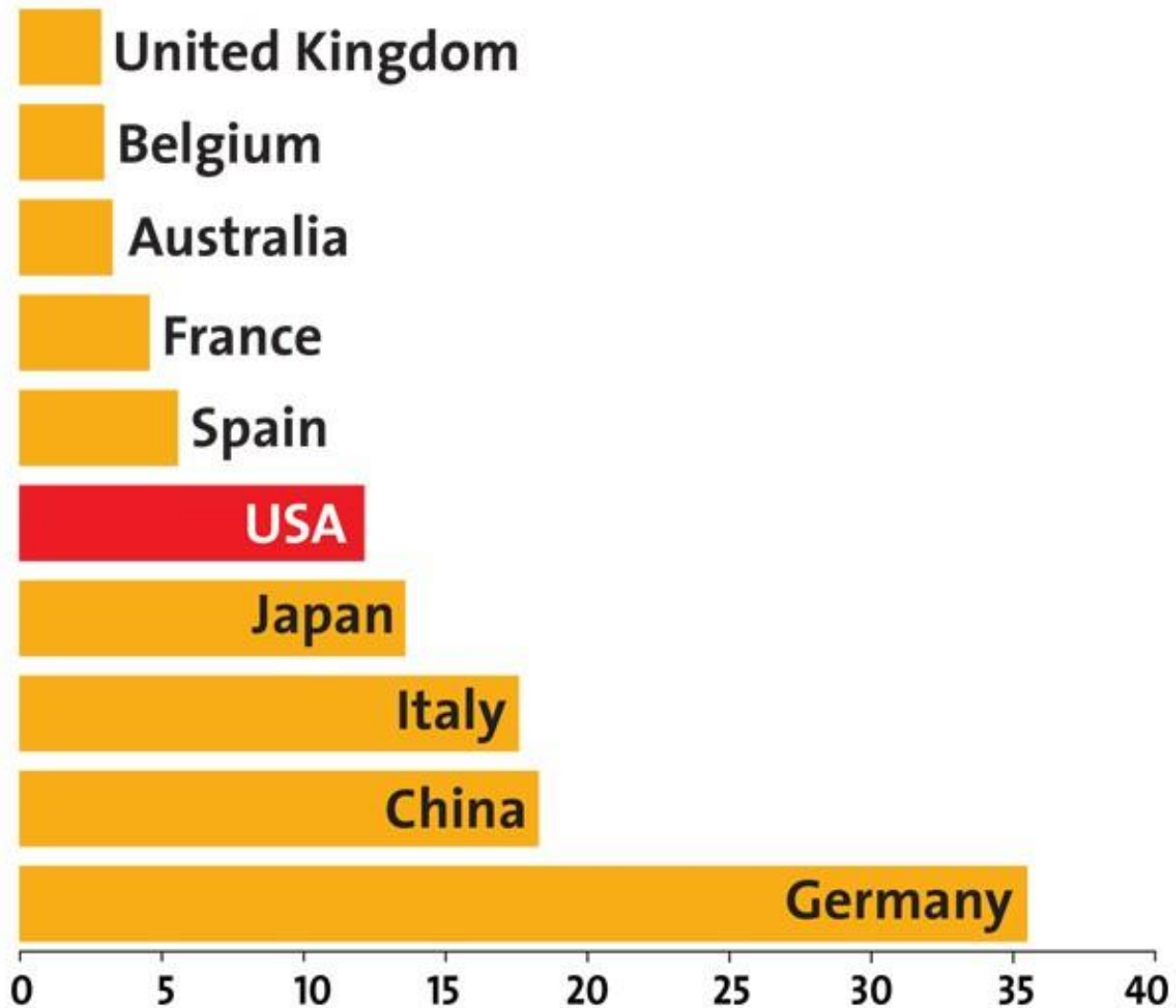
Solar can provide the US more, cleaner power

Carbon savings from existing US solar panels offset the equivalent of **3.5 million cars.**

Rooftop **solar panels** could meet **1/5** of US electricity **demand.**

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Total installed photovoltaic capacity (in gigawatts)



Source: International Energy Agency

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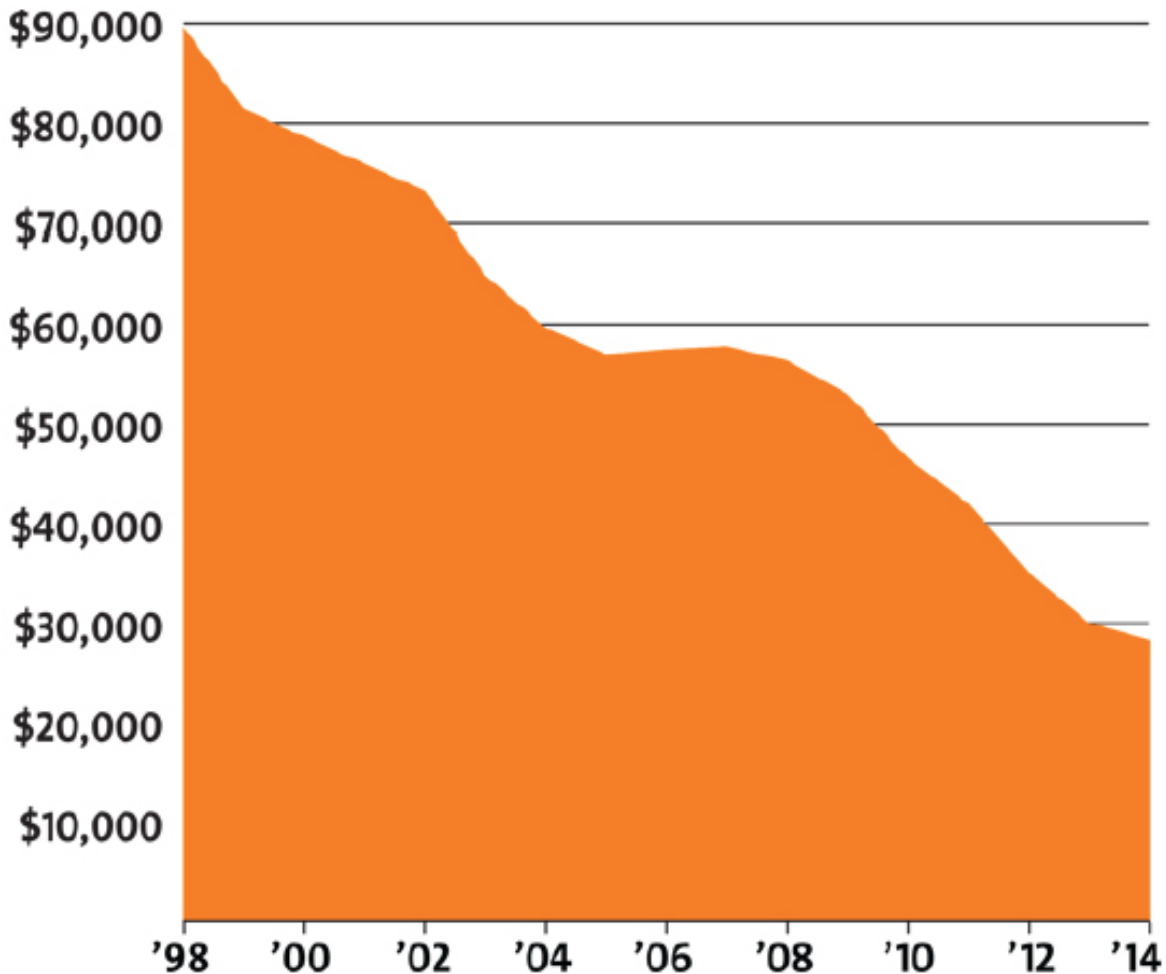
Solar is creating jobs

Solar industry **jobs** have **increased 50%** since 2010.

Solar workers now outnumber **coal miners** nearly **2 to 1**.

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The cost of putting solar panels on typical house has dropped nearly 70% since 1998



Assumes 6kw house. Source: National Renewable Energy Laboratory

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Solar economics are improving

Average cost of solar panels per watt:

In 1972: **\$75**



Today: **Less than \$1** 

Expected cost for Chinese panels in 2015: **42¢**

Venture capital funding for solar:

First quarter of 2013:
\$126 million



First quarter of 2014:
\$251 million



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Sources

Solar growth: [Solar Energy Industries Association](#)

New solar installations: [SEIA](#)

Sunlight: [Sandia National Lab](#), [Energy Information Administration](#)/[National Renewable Energy Laboratory](#)

Electricity generating capacity: [SEIA](#)

Carbon savings, electricity demand: [SEIA](#), [EIA/NREL](#)

Installed PV capacity: [International Energy Agency](#)

Solar jobs: [The Solar Foundation, Bureau of Labor Statistics](#)

Solar panels on a typical house: [NREL](#)

Panel cost, VC funding: [Greenpeace](#); [Mercom Capital Group \(2013 & 2014\)](#)

Image credits: Shutterstock (Earth, USA); Maurizio Fusillo/Noun Project (solar panel); Okan Benn/Noun Project (car); Q. Li/Noun Project (chart); Sergey Krivoy/Noun Project (coal trolley); Marcio Duarte/Noun Project (worker); Alex Berkowitz/Noun Project (cash)