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Diablo Canyon MUST Remain Open It's our largest source of clean energy in California

Almost every single time a nuclear power plant is shut down, carbon emissions increase. It happened in Vermont Yankee, it Happened in Indian Point, it happened with Rancho Seco, it happened with San Onofre. It will happen again if Diablo is closed in 2030, let alone 2025.

I authored a report calculating the environmental impact of premature shutdowns of nuclear power plants, and the results were disturbing. Last year these shutdowns added the same amount of CO2 than ***37 African Countries*** with a combined population of 455 million people. These shutdowns had had zero environmental benefits, as nuclear power is an extremely safe technology in comparison to fossil fuels and even hydroelectric power. We are in a climate emergency and we cannot increase our emissions simply because irrational fears.

While I understand that a part of the Public (a small minority, according to the latest polls) wants to shut Diablo, this cannot be done until our state has drastically decreased our use of fossil fuels. Instead of demanding to shut down our largest source of clean power while natural gas plants continue to pollute our skies and harm our children, they should be trying to understand why our state opened 5 new natural gas plants last year.

The Diablo issue is not only about energy reliability, it is also about our carbon emissions. We cannot continue increasing our use of fossil fuels. We need to stop. And until we stop, any criticism of Diablo is just a distraction and proof of misguided priorities. Diablo Canyon is one of the youngest nuclear power plants in the country. Dresden Generating Station, only 60 miles away from Chicago, was built in the 70's and currently it's in the process of renewal until 2050.

As an immigrant, I moved to California because I was looking for a better life, which I found. I came here attracted for the opportunities and the progressive, free attitudes. Irrational fear and cowering because of dogma is not part of Californian values. We must do better, we need to stop listening to fear mongers, we are in a crisis and we have the tools to not only control it, but create a better world in the process. Diablo Canyon must stay open and more nuclear power plants need to come online.

Additional submitted attachment is included below.

Avoidable nuclear power plant shutdowns are annually releasing CO_2 emissions equal to 37 African countries

[The Breakthrough Institute]
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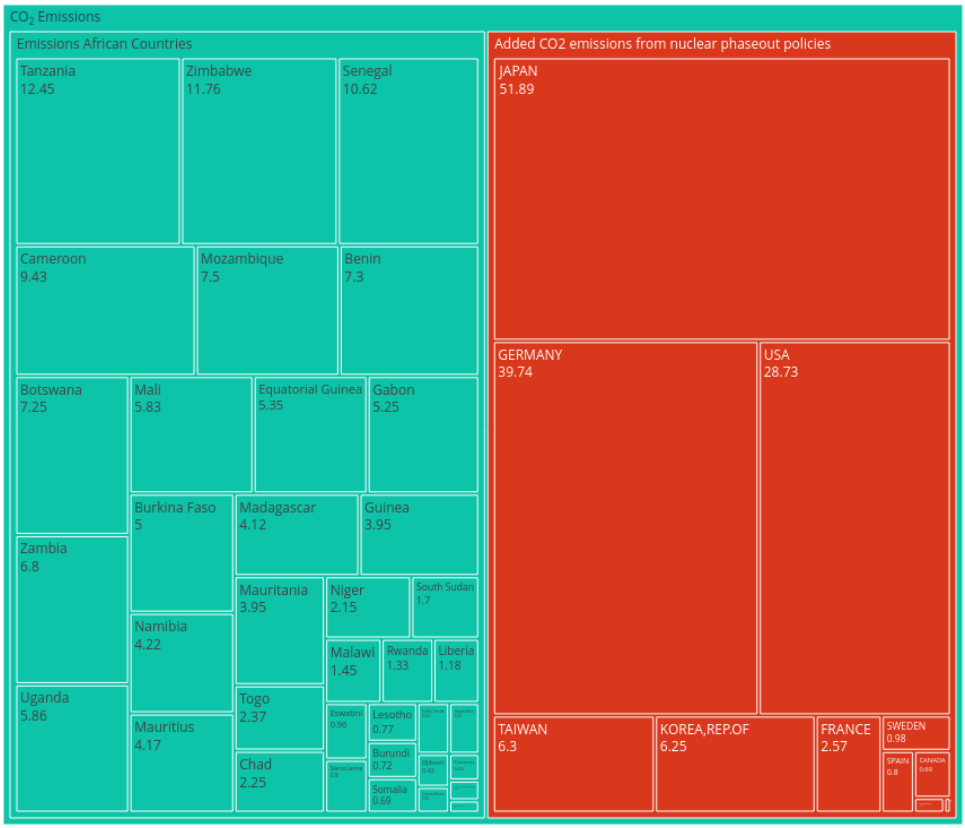
As wealthy countries pressure developing nations to set stronger climate targets and avoid any new fossil fuel projects, they should consider their own impact on the global climate. Even a casual energy policy decision in a wealthy country can produce greenhouse gas emissions that far exceed the total carbon footprint of several poorer countries combined.

Premature shutdowns of nuclear power plants in developed countries, for instance, have caused additional annual carbon emissions that now total 138.1 million metric tons (Mt) of CO_2 equivalents a year. This yearly carbon footprint surpasses combined annual emissions from 37 African countries, with a total population of 455 million people.



Added Annual Emissions from Nuclear Phaseouts Is Nearly Equal to Total Emissions from 37 African Countries

Fossil fuel emissions from nuclear phaseouts compared fossil fuel emissions from the lowest-emitting African countries, in millions of metric tons

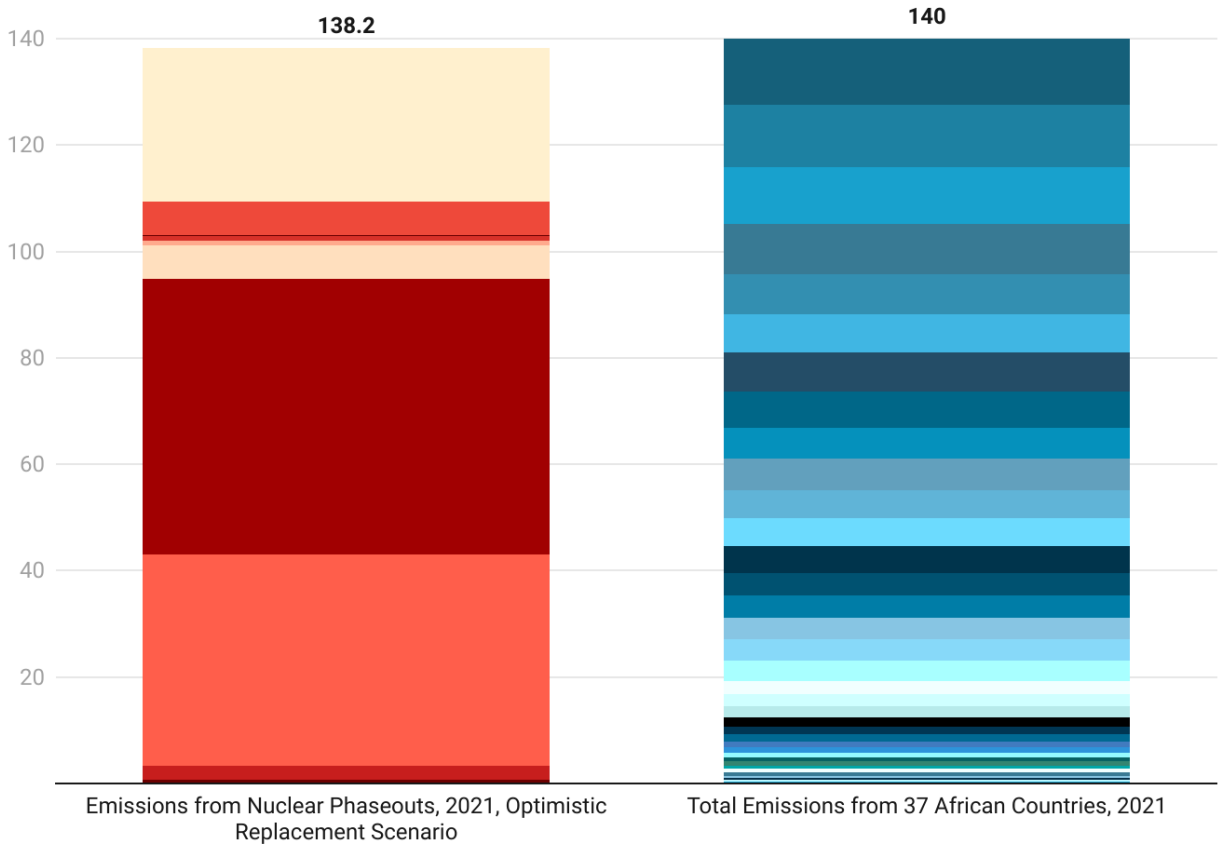


Chart: Breakthrough Institute • Created with Datawrapper

In total, since 2012, the carbon costs of nuclear phaseout policies in developed countries add up to about 800 million tons of CO_2. To place that number into context, that's enough CO_2 emissions to melt 2400 km^2 of Arctic summer sea ice, plus or minus another 240 km^2. It equates to a full two years of nationwide fossil CO_2 emissions from a medium-sized country like Turkey, Australia, or the United Kingdom, or more than 0.1 parts per million of the 416 parts per million of carbon dioxide in the planet's atmosphere.

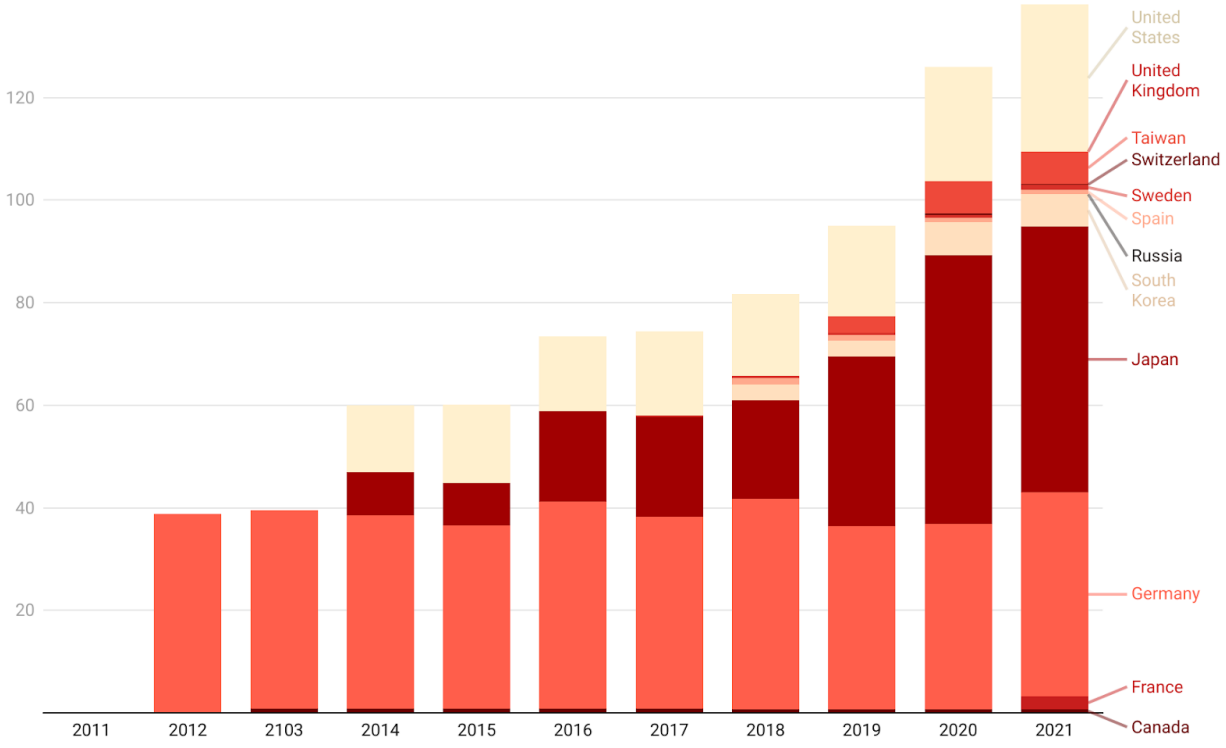
These totally unnecessary carbon emissions will continue to grow over coming decades, with one academic paper estimating that added global emissions from Germany's nuclear phaseout

alone will total 1100 Mt of CO_2 by 2035. With each additional year, the consequences of reactor shutdown decisions made years ago continue to accumulate around the world.

Why do shutdowns of nuclear power plants increase a country's fossil carbon emissions? This effect occurs because to date, low-carbon electricity formerly generated by decommissioned nuclear power plants in the wealthy world has largely been replaced by fossil fuels, causing added carbon emissions as a direct result of nuclear phaseout policies. But even to the small degree that falling nuclear electricity generation has been replaced by renewable power, this represents "treadmill decarbonization" where low-carbon energy is simply replacing other low-carbon energy sources instead of reducing fossil fuel consumption. At a time when governments should be seeking to maximize the pace of clean energy deployment and taking fossil fuel power off the grid, treadmill decarbonization counterproductively expends resources swapping out clean nuclear energy for renewables while letting fossil fuel plants continue to run.

In Best Case, Added Emissions from Nuclear Phaseout Stood at Almost 140 Million Metric Tons in 2021

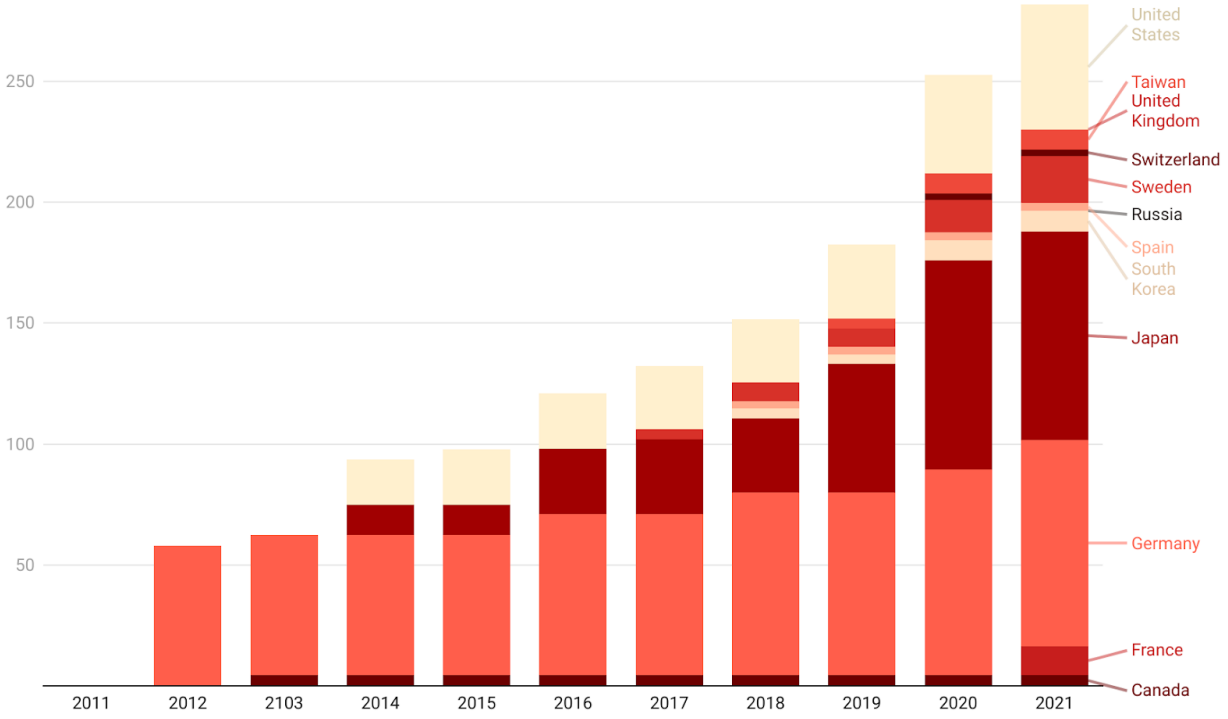
Added CO2 emissions in 12 countries, in optimistic replacement scenario



Source: Breakthrough Institute • Created with Datawrapper

In Worst Case, Added Emissions from Nuclear Phaseout Stood at Over 280 Million Metric Tons in 2021

Added CO2 emissions in 12 countries, in coal replacement opportunity cost scenario



Source: Breakthrough Institute • Created with Datawrapper

To calculate our own estimates of added emissions from nuclear phaseouts, we've opted for a "moderately optimistic" scenario where lost clean nuclear energy is replaced by other dirty or clean generation technologies in each country, proportional to their share of the non-nuclear energy mix in any given year.[1] We also calculated added emissions from nuclear phaseout policies under three alternative scenarios, in which decommissioned nuclear generation effectively enables continued operation of an equivalent magnitude of coal-fired power, gas-fired power, or a 50:50 mix of coal and gas electricity.

Depending on the country in question, these latter scenarios may be more realistic. In Taiwan for example, nuclear reactors are shutting down while a large number of coal-fired power plants will keep running nationwide for the foreseeable future. Meanwhile in Japan, lost nuclear electricity generation has been primarily replaced by a mix of coal and gas-fired power. However, to be conservative about the magnitude of avoidable carbon emissions from retiring nuclear, we choose to focus on the moderately optimistic case.

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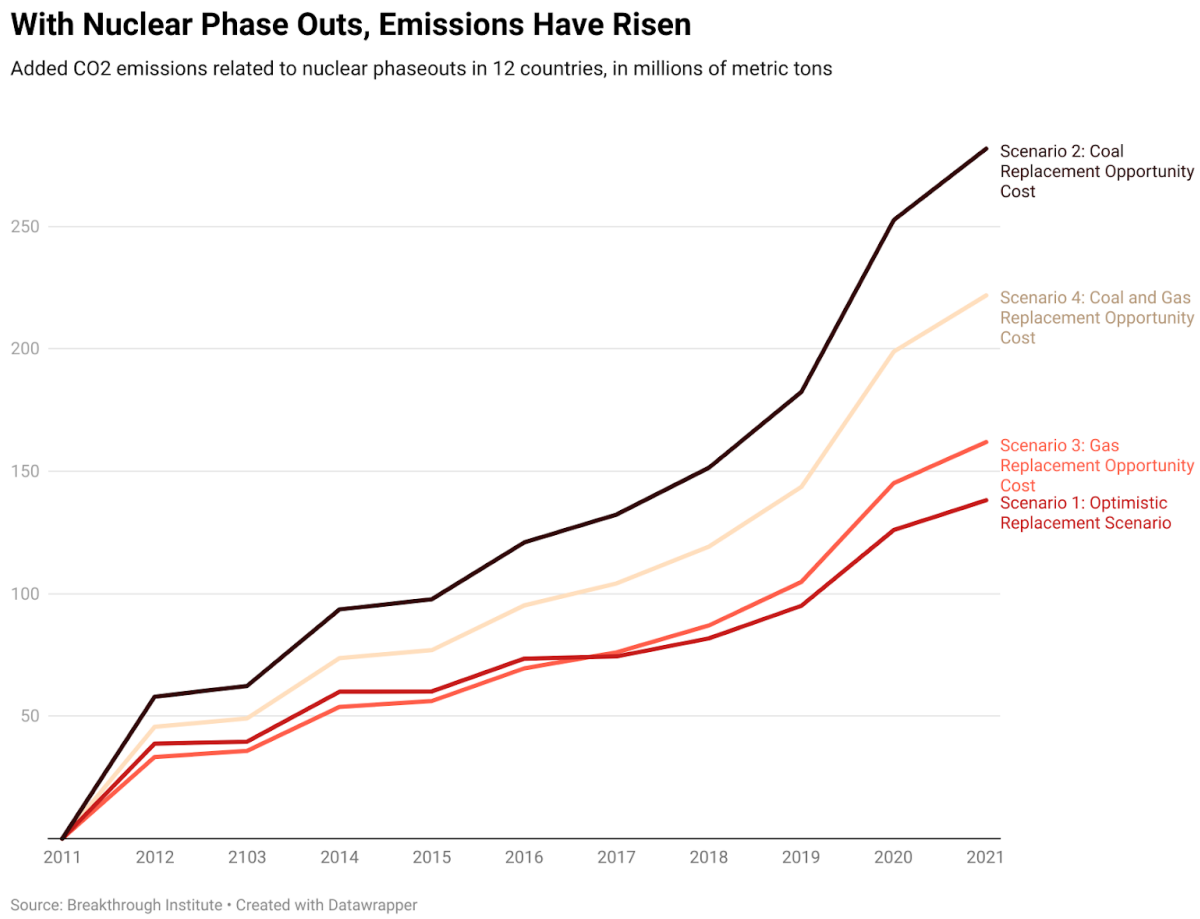
Our emissions factors for fossil electricity generation consider only direct emissions from burning fossil fuels and biomass at power plants, omitting some upstream greenhouse gas impacts from coal mining and oil and gas drilling. We also assume that the emissions associated with alternative clean energy sources are zero, even though some minimal fossil fuel use is required to build hydroelectric dams or manufacture solar panels. As such, our calculation of the carbon cost associated with nuclear phaseout policies is conservative.



Even under these relatively lenient assumptions, it is clear that shutting down nuclear power plants—a luxury energy policy decision that only a rich and energy-abundant country could possibly consider—has produced climate impacts equivalent to the annual carbon emissions of half of the African continent. Meanwhile, those countries continue to insist that poorer ones develop using only renewable energy, while refusing to acknowledge that they have shuttered sufficient clean nuclear energy capacity to have canceled out many of those countries' annual contributions to climate change to begin with.

Given the relatively small carbon footprints of African countries, some critics might claim, it follows that added emissions from nuclear phaseout policies must also be negligible. Whatever magnitude you assign the loss of 2400 km^2 of Arctic summer sea ice, though, this exercise makes clear that discrete policy decisions made by wealthy, energy-rich governments can outweigh the climate impact of entire countries and hurt their development.

Small, counterproductive choices add up. The European Union's restrictions on genetically-modified crops, for instance, risk committing the continent to an additional 33 Mt CO_2e/yr of greenhouse gas emissions due to the increased land footprint and energy demand associated with organic-only farming. These policies, like nuclear phaseouts, produce no measurable environmental or human health benefits in exchange for clear negative climate impacts. In some cases, net effects on societal well-being are negative, too, in addition to unnecessary carbon emissions emissions. Continued coal use in Germany following nuclear power plant shutdowns has produced thousands of yearly deaths due to the contribution of air pollution towards respiratory illnesses.

Meanwhile, policymakers, environmental NGOs, and shareholders of development finance institutions continue to wring their hands over the greenhouse gas emissions of poor countries while ignoring the effects of misguided policies in their home countries. Recently, the European Commission even opposed a proposal to support the development of fertilizer plants in Africa and the Middle East, on the grounds that the initiative would conflict with the EU's energy and climate policies.

Rather than expecting Africans to develop by the rich world's sustainability rules to offset the rich world's emissions, wealthy countries should do far, far more to reduce dirty energy use at home while helping emerging economies grow and societies adapt to a warmer world. In the meantime, adopting a friendlier approach toward nuclear energy projects domestically and internationally would more than compensate for the increase in emissions that might occur as poor countries build a path out of poverty.