

# IT'S A BREEZE: THE FACTS ABOUT WIND ENERGY



The Climate  
Reality Project®

# INTRODUCTION

For thousands of years, people across the globe have harnessed the power of wind in one way or another – whether to pump water, grind grain, or propel boats. But today, wind has become a powerful way of generating electricity. And better yet, it’s renewable and doesn’t pollute the air we breathe.

Cities, states, countries, and companies around the world are increasingly turning to wind energy to power our world. But, thanks to Big Polluters, there’s a lot of misinformation out there. In this e-book, we set the story straight and give you the facts so you know what to say the next time you hear a Big Polluter talking point about wind power.

## FIRST, LET’S LOOK AT SOME NUMBERS

- As of September 2018, the world’s largest offshore wind farm is in the Irish Sea off the coast of northern England. [“At capacity, the wind farm provides enough power for more than 590,000 homes,” and is more than twice the size of Manhattan!](#)
- The US state that leads the country in wind energy capacity is right in the heart of oil country – Texas. In fact, outside of the US, [only China, Germany, India, and Spain have more wind power capacity than the Lone Star State.](#)
- In 2017, [“at least 13 countries around the world – including Costa Rica, Nicaragua and Uruguay – met 10% or more of their annual electricity consumption with wind power.”](#)



# THE FACTS



## 1. FACT: WIND ENERGY IS AFFORDABLE AND JUST MAKES ECONOMIC SENSE

When we pay for electricity, we typically pay per kilowatt hour. According to the [International Renewable Energy Agency \(IRENA\)](#), “onshore wind electricity costs have dropped by almost a quarter since 2010.” That means, on average, the cost of wind (per kilowatt hour) is about six cents (USD) around the globe. Alternatively, fossil fuels fall between \$0.05 to \$0.17 per kilowatt hour.

But these market prices also often don’t reflect one big reality: the costs fossil fuels impose of our health and environment. And Big Polluters don’t foot the bill. We do. These costs of fossil fuels are what’s called “externalized costs” – basically costs that producers impose on someone else (in this case, the rest of society) instead of paying themselves.

What are we talking about? We’re talking about everything from air pollution to tax dollars to rebuild communities to the human costs of hurricanes, droughts, and floods made worse by the climate crisis.

Renewables, on the other hand, have none of these external costs. So when we use clean energy like wind, we can be confident we’re not just making a good economic decision. We’re making a healthy one, too.

## 2. FACT: WIND ENERGY IS PUTTING PEOPLE TO WORK

Demand for wind power is growing, and that means the industry needs workers to help fulfill that demand. Between 2007 and 2017, global wind power capacity (or the

maximum amount of power output of all the turbines in the world) grew by about 500 percent, or five times what it was. And the industry is expected to keep growing. In 2017, more than [1.15 million people were employed by the wind industry](#) around the globe. That's incredible!

FIGURE 34. Wind Power Global Capacity and Annual Additions, 2007-2017

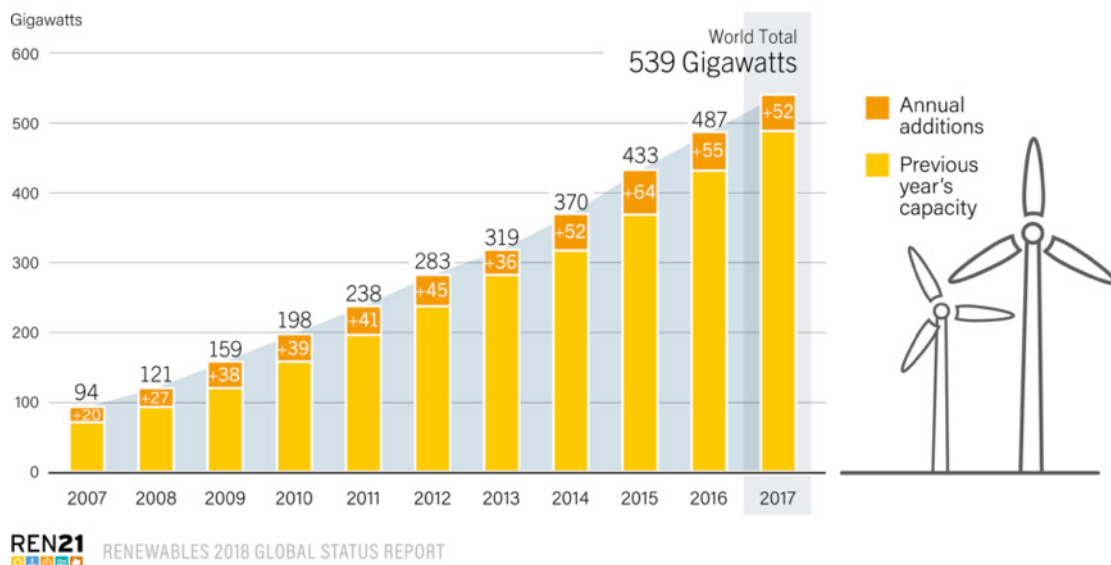


Image: REN21, 2018, *Renewables 2018 Global Status Report*, REN21 Secretariat

In the US, wind turbine service technician is projected to be the second fastest-growing job in the nation through 2026, right behind solar PV installer. Better yet, these are blue-collar jobs that pay well; in 2017, an American wind turbine technician could expect to be paid [\\$53,880 per year – or about \\$28 an hour](#).

In some cases, wind energy has even put laid-off fossil fuel industry workers back on the job, earning money for their families. After layoffs and plunging oil prices devastated their communities, some oil workers in Alberta, Canada, have retrained to work in renewable energy. [As one said](#), “Oil and gas used to be our bread and butter, but it isn’t anymore.”

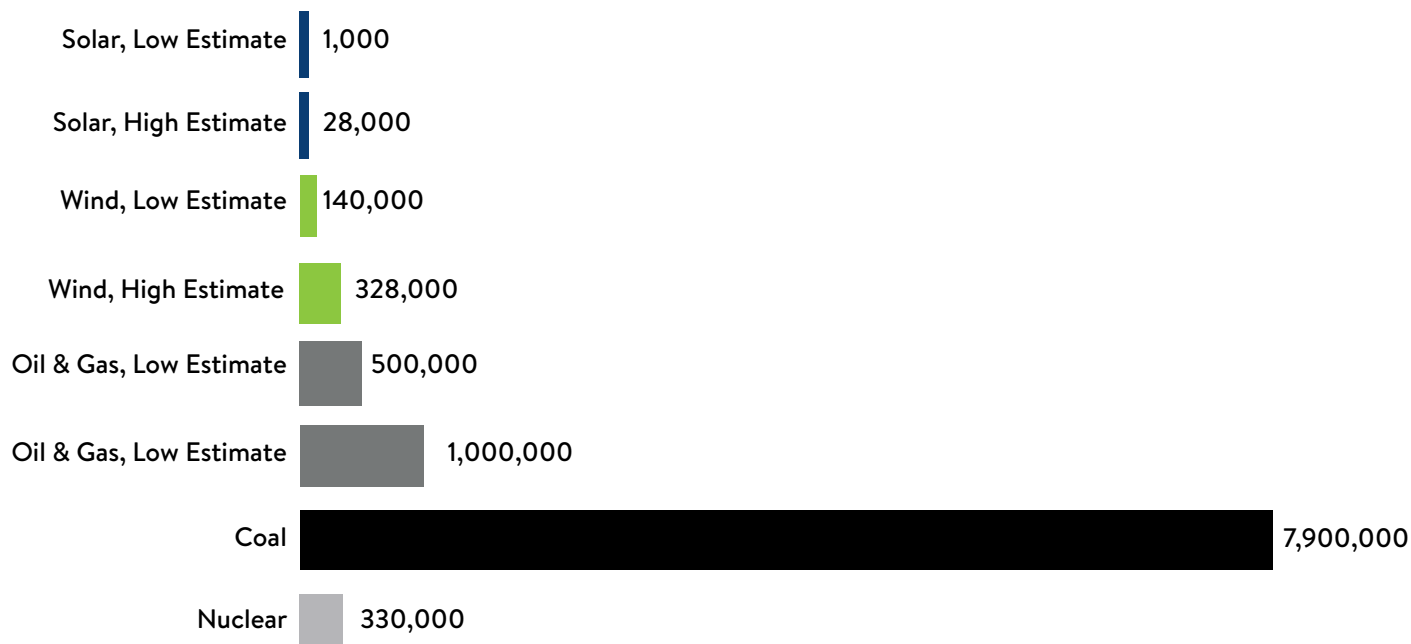
“The current market for wind energy technicians is very, very bright.”

**DAVID HALLIGAN**  
CEO of Goldwind Americas

### 3. FACT: WIND FARMS AND WILDLIFE CAN COEXIST PEACEFULLY

Understandably, a lot of people worry that wildlife (especially birds) are killed by wind turbines. But wildlife and wind farms can coexist peacefully.

[Wind power's overall impact on birds is low](#) compared with other human-related causes like tall buildings or traffic. If you compare wildlife deaths across energy sources, studies show that the oil, gas, and coal industries account for far more bird deaths than wind power.



*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

And climate change (driven by the fossil fuel industry) represents an enormous threat to birds. In fact, due to climate change, “shrinking and shifting ranges could imperil nearly half of US birds within this century,” [according to a study by the National Audubon Society](#).

Better yet, new technology is making wind farms safer for birds all the time. [In one case](#), researchers are developing a system where “antenna towers continuously scan for the birds’ radio frequencies.” If a bird gets too close to a turbine, the system monitors recommend the operator temporarily shuts down the turbine.

We don’t have to choose between protecting wildlife and harnessing wind power – we can have both!

## 4. FACT: WIND ENERGY IS A RELIABLE WAY TO POWER OUR WORLD

Combining wind with other renewables like solar or with battery storage in a flexible, smart grid design is a reliable way to keep the lights on in the twenty-first century. In addition, there is more than enough wind to meet our electricity needs—and then some! In fact, by some estimates, wind could supply more than [40 times as much electricity as the world consumes today.](#)

Using multiple sources of clean 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 can provide around-the-clock power — even when the wind isn't blowing.

In fact, by adding more wind power and using the free fuel it provides, we're making the entire grid more dependable, with energy coming from many diverse sources. Which is a good thing, because every power plant is vulnerable to disruption at some point or another from everything from storms to mechanical accidents and failures.

## 5. FACT: WIND ENERGY IS A POWERFUL TOOL TO HELP STOP CLIMATE CHANGE

When we burn fossil fuels, we emit greenhouse gases like carbon dioxide. In fact, burning fossil fuels is *the number one cause of climate change.*

Greenhouse gases released by burning fossil fuels help trap heat in our atmosphere and fuel dangerous climate change. Dirty energy forms like coal, oil, and natural gas also release dangerous pollutants into our air and water when we burn them.

But clean, renewable energy like wind doesn't pollute our air or drive climate change. People have been harnessing the power of wind for thousands of years, but today wind technology is more advanced than ever. And we can use it to help solve the greatest challenge of our time.

It's a win-win-win: good for our climate, good for our health, and good for keeping the lights on.

# SPREAD THE WORD ABOUT WIND

Copy these messages and share them on social media to spread the facts about wind energy and show you're a big fan.

- Incredible: In 2017, the wind industry employed more than 1.15 million people around the globe. Those are good, clean jobs. [climateralityproject.org/windfacts](http://climateralityproject.org/windfacts)
- #Fact: It is estimated that wind energy could supply more than 40 times as much electricity as the world consumes today. Yes, really! [climateralityproject.org/windfacts](http://climateralityproject.org/windfacts)
- Unlike fossil fuels, wind energy is good for our climate, for our health, and for our economies. I'm a big fan! [climateralityproject.org/windfacts](http://climateralityproject.org/windfacts)





# The Climate Reality Project<sup>®</sup>

Founded and chaired by former US Vice President and Nobel Laureate Al Gore, The Climate Reality Project is dedicated to catalyzing a global solution to the climate crisis by making urgent action a necessity across every level of society.

Today, climate change is standing in the way of a healthy tomorrow for all of us. But we know that practical solutions are right in front of us. We can create a healthy, sustainable, and prosperous future by making a planet-wide shift from dirty fossil fuels to clean, reliable, and affordable renewable energy. At Climate Reality, we combine digital media initiatives, global organizing events, and peer-to-peer outreach programs to share this good news with citizens everywhere and build overwhelming popular support for policies that accelerate the global transition to a clean energy economy.

To learn more, visit [www.climaterealityproject.org](http://www.climaterealityproject.org)