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Phasing out nuclear

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CAN THE WORLD fight global warming without nuclear power? One major industrialized country — Germany — is determined to find out, and another — Japan — is debating whether to try. Both illustrate how hard it would be.

To date, nuclear is the only proven source of low-emissions “baseload” power — that is, electricity that’s always on, day or night, powering round-the-clock elevators in Tokyo or office buildings in Munich. Yet both Germany and Japan are poised to prematurely shutter their large nuclear sectors, giving up all of that guaranteed, low-carbon electricity generation in an anti-nuclear frenzy, on a bet that they can multiply their generation of renewable electricity within a decade or two.

Before the [Fukushima Daiichi](#) disaster last year, Japan derived a third of its electricity from nuclear power. Now, with all but one reactor offline, the country’s consumption of crude and heavy fuel oil for power generation has roughly tripled. Even with that backup fossil-fired power, though, the government worries that the electrical system will fail during peak summer demand if utilities don’t switch on reactors. The Financial Times’ Gerrit Wiesmann reports a similar situation in Germany, which has committed to closing all of its reactors, even as its power grid teeters and its electricity sector emits more carbon than it must after eight reactors shut down last year.

With both countries making the paths to their emissions goals more difficult, anti-nuclear activists justify this mess by insisting that renewable energy sources will pick up the slack. But that raises major questions of feasibility and cost.

Perhaps, a Japanese government report claimed, Japan could still reduce carbon emissions by 25 percent of its 1990 levels by 2030 without nuclear power. Yet even if that’s true, it’s hardly a reason to let all of that existing nuclear infrastructure and know-how go to waste. [The report also notes](#) that the country [could cut emissions](#) 33 percent if nuclear accounted for a fifth of the country’s generation, or even as much as 39 percent if Japan continued to derive a third of its electricity from nuclear.

It’s also far from clear that cutting Japan’s emissions will be as easy as those numbers suggest. A separate government analysis indicated argued that the country would

actually [fall well short of 25 percent without nuclear](#). Not content to rely on optimistic predictions about renewables, Japanese utilities are already investing hundreds of millions of dollars in [projects to promote fossil- fuel imports](#).

Advocates of green energy point out that Germany already derives more of its electricity from renewables than Japan because of hefty government subsidies. But making up for the loss of that country's reactors and meeting ambitious emissions goals would still require a veritable [revolution in its electricity generation](#) on a scale not seen since post-World War II reconstruction, Bloomberg reports. Critics reasonably predict that the country will instead rely on electricity imports from neighbors running old, reliable coal, gas and, yes, nuclear plants for years to come.

Following the scary but ultimately non-catastrophic Fukushima nuclear crisis, every country with a reactor had reason to review the safety of its existing facilities and the integrity of its regulatory systems. But prudence demanded then and now that they not abandon the power source precipitously. Maintaining existing reactors — and, we would argue, including next-generation nuclear technology as a component in forward-looking anti-carbon policies — doesn't rule out a promising future for renewables, too. But it does make it much more likely that emissions goals can be met or exceeded.