



Save Ohio Parks

End Fracking Of Public Lands

**Ohio Senate Energy Committee
Opposition Testimony
Senate Bill 294
Cathy Becker, Save Ohio Parks**

Chair Chavez, Vice Chair Landis, Ranking Member Smith, and Members of the Senate Energy Committee,

Thank you for the opportunity to submit testimony regarding Senate Bill 294, which would declare the state's energy siting policy. My name is Cathy Becker, and I am a board member of Save Ohio Parks, a citizens group that seeks to protect Ohio state parks, wildlife areas, and public lands from oil and gas extraction.

SB 294 sets forth what looks like reasonable principles for energy siting decisions – affordable, reliable, and clean. But the way this bill interprets these principles would result in Ohio yet again boosting gas and nuclear while squashing solar and wind, forgoing the cheapest, easiest, and cleanest form of energy at a time when we say the state needs more electricity, and keeping Ohio mired in a polluted energy past instead of clean energy future.

This testimony will examine each of these principles one at a time.

Clean energy

SB 294 declares that fracked gas and nuclear are “clean energy.” Both types of energy have already been declared as “green” under Ohio law, so why would the state now classify them as “clean”? Is it to make gas and nuclear eligible for federal clean energy tax credits that are supposed to be for actual clean energy such as solar, wind, hydro, or geothermal?

Neither nuclear nor gas are clean energy. As I am sure you know, gas is a fossil fuel obtained by fracking – including in Ohio's state parks and public lands. This is a highly polluting process that releases methane – 80 times more potent as a greenhouse gas than carbon dioxide – and turns billions of gallons of our fresh water into toxic radioactive waste.

Nuclear relies on the constant mining and enrichment of uranium – you can ask workers in Pike County how that has affected their health. Current technology results in highly dangerous radioactive waste that must be stored securely for millions of years. I have heard for years that small modular reactors would result in less radioactive waste – but have yet to see or hear of an SMR in operation in the United States.

Of course, no form of energy has zero environmental impact. Renewable energy does require materials to manufacture solar panels and wind turbines – but once in place, they can remain in operation for decades, using fuel from sun or wind that is entirely free. Once their lives are over, most if not all of their parts can be recycled.

An entire body of research called Life Cycle Analysis compares the environmental impacts of various forms of energy. Repeatedly this research finds that solar and wind have much less impact over their lifetimes than fossil fuels, which require constant extracting, transporting, refining, delivering, and burning. Nuclear is found to have a lower lifetime impact, but that doesn't count the infrastructure to store nuclear waste. (Just Have a Think, "[Lifetime carbon emissions of renewables vs fossil fuel. Problem or solution?](#)" 2022)

Reliable energy

Second, let's consider the idea of reliable energy. Of course we want energy we can count on, and fossil fuels have had 200 or 300 years (depending on how you count) to develop the massive infrastructure needed for use in human society.

Nuclear has only been around since the 1950s and is not in as widespread use. It has fallen out of favor due to several high-profile accidents and the waste storage problem. Perhaps new technology will eventually come online to address these issues.

Wind and solar are often derided as unreliable -- but the experience of other countries and even other states belies that claim. Denmark gets 59% of its power from wind and 11% from solar; Lithuania gets 45% of its power from wind and 18% from solar; the Netherlands gets 27% of its power from wind and 18% from solar; and Germany gets 28% of its power from wind and 13% from solar. None of these countries deal with frequent power outages. (Canary Media, "[Which countries get the most power from solar and wind?](#)" 2025)

In the United States, California generated over 100% of its electricity demand from wind, hydro, and solar for 221 of the 365 days in 2025. Demand for gas has fallen 38% since 2023 because people are generating energy from solar panels, then drawing that energy from battery storage at night. (Mark Jacobson, Stanford Professor of Civil and Environmental Engineering, [LinkedIn](#), 2026)

Solar, wind, and batteries are also stabilizing the grid in Texas, the nation's top state for renewable energy generation and battery capacity. Solar provides energy for peak demand during the day, wind blows day and night, and batteries smooth out variability and provide power at night. Other top states for renewable energy are South Dakota, Iowa, Oklahoma, and Kansas. (Inside Climate News, "[The Texas Power Grid Will Get a Boost from Batteries This Winter](#)," 2025; Electrek, "[As Texas power demand surges, solar, wind and storage carry the load](#)," 2025; Electrek, "[Surprise: 4 of the top 5 clean energy states are red states](#)," 2025)

Another little recognized aspect of renewable energy is that it is much more efficient than fossil energy. The reason is simple – about two-thirds of the primary energy in fossil fuels is lost during production, transportation, and combustion, before the fuel actually powers

anything. According to Rocky Mountain Institute, this means over \$4.6 trillion per year -- almost 5% of global GDP and 40% of what we spend on energy, literally goes up in smoke. By comparison, renewable energy delivers almost 100% of the energy it generates. What this means is that less renewable energy must be constructed to provide the same amount of power as fossil fuel. (RMI, "[The Incredible Inefficiency of the Fossil Energy System](#)," 2024).

Dismissing solar and wind as "unreliable" ignores the existence of batteries, efficiency, and of economies of scale achieved as renewable energy becomes widespread. It's not happening in Ohio because several state laws explicitly squash solar and wind. Renewables are not on a level playing field here. But they are in other countries and other states, where they are playing an increasingly important role in the energy system.

Affordable energy

SB 294 defines "affordable" energy as having a stable and predictable cost and providing a cost-effective means of heating, cooling, and generating electricity.

By these measures, renewable energy wins hands down. The price of electricity from solar declined 88% from 2009 to 2024. Since 1976, the price per watt of electricity from solar panels has plummeted an incredible 99.6%. Why? Because with each doubling of installed capacity, prices fall 20.2% -- referred to as the learning rate of solar.

The story is similar for the price of electricity from wind -- which fell 73% from 2009 to 2024 when installed capacity went from 30 to 80 GW -- and the price of battery storage, which fell 96% from \$6035 per kWh in 1992 to \$244 per kWh in 2016. This trend continues -- for every doubling in battery storage capacity, prices fall 18.9%.

By comparison, the price of gas combined cycle and gas peaker plants have also declined, but not as much -- solar and wind are still the cheapest form of energy. The average price of gas for consumers has fluctuated throughout the last few decades. Meanwhile, the price of nuclear energy increased 61% from \$96 per MWh in 2010 to \$155 per MWh in 2019.

Subsidies

In discussing affordability, SB 294 mentions that the cost of unit of energy output should be "calculated to include any direct or indirect payment by any level of government for the previous five years" -- in other words, subsidies.

There is a widespread misconception that renewable energy is highly subsidized while fossil fuels are not. But which types of energy gets more subsidies depends on when and where you look. During the few years of tax credits from the Inflation Reduction Act, renewable energy got about half of US energy subsidies (U.S. Energy Information Administration, "[Federal Financial Interventions and Subsidies in Energy in Fiscal Years 2016–2022](#)," August 2023). But those tax credits are now gone, and even money that had been awarded under the Biden administration was clawed back by Trump.

Meanwhile, the United States subsidized the fossil fuel industry by \$2.2 billion in 2024 – and all countries of the world together provided over \$1 trillion in fossil fuel subsidies (OECD, [Fossil Fuel Subsidy Tracker](#)). Other sources put total global fossil fuel subsidies at \$7 trillion, or 7.1% of global GDP in 2022 (IMF, “[Fossil Fuel Subsidies](#)”).

“Foreign adversary nations”

Finally, SB 294 would instruct the Ohio Power Siting Board to minimize reliance on “foreign adversary nations” for materials or manufacturing necessary to deliver energy to Ohio customers. This would appear to advantage fracked gas and nuclear in Ohio.

Yet Ohio is also a leading manufacturer of solar panels through companies like First Solar in Perrysburg, which employs 2400 workers, and Illuminate USA in Pataskala, which employs 1000 people with plans to expand to over 1500. The solar industry as a whole employs over 8100 people in Ohio (Solar Energy Industries Association, [Solar in Ohio](#)). These jobs should not be put into jeopardy to advantage one industry over another.

The foreign adversary nations that SB 294 refers to are North Korea, Russia, China, and Iran. China is of note due to the role it is playing in the expansion of renewable energy worldwide. Due in part to citizen unrest over polluted cities, China is moving more rapidly into renewable energy than any other country on earth.

The statistics are staggering.

- In 2023, China installed more renewable energy capacity than all other countries combined.
- China adds enough new solar and wind power every year to cover the total electricity use of the UK, Spain, Australia, or South Africa.
- China’s solar and wind output is the same or more than the total electricity use of India, Russia, Japan, Brazil, or Canada.
- China produces enough energy from solar and wind to cover its entire residential electricity sector.

(Hannah Ritchie, “[China is adding solar and wind faster than many of us realise](#),” 2023)

China’s mass production has made solar panels so affordable that poor countries are snapping them up. In 2024-25, 20 countries in Africa set new records for importing solar panels from China, with imports nearly tripling from 3,734 MW to 11,248 MW (Ember, “[The first evidence of a take-off in solar in Africa](#),” 2025; New York Times, “[Cheap Solar Is Transforming Lives and Economies Across Africa](#),” 2025). Pakistan also turned to Chinese solar panels after its devastating floods last year, importing over 35 GW (NPR, “[Pakistan is tapping into solar power at an 'unprecedented' rate. Here's why](#),” 2025).

These countries are turning to renewables to bring electricity to homes, schools, and businesses. It could be the United States supplying these solar panels – it could even be Ohio. But by squashing our solar and wind industries, we are missing out on a global energy transition and handing global energy leadership to China on a silver platter.

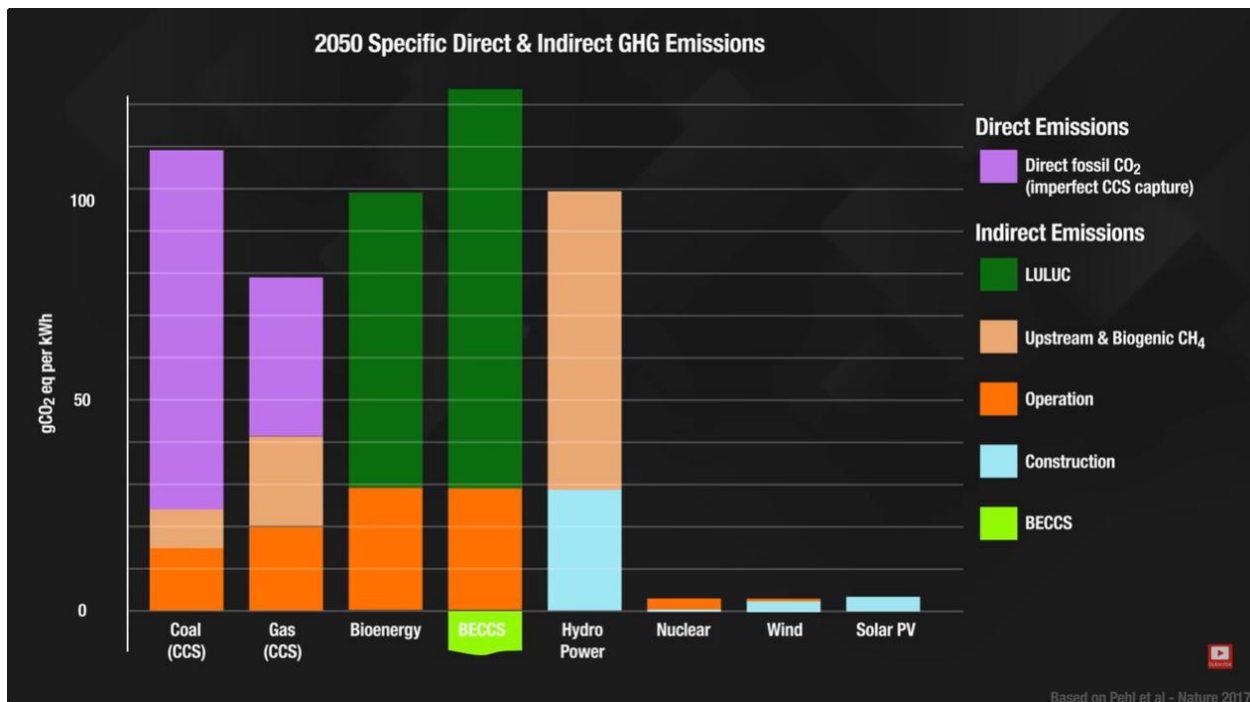
Conclusion

If passed as is, SB 294 would direct the Ohio Power Siting Board to advantage oil and gas and disadvantage solar and wind even more than they already are. In 2014, Ohio passed the most draconian wind turbine setback law in the country, which hobbled the wind industry in the state. In 2021, Ohio passed SB 52, which has allowed 37 counties to ban solar and wind projects – hobbling the solar industry in this state.

Even where renewable energy is not banned, the Ohio Power Siting Board has squashed 2000 MW of solar – enough to power Cleveland, Columbus, and Cincinnati combined – all at a time when everyone agrees we need more electricity on the grid.

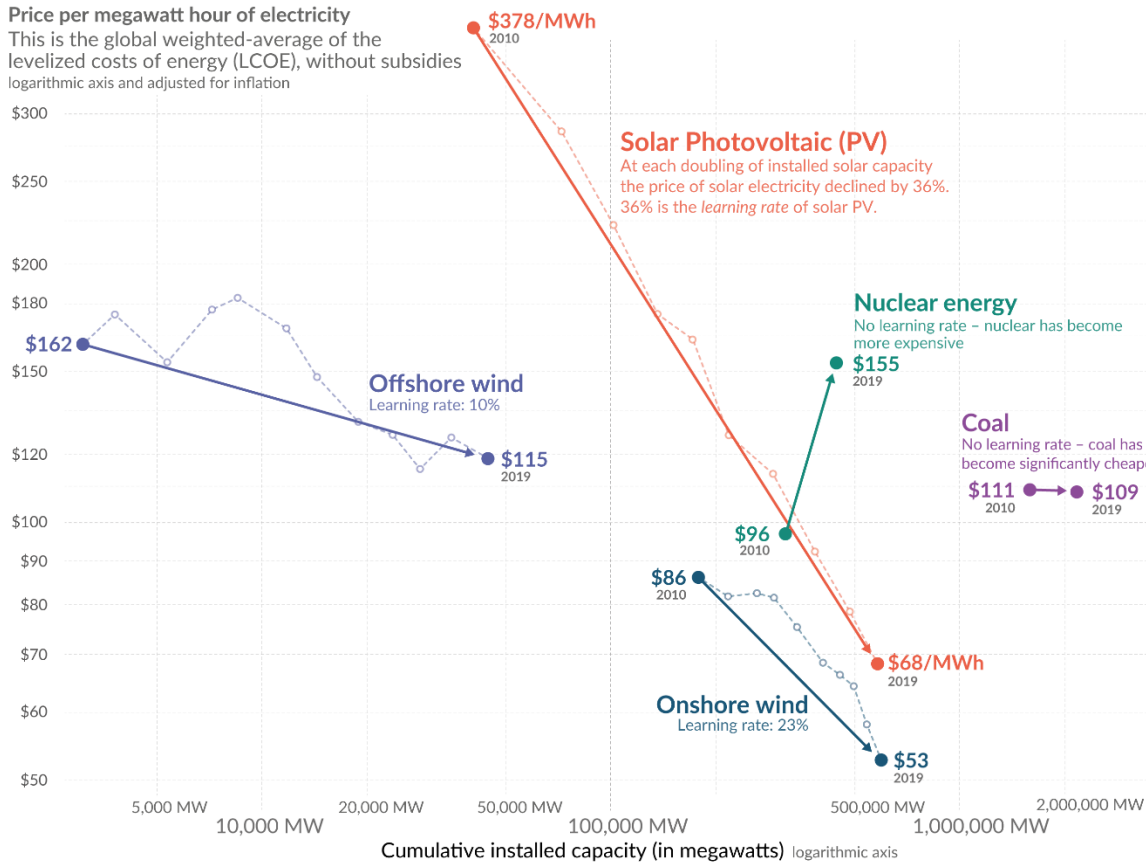
Ohio can do better. Our legislature must stop kowtowing to the greed of one industry and start doing what is best for the entire state. Imagine an Ohio powered by clean energy and selling the parts we manufacture to everyone else. It's possible – but only if we have the political will to stop favoring one form of energy over another through bills like SB 294.

Charts from testimony



(Life Cycle Analysis, GHG emissions, [Just Have A Think](#), 2023, based on “Understanding future emissions from low-carbon power systems by integration of life-cycle assessment and integrated energy modelling,” [Nature](#), 2017)

Electricity from renewables became cheaper as we increased capacity – electricity from nuclear and coal did not



Source: IRENA 2020 for all data on renewable sources; Lazard for the price of electricity from nuclear and coal – IAEA for nuclear capacity and Global Energy Monitor for coal capacity. Gas is not shown because the price between gas peaker and combined cycles differs significantly, and global data on the capacity of each of these sources is not available. The price of electricity from gas has fallen over this decade, but over the longer run it is not following a learning curve.

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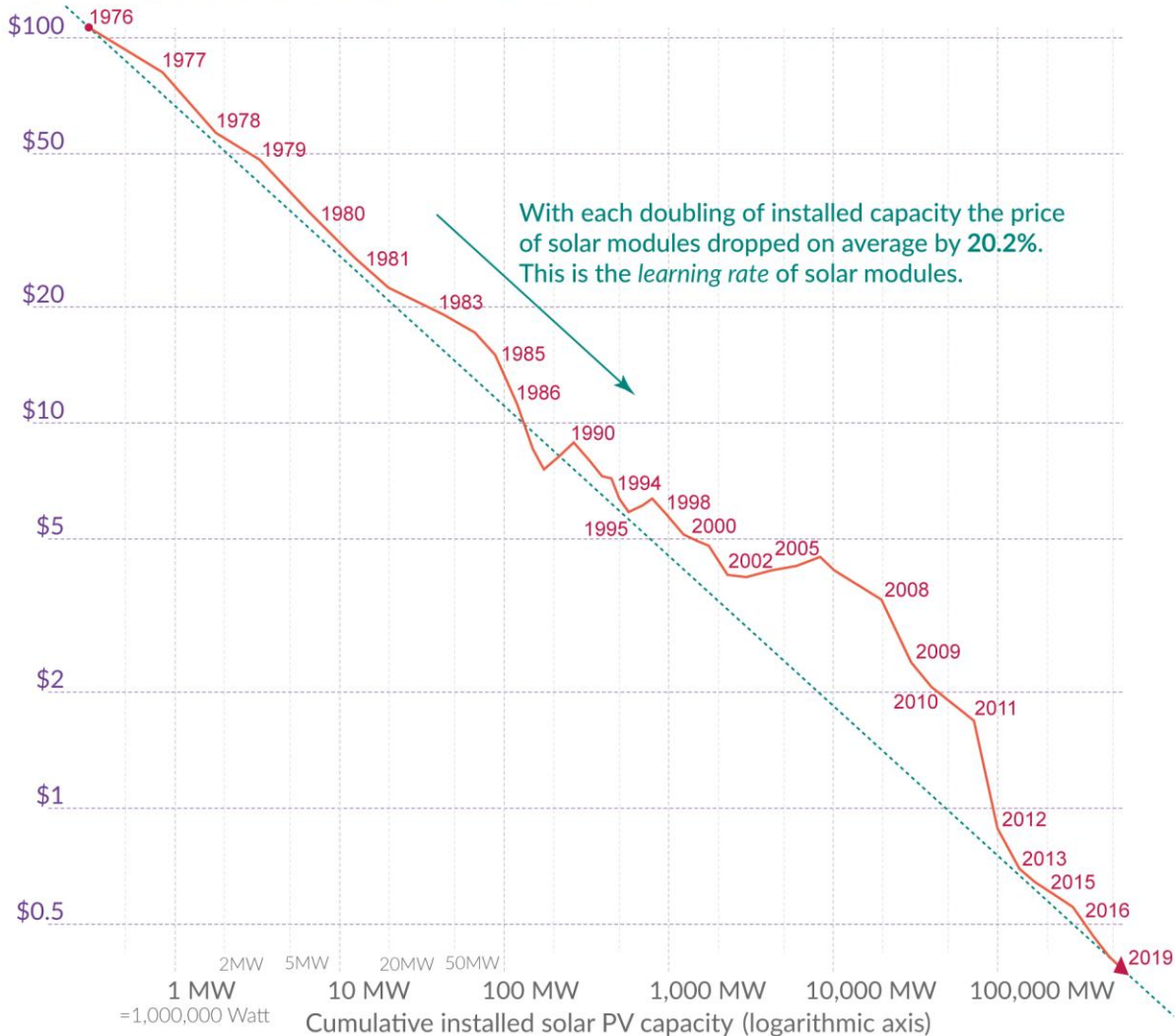
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(Our World in Data, “[Why did renewables become so cheap so fast?](#)” 2025)

The price of solar modules declined by 99.6% since 1976



Price per Watt of solar photovoltaics (PV) modules (logarithmic axis)
 The prices are adjusted for inflation and presented in 2019 US-\$.



Data: Lafond et al. (2017) and IRENA Database; the reported learning rate is an average over several studies reported by de La Tour et al (2013) in Energy. The rate has remained very similar since then.
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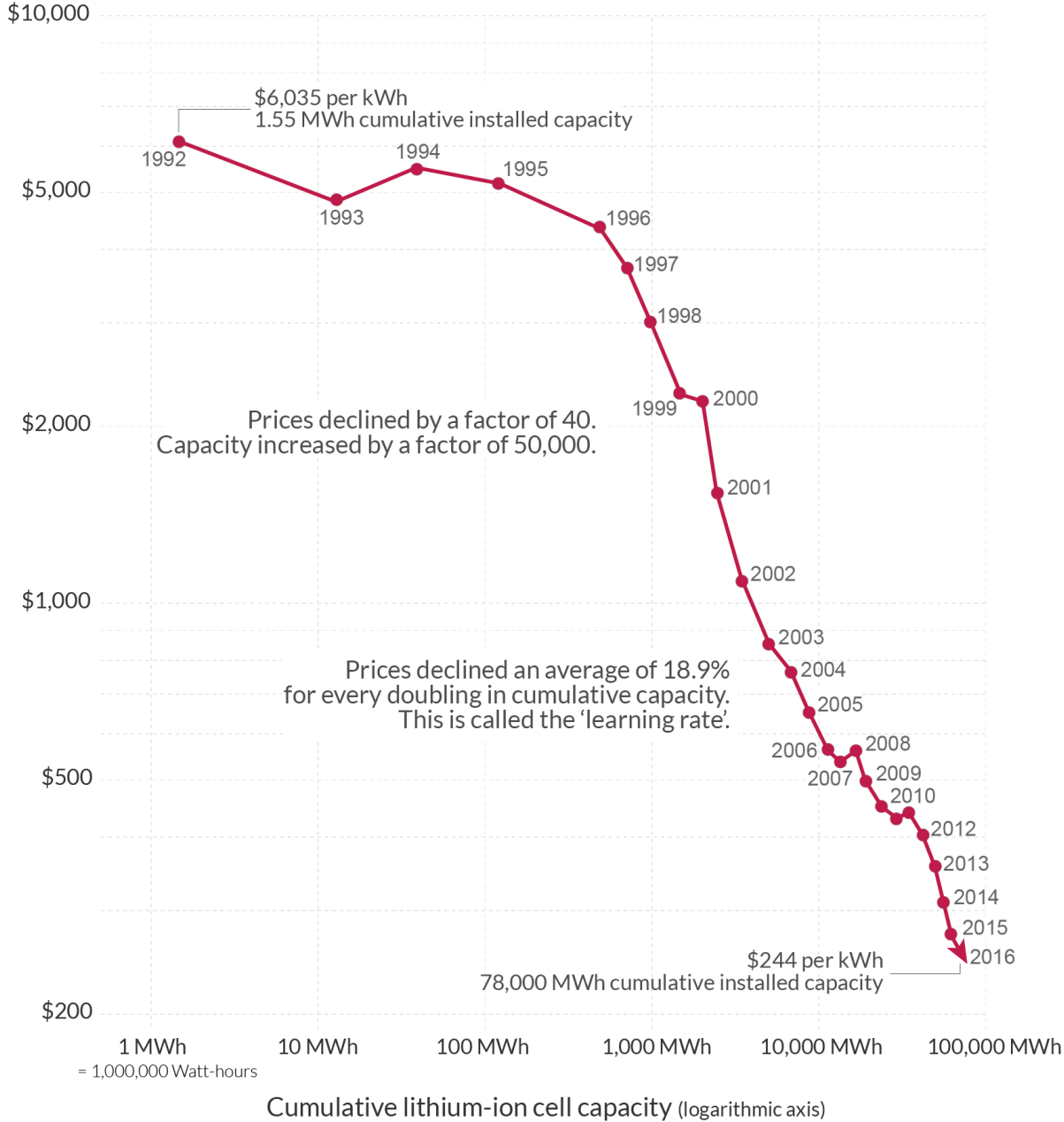
Licensed under CC-BY by the author Max Roser

(Our World in Data, “[Why did renewables become so cheap so fast?](#)” 2025)

Price and market size of lithium-ion batteries since 1992



Price per kilowatt-hour; kWh (logarithmic axis)

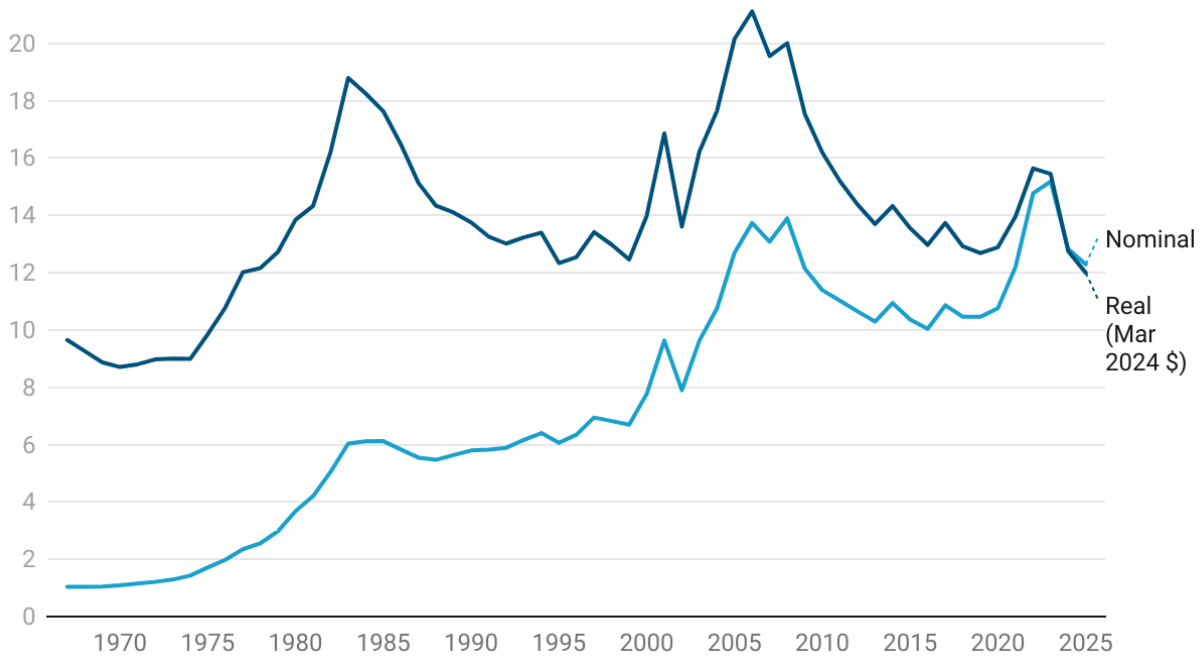


Prices are adjusted for inflation and given in 2018 US-\$ per kilowatt-hour (kWh).
 Source: Micah Ziegler and Jessica Trancik (2021). Re-examining rates of lithium-ion battery technology improvement and cost decline.
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(Our World in Data, “[Why did renewables become so cheap so fast?](#)” 2025)

Annual Residential Natural Gas Price

Dollars per Thousand Cubic Feet (\$/Mcf)

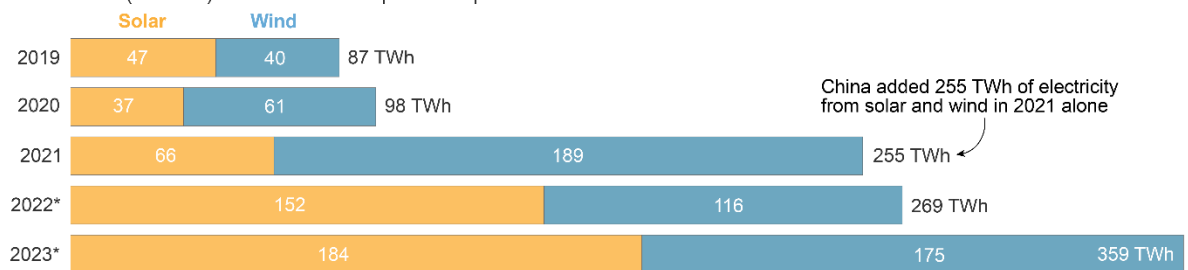


Energy Information Administration, Short-Term Energy Outlook March 2024. Blue is Forecast
Created with Datawrapper

(American Gas Association, [Energy Insights](#))

China adds enough new solar and wind power every year to cover the total electricity use of many major countries

Annual **increase** (not total) in solar and wind power output



How much total electricity countries use in a year...



*Preliminary estimates and projections based on expected solar and wind capacity additions from industry.

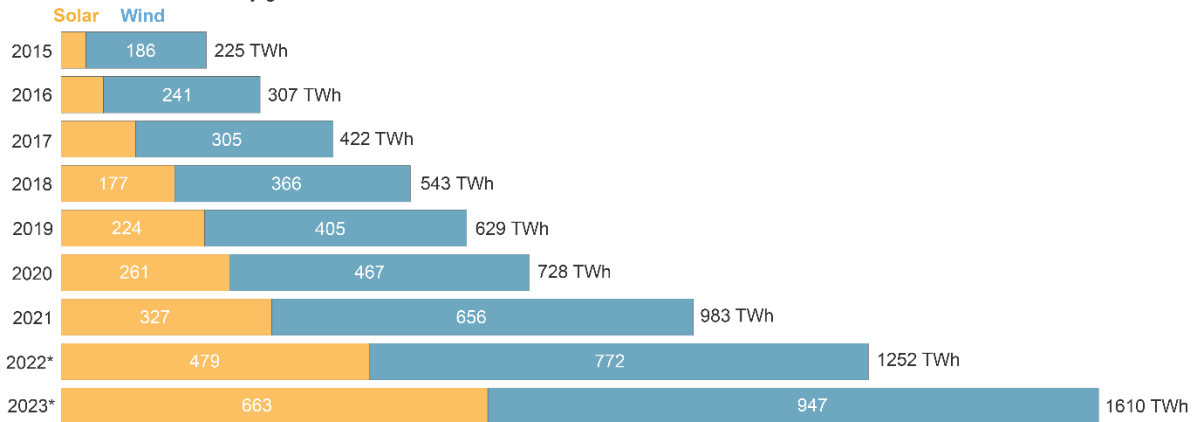
Data sources: Author calculations based on BP; Ember Climate; Bloomberg; and industry reports.

Author: Hannah Ritchie.

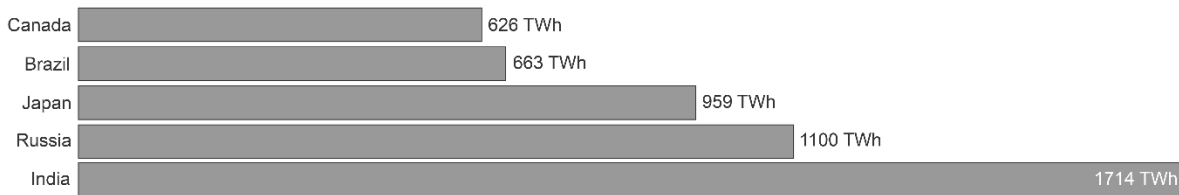
(Hannah Ritchie, [“China is adding solar and wind faster than many of us realise,”](#) 2023)

China's solar and wind power output is the same as major countries' total electricity use

Annual solar and wind electricity generation in China...



Annual total electricity generation by country...

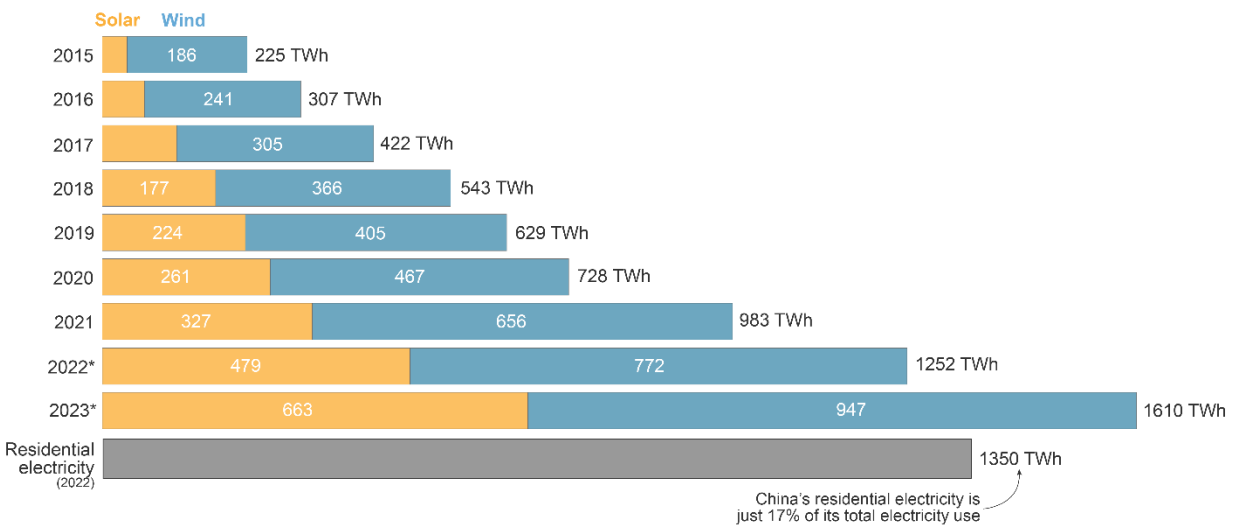


*Preliminary projections for 2023 based on expected solar and wind capacity additions from industry.
Data sources: Author calculations based on BP; Ember Climate; Bloomberg; and industry reports.

Author: Hannah Ritchie.

(Hannah Ritchie, [“China is adding solar and wind faster than many of us realise,”](#) 2023)

China produces enough solar and wind energy to cover all of its residential electricity



*Preliminary estimates and projections based on expected solar and wind capacity additions from industry.
Data sources: Author calculations based on BP; Ember Climate; Bloomberg; and industry reports.

Author: Hannah Ritchie.

(Hannah Ritchie, [“China is adding solar and wind faster than many of us realise,”](#) 2023)