TOP WIND ENERGY MAY STATES

#ACTONCLIMATE





Today, cities, states, countries and companies around the world are increasingly turning to wind energy to power their everyday lives. As wind systems keep growing everywhere from Copenhagen to California to China, so do the misconceptions that critics keep spreading in the media and beyond.

Even though wind has proven time and again to be a reliable way to power our economies without destroying our planet, skeptics keep attacking it, asking questions like, "What happens on calm days?"

These questions and others make it difficult to separate fact from fiction when it comes to wind energy. With misinformation coming from many different directions, where is the line between myth and science?

Fortunately, it's a clean line in the sand and we're here to set the story straight on some of the most common wind energy myths.

1. Myth: Wind energy is too expensive. It's a nice idea, but it just isn't economically viable.

Fact: Please. The claim that wind energy is too expensive is out-of-date propaganda. According to the US Department of Energy, the average levelized price of wind in the US during 2014 was <u>less than three cents per kilowatt-hour</u> (2.35 cents to be exact). This was below the price of wholesale power from the grid during that year, and competitive with electricity from natural gas.

Plus, that's just the financial cost of the technology. When we use more clean energy, we also pay less to treat kids suffering from asthma attacks caused by air pollution from coal plants. We pay less to Middle Eastern dictators for their oil supplies. And we pay less for the myriad other devastating economic and human impacts of climate change.

Let's look at the numbers.

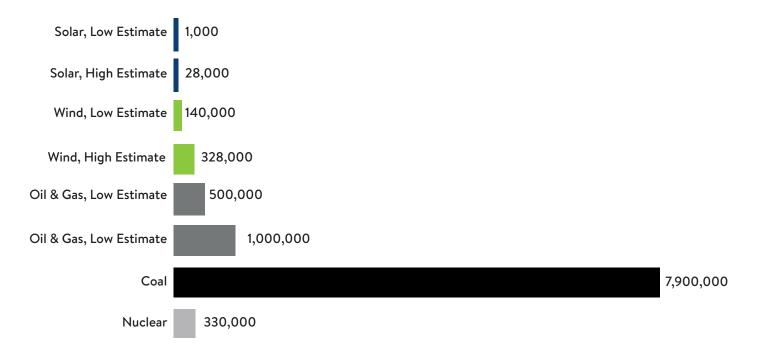
The US Department of Energy also shows that increased wind power development in the US could result in a net savings of \$149 billion by 2050 as average fossil fuel prices go up and aging plants and other infrastructure have to be replaced.

Scientists also project that using more wind and less fossil fuels will <u>bring benefits</u> <u>in 2050 including</u>:

- Fourteen percent reduction in cumulative GHG emissions, which will save \$400 billion in avoided global damages
- Over 21,700 avoided premature deaths
- Twenty-percent less water consumption in the US electric sector
- Upwards of 600,000 wind-related jobs by 2050
- Increased fuel diversity, which makes the electric sector 20 percent less sensitive to changes in natural gas prices

2. Myth: Wind turbines kill birds, bats, and other wildlife, which is harmful to the environment.

Fact: Wind farms and wildlife can and do coexist peacefully. Wind <u>power's overall</u> <u>impact on birds</u> is low compared with other human-related causes like tall buildings or traffic. And if you compare wildlife deaths across energy sources, <u>studies show</u> that the oil, gas, and coal industries account for far more bird deaths than wind power. Not to mention pollution from these industries, which has a much greater impact on wildlife and the environment.



A U.S. News and World Report chart shows estimates of how many birds are killed each year by different fuel sources.

CREDIT: U.S. NEWS & WORLD REPORT



3. Myth: Policies that promote wind energy kill jobs.

Fact: Wind power is one of the world's <u>fastest-growing industries</u>, and it employed <u>73,000</u> people in America alone in 2014. By 2050, there could be 600,000 jobs related to wind energy across the United States.

One of the best ways to create jobs and grow the economy is to invest in sources of clean, renewable energy like wind. Investing in wind can support employment in a number of fields including construction, engineering, transportation, and manufacturing. In fact, a recent study found that investments in renewable energy and energy efficiency create more jobs than expanding the fossil fuel sector. And in 2015 alone, wind energy garnered over \$109 billion in investments, or about one-third of all renewable energy investments during that year. It's unlikely investors and governments would invest in wind if they thought it would reduce the number of jobs.

There is a major positive side effect too: investing in wind power is also investing in the communities that manufacture the technology and serve as home for turbines and other facilities. As demand for wind technology goes up and new facilities are built, demand for local goods and services also goes up, fueling economic growth and activity throughout the community.

Additionally, wind turbines located on rural residents' land can be an important source of income for individuals. The icing on the cake is that farmers can still grow crops on the same as land the wind turbines. It's a win-win.

Clean energy investment is a smart jobs plan. Pollution isn't.



4. Myth: Wind energy isn't reliable. When the wind stops blowing, the only alternative is to use fossil fuels.

Fact: Combining wind with other renewables like solar or pumped hydro, or battery storage in a geographically-extended, flexible, smart grid design is a <u>reliable way to</u> <u>keep the lights on in the twenty-first century.</u>

Using multiple sources of clean, renewable energy and twenty-first century electricity management tools can often make wind just as reliable as dirty fossil fuels — with the added benefit that it doesn't pollute the air or warm our climate. The right combination of a more integrated and flexible power grid and appropriate sources of clean energy can provide around-the-clock power — even when the wind isn't blowing in some places.

In fact, by adding more wind power and using the free fuel it provides, we're making the entire grid more dependable and diverse. Which is a good thing, because every power plant is vulnerable to disruption.

Many nations around the world know how reliable wind energy is too. In 2015, countries added a whopping <u>64 gigawatts</u> of new wind capacity, and Denmark specifically got <u>42 percent of its electricity</u> from wind, showing the confidence from many nations in its reliability.

5. Myth: Clean coal is the answer. Why invest in wind when we have clean coal?

Fact: Don't be fooled by the promise of "clean" coal. "Clean coal" is the industry's tooth fairy. There's no such thing. Wind power, on the other hand, is real, clean energy technology that is viable today.

In reality, <u>there's no such thing as "clean coal"</u> — it's a false solution. Coal is a dirty fuel — from start to finish. The coal mining process blasts mountaintops away and leaves toxic slurry ponds behind. Burning coal results in pollutants harmful to human health, like mercury and smog. As if this weren't enough, worldwide, more carbon pollution comes from the burning of coal than any other fuel.



6. Myth: Wind energy uses subsidies that help make it more economically viable.

Fact: While wind energy often enjoys policy incentives and subsidies, so do all other energy sources, including dirty fossil fuels. It is unfair to expect wind and other less-established renewable technologies to compete in the marketplace without incentives that have also been enjoyed by established technologies. Lastly, <u>many studies</u> have found that wind energy prices are already competitive, even without a carbon price that reflects the damage that fossil fuels do to public health and the climate.

SOCIAL MEDIA TOOLS: WIND POWER

DO YOUR PART! SHARE THESE:

Copy these messages and share them on social media to spread the #ClimateHope.

Facebook

• Global wind power capacity has increased from 48 gigawatts in 2004 to 370 gigawatts in 2014. That's almost 8x the wind power in just 10 years! In 2014, the wind power market added more capacity than any other renewable technology. *http://bit.ly/1VF471l*

• Wind energy is the cheapest option for new power-generating capacity in many places around the world, and it employs over 1 million people worldwide! http://bit.ly/1VF471l @ClimateReality

• Wind generated more than 20% of electricity in countries like Denmark, Nicaragua, Portugal, and Spain. And the US was the leading country for wind power generation in 2014! *http://bit.ly/1VF471l* @ClimateReality

Twitter

• The answer to climate change is blowing in the wind. Wind power capacity has increased almost eightfold in just 10 years! @ClimateReality

• Clean power is easy breezy. In 2014, the wind power market added more capacity than any other renewable technology! RT for #ClimateHope

SOCIAL MEDIA TOOLS: WIND POWER

Email

Dear friend,

Did you know that wind power capacity has increased nearly eightfold in the past 10 years, and that more wind power capacity was added in 2014 than any other renewable technology? Those are just two reasons to be hopeful about the future of wind power!

Wind power is a practical solution to climate change. It's so practical that it's actually the cheapest option for new power generating capacity in many places around the world.

Read more about the future of renewables to understand why I'm so hopeful:

<u>Carbon Pollution – And Solutions – In Five Images</u> <u>On The Road to a Clean Energy Future</u> <u>Renewable Energy is Growing in Use</u>

It's time to say "no" to devastating climate change and "yes" to a healthy and prosperous future powered by renewables. Will you help? If you agree, join me in demanding that world leaders take climate action now at *https://www.climaterealityproject.org/roadtoparis*

Thanks for joining me in supporting this important cause,

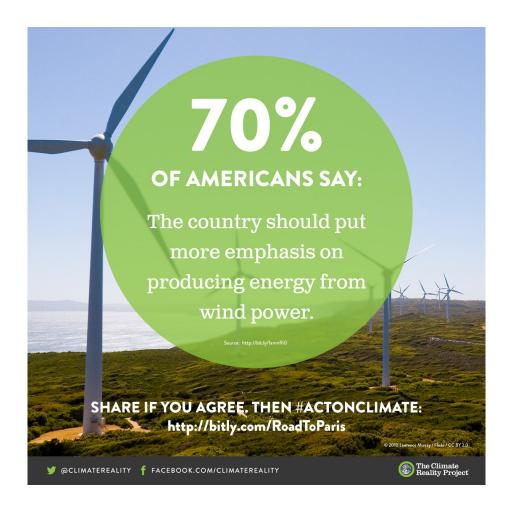
Your name

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Instagram

Click on this image, then right-click and select "Save Image As" to download. Send it to your phone and share it on Facebook or Instagram. Include your own reasons for #ClimateHope, or accompany it with the following text:

#Renewables are the answer to #ClimateChange, and a clean energy future is becoming more of a reality every day! Spread #ClimateHope. @ClimateReality



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