

Climate worries galvanize a new pro-nuclear movement in the U.S.

As states race to keep plants open, California becomes a test case of how much the tide has shifted

By [Evan Halper](#)

May 24, 2022 at 6:00 a.m. EDT

Charles Komanoff was for decades an expert witness for groups working against nuclear plants, delivering blistering critiques so effective that he earned a spot at the podium when tens of thousands of protesters descended on Washington in 1979 over the Three Mile Island meltdown.

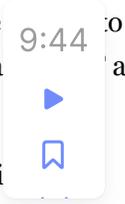
Komanoff would go on to become an unrelenting adversary of Diablo Canyon, the hulking 37-year-old nuclear facility perched on a pristine stretch of California's Central Coast that had been the focal point of anti-nuclear activism in America. But his last letter to California Gov. Gavin Newsom, in February, was one Komanoff never expected to write. He implored Newsom to scrap state plans to close the coastal plant.

"We're going to have to give up some of our long-held beliefs if we are going to deal with climate," Komanoff said in an interview. "I am still a solar and wind optimist. But I am a climate pessimist. The climate is losing."

Komanoff's conversion is emblematic of the rapidly shifting politics of nuclear energy. The long controversial power source is gaining backers amid worries that shutting U.S. plants, which emit almost no emissions, makes little sense as governments race to end their dependence on fossil fuels and the war in Ukraine heightens worries about energy security and costs. The momentum is driven in large part by longtime nuclear skeptics who remain unsettled by the technology but are now pushing to keep existing reactors running as they face increasingly alarming news about the climate.

The latest report from the U.N. Intergovernmental Panel on Climate Change, published in April, warned that the world is so dangerously behind on climate action that within a decade it could blow past the targets crucial to containing warming to a manageable level. Emissions analysts are increasingly critical of retirements of existing nuclear reactors as they take large amounts of low-emissions power off the grid, undermining the gains made as sources such as wind and solar come online.

The movement to keep plants open comes despite persistent worries about toxic waste and just a decade after the nuclear disaster at Japan's Fukushima plant. It has been boosted by growing public acceptance of nuclear power and has nurtured an unlikely coalition of industry players, erstwhile anti-nukers, and legions of young grass-roots environmental activists more worried about climate change than nuclear accidents.

"I am part of a whole generation of people who became frightened of nuclear power, but I am also more entertain nuclear than I once was because there is a climate crisis," said John Parsons, an energy scholar and co-author of a report that urges California to postpone the closure of Diablo Canyon. 

"When you want to go to net zero and there are hours of the day with no sun and weeks when the wind is blowing, it becomes a much bigger task to ensure you have enough power," Parsons said. "Nuclear becomes essential."

California isn't alone in taking another look at nuclear. Four states racing to meet their climate goals — New York, New Jersey, Connecticut and Illinois — have recently shifted course on nuclear power, using clean energy subsidies once set aside for only wind and solar to keep plants open.

Michigan Gov. Gretchen Whitmer (D) tried to prevent the closure of the Palisades nuclear plant south of Grand Rapids, which powered the equivalent of 800,000 homes before shutting down on Friday. She called keeping the plant open a "top priority" of her administration in an April letter to the Energy Department that cited the state's climate goals.

And Newsom shocked his state a few weeks ago by announcing that he is now open to extending the life of Diablo Canyon. He had helped broker the plan to close the plant by 2025, hailed as a milestone of the anti-nuclear movement.

California officials had long argued the state was different, full of potential to go carbon neutral without nuclear energy. But the state is reconsidering as it faces the risk of renewed blackouts and now stands out as a key test case for the new nuclear movement.

The Biden administration, which has encouraged California to reconsider Diablo Canyon's closure in three years, announced last month billions of dollars in new federal subsidies designed to prolong the life of such nuclear operations. Days later, Newsom told the Los Angeles Times editorial board that he is now open to tearing up the meticulously negotiated closure plan.

Getting drawn back into this battle anew has longtime nuclear opponents exhausted. They are unimpressed by the MIT-Stanford proposal. The plan would expand the Diablo Canyon to include a plant making climate-friendly hydrogen fuel and a desalination operation pumping fresh water into the parched state. Nuclear opponents say it glosses over logistical, economic and public safety barriers that have already sealed Diablo Canyon's fate.

"In the process of creating supposedly carbon-neutral energy, you're producing the most toxic material ever created by humans," said Linda Seeley, vice president of Mothers for Peace, a group that has been working to shut Diablo for decades. Seeley was among the 1,900 protesters arrested in 1981 during a days long blockade of Diablo Canyon by protesters.

"There's definitely a climate argument," said Rochelle Becker, executive director of the Alliance for Nuclear Responsibility, a key broker of the shutdown plan. "But we have to look at the realities. We have gotten nowhere on solving the waste problem. ... And how much are ratepayers willing to pay to limp this plant along?"

Indeed, on the sprawling campus of the Diablo Canyon plant are 58 concrete and steel casks housing nuclear waste, standing upright alongside one another like bowling pins. They are a monument to the federal government's lack of a long-term plan for spent fuel, leaving it scattered among 80 currently operating and decommissioned plants in the United States. Plant opponents, including the Natural Resources Defense Council and Friends of the Earth, charge that Diablo Canyon is particularly dangerous because of the high potential for earthquakes in the area.

Yet rallying opposition is tougher than it once was. Nobody expects another blockade if Newsom and PG&E move to keep it open.

Anti-nuclear sentiment is fading around the world as lofty goals for renewables confront supply chain disruptions, land use disputes and grid reliability concerns. California passed a law mandating that Diablo's power be replaced entirely by renewable energy. But regulators are still struggling to draft a viable plan.

That has bolstered the case of climate activists like Brazilian model and social media influencer Isabelle Boemeke, whose avant-garde Tik Tok productions under the moniker "Isodope" espouse the virtues of nuclear power. The last sizable nuclear protest near Diablo Canyon was the one she organized in San Luis Obispo, where dozens of activists demanded the plant stay open.

"For young people, the bias against nuclear power is not so deeply rooted," Boemeke said in an interview. "It is more a hangover from previous generations. They don't have that strong emotional connection someone who grew up the '70s has." Boemeke sees nuclear waste in a very different light from boomers.

"For all the fears people have talked about for decades at this point, it just has not panned out that way," she said. "It sounds scary, but it hasn't turned out to be a huge problem." It's a talking point favored by the pro-nuke intellectuals at the Bay Area's Breakthrough Institute, who note radiation exposure barely factored in the death toll in Fukushima.

Nuclear energy watchdogs call it misleading and dangerous propaganda. The number of individuals who developed chronic disease from exposure at Fukushima and Chernobyl, they say, may never be known. The World Health Organization concluded that radiation exposure from the 1986 Chernobyl disaster could ultimately lead to 4,000 deaths, even as the official death toll stands at fewer than 50.

The WHO painted a very different picture of Fukushima, where just one death is attributed to exposure. While hundreds died during the chaotic and traumatic evacuation, the agency concluded in 2015 that radiation was not the reason. It reported that the risk of future deaths linked to exposure during the accident is low.

Komanoff said he is still coming to terms with his personal repositioning after working to shut nuclear plants for decades, even if he is hardly alone. One of the nation's most prominent climate activists, Bill McKibben, has similarly shifted his thinking on existing nuclear plants. And dozens of climate and energy scholars have signed on to a letter led by Obama-era energy secretaries Steven Chu and Ernest Moniz urging Newsom not to close Diablo Canyon.

"It was a big part of my identity," Komanoff said of anti-nuclear activism. "If the pace of shoving fossil fuels off the grid and out of the economy were five times faster, I would not have spoken up."

But the economic and safety arguments against nuclear power, he said, have diminished with technology improvements. "In 1985, every operating nuclear plant seemed like an accident waiting to happen," said Komanoff, who is currently the director of the Carbon Tax Center in New York, a nonprofit group that advocates taxing greenhouse gas pollution. "That is just not tenable anymore. It has been 40-plus years without a serious malfunction in the U.S."

He still opposes building new plants, arguing the economics make no sense. The one nuclear plant under construction in the United States right now, in Georgia, has become a cautionary tale of how quickly the projects can spiral over budget and behind schedule. The new reactors at Plant Vogtle Nuclear Power Plant near Waynesboro were supposed to cost \$14 billion and start generating power in 2016. They are still not operational and won't be this year. The price tag has swollen to \$29.8 billion.

Yet some in the eclectic pro-nuclear-power coalition are pushing hard for more new reactors.

They include Michael Shellenberger, a media-savvy energy activist who is making nuclear power a focal gubernatorial run against Newsom. He wants to see California add reactors at Diablo Canyon and build massive plants along the coast. "Nuclear ought to be what was imagined in the 1960s," Shellenberger said in an interview, "these highly modern, beautiful plants pioneering our energy transition."

The Breakthrough Institute and others in Silicon Valley, meanwhile, are trying to nurture a new generation of reactors that are more versatile, efficient and safe, using sodium or helium as a coolant instead of water. The viability of that technology remains unclear, but the Biden administration and private investors are pouring considerable capital into it.

Some of the most effective evangelists in the new nuclear movement, though, are those who came to it from unexpected places.

When Heather Hoff graduated with a materials engineering degree from nearby California Polytechnic State University in San Luis Obispo, the plant was the obvious match for her skill set. Worries about radioactive fallout and environmental catastrophe left her doing everything she could to avoid working there, bouncing from a stint with a company making rectal thermometers for cows, to working in a vineyard, to a retail job.

Her uncle, a physics professor who had been involved in a local radiation monitoring program, warned her that working at the plant was a risk. Her mother also warned against a job at Diablo during Hoff's reproductive years. Hoff finally rationalized when she took a job as a reactor operator at the plant that she could be a mole for the anti-nuke advocates.

"I was like, okay, I'll go in and find out the real dirt and share it with them," Hoff said.

The longer she worked at the plant — deluging her colleagues with questions about worst-case scenarios, examining safety procedures, studying the public health and environmental consequences from Fukushima — the more confident she grew that nuclear power had a role in solving the climate crisis. By 2016 she had a daughter and was moved to co-found a group called Mothers for Nuclear.

"I just have such strong feelings that this is the absolute right thing to do," Hoff said at a local brewpub, where she arrived in an early-model electric car. "With the war in Ukraine and the energy situation in California, it is super obvious now. ... We've made it safe to talk about that. What better way to make it safe than to have mothers saying, 'nuclear is our future?'"