## Case EV

Contention 1 is Accidents

Trump is decking NRC independence allowing companies to skip steps causing Fukushima 2.0

Macfarlane 25 [Allison Macfarlane, Professor and director of the School of Public Policy and Global Affairs at the University of British Columbia, 2-21-2025, Trump just assaulted the independence of the nuclear regulator. What could go wrong?, Bulletin of the Atomic Scientists, <https://thebulletin.org/2025/02/trump-just-assaulted-the-independence-of-the-nuclear-regulator-what-could-go-wrong/>, GZR]

President Trump, through his recent Executive Order, has attacked independent regulatory agencies in the US government. This order gives the Office of Management and Budget power over the regulatory process of until-now independent agencies. These regulatory agencies include the Federal Elections Commission, the Federal Trade Commission, the Securities and Exchange Commission, the Federal Energy Regulatory Commission—and my former agency, the Nuclear Regulatory Commission, which I chaired between July 2012 and December 2014.

An independent regulator is free from industry and political influence. Trump’s executive order flies in the face of this basic principle by requiring the Office of Management and Budget to “review” these independent regulatory agencies’ obligations “for consistency with the President’s policies and priorities.” This essentially means subordinating regulators to the president.

In the past, the president and Congress, which has oversight capacity on the regulators, stayed at arm’s length from the regulators’ decisions. This was meant to keep them isolated, ensuring their necessary independence from any outside interference. Trump’s executive order implies there are no longer independent regulators in the United States.

Independent regulators should not only be free from government and industry meddling; they also need to be adequately staffed with competent experts and have the budget to operate efficiently. They also need to be able to shut down facilities such as nuclear power plants that are not operating safely, according to regulations. To do this, they need government to support their independent decisions and rulemaking.

Independence matters. When I was chairman, I traveled the world talking about the importance of an independent regulator to countries where nuclear regulators exhibited a lack of independence and were subject to excessive industry and political influence. It is ironic that the US Nuclear Regulatory Commission—often called the “Gold Standard” in nuclear regulation—has now been captured by the Trump administration and lost its independence. So much for the Gold Standard; the Canadian, the French, or the Finnish nuclear regulator will have to take on that mantle now.

To understand what is at stake, one needs to look no further than the Fukushima accident in March 2011, which showed the world how a country’s economic security is vulnerable to a captured regulator. After a magnitude 9.0 earthquake followed by a massive tsunami, the Fukushima Daiichi nuclear power plant, with its six reactors on Japan’s east coast, lost offsite power. The tsunami flooded their backup diesel generators, and the plant fell into the station blackout, leading to the complete loss of all power on site.

With no power to operate pumps to get cooling water into the reactors’ cores or into spent fuel storage pools, three reactor cores melted down—the first within hours of loss of power—with a concomitant release of large amounts of radionuclides due to containment breaches from hydrogen explosions.

Firefighters desperately tried to get water into the spent fuel pool of Unit 4 to ensure that pool water did not boil off since the pumps were no longer working. Should the spent fuel rods have become uncovered and no longer cooled, the fuel’s temperature would rapidly increase, and the fuel rods would melt, causing the release of even larger amounts of radiation material into the atmosphere threatening the Tokyo metropolitan area. Fortunately, the emergency workers got water to the pool within a few days of the fuel being uncovered.

Nonetheless, 160,000 people evacuated from the area near the reactors and along the corridor of radiation contamination to the northwest of the Fukushima Daiichi plant. Overnight, the agricultural and fishing industries near Fukushima were devastated. Within a year after the accident, all 54 reactors in Japan were shut down—a loss of about a third of the country’s electricity supply. More expensive diesel plants had to be set up to compensate for some of the missing power. The direct economic costs of the accident were estimated to be on the order of $200 billion—and even that number excluded the costs of replacing the lost power and multiple reactor shutdowns due to the reassessment of seismic hazards. Nearly 14 years later, only 13 nuclear reactors have been turned back on, and 21 have been permanently shut down. (The other 20 reactors are waiting for regulatory and prefecture approval.)

An independent investigation by the Diet (Japan’s house of parliament) into the cause of the Fukushima accident concluded unequivocally that: “The TEPCO Fukushima Nuclear Power Plant accident was the result of collusion between the government, the regulators and TEPCO, and the lack of governance by said parties. They effectively betrayed the nation’s right to be safe from nuclear accidents.” Japan’s government and nuclear industry continue to struggle with the clean-up of the Fukushima site, and it purposely began in 2023 to release still-contaminated water into the Pacific Ocean. Nearby countries responded by banning fishing products from the region.

As the industry often says, a nuclear accident anywhere is a nuclear accident everywhere. After the Fukushima accident, the US nuclear industry spent over $47 billion in safety upgrades to respond to lessons learned from the Fukushima accident. These included the realization that not only more than one reactor could fail at a single power plant, but also that backup generators needed to be in safe locations, not subject to flooding and other forms of failure; that generic fittings for pumps and equipment were needed so that any nearby equipment could be connected during an accident; that containments should be able to be vented remotely; that natural events such as earthquakes and flooding could be underestimated in the original reactor designs; and that spent fuel pools needed to provide real-time data in accident conditions. The upgrades that resulted from these lessons have greatly increased the safety of reactors in the United States and elsewhere. They were required because each of these upgrades was deemed necessary to address the lessons learned by the independent regulator. On its own, the industry might not have undertaken any of these measures.

What could go wrong? Several possible outcomes could occur because of Trump’s new executive order assaulting the independence of the Nuclear Regulatory Commission (NRC).

Proponents of small modular reactors, for instance, have pressured Congress and the executive branch to reduce regulation and hurry the NRC’s approval of their novel—and unproven—reactor designs. They wish their reactors could be exempted from the requirements that all other designs before them have had to meet: detailed evidence that the reactors will operate safely under accident conditions. Instead, these proponents—some with no experience in operating reactors—want the NRC to trust their simplistic computer models of reactor performance and essentially give them a free pass to deploy their untested technology across the country.

An accident with a new small modular reactor (SMR) would perhaps not make such a big mess: After all, the source term of radiation would be smaller than with large reactors, like those currently operating in the United States. But the accident in Japan demonstrated that countries should expect that more than one reactor at a given site can fail at the same time, and these multiple failures can create even more dire circumstances, impeding the authorities’ ability to respond to such a complex radiological emergency. At Fukushima, the first explosion at Unit 1 generated radioactive debris that prevented emergency responders from getting close to other damaged reactors nearby. Since designers plan to deploy multiple SMR units to individual sites, such an accidental scenario appears feasible with SMRs.

Since its creation in 1975, the Nuclear Regulatory Commission has had an excellent and essential mission: to ensure the safety and security of nuclear facilities and nuclear materials so that humans and the environment are not harmed. Trump’s incursion means the agency will no longer be able to fully follow through with this mission independently—and Americans will be more at risk as a result. If any US reactor suffers a major accident, the entire industry will be impacted—and perhaps its 94 reactors in operation will even be temporarily shut down. Can the industry and the American people afford the cost of losing the independence of the nuclear regulator?

AND Energy Secretary Chris Wright has a history of neglecting safety.

Accountable 25 [Accountable US (Accountable.US ([A.US](http://a.us/)) is a nonpartisan, 501(c)3 organization that shines a light on special interests that too often wield unchecked power and influence in Washington and beyond.)  February 4, 2025, Watchdog: Senate Confirms Oil Man & Serial Workplace Safety Violator Chris Wright as Trump’s Energy Secretary", <https://accountable.us/watchdog-senate-confirms-oil-man-serial-workplace-safety-violator-chris-wright-as-trumps-energy-secretary/>, GZR]

WASHINGTON, D.C. – Following the Republican-led Senate’s vote to confirm Chris Wright as U.S. Energy Secretary, Accountable.US Executive Director Tony Carrk released the following statement: “The choice of Chris Wright to run the powerful Energy Department was based on what’s best for the bottom line of Donald Trump’s big oil megadonors, not everyday consumers and workers. With his Project 2025 ties and financial stakes in the big oil and nuclear industry, Wright is just the wealthy insider Trump needs to carry out his plans for padding profits of energy special interests – even if it means higher prices at the pump. And with Wright’s company’s history of violating workplace safety standards and anti-discrimination laws, he’s now in the driver’s seat to sweep such problems under the rug for his industry friends.” BACKGROUND: Conflicts Of Interest With Energy Companies Chris Wright is a member of the board of Oklo nuclear company and has business before the Department of Energy. Oklo’s application before the Nuclear Regulatory Commission was previously denied due to a lack of information about accidents and safety. Chris Wright claims he will step down from the board, but questions remain about whether he will fairly regulate and ensure accountability from energy industries when he has spent so much of his career working for and serving on the boards of oil and gas and nuclear energy companies. Project 2025 Wright has been on the board of the Western Energy Alliance, an oil industry trade group that authored many of Project 2025’s oil and gas provisions. Chris Wright has been a member of the board of Western Energy Alliance (WEA) WEA is an oil industry trade group. WEA’s president authored the oil and gas provisions of Project 2025. Project 2025 would eliminate “key offices at the DOE, including the Office of Energy Efficiency and Renewable Energy, the Office of Clean Energy Demonstrations, the Office of State and Community Energy Programs, the Office of Grid Deployment, and the Loan Programs Office.” Workplace Safety and Racial Harassment Questions remain whether Wright will look the other way when energy companies violate safety standards and anti-discrimination laws, considering his company, Liberty Energy, was frequently fined over workplace safety standards and paid $265,000 to settle lawsuits from black and Hispanic employees who faced hostile work environment and were called slurs. Under Chris Wright’s leadership, Liberty Energy has faced at least three separate penalties for workplace and safety violations since 2023. Liberty Energy, in 2024, paid $265,000 to settle an EEOC discrimination lawsuit after black and Hispanic field mechanics faced racial harassment.

Affirming gives Wright the keys.

Lynch 25 [James Lynch, news writer for National Review & B.A. in Political Science from Notre Dame, 2-7-2025, Chris Wright Makes Unleashing Nuclear Power Priority for American Energy Abundance, National Review, <https://www.nationalreview.com/news/chris-wright-makes-unleashing-nuclear-power-priority-for-american-energy-abundance/>, Willie T.]

In a letter to sent Thursday, American Nuclear Society CEO Craig Piercy suggested that Wright focus securing congressional appropriations to fulfill his promises about advancing the nuclear power industry and supporting innovative reactors.

“Many in the industry think additional government support will be needed to reach nth-of-a-kind nuclear plant construction costs, while others believe rising electricity demand alone will take care of that in time,” the letter reads.

“Either way, as secretary of energy, you will need appropriations to engineer any kind of nuclear ‘win.’ You will spend more time than you think preparing budgets, arguing with the Office of Management and Budget over what’s included, and then defending said budgets on Capitol Hill. Don’t let the bean counters steal from you!”

Accidents cause BioD Loss.

Olsson 11 [Henrik von Wehrden, Joern Fischer, Patric Brandt, Viktoria Wagner, Klaus Kümmerer, Tobias Kuemmerle, Anne Nagel, Oliver Olsson, Patrick Hostert, 12-28-2011, Chair of Material Resources, Institute of Environmental Chemistry, Leuphana University Lüneburg, Scharnhorststr, 1, 21335 Lüneburg, Germany "Consequences of nuclear accidents for biodiversity and ecosystem services," Society for Conservation Biology, <https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/j.1755-263X.2011.00217.x>, DOA: 3/30/2025] JZ

To characterize and quantify the potential consequences of nuclear accidents for biodiversity and ecosystem services, we reviewed 521 published studies investigating the impacts of the Chernobyl disaster, which, until now, has been the only available baseline event to empirically judge the consequences of catastrophic nuclear accidents (see online Supplementary Material for Methods). Specifically, our study aimed to (1) provide a summary of the spatial and temporal patterns of the documented effects of the Chernobyl disaster on a wide range of organisms, and (2) discuss the implications of nuclear accidents for the provision of ecosystem services, again, drawing on documented evidence in the aftermath of the Chernobyl accident. We conclude with four tangible take-home messages, intended to be directly relevant to debates about the future of nuclear energy.

Consequences or impacts to species

 Spatially, the documented effects of the Chernobyl disaster broadly follow known fallout patterns (Figure 1). However, variance in radiation levels is extremely high, not only between but also within sites. At a given study location, radiation levels have been shown to vary from 44,300 to 181,100 Becquerel per kilogram (Bq/kg) for mushrooms in southern Sweden (Mascanzoni 2009), from 3,000 to 50,000 Bq/kg for bats in Chernobyl (Gashchak et al. 2010), and from 176 to 587,000 Bq/kg for higher plants in southwestern Russia (Fogh & Andersson 2001); the latter equals almost a hundred times the threshold (600 Bq/kg) set by the European Union for Food that is deemed safe for consumption. High variance in radiation levels means that fallout maps based on extrapolations, models, and climate forecasts are not sufficient to evaluate radiation levels on a fine scale—field data are critically important for this purpose. Furthermore, radiation levels measured in the field and predicted fallout patterns based on meteorological data sometimes do not match (McAulay & Moran 1989), because additional factors, such as dry deposition, are not accounted for by climatic predictors (Arvelle et al. 1990). In addition, some regions and types of ecosystems are systematically underrepresented in studies to date. For example, existing data is sparse for marine and aquatic ecosystems (Figure 1).

Although many measurements were undertaken in the aftermath of the Chernobyl accident worldwide, existing studies are greatly biased toward few taxonomic groups (Figures 2 and 3). Most studies have focused on topsoil measurements and accumulation in the plant layer, which is where radiation can be most easily measured. Despite this bias, it is clear that for most well-studied groups, greatly elevated radiation levels can occur up to thousands of kilometers away from the disaster site. For example, recorded radiation levels in mushrooms were up to 13,000 Bq/kg in Denmark in 1991 (Strandberg 2003) and up to 25690 Bq/kg in Norway in 1994 (Amundsen et al. 1996).

The consequences of elevated radiation levels in many parts of a given ecosystem remain poorly understood, but are likely substantial. For example, rats showed changes in sleep behavior after drinking water poisoned with “only” 400 Bq/l (Lestaevel et al. 2006), and onions have shown a significantly elevated rate of chromosomal aberrations at levels as low as 575 Bq/kg (Kovalchuk et al. 1998).

Although numerous studies have investigated physiological and morphological alterations in the vicinity of the Chernobyl accident site, hardly any studies have quantified the possibility of such alterations at larger distances. This could be a major shortcoming, because radiation levels are known to be greatly increased in some organisms even at large distances from the accident site (see earlier)—physiological or morphological alterations, therefore, are plausible, at least in isolated instances. Where such alterations occur, their long-term consequences on the ecosystem as a whole can be potentially profound (Kummerer & Hofmeister 2009).

The legacies of the environmental consequences of the Chernobyl accident are still prevalent today, 25 years after the event. Although many studies have shown a peak in radiation immediately after the catastrophe and then a continuous decline, radiation levels measured throughout the ecosystem are still highly elevated. For example, radiation levels in mosses (Marovic et al. 2008), soil (Copplestone et al. 2000), and glaciers (Tieber et al. 2009) have remained greatly elevated in several locations around Europe. The long-lasting legacy of the Chernobyl accident was also illustrated by intense wildfires in the Chernobyl region in 2010, which caused a renewed relocation of radioactive material to adjacent regions (Yoschenko et al. 2006). The persistence of high radiation levels can be attributed partly to the half-life rates of the chemical elements involved (e.g., 31 years for Caesium-137; 29 years for Strontium-90; and 8 days for Iodine-131).

In addition to elevated radiation levels, morphological and physiological changes are by definition long-term in nature, and can even be permanent if genetic alterations occur. For example, a range of bird species now have developed significantly smaller brains inside the core zone around the Chernobyl reactor site compared to individuals of the same species outside this zone (Møller et al. 2011). The consequences of such changes on long-term evolutionary trajectories remain largely unknown.

Lethal mutations following exposure to nuclear fallout have been observed in various plant (Abramov et al. 1992; Kovalchuk et al. 2003) and animal species (Shevchenko, et al. 1992; Zainullin et al. 1992), yet research has mainly been conducted within the Chernobyl region. Morphological changes have also been observed in a wide array of species, including plants (Tulik & Rusin 2005), damselflies (Muzlanov 2002), diptera (Williams et al. 2001), and mice (Oleksyk et al. 2004). In addition, some studies have documented.

Physiological effects, such as changes in the leukocyte level (Camplani et al. 1999) and reduced reproduction rates (Møller et al. 2008). Changes in genetic structure have been recorded in various organisms, including fish (Sugg et al. 1996) and frogs (Vinogradov & Chubinishvili 1999). More broadly, elevated radiation can negatively affect the abundance of entire species groups, such as insects and spiders (Møller & Mousseau 2009a), raptors (Møller & Mousseau 2009b), or small mammals (Ryabokon & Goncharova 2006).

How low levels of radiation affect different species is poorly understood; studies have suggested that low levels of radiation can have a persistent influence on mutation rates in Drosophila (Zainullin et al. 1992), and can weaken immune (Malyzhev 1993) and reproductive systems (Serkiz 2003) of small mammals; but again, most studies have been restricted to the Chernobyl accident area. A more obvious measure of permanent change is widespread death of organisms living in the direct vicinity of the disaster site (Figures 1 and 2).

Food web and ecosystem impacts

In addition to effects on individual species, biological accumulation through the food web can negatively affect some species—particularly those at higher trophic levels and those depending on strongly affected food items. Bioaccumulation poses a risk to affected species because it exacerbates exposure to elevated radiation levels, and hence, leads to increased chances of physiological or morphological alterations. For example, can radiation levels in top predators remain elevated for a long time even when species at lower trophic levels show negligible radiation levels, as demonstrated for the Trench (Tinca tinca) in the Kiev Reservoir (Koulikov 1996).

Extinction!

Torres 16 [Phil Torres, biologist, science communicator, 2-10-2016, "Biodiversity Loss and the Doomsday Clock: An Invisible Disaster Almost No One is Talking About," Common Dreams, <https://www.commondreams.org/views/2016/02/10/biodiversity-loss-and-doomsday-clock-invisible-disaster-almost-no-one-talking-about>, DOA: 3/30/2025] JZ

But there's another global catastrophe that the Bulletin neglected to consider -- a catastrophe that will almost certainly have conflict multiplying effects no less than climate change. I'm referring here to biodiversity loss -- i.e., the reduction in the total number of species, or in their population sizes, over time. The fact is that in the past few centuries, the loss of biological diversity around the world has accelerated at an incredible pace. Consider the findings of a 2015 paper published in Science Advances. According to this study, we've only recently entered the early stages of the sixth mass extinction event in life's entire 3.5 billion year history. The previous mass extinctions are known as the "Big Five," and the last one wiped out the dinosaurs some 65 million years ago. Unlike these past tragedies, though, the current mass extinction -- called the "Holocene extinction event" -- is almost entirely the result of a one species in particular, namely Homo sapiens (which ironically means the "wise man").

"If the environment implodes under the weight of civilization, then civilization itself is doomed."

But biodiversity loss isn't limited to species extinctions. As the founder of the Long Now Institute, Stewart Brand, suggests in an article for Aeon, one could argue that a more pressing issue is the reduction in population sizes around the globe. For example, the 3rd Global Biodiversity Report (GBO-3), published in 2010, found that the total abundance of vertebrates -- a category that includes mammals, birds, reptiles, sharks, rays, and amphibians -- living in the tropics declined by a whopping 59% between 1970 and 2006. In other words, the population size of creatures with a spine more than halved in only 36 years. The study also found that farmland birds in Europe have declined by 50% since 1980, birds in North America have declined by 40% between 1968 and 2003, and nearly 25% of all plant species are currently "threatened with extinction." The latter statistic is especially worth noting because many people suffer from what's called "plant blindness," according to which we fail "to recognize the importance of plants in the biosphere and in human affairs." Indeed, plants form the very bottom of the food chains upon which human life ultimately depends.

Even more disturbing is the claim that amphibians "face the greatest risk" of extinction, with "42% of all amphibian species ... declining in population," as the GBO-3 reports. Consistent with this, a more recent study from 2013 that focused on North America found that "frogs, toads and salamanders in the United States are disappearing from their habitats ... at an alarming and rapid rate," and are projected to "disappear from half of the habitats they currently occupy in about 20 years." The decline of amphibian populations is ominous because amphibians are "ecological indicators" that are more sensitive to environmental changes than other organisms. As such they are the "canaries in the coal mine" that reflect the overall health of the ecosystems in which they reside. When they start to disappear, bigger problems are sure to follow.

Yet another comprehensive survey of the biosphere comes from the Living Planet Report -- and its results are no less dismal than those of the GBO-3. For example, it finds that the global population of vertebrates between 1970 and 2010 dropped by an unbelievable 52%. Although the authors refrain from making any predictions based on their data, the reader is welcome to extrapolate this trend into the near future, noting that as ecosystems weaken, the likelihood of further population losses increases. This study thus concludes that humanity would "need 1.5 Earths to meet the demands we currently make on nature," meaning that we either need to reduce our collective consumption and adopt less myopic economic policies or hurry up and start colonizing the solar system.

Other studies have found that 20% of all reptile species, 48% of all the world's primates, 50% of all freshwater turtles, and68% of plant species are currently threatened with extinction. There's also talk about the Cavendish banana going extinct as a result of a fungus, and research has confirmed that honey bees, which remain "the most important insect that transfers pollen between flowers and between plants," are dying out around the world at an alarming rate due to what's called "colony collapse disorder" -- perhaps a good metaphor for our technologically advanced civilization and its self-destructive tendencies.

Turning to the world's oceans, one finds few reasons for optimism here as well. Consider the fact that atmospheric carbon dioxide -- the byproduct of burning fossil fuels -- is not only warming up the oceans, but it's making them far more acidic. The resulting changes in ocean chemistry are inducing a process known as "coral bleaching," whereby coral loses the algae (called "zooxanthellae") that it needs to survive. Today, roughly 60% of coral reefs are in danger of becoming underwater ghost towns, and some 10% are already dead. This has direct consequences for humanity because coral reefs "provide us with food, construction materials (limestone) and new medicines," and in fact "more than half of new cancer drug research is focused on marine organisms." Similarly, yet another study found that ocean acidification is becoming so pronounced that the shells of "tiny marine snails that live along North America's western coast" are literally dissolving in the water, resulting in "pitted textures" that give the shells a "cauliflower" or "sandpaper" appearance.

Furthermore, human-created pollution that makes its way into the oceans is carving out vast regions in which the amount of dissolved oxygen is too low for marine life to survive. These regions are called "dead zones," and the most recent count by Robert Diaz and his colleagues found more than 500 around the world. The biggest dead zone discovered so far is located in the Baltic Sea, and it's been estimated to be about 27,000 square miles, or a little less than the size of New Hampshire, Vermont, and Maryland combined. Scientists have even discovered an "island" of trash in the middle of the Pacific called the "Great Pacific Garbage Patch" that could be up to "twice the size of the continental United States." Similar "patches" of floating plastic debris can be found in the Atlantic and Indian oceans as well, although these are not quite as impressive. The point is that "Earth's final frontier" -- the oceans -- are becoming vast watery graveyards for a huge diversity of marine lifeforms, and in fact a 2006 paper in Science predicts that there could be virtually no more wild-caught seafood by 2048.

Everywhere one looks, the biosphere is wilting -- and a single bipedal species with large brains and opposable thumbs is almost entirely responsible for this worsening plight. If humanity continues to prune back the Tree of Life with reckless abandon, we could be forced to confront a global disaster of truly unprecedented proportions. Along these lines, a 2012 article published in Nature and authored by over twenty scientists claims that humanity could be teetering on the brink of a catastrophic, irreversible collapse of the global ecosystem. According to the paper, there could be "tipping points" -- also called "critical thresholds" -- lurking in the environment that, once crossed, could initiate radical and sudden changes in the biosphere. Thus, an event of this sort could be preceded by little or no warning: everything might look more or less okay, until the ecosystem is suddenly in ruins.

We must, moving forward, never forget that just as we're minds embodied, so too are we bodies environed, meaning that if the environment implodes under the weight of civilization, then civilization itself is doomed. While the threat of nuclear weapons deserves serious attention from political leaders and academics, as the Bulletin correctly observes, it's even more imperative that we focus on the broader "contextual problems" that could inflate the overall probability of wars and terrorism in the future. Climate change and biodiversity loss are both conflict multipliers of precisely this sort, and each is a contributing factor that's exacerbating the other. If we fail to make these threats a top priority in 2016, the likelihood of nuclear weapons -- or some other form of emerging technology, including biotechnology and artificial intelligence -- being used in the future will only increase.

Perhaps there's still time to avert the sixth mass extinction or a sudden collapse of the global ecosystem. But time is running out -- the doomsday clock is ticking.

Contention 2 is Saudi Arabia

The US and Saudi Arabia are engaged with hopes of security agreements.

Depetris 25 [Daniel R. Depetris, Foreign policy analyst based in New York & a columnist for The National Interest, 1-30-2025, How Donald Trump Should Deal With Saudi Arabia, Newsweek, <https://www.newsweek.com/how-donald-trump-should-deal-saudi-arabia-opinion-2023659>, Willie T.]

On Jan. 23, his second full day in office after being sworn in as the 47th president, Donald Trump picked up the phone and dialed his first foreign leader. The honor didn't go to the leader of a formal U.S. treaty ally like Canada or the United Kingdom, but rather to Saudi Crown Prince Mohammed bin Salman (MBS). This wasn't a surprise given the relationship the two men conjured up. In his first term, Trump jetted to Saudi Arabia for his first overseas trip. The visit was a precursor to what would turn out to be a blossoming U.S.-Saudi relationship over the next four years. Trump showered the Saudis with billions of dollars in military equipment; continued to assist the Saudi-led military campaign against the Houthis in Yemen; joined Riyadh's economic embargo against Qatar; and defended MBS when the U.S. intelligence community assessed that he was responsible for the October 2018 murder of journalist Jamal Khashoggi.

Trump and MBS are prepared to pick up where they left off. The two view each other as force multipliers for their respective agendas. Trump looks at the Saudi crown prince and sees a high net-worth individual who could throw a gargantuan amount of petrodollars into the American economy. In Trump, MBS spots a transactional businessman who couldn't care less about high-browed concepts like the rules-based international order.

Both men are also nationalists to the core. MBS can relate to Trump's "Make America Great Again" mantra because he is following the same playbook in the kingdom. MBS wants to make his country stronger and wealthier than ever before, best exemplified by his Vision 2030 economic campaign to diversify Saudi Arabia from an oil-pumping machine into a center of banking, finance, and sports.

Trump would be wise to remember this as he interacts with MBS. Saudi officials may highlight their strategic relationship with Washington as mutually-beneficial, but the kingdom won't be doing the United States any favors. And the concessions the Saudis do make will almost certainly be paired with demands.

Trump is likely pleased with Riyadh's stated commitment to invest $600 billion into the U.S. economy over the next four years. But what seems like a benevolent act smells a lot like a transparent bribe to purchase more U.S. defense investment. For nearly two years, Riyadh has been negotiating with U.S. officials on an upgrade to the U.S.-Saudi defense relationship. The original concept was to provide the kingdom with a U.S. security guarantee in the form of a treaty, largely as a reward for the Saudis normalizing diplomatic relations with Israel. While the war in Gaza has diminished the prospects of the Saudis normalizing ties with Israel anytime soon, they are still intent on bringing the United States closer militarily.

Saudi Arabia has good reason to keep Washington in its camp. Although Iran is unmistakably weaker today courtesy of Israel's military operations against Hamas and Hezbollah as well as Bashar al-Assad's fall, the Saudis can't discount the Iranians as powerless. Iran retains proxies in Yemen and Iraq, maintains a formidable missile capability, and is improving upon a nuclear program that MBS' late uncle, King Abdullah, wanted the United States to destroy nearly two decades ago. Despite a years-long ceasefire with the Houthis, the Yemeni militia group isn't going to disappear and might resume fighting against the Saudi-backed Yemeni government if peace talks remain stalled. The United States is the big, warm security blanket the Saudis would like to use during chilly times.

Yet what's good for the Saudis isn't necessarily good for the Americans. What exactly would Washington get for offering Riyadh a security guarantee? This is precisely the question Trump, who believes the American people have been taken advantage of by other countries for decades, should be asking.

Affirming is perceived as a transition to reliable energy.

Larson 25 [Aaron Larson, Writer @ Power Magazine, 3-3-2025, Trump Energy Policy Changes Signal Major Industry Shifts in 2025 and Beyond, POWER Magazine, <https://www.powermag.com/trump-energy-policy-changes-signal-major-industry-shifts-in-2025-and-beyond/>, Willie T.]

“We see a potentially bifurcated outcome with respect to IRA repeal, with a greater-than-appreciated probability that the IRA may remain intact,” Morgan Stanley Research speculated. The group acknowledged, however, that IRA repeal risk remains a key area of concern for clean energy investors. “Our base case for IRA-related spending remains intact: expect efforts to challenge or delay disbursements through the executive branch, as well as potentially targeted repeal efforts/accelerated phase-outs as Republicans attempt to find offsets for tax-cut extensions, but broader repeal is a lower probability event,” the team of analysts, strategists, and researchers said.

Morgan Stanley expects tariffs to continue being used for leverage to reduce the trade deficit and increase the competitiveness of U.S. manufacturing. Meanwhile, the group said there is significant bipartisan support for nuclear power, as it is viewed as a critical source of reliable and clean power needed to support growing energy demand in the U.S. stemming from artificial intelligence and the onshoring of manufacturing. “The ADVANCE Act, which passed the Senate by a vote of 88–2, is clear evidence of this bipartisan support. This gives us confidence that if there were to be any changes to the IRA, the nuclear PTC [production tax credit] would likely be untouched,” the group said.

Concerning natural gas, Trump lifted the pause on new Department of Energy permits for LNG export facilities, easing the path for new facilities to advance. “Beyond LNG, the Trump administration may target a roll-back of greenhouse gas limits for new and existing power plants, potentially helping gas to take a larger share of electricity demand growth,” Morgan Stanley Research said.

That kills impetus for America to maintain US-Saudi ties and defense commitments --- that’s why it’s resilient despite fissures.

Krane 24 [Jim Krane, Wallace S. Wilson Fellow for Energy Studies @ the Rice University Baker Institute for Public Policy’s Middle East Energy Roundtable, February 2024, How the Energy Transition Is Imposing New Strains on US-Saudi Relations, Foreign Policy Research Institute, <https://www.sciencedirect.com/science/article/abs/pii/S0030438724000097>, Willie T.]

Abstract: The energy transition is initiating long-term oil market trends that look likely to undermine the strategic importance of oil-producing countries for the US government. The trends suggest US voters and future US administrations will be less exposed to price swings and other risks in the global oil market. Diminishing risk exposure, in turn, reduces imperatives for US policymakers to spend so heavily on security provision in the Persian Gulf, or to resolve diplomatic rifts with major producers such as Saudi Arabia. Saudi policy changes since 2016, and the reduced willingness to use spare production capacity in ways that benefit Washington, may have amplified a pre-existing appetite for such a downgrade.

The US-Saudi relationship faces future strains arising from the energy transition and resulting shifts in crude oil export destinations and use. These risks are not related to any major decline in oil demand and arise even if global oil demand remains robust. Three risks are outlined here. Taken together, these three trends suggest that future US administrations and voters may find themselves more insulated from international oil market risk. Diminishing risk exposure, in turn, reduces imperatives for US policymakers to invest in Gulf security provision or to resolve diplomatic rifts with Riyadh.

Climate-driven efforts to reduce oil demand are likely to migrate into diplomatic relations between producer and importing states.1 As the dominant player within the Organization of Petroleum Export Countries and a longtime US partner, Saudi Arabia has potential to be among those affected. This article highlights three potential knock-on effects of climate policy on interstate dynamics, with a focus on Saudi Arabia and the United States.

First, the shift in oil demand away from the rich countries of the Organization of Economic Cooperation and Development (OEC) and toward developing countries may result in a reduction in the strategic importance of oil. This effect implies negative spillovers for Gulf security. The onset of oil substitutes in transportation is weakening oil’s long-held monopoly on the transport market in the United States and OECD countries which maintain modern militaries such as those within the NATO alliance.2 While oil demand remains robust in non-OECD countries—and may even grow overall in coming decades—non-OECD countries cannot yet provide the same level of hard security protection for big producers like those in the Persian Gulf.

Second, a similar effect could arise from the increasing share of oil being converted into petrochemicals. While producers view petrochemicals—and the plastics they produce—as crucial sources of future oil and gas demand, it is clear that trade in petrochemical feedstocks requires less strategic oversight than the transport fuels that power global economies, trade, and militaries.

The third knock-on effect is related to the rapid growth of electric vehicles, or EVs, as a percentage of new personal vehicle sales in the United States. Vehicles powered by rechargeable batteries insulate motorists from direct exposure to frequent swings in oil prices. Reduced voter exposure to oil markets weakens the negative correlation between motor fuel prices and US presidential popularity. Other democracies with market-based fuel prices may see similar effects. In the United States, high levels of EV penetration could give the US president a freer hand in curtailing diplomatic engagement with Saudi Arabia and other oil producing countries when difficulties arise. The notable US presidential deference toward Saudi Arabia, especially evidenced during times of oil market tightness, may no longer be needed.

Background: Presidential Approval and Fuel Prices

US relations with Saudi Arabia and other Persian Gulf monarchies have been based around oil since the 1930s. Those ties became more strategic in the wake of the 1973 Arab oil embargo. Then, oil’s importance to the global economy was demonstrated by the quadrupling of prices and resulting inflation and other economic contagions.

For the next five decades—and continuing at the time of writing— oil’s availability and pricing has remained a central facet of US energy security and Washington’s relationship with Saudi Arabia, the only producer to consistently maintain meaningful spare oil production capacity that can quickly be brought online to ease prices. As such, the US-Saudi relationship remains a major concern of US presidents, in part since presidential standing with US voters remains negatively correlated with the oil price.4

Oil has an outsized presence in the US political economy. Motor fuel purchases account for roughly five percent of total consumer spending, on average.5 Some 83 percent of American adults drive a personal vehicle several times per week.6 Retail gasoline prices are widely displayed on roadside signs and drivers have near universal access to price information, allowing them to gauge effects on their personal wealth and spending.

Many US voters also hold off-base assumptions that the US president retains significant short-term influence over US gasoline prices and therefore that such prices may be affected by electoral choices. Constituencies with longer average commutes to work are more likely to hold the president accountable for high prices.7 Presidential behavior tends to uphold this fiction, with gasoline price discussions taking place in presidential debates, and presidents “taking credit” for reductions.8 In reality, the US president has little control over global oil prices that form the largest portion of US gasoline prices. US prices are determined on worldwide supply and demand decisions made largely outside the United States.9

Summary of US National Interests at Stake in the Middle East

Vital

• That Israel survives as a free state.

• That there be no major sustained curtailment in energy supplies to the world.

• That no state in the region hostile to the United States acquire new or additional weapons of mass destruction (WMD) capabilities.

Extremely Important

• That there be no hostile regional hegemon in the Persian Gulf. • That the Middle East peace process continues toward success. • That the United States maintain good relations with the region's pro

Western Arab regimes and that these regimes survive domestically. • That regional terrorism be held in check.

Important

• That the states of the region adopt or maintain moderate forms of governance and show growing respect for fundamental human rights.

Strategic Importance of Oil

Beyond voter perceptions, access to oil is a chief American global strategic interest. Ensuring the “viability and stability of major global systems” including energy supplies is ranked fourth on a prominent list of “vital” US interests. It ranks behind only prevention of nuclear war, ensuring the survival of US allies, and prevention of failed states on US borders.10

The importance of oil is based on several factors. These include oil’s prominence as the leading source of energy for the US and global economies; oil’s near-monopoly among transportation fuels; Americans’ world-leading oil demand; and the role of Saudi Arabia as the world’s largest exporter and only regular holder of spare capacity.

Future changes in oil’s command of the US market for transportation fuel could begin to erode the importance of oil relative to other compelling national interests. Competing interests relevant to the US-Saudi relationship include discouraging human rights violations in foreign countries; promoting democracy; and promoting climate and environmental policy improvements. These three countervailing interests were far down the list at the start of the current century, ranked as “important” rather than “vital.” Were oil’s strategic importance to undergo a significant decline, it becomes possible for countervailing concerns to challenge those of oil in the US Saudi relationship.

Protecting global access to oil is a key mission of the US military and diplomatic forces focused on the Gulf, leading the United States to spend at least $100 billion per year on military bases and troop deployments in the region.11 However, skepticism about the continued need for such a large Middle Eastern presence has emerged from US defense scholars seeking a reduction in the US military commitment to the Gulf.12

Weakening US-Relations with Saudi Arabia

Meanwhile, US ties with Saudi Arabia have cooled. Some of the evolution is due to a dramatic increase in US oil production since the onset of the so-called “shale revolution” in the 2000s. As the United States rose from being the No. 3 producer in 2007 to the No. 1 oil producer in 2022, its relationship with oil exporting states changed from one of a customer to that of a competitor. The expansion of OPEC into the OPEC+ cartel in 2016 was a response to growth of nearly 10 million barrels per day growth in US oil production between 2007 and 2019. Saudi oil policymakers found themselves shedding influence as OPEC production cuts were offset by increases in US shale output. The shale response undermined OPEC’s intended increase in global prices.13 Oil policymakers from Saudi Arabia began strategizing closely with counterparts in Russia to combat what they viewed as US “free riding” on OPEC cuts. The Saudi-Russian partnership within the expanded cartel has strengthened since 2016 and remained intact at the time of writing, despite Russia’s invasion of Ukraine.14

Some of the US-Saudi estrangement has little to do with oil. Among Gulf ruling elites, perceptions and discourse suggest that Washington’s strategic attention—if not its actual spending on regional deployment—has diminished. Tepid US responses to the 2019 missile and drone attacks on Saudi oil infrastructure and to a similar attack on an Abu Dhabi fuel depot in 2022 provides evidence for such fears.15 Another is the growing US focus on “pivoting” from the Middle East to focus on competition with China—although the Gulf has also become a forum for US-Beijing competition. Further areas of friction include differing priorities in relations with Iran and on conflicts in the Middle East and North Africa.

From the US side, dissatisfaction with Saudi Arabia has grown since the Yemen invasion and the 2018 murder in Istanbul of Saudi dissident Jamal Khashoggi, who resided in Washington. Joe Biden denigrated Saudi Arabia and its leadership on multiple occasions during his successful presidential campaign. Upon taking office in 2021, Biden found that his campaign rhetoric had damaged his working relationship with King Salman’s regime.16

Possibly as a result, customary Saudi oil market cooperation has not been forthcoming during the Biden presidency. Saudi leadership under King Salman and Crown Prince Mohammed bin Salman has exhibited markedly less deference toward the United States. Prior to the accession of King Salman, Saudi oil market strategy was generally supportive of the US perspective. A memoir by former Saudi oil ministry adviser Ibrahim Almuhanna provides useful detail on the ministry’s long-running strategy, documenting moments when production increases were made to assist then President Donald Trump’s allies in the US midterms in 2018 and Barack Obama’s reelection in 2012. Almuhanna underscored the importance of the Saudi-US relationship in oil market decisions.17

Since Biden took office, such assistance has evaporated. The kingdom led OPEC+ to three large production cuts18 at times when prevailing oil prices were unusually high for such intervention. The first of these cuts, with oil around $90/barrel, succeeded in raising oil prices at a particularly unwelcome time. Global inflation remained a problem. For Biden, the October 4 cut came weeks ahead of the national midterm election and not long after the US president and his advisers visited Saudi Arabia to request an increase in oil production, or at least a delay in cutting until an OPEC meeting scheduled for Nov. 3, after the US election.19 Oil market disagreement quickly escalated into a major diplomatic confrontation. The timing of the intervention suggested that Saudi officials sought to undermine the election prospects of US Democratic Party candidates—given that party’s greater resistance to the Saudi regime and fossil fuels—and assist the chances of Republicans, seen by Saudi elites as friendlier toward Saudi interests.

For his part, Biden vowed to respond. “There’s going to be some consequences for what they’ve done with Russia,” Biden told CNN. “I’m not going to get into what I’d consider and what I have in mind. But there will be consequences.”20 Democrats in Congress openly discussed measures such as arms sales curbs and allowing OPEC and Saudi Arabia to be sued for manipulating prices under US antitrust law.

At the time of this writing in February 2024—more than a year after vowing “consequences” for Riyadh—none had materialized. Administration officials had backed away from earlier threats and emphasized cooperation on long-held security ties and Riyadh’s support for US goals in Yemen, Sudan, and Ukraine.21 OPEC’s April cut drew a muted US response, with a Biden administration spokesperson describing it as inadvisable.22 A third OPEC cut in June 2023 triggered a Biden administration statement that lower oil prices explained the cartel’s response. The issue was folded into US-Saudi talks around Riyadh’s normalization with Israel in return for US security guarantees and nuclear assistance, along with Israeli concessions toward the Palestinians.23 Those talks were postponed after the October 2023 Hamas attack and subsequent Israeli war in Gaza but have since been revived amid a search for a permanent solution to the conflict. An eventual formalized US-Saudi security pact, if it came about, could serve to halt the drift in relations discussed here.

Prospects of US security guarantees cap Saudi nuclear ambitions.

Byman 24 [Daniel Byman, Professor in the School of Foreign Service @ Georgetown, 5-6-2024, Will Saudi Arabia Get the Bomb?, Foreign Affairs, <https://www.foreignaffairs.com/saudi-arabia/will-saudi-arabia-get-bomb>, Willie T.]

GATEWAY TECHNOLOGIES

Although Saudi Arabia’s current nuclear ambitions are ostensibly for peaceful purposes, civilian programs can be a prelude to military ones. Iran, North Korea, Libya, Iraq, and Syria all clandestinely pursued nuclear weapons programs while pretending to adhere to safeguards. These examples demonstrate the challenges of detecting and preventing covert nuclear proliferation if countries have enrichment capabilities as part of their civilian nuclear programs, underscoring the urgent need for strict verification protocols.

A civilian nuclear program could facilitate a nuclear weapons program by giving Saudi Arabia dual-use technologies such as fuel rods, reprocessing facilities, and advanced reactor designs. The reactors and uranium-enrichment capabilities would provide the kingdom with the infrastructure and knowledge base necessary for advancing its nuclear capabilities through a diversion of materials or expertise toward military applications. Riyadh could then use its advanced enrichment technologies, such as gas centrifuges, to produce weapons-grade uranium, evading detection by international inspectors through concealment and deception. Saudi Arabia could also separate the uranium isotopes needed for highly enriched uranium within civilian facilities, making it challenging for inspectors to detect the existence of a military program. Enriched uranium necessary to fuel nuclear reactors could also be diverted and further enriched to levels suitable for a nuclear explosion. A Saudi civilian nuclear program would therefore amount to a latent nuclear capability—the technical capacity to proliferate if it desired to do so. With that, Saudi Arabia would join 31 other states, including Brazil, Egypt, Germany, and Japan, that have held this status throughout history.

The next and more aggressive step would be to escalate from latency to nuclear hedging—the strategic use of a civilian nuclear program as a bargaining chip—or to direct adversarial behavior (as North Korea, for instance, has done). Saudi Arabia could enrich uranium, increase its production of centrifuges, buy nuclear material and equipment from other states, or garner domestic political support for nuclear weapons possession, all with the hope of increasing its bargaining power.

FIGHTING FIRE WITH FIRE

A number of factors could drive Saudi Arabia to seek to possess nuclear weapons, including a desire to bolster national security, deter potential adversaries, and enhance its geopolitical influence. But the main motive will likely emerge from Saudi Arabia’s neighbor and rival: Iran. Tehran, which has had its own civilian nuclear program since the 1950s, is edging closer and closer to nuclear weapons capability. Iran might be able to produce enough weapons-grade uranium for a nuclear bomb within a matter of weeks, although it would likely take at least another six months to develop a weapon capable of striking a precise target. For now, Iran appears to have decided not to take the next step and weaponize its nuclear program, but the potential endures—and could grow amid mounting regional volatility and as Tehran strengthens its ties to another revisionist nuclear power, Russia. Saudi Arabia has not shied away from making its nuclear intentions clear should Iran go down that nuclear road: its de facto leader, Crown Prince Mohammed bin Salman, has said that if Iran were to successfully develop a weapon, Saudi Arabia, too, “will have to get one.”

Part of the motivation would be the fear that an emboldened Iran could step up its support for militant groups such as Hezbollah, the Houthis, and Hamas, knowing that a nuclear weapon gives it some protection from a U.S. or Israeli military response. Iran might also use military force against Saudi Arabia, Israel, or other foes on its own, secure in the knowledge that there are likely limits to escalation if the United States or other countries oppose Iranian aggression. Saudi Arabia may also be interested in pursuing nuclear weapons to match Iranian prestige, believing in the reputational value of the bomb and wanting to reinforce its position and authority in the region.

Washington must work to restrict Saudi Arabia’s ability to develop its own nuclear weapons program.

Iranian nuclear advances could also prompt other countries in the region, such as the United Arab Emirates or Turkey, to shift toward weaponization, triggering a Saudi move in the same direction. The UAE has come under criticism for failing to divulge information about its civilian nuclear facilities, and Turkish President Recep Tayyip Erdogan has previously suggested that Turkey should not be forbidden from obtaining nuclear weapons. Riyadh, which sees itself as a regional leader, would not want either country—especially the UAE, a major competitor—to beat it to the nuclear finish line.

Saudi nuclear hedging or proliferation would entail several major risks. First, Iran and Saudi Arabia could face the stability-instability paradox, the idea that although nuclear weapons may contribute to stability at the strategic level by deterring major war between nuclear-armed states, they can simultaneously fuel distrust and escalation at a lower level. If Iran continues to enrich enough uranium for a nuclear warhead, Riyadh might believe that a Saudi nuclear deterrent could stabilize relations between the two adversaries. But a nuclear weapon would not necessarily deter Iran from pursuing a confrontational foreign policy; Tehran has repeatedly demonstrated its willingness to spar with its nuclear-armed enemy, Israel, and to encourage militant action against others in the region. Iran has also fomented unrest in Saudi Arabia itself, inciting riots at the hajj in 1987 and supporting an array of antigovernment groups such as the Shiite terrorist organization Hezbollah al-Hejaz. In neighboring Iraq, Tehran has backed a wide array of actors, including Asa’ib Ahl al-Haq and Kataib Hezbollah, both of which have attacked U.S. forces in the region. For Iran, these groups are a way of expanding its influence on the ground and giving it means to undermine rivals or strike at its enemies beyond its borders.

Second, the increasingly prominent role of nuclear weapons in Iranian-Saudi relations risks misperception and, in turn, escalation between the two countries. Saudi Arabia might interpret Iran’s pursuit of nuclear capabilities, even if for hedging purposes, as a signal of hostile intent or as a precursor to weaponization. Iran might see Saudi Arabia’s program as threatening and pursue weaponization itself. This misinterpretation could lead Saudi Arabia to accelerate its own nuclear program, believing it needs a deterrent against a nuclear-armed Iran. This doom spiral of nuclear competition between the two adversaries could lead to an arms race in the region, further increasing the likelihood of a miscalculation or conflict.

TOEING THE NUCLEAR LINE

Washington can play a deciding role in determining whether Saudi Arabia acquires a nuclear weapon, but a major question remains: How far is the United States willing to go to protect Saudi Arabia against Tehran? How Riyadh ultimately chooses to respond to a nuclear Iran depends in large part on whether the United States gives Riyadh firm security guarantees, such as a commitment to placing Saudi Arabia under its nuclear umbrella—or even creating a formal security alliance similar to the ones that prevail in Europe or East Asia. Although there are ongoing talks about a formal defense relationship, a U.S.-Saudi security arrangement is far from certain, particularly if Donald Trump wins the presidency. The former president’s refusal to respond to an Iranian attack on a Saudi oil-processing facility in 2019, whereby Tehran crossed what was long assumed to be a U.S. redline, did little to assure Saudi officials that a second Trump administration would have Riyadh’s back.

Beyond a security alliance that would assuage fears of a nuclear Iran, the United States could push Riyadh to sign on to a “123 Agreement” for nuclear cooperation. These deals, named after a section of the U.S. Atomic Energy Act, allow access to U.S. civil nuclear technology in exchange for an explicit commitment to refrain from weaponization.The United States has negotiated these agreements on a case-by-case basis with 47 countries, including Brazil, Japan, and Turkey. The agreements usually require a country to adhere to the IAEA safeguards, restrict enrichment levels, and return spent nuclear fuel to the United States to prevent reprocessing for weapons material. The gold standard version of a 123 Agreement includes a total ban on enrichment as an extra layer of protection.

One obstacle to such an agreement, however, is Riyadh’s stated desire to enrich uranium domestically to generate electricity through controlled nuclear fission reactions, instead of relying on pre-enriched uranium from external sources. If the United States is unable to negotiate a total ban on enrichment and unwilling to make other concessions, Saudi Arabia may turn to other countries, such as China, for assistance with nuclear technology, leading to a loss of transparency over nuclear activities and facilities—and a loss of influence for the United States. Riyadh has long maintained friendly ties with Beijing, and in recent years, their relationship has grown even closer. In 2019, the two powers finalized a $10 billion agreement aimed at developing a refining and petrochemical complex, and later that year, Chinese geologists helped Saudi Arabia identify uranium deposits in the northwestern part of the country. Beijing has also made diplomatic overtures to Riyadh, having helped broker the Saudi-Iranian rapprochement in 2023.

To preempt a Saudi turn to China, the United States may therefore need to compromise. Washington could consider offering to build a uranium-enrichment facility in Saudi Arabia, which would grant Riyadh greater control over its nuclear fuel supply chain and reduce its dependence on foreign suppliers. The technological expertise and self-sufficiency that would result from having a nuclear energy sector align with Saudi Arabia’s ambitions to diversify its economy as the world weans itself off oil. The United States could still insist on strong measures to prevent Saudi Arabia from developing a military program; it could demand, for example, that any enrichment facility be run by U.S. personnel, or install a remote shutdown mechanism as a safeguard in the event of a physical takeover. But Washington must be clear-eyed about such provisions: these measures would certainly decrease the risk of Saudi nuclear proliferation, but they would not eliminate them.

SAUDI ARABIA AS IT IS

It is vital that the United States works to restrict Saudi Arabia’s ability to develop its own nuclear weapons program from the start. Washington cannot afford delays; back in 2009, human rights concerns delayed a 123 Agreement with the UAE in Congress, and any agreement with Saudi Arabia will be sure to receive even more scrutiny. But concerns over proliferation in the Middle East should prevail.

As an alternative to Saudi enrichment, Washington could offer to guarantee a reliable supply of enriched uranium for Saudi Arabia’s reactors, eliminating its need for domestic enrichment facilities. Possibilities range from a long moratorium on Saudi domestic enrichment to having enrichment facilities run by U.S. rather than Saudi personnel, with remote shutdown mechanisms in case of a potential takeover. Washington could condition a ban on enrichment as part of bilateral defense cooperation. This could take the form of a formal ban signed onto by Riyadh, or a nonbinding supplementary document accompanying a formal agreement that contains an additional provision wherein Saudi Arabia agrees not to set up a fuel cycle infrastructure. That approach would allow Riyadh to retain a technical right to enrichment, but one it would agree in advance not to exercise. Given Iran’s increasingly aggressive regional posture, a beefed-up U.S.-Saudi security agreement will remain a top Saudi priority—and a powerful incentive for Riyadh to cap its nuclear ambitions.

The United States could lose Saudi support for normalization with Israel and cede influence to rivals such as China.

That spurs regional prolif and miscalculated nuclear wars.

Edelman 11 [ERIC S. EDELMAN, Distinguished Fellow @ the Center for Strategic and Budgetary Assessments & Fmr. US Undersecretary of Defense for Policy, 1-1-2011, The Dangers of a Nuclear Iran, Foreign Affairs, <https://www.foreignaffairs.com/articles/persian-gulf/2011-01-01/dangers-nuclear-iran>, Willie T.]

Developing nuclear weapons remains a slow, expensive, and difficult process, even for states with considerable economic resources, and especially if other nations try to constrain aspiring nuclear states' access to critical materials and technology. Without external support, it is unlikely that any of these aspirants could develop a nuclear weapons capability within a decade.

There is, however, at least one state that could receive significant outside support: Saudi Arabia. And if it did, proliferation could accelerate throughout the region. Iran and Saudi Arabia have long been geopolitical and ideological rivals. Riyadh would face tremendous pressure to respond in some form to a nuclear-armed Iran, not only to deter Iranian coercion and subversion but also to preserve its sense that Saudi Arabia is the leading nation in the Muslim world. The Saudi government is already pursuing a nuclear power capability, which could be the first step along a slow road to nuclear weapons development. And concerns persist that it might be able to accelerate its progress by exploiting its close ties to Pakistan. During the 1980s, in response to the use of missiles during the Iran-Iraq War and their growing proliferation throughout the region, Saudi Arabia acquired several dozen CSS-2 intermediate-range ballistic missiles from China. The Pakistani government reportedly brokered the deal, and it may have also offered to sell Saudi Arabia nuclear warheads for the CSS-2s, which are not accurate enough to deliver conventional warheads effectively.

There are still rumors that Riyadh and Islamabad have had discussions involving nuclear weapons, nuclear technology, or security guarantees. This "Islamabad option" could develop in one of several different ways. Pakistan could sell operational nuclear weapons and delivery systems to Saudi Arabia, or it could provide the Saudis with the infrastructure, material, and technical support they need to produce nuclear weapons themselves within a matter of years, as opposed to a decade or longer. Not only has Pakistan provided such support in the past, but it is currently building two more heavy-water reactors for plutonium production and a second chemical reprocessing facility to extract plutonium from spent nuclear fuel. In other words, it might accumulate more fissile material than it needs to maintain even a substantially expanded arsenal of its own.

Alternatively, Pakistan might offer an extended deterrent guarantee to Saudi Arabia and deploy nuclear weapons, delivery systems, and troops on Saudi territory, a practice that the United States has employed for decades with its allies. This arrangement could be particularly appealing to both Saudi Arabia and Pakistan. It would allow the Saudis to argue that they are not violating the NPT since they would not be acquiring their own nuclear weapons. And an extended deterrent from Pakistan might be preferable to one from the United States because stationing foreign Muslim forces on Saudi territory would not trigger the kind of popular opposition that would accompany the deployment of U.S. troops. Pakistan, for its part, would gain financial benefits and international clout by deploying nuclear weapons in Saudi Arabia, as well as strategic depth against its chief rival, India.

The Islamabad option raises a host of difficult issues, perhaps the most worrisome being how India would respond. Would it target Pakistan's weapons in Saudi Arabia with its own conventional or nuclear weapons? How would this expanded nuclear competition influence stability during a crisis in either the Middle East or South Asia? Regardless of India's reaction, any decision by the Saudi government to seek out nuclear weapons, by whatever means, would be highly destabilizing. It would increase the incentives of other nations in the Middle East to pursue nuclear weapons of their own. And it could increase their ability to do so by eroding the remaining barriers to nuclear proliferation: each additional state that acquires nuclear weapons weakens the nonproliferation regime, even if its particular method of acquisition only circumvents, rather than violates, the NPT.

N-PLAYER COMPETITION

Were Saudi Arabia to acquire nuclear weapons, the Middle East would count three nuclear-armed states, and perhaps more before long. It is unclear how such an n-player competition would unfold because most analyses of nuclear deterrence are based on the U.S.-Soviet rivalry during the Cold War. It seems likely, however, that the interaction among three or more nuclear-armed powers would be more prone to miscalculation and escalation than a bipolar competition. During the Cold War, the United States and the Soviet Union only needed to concern themselves with an attack from the other. Multipolar systems are generally considered to be less stable than bipolar systems because coalitions can shift quickly, upsetting the balance of power and creating incentives for an attack.

More important, emerging nuclear powers in the Middle East might not take the costly steps necessary to preserve regional stability and avoid a nuclear exchange. For nuclear-armed states, the bedrock of deterrence is the knowledge that each side has a secure second-strike capability, so that no state can launch an attack with the expectation that it can wipe out its opponents' forces and avoid a devastating retaliation. However, emerging nuclear powers might not invest in expensive but survivable capabilities such as hardened missile silos or submarine-based nuclear forces. Given this likely vulnerability, the close proximity of states in the Middle East, and the very short flight times of ballistic missiles in the region, any new nuclear powers might be compelled to "launch on warning" of an attack or even, during a crisis, to use their nuclear forces preemptively. Their governments might also delegate launch authority to lower-level commanders, heightening the possibility of miscalculation and escalation. Moreover, if early warning systems were not integrated into robust command-and-control systems, the risk of an unauthorized or accidental launch would increase further still. And without sophisticated early warning systems, a nuclear attack might be unattributable or attributed incorrectly. That is, assuming that the leadership of a targeted state survived a first strike, it might not be able to accurately determine which nation was responsible. And this uncertainty, when combined with the pressure to respond quickly, would create a significant risk that it would retaliate against the wrong party, potentially triggering a regional nuclear war.

Most existing nuclear powers have taken steps to protect their nuclear weapons from unauthorized use: from closely screening key personnel to developing technical safety measures, such as permissive action links, which require special codes before the weapons can be armed. Yet there is no guarantee that emerging nuclear powers would be willing or able to implement these measures, creating a significant risk that their governments might lose control over the weapons or nuclear material and that nonstate actors could gain access to these items. Some states might seek to mitigate threats to their nuclear arsenals; for instance, they might hide their weapons. In that case, however, a single intelligence compromise could leave their weapons vulnerable to attack or theft.

Extinction, nuclear winter. Starr 15

Steven Starr 15, 2/28/2015, Steven is an Associate member of the Nuclear Age Peace Foundation and has been published by the Bulletin of the Atomic Scientists. Starr is also an expert on the environmental consequences of nuclear war, Nuclear War: An Unrecognized Mass Extinction Event Waiting to Happen,  Symposium: The Dynamics of Possible Nuclear Extinction, [https://ratical.org/radiation/NuclearExtinction/StevenStarr022815.html)//](https://ratical.org/radiation/NuclearExtinction/StevenStarr022815.html)/) JZ

A war fought with 21st century strategic nuclear weapons would be more than just a great catastrophe in human history. If we allow it to happen, such a war would be a mass extinction event that ends human history. There is a profound difference between extinction and “an unprecedented disaster,” or even “the end of civilization,” because even after such an immense catastrophe, human life would go on. But extinction, by definition, is an event of utter finality, and a nuclear war that could cause human extinction should really be considered as the ultimate criminal act. It certainly would be the crime to end all crimes. The world’s leading climatologists now tell us that nuclear war threatens our continued existence as a species. Their studies predict that a large nuclear war, especially one fought with strategic nuclear weapons, would create a post-war environment in which for many years it would be too cold and dark to even grow food. Their findings make it clear that not only humans, but most large animals and many other forms of complex life would likely vanish forever in a nuclear darkness of our own making. The environmental consequences of nuclear war would attack the ecological support systems of life at every level. Radioactive fallout, produced not only by nuclear bombs, but also by the destruction of nuclear power plants and their spent fuel pools, would poison the biosphere. Millions of tons of smoke would act to destroy Earth’s protective ozone layer and block most sunlight from reaching Earth’s surface, creating Ice Age weather conditions that would last for decades. Yet the political and military leaders who control nuclear weapons strictly avoid any direct public discussion of the consequences of nuclear war. They do so by arguing that nuclear weapons are not intended to be used, but only to deter. Remarkably, the leaders of the Nuclear Weapon States have chosen to ignore the authoritative, long-standing scientific research done by the climatologists, research that predicts virtually any nuclear war, fought with even a fraction of the operational and deployed nuclear arsenals, will leave the Earth essentially uninhabitable.

Contention 3 is Poland

Poland wants nukes BUT lacks capacity.

Naughtie 25 [Andrew Naughtie, BSc in Sociology @ the University of Bristol & MA in Social Sciences from UChicago, 3-21-2025, Could another European country develop its own nuclear weapons?, EuroNews, <https://www.euronews.com/2025/03/21/could-another-european-country-develop-its-own-nuclear-weapons>, Willie T.]

Building up a nuclear deterrent from scratch is no easy feat, but with the US distancing itself from Europe, the idea has started to resurface.

“Poland must pursue the most advanced capabilities, including nuclear and modern unconventional weapons,” Polish Prime Minister Donald Tusk told his country’s parliament earlier this month. “This is a serious race — a race for security, not for war.”

Coming as the Trump administration signalled it is essentially pulling back from protecting Europe, Tusk's statement seemed to suggest a potential lurch toward nuclear weapons proliferation in Europe — something at odds with decades of European policy.

While questions remain over the US' ongoing commitment to its role as Europe’s nuclear security guarantor, China is expanding its nuclear arsenal. And Russia, which maintains the world’s largest stockpile of warheads, repeatedly invokes the threat of using them to warn NATO and the EU against getting directly militarily involved in Ukraine.

The overall picture raises two difficult questions. How can Europe maintain a continent-wide nuclear deterrent? And is there a possibility that other countries will join the nuclear club?

Although some European states have some of the elements required to develop independent nuclear weapons capability, experts say the chances of another European state going nuclear are slim.

Starting from scratch

According to Fabian Rene Hoffmann, a research fellow at the Oslo Nuclear Project, even if one of Europe’s NATO powers were keen to develop its own nuclear weapons rather than simply hosting them, it would find itself at a standing start.

“The major issue European countries are facing is that they either don’t deploy the civilian nuclear infrastructure to launch a nuclear weapons programme, or, if they have civilian nuclear infrastructure, that it is highly ‘proliferation-resistant’,” he told Euronews.

“For example, Finland and Sweden only have light-water reactors, which are not suitable for the production of weapons-grade plutonium. In addition, neither of those countries have chemical reprocessing plants that are needed for separating wanted from unwanted isotopes in fissile material production."

They’ve turned to American company Westinghouse.

Hayden 22 [Jones Hayden, Energy & Climate Correspondent @ Politico, 10-29-2022, Poland picks Westinghouse to build its first nuclear plant, POLITICO, <https://www.politico.eu/article/poland-picks-westinghouse-to-build-its-first-nuclear-power-plant/>, Willie T.]

Poland awarded a contract to build its first nuclear power plant to a U.S. bid as the country seeks to burn less coal and increase its energy independence.

The government in Warsaw chose Westinghouse for the nuclear project, Prime Minister Mateusz Morawiecki said late Friday in a tweet praising the U.S. company’s “reliable, safe technology.”

“A strong Poland-U.S. alliance guarantees the success of our joint initiatives,” Morawiecki said.

America’s provided funding BUT only more allows completion.

Brodacki 25 [Dominik Brodacki, analyses the energy and fuels sector + co-author of the PI Energy briefing + expert at the Ignacy Lukasiewicz Institute for Energy Policy since 2016 + lawyer for Polish and foreign companies + Author of scientific publications, reports and market analyses, including on energy policy, energy law, nuclear power, offshore wind energy and district heating sector + Graduated in Law and European Studies from the University of Warsaw, 2025, Nuclear Energy in Poland: Assessment of Readiness for the Construction of the First Nuclear Power Plant, Baker McKenzie, <https://www.bakermckenzie.com/-/media/files/locations/poland/nuclear-energy-in-poland/baker-mckenzie-polityka-insight-report-nuclear-energy-in-poland-2025_eng.pdf>, Willie T.]

The above also makes it difficult to precisely determine the final cost of building NPP1 (despite the indicative amount of PLN 192 billion given by the Council of Ministers in its notification to the EC). This is because it depends, among other things, on the outcome of the power plant design process (which will determine the specific solutions to be applied), discussions with the EC and the detailed provisions of the EPC contract. As a result, it is not possible at this stage to make a final decision on the detailed method of financing the investment.

None of the nuclear projects under construction in Poland has fully secured financing.

The investment in NPP1 is the most advanced in this respect – as mentioned above, its implementation is to be supported by public funds, including in the form of a direct capital injection into the NPP of around PLN 60.2 billion.

In February 2025, the Parliament adopted an amendment to the Special Nuclear Act, according to which state aid will be transferred to PEJ in the form of a capital increase by the State Treasury in exchange for shares in the company. Of this amount, PEJ is to receive for the preparation and implementation of the construction of NPP1 and accompanying investments, as well as its current operations: PLN 4.6 billion in 2025, PLN 11 billion in 2026, PLN 14 billion in 2027, PLN 13 billion in 2028, PLN 11 billion in 2029 and PLN 6.6 billion in 2030.

It is known that their disbursement will be possible only after the EC approval following the notification of the support programme for the construction and operation of NPP1.

Approximately 70% of the construction costs of NPP1 will be covered by external financing, of which two-thirds will be provided by export credit agencies and the rest by commercial financial institutions. PEJ has secured declarations (in the form of letters of intent) of financial commitment for approximately PLN 95 billion from, among others: the Export-Import Bank of the United States (EXIM), U.S. International Development Finance Corporation, Bpifrance Assurance Export, Sfil and Export Development Canada. Taking into account the aforementioned capital injection of around PLN 60.2 billion, there are still tens of billions missing to cover the estimated project budget (around PLN 192 billion).

Empirically, US investment in Westinghouse got the project started.

Kraev 21 [Kamen Kraev, senior editor and secretary-general at NucNet, 9-24-2021, Poland/US Wants To Speed Up Westinghouse AP1000 Study, Says Energy Secretary Granholm, NucNet, <https://www.nucnet.org/news/us-wants-to-speed-up-westinghouse-ap1000-study-says-energy-secretary-granholm-9-5-2021>, Willie T.]

The US government wants to accelerate its support for a front-end engineering and design study for the deployment of US-made AP1000 reactor technology in Poland, US energy secretary Jennifer Granholm said.  
  
In July, US-based Westinghouse Electric Company and Bechtel Corporation announced the start of the study, which will provide Poland’s Polskie Elektrownie Jądrowe (PEJ) – the company responsible for managing the country’s first nuclear power project – with layout plans for the location of a first nuclear power station, together with a licensing plan, project schedule and cost estimate.  
  
The US Trade and Development Agency has released a grant to fund the study.

“US industry and government have come together at a critical juncture in the development of Poland’s nuclear energy programme,” Ms Granholm said during a press conference in Warsaw.

It’s used for hegemonic expansion --- incites Russian fears and conflict.

Ramana 24 [M.V. Ramana, Professor @ University of British Columbia’s School of Public Policy and Global Affairs, 8-2-2024, Eastern Europe’s purchase of US nuclear reactors is primarily about military ties, not climate change, Bulletin of the Atomic Scientists, <https://thebulletin.org/2024/08/eastern-europes-purchase-of-us-nuclear-reactors-is-primarily-about-military-ties-not-climate-change/>, Willie T.]

US officials see the purchase of military equipment as one of the many ways the United States can bring Poland closer in geopolitical terms. Another is to have them buy US nuclear reactors.

In its “Integrated Country Strategy” for Poland from June 2022, the US State Department’s top two mission goals were stated to involve military engagement and adoption of new energy technology, including nuclear power. The document praises the “potential partnership with the United States to develop large-scale nuclear power plants with US technology” because it “could result in over $18 billion dollars in US exports and strategically tie our two countries even more tightly together over the coming century.” It should be clear who would profit most at the expense of the Polish public.

The United States has historically tried to use nuclear development to expand its empire and influence. During the Cold War, US nuclear power companies “had a specific agenda to promote the advancement of nuclear technology in non-communist countries,” which was one reason they exported nuclear reactors to South Korea.

By all evidence, the focus on nuclear energy in Eastern Europe appears not to be driven mainly by climate change but by old-fashioned geopolitics in significant proportion. Were the urgency of climate change really driving investment in nuclear energy, Poland should have considered purchasing reactors also from Russia or China. In fact, over the past decade, Russia has dominated the export market for nuclear power plants and China has built more nuclear plants than any other country.

Why it matters. The geopolitical framing of imports of nuclear energy is a problem, especially in Eastern Europe where there is an active war in neighboring Ukraine. Building up military forces using US technology and expanding US military presence in the region, even possibly basing nuclear weapons in Poland, may increase the likelihood of a catastrophic war between Russia and NATO. Such a war would be compounded by the potential for radioactive contamination from deliberate or inadvertent attacks on nuclear reactors, as illustrated by the Zaporizhzhia nuclear plant in Ukraine, which Russia has occupied since March 2022 and used as a source of leverage.

Such geopolitical games also make dealing with climate change much more difficult. A geopolitical view, by its very nature, conceives of problems essentially as a zero-sum competition: Countries will avoid cooperating with each other. But as happened with the global response to the COVID-19 pandemic, the lack of cooperation will undermine the chances of quickly reducing global emissions.

The analyst and disarmament activist Andrew Lichterman recently explained that anyone interested in a more fair, peaceful, and ecologically sustainable global society should avoid using “the conceptual frame of geopolitics” which “is limited to the imperatives of holding and deploying power in what is portrayed as an endless, inevitable struggle for dominance among the world’s most powerful states.”

Investments in nuclear power in Eastern Europe hide geopolitical and military motivations behind a smoke screen of fighting climate change. When these motivations result in the massive acquisition of military equipment, manufacturing and operating them will increase carbon dioxide emissions. Worse, military buildups will also increase the risk of conflict, potentially leading to a catastrophic war that could involve nuclear weapons.

Steps to prolif cause pre-emption.

Hoffmann 24 [Fabian Hoffmann, Doctoral Research Fellow @ the University of Oslo, 1-29-2024, The Future of the Zeitenwende: Scenario 5—Poland Becomes a Nuclear Power, International Politik Quarterly, <https://ip-quarterly.com/en/future-zeitenwende-scenario-5-poland-becomes-nuclear-power>, Willie T.]

Similarly, given that Polish nuclear proliferation might occur in the context of a crumbling nuclear order where non-proliferation norms have already been drastically undermined by several other instances of nuclear proliferation, any outcry based on the normative implications of Polish nuclear proliferation may be limited.

Finally, active steps by Poland toward a nuclear deterrent may temporarily destabilize the European security environment, due to heightened pressures on the Russian side for military operations aimed at preempting a Polish nuclear arsenal. Once Poland has acquired nuclear weapons, Poland’s nuclear deterrent may serve to reinforce European deterrence. This being said, the exact dynamics that a Polish nuclear acquisition might induce into Europe’s security architecture are impossible to predict from today’s point of view.

NATO-Russia war goes nuclear.

Kulesa 18 [Lukasz Kulesa; Director of Proliferation and Nuclear Policy at the Royal United Services Institute; 02-01-2018; "Envisioning a Russia-NATO Conflict: Implications for Deterrence Stability"; JSTOR; <https://www.jstor.org/stable/resrep17437>; accessed 11-14-2024] leon

Escalation: Can a NATO - Russia conflict be managed?

Once a conflict was under way, the “fog of war” and rising unpredictability would inevitably set in, complicating the implementation of any predetermined theories of escalation, deescalation and inter-conflict management. The actual dynamics of a conflict and the perceptions of the stakes involved are extremely difficult to predict. Simulations and table-top exercises can give only limited insights into the actual decision-making processes and interactions.

Still, Russian military theorists and practitioners seem to assume that a conflict with NATO can be managed and controlled in a way that would bring it to a swift end consistent with Russian aims. The Russian theory of victory would seek to exploit weak points in an Alliance war effort. Based on the conviction that democracies are weak and their leaders and populations are risk-averse, Russia may assume that its threats of horizontal or vertical escalation could be particularly effective. It would also try to bring home the notion that it has much higher stakes in the conflict (regime survival) than a majority of the NATO members involved, and thus will be ready to push the boundaries of the conflict further. It would most likely try to test and exploit potential divisions within the Alliance, combining selective diplomacy and activation of its intelligence assets in some NATO states with a degree of selectivity in terms of targets of particular attacks.

Any NATO-Russia conflict would inevitably have a nuclear dimension. The role of nuclear weapons as a tool for escalation control for Russia has been thoroughly debated by experts, but when and how Russia might use (and not merely showcase or activate) nuclear weapons in a conflict remains an open question. Beyond catch phrases such as “escalate to de-escalate” or “escalate to win” there are a wider range of options for Russian nuclear weapon use. For example, a single nuclear warning shot could be lethal or non-lethal. It could be directed against a purely military target or a military-civilian one. Detonation could be configured for an EMP effect. A “false flag” attack is also conceivable. These options might be used to signal escalation and could significantly complicate NATO’s responses.

Neither NATO nor its member states have developed a similar theory of victory. Public NATO documents stipulate the general goals for the Alliance: defend against any armed attack and, as needed, restore the full sovereignty and territorial integrity of member states. It is less clear how far the Alliance would be willing to escalate the conflict to achieve these goals, and what mechanisms and means it would use while trying to maintain some degree of control over the conflict.

The goals and methods of waging a conflict with Russia would probably have to be limited in order to avoid a massive nuclear exchange. Such limitations would also involve restrictions on striking back against targets on Russian territory. But too narrow an approach could put too much restraint on NATO’s operations: the Russian regime’s stability may ultimately need to be threatened in order to force the leadership into terminating the conflict. NATO would thus need to establish what a proportional self-defence response to Russian actions would involve, and to what extent cyber operations or attacks against military targets in quite different parts of Russia would be useful as tools of escalation to signal NATO’s resolve. Moreover, individual NATO Allies, especially those directly affected by Russia’s actions, might pursue their individual strategies of escalation.

With regards to the nuclear dimension in NATO escalation plans, given the stakes involved, this element would most likely be handled by the three nuclear-weapon members of the Alliance, with the US taking the lead. The existence of three independent centres of nuclear decision-making could be exploited to complicate Russian planning and introduce uncertainty into the Russian strategic calculus, but some degree of “P3” dialogue and coordination would be beneficial. This coordination would not necessarily focus on nuclear targeting, but rather on designing coordinated operations to demonstrate resolve in order to keep the conflict below the nuclear threshold, or bring it back under the threshold after first use.

Relying on concepts of escalation control and on lessons from the Cold War confrontation might be misleading. The circumstances in which a Russia-NATO conflict would play out would be radically different from the 20th century screenplay. Moreover, instead of gradual (linear) escalation or salami tactics escalation, it is possible to imagine surprizing “leap frog” escalation, possibly connected with actions in different domains (e.g. a cyberattack against critical infrastructure). Flexibility, good intelligence and inventiveness in responding to such developments would be crucial.

Conflict termination

Russian and NATO assumptions regarding conflict termination would most likely not survive the first hours of an actual conflict. Both sides are capable of underestimating the resolve of the other side to prevail in a conflict and the other side’s willingness to commit the necessary resources and endure the costs, especially once both sides start committing their political capital and resources and the casualties accumulate.

Cross app starr 15 from c2

## Rebutall EV

A2: SMRs Solves Climate

2. Expansion is decked by manufacturing errors AND empirically, investment leads to failure.

Makhijani 21 [Arjun Makhijani, Ph.D. in engineering from UC Berkeley, 2021, Can small modular reactors help mitigate climate change?, Bulletin of the Atomic Scientists, <https://www.laka.org/docu/boeken/pdf/6-01-2-16-67.pdf>, Willie T.]

Potential problems with mass manufacturing reactors

If an error in a mass-manufactured reactor were to result in safety problems, then the whole lot of reactors may have to be recalled. This was the case with the Boeing 737 Max aircraft and the Boeing Dreamliner. But how does one recall a radioactive reactor? What would happen to an electricity system that relies on factory-made identical reactors that need to be recalled? What would happen to the order book for reactors if there were a recall? These questions have not been addressed by the industry; indeed, they have not even been posed. Yet recalls are a predictable and consistent feature of mass manufacturing, from smartphones to jet aircraft. The problem is not merely theoretical. One of the big economic problems of pressurized water reactors – the design commonly chosen for light water small modular reactors – was the need to replace the steam generators, often well before the end of license periods. Steam generators are massive, expensive pieces of equipment where the high-pressure water from the reactor is converted into steam, which drives the turbines to generate electricity. This problem has been recognized for decades; yet it persists.

Just within the last decade, three US reactors – two at San Onofre in Southern California and one at Crystal River in Florida – were permanently shut due to serious problems arising from steam generator replacement. A Nuclear Regulatory Commission report from 1996 documents ten spontaneous steam generator tube ruptures over the previous two decades (MacDonald et al. 1996). Likewise, Russian nuclear submarines have suffered leaks involving steam generators (Ølgaard 1996). Unlike present-day reactors, many small modular reactor light water designs are integral designs, wherein the steam generators are placed within the reactor vessel. In such a configuration, replacement would be essentially impossible. Problems with the steam generator could mean a permanent reactor shut down

Recent experience with modular nuclear construction has not been a success. Modular construction was a central aspect of the design of the AP1000 pressurized water reactor; yet the AP1000 reactors built in the United States have experienced significant construction cost overruns and schedule delays. One AP1000 reactor construction project in South Carolina became so expensive that it was abandoned after $9 billion had been spent, and Westinghouse, the company responsible for the reactor design, filed for bankruptcy protection. A former member of the Georgia Public Service Commission told the Wall Street Journal, “Modular construction has not worked out to be the solution that the utilities promised” (Smith 2015)

The small modular reactor track record

The small modular reactor track record so far points to the same kind of dismal economic failure as for their larger cousins.

The US Energy Department has been pursuing small modular reactors since the last century. In 2000, the US Congress provided funding “to undertake a study to determine the feasibility of and issues associated with the deployment of . . . small reactors” (Department of Energy 2001, 1; Congressional Record 2001). The Energy Department’s Office of Nuclear Energy 2001 report reviewed nearly ten designs and concluded that “the most technically mature small modular reactor (SMR) designs and concepts have the potential to be economical and could be made available for deployment before the end of the decade, provided that certain technical and licensing issues are addressed” (Department of Energy 2001, iii).

The US Nuclear Regulatory Commission has been similarly optimistic. In October 2008, it projected that the certification review for the NuScale design would be completed by 2015. It estimated that it would also complete reviews for other designs, including the Pebble Bed Modular Reactor and the Hyperion reactor (currently Gen4 Energy) in the same time frame (Baker 2008). None of that happened.

These rosy predictions failed to materialize despite substantial government support. In the early 2010s, the Energy Department supported two small modular reactor designs: mPower by Babcock & Wilcox and NuScale. The first of these was a complete failure; after years of trying to get investors and funding, the mPower program was terminated (Downey 2015; Adams 2017).

SA Climate

First their only link is Grossi, whose assertion is they are more reliable. First there is no warrant, and that really isnt comparative or measurable. Our ev looks at actual carbon displacement, which is the end goal.

2. Affirming trades off, is less effective, and lacks economic viability.

Lovins 21 [Amory B. Lovins, adjunct professor of civil and environmental engineering @ Stanford 12-17-2021, Why Nuclear Power Is Bad for Your Wallet and the Climate, Bloomberg, <https://news.bloomberglaw.com/environment-and-energy/why-nuclear-power-is-bad-for-your-wallet-and-the-climate>, Willie T.]

Making 10% of world and 20% of U.S. commercial electricity, nuclear power is historically significant but now stagnant. In 2020, its global capacity additions minus retirements totaled only 0.4 GW (billion watts). Renewables in contrast added 278.3 GW—782x more capacity—able to produce about 232x more annual electricity (based on U.S. 2020 performance by technology). Renewables swelled supply and displaced carbon as much every 38 hours as nuclear did all year. As of early December, 2021’s score looks like nuclear –3 GW, renewables +290 GW. Game over.

The world already invests annually $0.3 trillion each, mostly voluntary private capital, in energy efficiency and renewables, but about $0.015–0.03 trillion, or 20–40x less, in nuclear—mostly conscripted, because investors got burned. Of 259 US power reactors ordered (1955–2016), only 112 got built and 93 remain operable; by mid-2017, just 28 stayed competitive and suffered no year-plus outage. In the oil business, that’s called an 89% dry-hole risk.

Renewables provided all global electricity growth in 2020. Nuclear power struggles to sustain its miniscule marginal share as its vendors, culture, and prospects shrivel. World reactors average 31 years old, in the U.S., 41. Within a few years, old and uneconomic reactors’ retirements will consistently eclipse additions, tipping output into permanent decline. World nuclear capacity already fell in five of the past 12 years for a 2% net drop. Performance has become erratic: the average French reactor in 2020 produced nothing one-third of the time.

China accounts for most current and projected nuclear growth. Yet China’s 2020 renewable investments about matched its cumulative 2008–20 nuclear investments. Together, in 2020 in China, sun and wind generated twice nuclear’s output, adding 60x more capacity and 6x more output at 2–3 times lower forward cost per kWh. Sun and wind are now the cheapest bulk power source for over 91% of world electricity.

Nuclear Power Has No Business Case

Nuclear power has bleak prospects because it has no business case. New plants cost 3–8x or 5–13x more per kWh than unsubsidized new solar or windpower, so new nuclear power produces 3–13x fewer kWh per dollar and therefore displaces 3–13x less carbon per dollar than new renewables. Thus buying nuclear makes climate change worse. End-use efficiency is even cheaper than renewables, hence even more climate-effective. Arithmetic is not an opinion.

Unsubsidized efficiency or renewables even beat most existing reactors’ operating cost, so a dozen have closed over the past decade. Congress is trying to rescue the others with a $6 billion lifeline and durable, generous new operating subsidies to replace or augment state largesse—adding to existing federal subsidies that rival or exceed nuclear construction costs.

But no business case means no climate case. Propping up obsolete assets so they don’t exit the market blocks more climate-effective replacements—efficiency and renewables that save even more carbon per dollar. Supporters of new subsidies for the sake of the climate just got played.

Fashionably rebranded “Small Modular” or “Advanced” reactors can’t change the outcome. Their smaller units cost less but output falls even more, so SMRs save money only in the sense in which a smaller helping of foie gras helps you lose weight.

They’ll initially at least double existing reactors’ cost per kWh; that cost is ~3–13x renewables’ (let alone efficiency’s); and renewables’ costs will halve again before SMRs can scale. Do the math: 2 x (3 to 13) x 2 = 12–52-fold. Mass production can’t bridge that huge cost gap—nor could SMRs scale before renewables have decarbonized the US grid.

Even free reactors couldn’t compete: their non-nuclear parts cost too much. Small Modular Renewables are decades ahead in exploiting mass-production economies; nuclear can never catch up. It’s not just too little, too late: nuclear hogs market space, jams grid capacity, and diverts investments that more-climate-effective carbon-free competitors then can’t contest.

SB Cyber

The only warrant that leads to tit for tat escalation is ciritcal infrastructure per their miller evidence. One they read 0 actor anlsyis or capability for actors to be able to hack our critical infrastructure

1. NU – Critical infra energy isn’t online --- can’t be hacked.

Flaherty 19 [Kate O'Flaherty, cybersecurity and privacy journalist @ Forbes, 7-3-2019, U.S. Government Makes Surprise Move To Secure Power Grid From Cyberattacks, Forbes, <https://www.forbes.com/sites/kateoflahertyuk/2019/07/03/u-s-government-makes-surprise-move-to-secure-power-grid-from-cyber-attacks/>, Willie T.]

The U.S. Government has announced a surprising move to secure power grids by using “retro” technologies. It comes after numerous attempts by foreign actors to launch cyberattacks on so-called critical national infrastructure (CNI).

Nations have been trying to secure the industrial control systems that power CNI for years. The challenge lies in the fact that these systems were not built with security in mind, because they were not originally meant to be connected to the internet.

It is with this in mind that the U.S. has responded with a new strategy: rather than bringing in new technology and skills, it will use analog and manual technology to isolate the grid's most important control systems. This, the government says, will limit the reach of a catastrophic outage.

 "This approach seeks to thwart even the most sophisticated cyber-adversaries who, if they are intent on accessing the grid, would have to actually physically touch the equipment, thereby making cyberattacks much more difficult," said a press release as the Securing Energy Infrastructure Act (SEIA), passed the Senate floor.

The warranting for the kirch evidence for why risks are high is becasue of personal layoff, which means even if they win the link, the UQ overwhelms per their own evidence, meaning lack of man power means we cant solve.

Second the andres evidence about perception is only in the context of a military conflict, which means they have to read a secnerio to actually access the argument, insofar they don;t winning the link doesnt even trigger the internal link scenario.

A2: Artificial Intelligence Topshelf

Their own evidence, concedes thats information banks is what is missing, which the aff cant solve

Lydia Moynihan (Lydia covers the most notable stories at the intersection of Washington, Wall Street, and Silicon Valley. She regularly appears on Fox News, CNBC, and Fox Business and has hosted panels at the 92NY, the Future Investment Initiative, and Global Alts. During her time at The Post, she’s conducted interviews with notable business leaders including Barry Diller, Bill Ackman, and Eric Schmidt, as well as senators and presidential candidates. She’s broken dozens of stories, including efforts to ban TikTok, Rudy Giuliani’s indictment, and Trump’s SPAC.), 4-11-2025, "Scale AI CEO Alexandr Wang issues stark warning about America’s need to keep pace with China on AI," New York Post, <https://nypost.com/2025/04/11/business/scale-ai-ceo-alexandr-wang-issues-stark-warning-about-china/>, accessed 4-11-2025 //RP

Alexandr Wang and Barry Diller attending the Allen & Company Sun Valley Conference, walking by a car in Sun Valley, Idaho 4 Alexandr Wang, seen here with Barry Diller, has become a fixture at global events like the Allen & Company Conference in Sun Valley. Getty Images Explore More What financial advisers are telling clients about their 401(k)s amid wild Wall Street volatility CBS loses 'Jeopardy!' and 'Wheel of Fortune' distribution rights — dealing Sony major win Finance CEO's grim recession warning: Trump tariffs 'beyond anything I could have imagined' While the US holds an edge in computing power, one of the key areas of the AI race, Wang said the competition with China is neck-and-neck on algorithms — and we’re falling behind on data. “The United States needs a strategy for data dominance,” he emphasized. “We need an approach both in the public and private sectors to win on data.” He has several ideas that would help our government compete. The first is to establish an information reserve that would allow data to be shared between agencies and help train AI. Another is to integrate AI into the government — what Wang calls an “agentic” approach — with the goals of streamlining processes, like energy permitting, and strengthening national security. “I’m advocating for AI agents to make the federal government more efficient,” he said.

On the impact level there is literally not a single warrant how it goes nuclear. They highlight literally “there would be nuclear escalation” you should feel really uncomfortable voting for an argument that has no warant.

2. NU/T – Data centers can adapt BUT affirming spurs backlash against AI.

Sivaram 25 [Varun Sivaram, senior fellow for energy and climate at the Council on Foreign Relations & Ph.D. in condensed matter physics from Oxford University, 2-11-2025, America May Not Need a Massive Energy Build-Out to Power the AI Revolution, Council on Foreign Relations, <https://www.cfr.org/blog/america-may-not-need-massive-energy-build-out-power-ai-revolution>, Willie T.]

A stunning new report out today from Duke University argues that the existing U.S. electricity system already has the “headroom” to power massive additions of data centers with no new grid or power plant infrastructure. The catch? New data centers need to incorporate a limited amount of flexibility in when they consume power, ramping down their use during rare hours during the year when regional power grids experience peak stress. Armed with this capability, new data centers could connect swiftly to existing regional power grids, the Duke researchers argue, without compromising grid reliability or waiting up to a decade for expensive new infrastructure to get built.

The magnitudes of what is already possible today are mind-boggling. As a reference point, consider Project Stargate, the data center megaproject announced by President Trump, which aims to invest $500 billion and could consume fifteen to twenty-five GW of power. The Duke report concludes that roughly 100 GW, equivalent to four to five Project Stargates (more than $2 trillion in data center investments), could be connected in the near term to power grids across the United States with no new power supply or delivery infrastructure upgrades (Fig 1). Another way to think about this is that the capacity of new data centers that could be connected immediately represents more power demand than the entire U.S. fleet of ninety-four nuclear reactors can supply today.

In contrast to these gargantuan estimates of new data center capacity that could be connected today, the requirements for flexibility from new data centers are comparatively miniscule. Over the course of a year, these new data centers could still use 99.5 percent of the electricity they would otherwise be entitled to use if they did not offer the grid any flexibility. They would only commit to reducing their power by, on average, 25 percent for two hours at a time during periods of peak system stress, for a total of fewer than 200 hours per year.

So why isn’t this already being done? The answer is likely the strong historical precedent that data centers typically do not provide any flexibility in their power consumption, instead requiring extremely strict uptime standards to guarantee nearly 100 percent uptime to users of cloud computing applications. Yet the technologies to achieve flexibility are being rapidly developed in light of the growing difficulties in connecting to the grid as inflexible power loads (for example, in Northern Virginia’s “Data Center Alley,” the power utility quotes a more than seven-year wait to connect a data center requiring more than 100MW of power).

One approach to create flexibility is to site batteries or generators alongside data centers. An even cheaper option that avoids the capital costs of new equipment is to orchestrate computational workloads across one or many data centers to precisely control their power consumption while maintaining acceptable levels of service quality for compute users (see, e.g., Coskun et al., 2024 and Mehra et al. (Google), 2023).

The most tantalizing implication of the Duke report is a connection that the authors don’t explicitly make. If AI data centers—the fastest-growing source of power demand in the United States—can provide flexibility services to the grid, they could actually become the grid’s most valuable resource. Flexible data centers, acting individually or in concert with one another across the country, could shore up the grid’s reliability during periods of peak usage or strain and better utilize a power grid that’s been built to service extreme peaks in demand. In light of this enticing promise of a free lunch—vastly more data center capacity with minimal new power and grid investments—electric power and technology industry giants have joined forces and formed the EPRI DC Flex consortium to further develop data center flexibility.

Prioritizing demand flexibility can buy time for power system planners to make prudent investments in the coming decade, from modernizing aging distribution infrastructure to building long-distance transmission to scaling up emerging nuclear power technologies. But an excessive and hasty power system build-out endangers public acceptance of the AI revolution as power prices rise, and that in turn could undermine U.S. competitiveness in AI. Data center power flexibility, therefore, is a capability well worth investing in to take full advantage of the resources we already have.

A2: Exports Topshelf

On the IL on the Beres evidence there is still literally not a warrant how it goes nuclear. It literally says complexities go nuclear. You have no clue how the escalation cycles works and u should feel really uncomofrtable voting for such an argument

This argument is fully NQ. Per their uq heg ends this year. But the link is about nuclear energy exports. Even if you do the aff, building a reactor takes years. Which means we miss the ability to catch up in 2025. You cant just increase exports without producing energy.