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THE SURGE

BY THE COMPETITIVE ENTERPRISE INSTITUTE

Welcome to the latest edition of *The Surge*!

Given recent developments and significant interest from readers, we are using this edition to focus on nuclear energy. This special edition of *The Surge* features the work of CEI Research Fellow [Paige Lambermont](#). Plus, we are pleased to feature an interview with one of the top experts in nuclear power policy, the Heritage Foundation's [Jack Spencer](#).

Our usual "From Our Friends" section will round things out at the end. And this edition features a breaking development: Today, the U.S. Supreme Court decides to hear a major nuclear energy case.

This year, there has been significant movement on nuclear power issues, including with the Congressional passage of the federal ADVANCE Act in June. States are working to remove bans on new nuclear power, including Illinois lifting its ban last fall, and new companies are emerging to build both large and small reactors. Just recently, there was an announcement of a deal between Microsoft and Constellation Energy to reopen a closed nuclear reactor in the US for the first time.

Nuclear power has faced significant governmental barriers in the US as well as internationally. On the foreign front, nuclear phaseouts and their consequences continue, especially in Germany, while other European countries consider reversing course.

Nuclear energy has tons of potential. Maybe it will flourish or maybe it won't. But we should remove government barriers to find out.

Please let others know about *The Surge* and they can [subscribe here](#).

Best,

CEI's Energy and Environment Team

****BREAKING DEVELOPMENT****

Just as we were about to send *The Surge*, this major development occurred:

[Today](#), the U.S. Supreme Court decided to hear a case over whether the Nuclear Regulatory Commission has statutory authority to license nuclear waste facilities under the Atomic Energy Act. The Court is consolidating two Fifth Circuit cases. As [explained](#) by Bloomberg Law, “The cases are Nuclear Regulatory Commission v. Texas, [23-1300](#), and Interim Storage Partners v. Texas, [23-1312](#).”

FEDERAL NUCLEAR DEVELOPMENTS

[An Overview of ADVANCE Act Implications](#)

In June, the Senate [passed](#) the “Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act” (ADVANCE ACT), which was part of the “Fire Grants and Safety Act” ([S. 870](#)). The House passed the legislation [in May](#).

President Joe Biden signed the bill into law on [July 9th](#) after it received [bipartisan support](#) in both chambers.

The ADVANCE Act is more than a year in coming and constitutes a compromise between different factions concerned with the future of nuclear power development in the US.

The legislation does a few important things. The [most widely discussed](#) change is the reform of the regulatory process for advanced reactors. For the many small modular reactor companies currently working on licensing new designs, this regulatory process reform should simplify the path of development and eventual demonstration of advanced reactors. Two less-covered aspects of the law are also incredibly interesting and worthy of note:

- 1) The [ADVANCE Act](#) updates the Nuclear Regulatory Commission’s (NRC) mission to acknowledge the potential utility and benefit of nuclear power technology. This is an important departure from the current mission which is only focused on maintaining protection from nuclear technology, rather than stewarding its possible benefits.

2) Many countries want to reap the benefits of nuclear power technology without establishing a robust domestic industry (a process that takes considerable time, research, and expense). In recent years, these countries have often depended on China for power from reactors that China would generally continue to control.

China [has been using](#) nuclear power technology as a means to have leverage over the countries that use its nuclear reactors. It's more than reasonable that the US should be able to counteract this and provide alternatives to developing nations looking for electricity. The ADVANCE Act [creates a pathway for export licenses](#) to allow US nuclear technology to be used elsewhere in the world with specific nonproliferation safeguards in place. Such a pathway does not currently exist.

A New Federal Study Looks at Nuclear Power Plant Sites that Could Host Additional Reactors

As [artificial intelligence](#) and other round the clock cloud computing technologies come online, and there are governmental pushes for electrification of vehicles and home appliances, the grid will have to meet additional demand.

A [new study](#) commissioned by the [Department of Energy](#) shows the potential for meeting this demand by siting new nuclear reactors at existing and recently retired nuclear power plant sites across the country. This potential is notable because the permitting of new sites for reactors is a costly and time-consuming process that adds to the timeline and expense of already capital-intensive nuclear projects.

There are currently [54 operating nuclear power plants](#) in the US with a further 11 recently retired sites. The study looked at which of these sites, both active and retired, would be suitable locations for new nuclear capacity in the future. It found that [37 of these sites](#) would have the space and resources (like cooling water access) to support at least one more large reactor. There are also [41 sites](#) that would be capable of hosting up to 600 MW of smaller footprint advanced reactors.

This study brings together site information that will be useful for firms looking to build at existing sites. As more firms come into the nuclear power space, the low hanging fruit that existing sites present will likely be some of the first to get picked.

As the US becomes more friendly to nuclear power, some countries in Europe are doing the same, Switzerland is working to remove its ban on new nuclear.

Microsoft Deal to Restart Three Mile Island Could Signal a Major Change in Energy Policy

For the first time in history, a closed reactor in the United States might be restarted. Microsoft and Constellation Energy, the utility that owns Three Mile Island, announced a new deal on September 20th that will lead to the restart of Unit 1 at the Three Mile Island Nuclear Generating Station. Reliability is finally being priced in as tech companies look for power that will back up their data center demand.

This is a huge change in the perception of nuclear power and is a positive sign for new construction in the future. It also signals a shift in the economics of nuclear power. The deal is for 20 years and is a power purchase agreement in which Microsoft will buy the power generated by Unit 1 for an estimated \$110-\$115 per megawatt hour in order to reliably power its Artificial Intelligence (AI) data center demand while meeting the company's clean energy goals. Unit one will reopen as the "Crane Clean Energy Center" by 2028 so long as the Nuclear Regulatory Commission approves the plan.

FEATURED NUCLEAR EXPERT

An Interview with [Jack Spencer](#)

Question: What is free-market nuclear energy policy and what are critical points that people should know about it?

A free-market policy on nuclear energy rejects the subsidize-first mentality that has largely defined U.S. energy policy for decades. That means getting rid of the taxpayer support, rethinking regulation and getting Washington out of nuclear waste management. Government should have a regulatory role, but not its current role as Nuclear CEO.

The reason is simple: Governments are not good at business, because they make decisions based on politics rather than on sound economics. This government intervention creates dependence, distorts capital flows, incentivizes rent-seeking and lobbying, and forces firms to allocate resources to satisfy politicians and bureaucrats rather than improve its business.

This creates misalignments between responsibility and authorities and undermines economic efficiency.

Even worse, politics is fleeting, making it difficult to build a sustainable business model around political preferences. At best, this approach could yield a couple of reactors or keep some firms above water, but it won't produce a robust, competitive, innovative nuclear industry, which should be the objective of any nuclear energy advocate.

Changing this approach will require a realignment of responsibility. The government's role should be to protect public health and safety. The private sector's role should be to operate a

competitive commercial nuclear sector.

This will require changing the Department of Energy's role, bold regulatory reforms, and solving the problem of nuclear waste management.

We need to get the DOE totally out of the nuclear commercialization business. The problem is not that people are not doing their jobs, the problem is the nature of government.

Regarding regulation, worthwhile attempts are being made to improve the Nuclear Regulatory Commission (NRC). An efficient, predictable, and affordable regulatory process for new reactor technologies is essential. But we shouldn't stop there.

We need to expand the ability of states to regulate nuclear power. The Atomic Energy Act already authorizes states to provide some oversight and this could be built upon. U.S. utilities have been safely operating large light water reactors for over 50 years. America should not be regulating this technology as if it's a new, scary technology, because it is neither new nor scary.

Firms should also be allowed to build reactors outside the existing NRC regulatory regime if they obtain their own liability insurance against accidents. In exchange they would forgo participation in the federal Price-Anderson program that currently provides liability coverage.

And there is nuclear waste—or, more accurately, spent nuclear fuel.

The federal government took responsibility for managing the nation's spent nuclear fuel in 1982. This removed any incentive for the nuclear industry to integrate spent fuel management into its long-term business planning and left it instead to Washington bureaucrats. It should surprise no one that the plan has failed.

We must reconnect the nuclear industry to waste management. Reforms must allow for a private spent fuel industry to emerge that would drive innovation in reactor technologies and spent fuel processing.

Jack Spencer is author of the upcoming book, Nuclear Revolution, available this winter, in which he details these and other related ideas.

FOREIGN NUCLEAR DEVELOPMENTS

[Switzerland Should Reverse Its Nuclear Power Plant Ban](#)

After the Japanese earthquake [in 2011](#), and the subsequent nuclear accident at Fukushima

Daiichi, the Swiss government suspended the approvals process for new and pending nuclear power plant licenses—[three pending reactors](#). The government then developed its [Energy Strategy 2050](#). This plan, which took effect in 2018, included a ban on further nuclear construction while phasing out the country's five nuclear reactors that produced [40 percent](#) of the country's electricity production.

Since the plan took effect in 2018, the first of the five nuclear reactors has shut down. The [Muehleberg Nuclear Power](#) Station closed in 2019. The country's remaining four reactors make up [about one third](#) of Swiss power generation.

As time has passed, and nuclear power has grown more popular, the Swiss government has signaled their intention to reassess this approach. This desire is aided by the reliability of nuclear power plants as well as their lack of carbon emissions. An amendment to Switzerland's [Nuclear Energy Act](#) that would lift the nuclear ban is expected to be submitted to the country's [Federal Council](#) by the Federal Department of Energy and communications by year's end.

[Energy Minister Albert Rosti](#) made clear that a removal of the ban wouldn't necessarily mean the immediate construction of new nuclear plants but that "...we are responsible for leaving the door open to all possible technologies."

Leaving all possible electricity sources on the table so that companies are able to build what makes the most sense is a far better approach than limiting power choices to technologies preferred by the government.

Hopefully the Swiss nuclear ban is reversed in order to provide the most options for future power provision planning. US states maintaining bans on new nuclear power plants should heed this lesson as well, as both state and federal governments should allow the most freedom possible when it comes to power sources.

[Germany is Smug About its Energy Errors](#)

Germany decided to shut down its 17 nuclear reactors after the Japanese earthquake and Fukushima nuclear accident in 2011. The first reactors were shut down that same year and the shutdown process culminated in the closure of the final three reactors [last April](#).

The German government's continued attitude toward these shutdowns and their move away from fossil fuels is divorced from the problems that the decision has created. Electricity prices in Germany spiked during the height of the Ukraine war when the loss of access to Russian gas was fresh, and the peak price at the height of the spike was 469.35 euros per megawatt hours in August of 2022. Prices have settled down since but are still way up from a few years ago, with an average monthly wholesale price of [53.33](#) euros per megawatt in May of 2021, and a price of [77.28](#) euros per megawatt in May of 2024. This is a huge cost increase

for both regular households and industry to bear. These price increases make sense given that Germany is [producing less power](#) than it was a few years ago.

Germany should be thoughtfully reconsidering the set of decisions that led them to this point. Instead, we get cheeky tweets like this one [from the German Foreign Office](#) following the U.S. Presidential debate, “Like it or not: Germany’s energy system is fully operational, with more than 50% renewables. And we are shutting down—not building—coal & nuclear plants. Coal will be off the grid by 2038 at the latest...”

WHAT'S NEW IN NUCLEAR

[3 Important Updates for American Nuclear Energy](#), Gabriella Hoffman, Independent Women’s Forum

[Three Mile Island: Private Investment is Key to Expanding Nuclear Power – Not Government Subsidies](#), Commonwealth Foundation.

[Data Center Owners Turn to Nuclear as Potential Electricity Source](#), Energy Information Administration.

[AI May Bring Back Three Mile Island](#), Mark Mills, The Wall Street Journal.

[Silicon Valley has a Plan to Save Humanity: Just Flip on the Nuclear Reactors](#), Allison Morrow, CNN.

FEATURING OUR FRIENDS (Non-Nuclear Stories)

[Inflation Reduction Act’s Costly Green Giveaways](#), Tom Pyle, American Energy Alliance.

[Most Climate Policies are Pointless but Costly](#), Kristen Walker, The American Consumer Institute.

[Policy Focus: Energy Security](#), Gabriella Hoffman, Independent Women’s Forum.

[Grid Scale Battery Fires Loom Large](#), David Wojick, CFACT.