

New Nuclear Power Plants Are Climate Killers

Planning, licensing and construction of nuclear power plants takes many years. Energy efficiency and renewables can be implemented in just a few months. New reactors are becoming increasingly expensive, whereas renewables are becoming ever cheaper. Nuclear power is slow and pricey. The climate needs the quickest and most affordable solutions.

Time is running short. Many municipalities in Europe have officially declared a climate emergency. Young people are demanding their rights and have struck a significant chord. School children of the *Fridays for Future* movement are calling on people to finally do something. Tens of thousands of scientists support the school strikes inspired by Swedish teenager Greta Thunberg and urge “action must be taken now”.¹

But the nuclear industry takes its time. Plenty of time. On average, it takes ten years to build a nuclear power plant before it can generate any electricity. France, the last bastion of this high-risk technology, has been tinkering on a reactor for 14 years; Finland has been at it for 16 years already. In Slovakia, the foundations for two units were laid 36 years ago, but a single kilowatt-hour of electricity has yet to be produced. The climate must bide its time.

Endless construction times are rather the rule than the exception. Quite frequently, nuclear projects end up as half-finished ruins. One out of eight reactor construction-projects is discontinued at some point. In the US, construction work on two reactors was terminated in 2017 after some 10 billion dollars had been wasted and Westinghouse, the developer of the reactors, had gone bankrupt. The ratepayers had to shoulder nine tariff

¹ Scientists for Future, “The concerns of the young protesters are justified”, Statement, 2019, see <https://de.scientists4future.org/initial-statement/>.

hikes, without receiving anything in return. Too bad for them—and too bad for the climate.

A euro can only be spent once. Any elementary-school child knows that. That is why climate protection is all about efficiency and intelligence. Investments must go where they quickly help to curb the most greenhouse gas emissions.

Investments in nuclear power plants do just the opposite. Their implementation is slow, and they are expensive. While the costs of renewable energy sources have dropped precipitously in the past decade – by 82 percent for solar power, by 62 percent for wind power – nuclear power costs have *doubled*. Lazard, one of the world’s oldest financial institutions, calculated that electricity from nuclear power plants currently costs four times as much as that from solar power facilities or wind turbines – not even counting the decommissioning of reactors and final storage of radioactive waste (see Figure 1).²

The intelligent provision of energy services without relying on fossil fuels remains the fastest and usually most affordable way to reduce emissions: insulating instead of heat generation, using daylight instead of lamps, going on foot and cycling instead of moving people and goods through the cities in motorised vehicles.

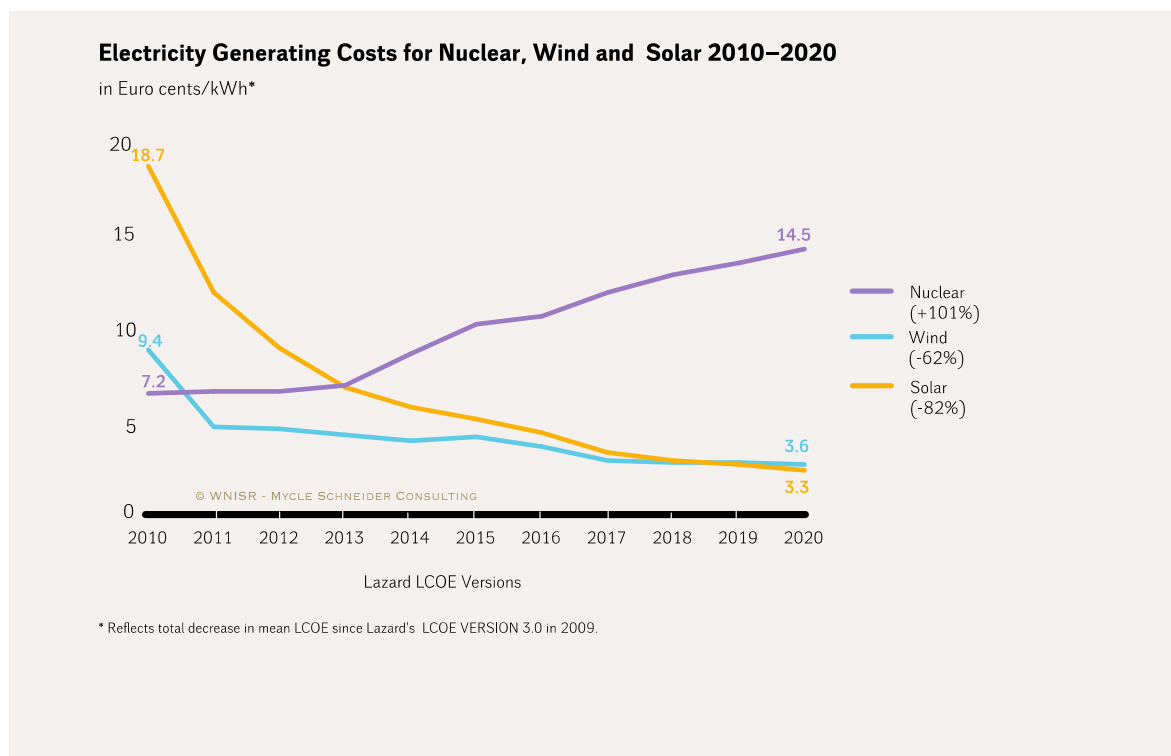
There are innumerable examples that show how it works. In many cases, lower emission levels come with cost reductions. In 2019, the Austrian “Umweltförderung im Inland”—a support program by the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology—funded over 6,000 climate- and resource-friendly projects.³ An initiative that helps both businesses and private individuals to transition from a fossil-fuelled indoor heating to a sustainable heating system has proven very successful, for example. “Exit oil and gas” is much quicker and affordable than “enter the atom”.⁴

² Lazard, “Lazard’s Levelized Cost of Energy Analysis—Version 14.0”, October 2020, see <https://www.lazard.com/perspective/levelized-cost-of-energy-and-levelized-cost-of-storage-2020/>.

³ For information on the Austrian “Umweltförderung im Inland” support programme, see <https://www.umweltfoerderung.at/>.

⁴ For information on “Raus-aus-Öl” (Oil Exit), see www.umweltfoerderung.at/privatpersonen/raus-aus-oel.html.

Figure 1: Cost Drop versus Cost Explosion – A Comparison



* Note: Mean electricity production costs without subsidies, converted from US\$ based on the exchange rate applicable at the end of each year, except for 2020, where the exchange rate as of 1 July was used.⁵

Meanwhile, craftspeople are refocusing and learning: The fitters of a US-American company needed just four days to cover the 370-square-meter roof area of a private home in Kansas with Tesla solar tiles and connect the 15-kilowatt system.⁶ In 2020, China increased its installed solar capacity by almost 50 gigawatts (50,000 megawatts). This one-year performance exceeds by a factor of five all the solar capacity ever brought online by nuclear champion France over the past 40 years. It takes a few months to build low-cost utility-scale solar and wind power facilities—two years at most for very large farms—whereas it takes many years before nuclear power plants go online. And they are expensive, on top of that.

Every euro spent on a new nuclear power plant means one euro less for the implementation of an efficient climate policy that helps to accelerate protection of the biosphere. Every euro spent on nuclear power stands to exacerbate the climate emergency. Ultimately, new nuclear power plants are climate killers.

⁵ According to Lazard, “Lazard’s Levelized Cost of Energy Analysis—Version 14.0”, October 2020, op.cit.

⁶ As illustrated by this time-lapse video documentation, see www.youtube.com/watch?v=K_cIguOPT6k.