You're going to need to sheets, one for case And a piece of paper for an off case

We Affirm, "Resolved: The United States federal government should substantially increase its investment in domestic nuclear energy."

Our sole contention is Climate

SMR development is being hampered by lack of investment.

Waleed '25 Hammad Waleed (Research Associate at Strategic Vision Institute), 03-13-2025, "Nuclear's Next Chapter: Can Small Modular Reactors Succeed?," SVI - Strategic Vision Institute - Strategic Vision Institute, https://thesvi.org/nuclears-next-chapter-can-small-modular-reactors-succeed/, accessed 3-31-2025 //RP

In the vast chessboard of global energy, a new player is making its move—a promise wrapped in steel and uranium, heralded as the saviour of both the climate crisis and the nuclear industry itself. **Small Modular Reactors (SMRs) are being hailed as the future of clean energy, a technology that could redefine power generation as we know it**. **Compact, factory-built, and supposedly safer, faster, and cheaper,** SMRs have been cast as the solution to nuclear energy's greatest pitfalls. SMRs are marketed as a nuclear breakthrough—smaller, safer, and scalable—but their **high costs and lack of investment slow progress**. Yet, for all the fanfare, the revolution has yet to arrive. Over 80 different SMR projects have been proposed in recent decades, yet **only two have been designed and put into commercial operation .** The Western world, despite its enthusiasm, is struggling to make SMRs a reality. **Meanwhile, the East—led by Russia and China—is racing ahead, proving that when it comes to nuclear energy, state-backed ambition often trumps free-market hesitation**. Not too long ago , nuclear energy was the great hope of modern civilization. It was the power of the future, promising limitless energy without the environmental scars of coal and oil. But then came Chernobyl. Three Mile Island. Fukushima. One disaster after another shattered public confidence, turning nuclear into a relic of a more naive era. Now, as the world plummets toward climate catastrophe, **nuclear power is finding its way back into the mainstream energy discourse .** The International Energy Agency (IEA) has stated, unequivocally, that **nuclear capacity must double by 2050 if we are to meet global net-zero targets.** But here's the problem—**traditional nuclear plants are too expensive, too slow to build, and too politically fraught**(something that politicians dependant upon five year election cycles would consider too costly and politically less rewarding) **Enter SMRs, the golden compromise. They're small. They're scalable. They can be mass-produced in factories like airplanes instead of being built from scratch on-site. They take up a fraction of the space required by wind and solar farms**. In theory, they're a silver bullet. In practice? Not so much. **China and Russia lead the SMR race, using state-backed funding, streamlined regulation, and full-service nuclear deals to outpace the West**. The logic behind **SMRs is simple: make them smaller, make them safer, and make them modular. Instead of sprawling mega-facilities that take decades to construct, SMRs could be produced assembly-line style and shipped to wherever they're needed**. They could power remote towns, support industrial manufacturing, and even serve as a replacement for decommissioned coal plants. More importantly,**they are designed with passive safety features—instead of relying on external power and human intervention, many SMRs cool themselves naturally. No pumps, no backup generators—just physics doing its job**. The nuclear industry argues that this makes them inherently safer than their predecessors, ensuring that a **Fukushima-style meltdown would be nearly impossible.**

Climate change is worsening – most recent studies confirm we're on the brink of irreversibility and the next 20 years are key.

Martina **Igini**, **02-**11-20**25**, "Breaching 1.5C Threshold Could Come 'Earlier Than Expected'", Earth.Org, https://earth.org/paris-agreements-1-5c-threshold-breach-could-come-earlier-than-expected-scientists-warn/ [Martina holds two BA degrees - in Translation Studies and Journalism - and an MA in International Development from the University of Vienna.] DOA: 3/10/2025 //RRM

Two **new** studies indicate that we might have already **crossed a key threshold** to limit global warming in line with the **Paris Agreement**, after 2024 became the first calendar year where global temperatures surpassed 1.5C. – **The planet might be on track to breach a key global warming threshold "earlier than expected," two new papers warned on Monday. The studies, published in Nature Climate Change, follow the hottest year on record and the first in which global temperatures reached 1.5C for the entire year**. This has left scientists wondering what this means for warming trends, as it puts us closer to a temperature limit we have pledged to do everything we can to avoid crossing. EO Movement Become an EO Member today and join a growing movement of people determined to make a change. JOIN EARTH.ORG Whether the planet has breached the Paris Agreement 1.5C warming target or not is measured over a 20-year retrospective average, meaning last year does not signal a permanent breach. **What the new studies investigated, however, is whether we have already entered the 20-year period above 1.5C.** Both concluded we have. One study, authored by Alex Cannon, a research scientist with Environment and Climate Change Canada, concluded that if 1.5C anomalies continue beyond 18 months, "breaching the Paris Agreement threshold is virtually certain." **Meanwhile, Emanuele Bevacqua, a climate scientist at the Helmholtz Centre for Environmental Research in Germany, and colleagues put the odds of 2024 being the first year of a 20-year period reaching the 1.5C warming level at "likely" to "virtually certain."** The Paris deal was drafted in 2015 to strengthen the global response to the growing threat of climate change. It set out a framework for limiting global warming to below 1.5C or "well below 2C" above pre-industrial levels by the end of the century. **Beyond this limit, experts warn that critical tipping points will be breached, leading to devastating and potentially irreversible consequences for several vital Earth systems that sustain a hospitable planet.** The United Nations had already estimated that current emissions reduction pledges put the planet on track for a temperature increase of 2.6-3.1C over the course of this century. The only way to avoid this is do drastically reduce greenhouse gas emissions, the primary driver of global warming as they trap heat in the atmosphere, raising Earth's surface temperature. Scientists are not optimistic either. A survey of 380 IPCC scientists conducted by the Guardian last May revealed that 77% of them believe humanity is headed for at least 2.5C of warming. And on Monday, renowned climatologist James Hansen said even the 2C target "is dead" after his latest paper concluded that Earth's climate is more sensitive to rising greenhouse gas emissions than previously thought. The former top NASA climate scientist famously announced to the US Congress in 1988 that global warming was underway. Warming Continues Hopes that the recent warming trend would subside with the arrival of a cooling weather pattern known as La Niña were dashed last month, as January turned out to be the hottest January ever recorded. Surface air temperature anomaly for January 2025 relative to the January average for the period 1991-2020. Data source: ERA5. Surface air temperature anomaly for January 2025 relative to the January average for the period 1991-2020. Image: C3S/ECMWF. "[M]any of us expect that 2025 will be cooler than both 2023 and 2024, and is unlikely to be the warmest year in the instrumental record," climatologist Zeke Hausfather wrote in a blog post on Monday. Their expectations were not met, he went on to say, describing how last beat the prior record set in January 2024 "by a sizable margin." "January 2025 stands out as anomalous even by the standards of the last two years," Hausfather wrote. "[A]t least at the start of the year nature seems not to be following our expectations."

Fortunately, nuclear energy offers an effective solution.

Hansen '13 confirms [James E. Hansen; PhD, American adjunct professor; Pushker A. Kharecha; PhD, Climate scientist; 03-15-2013; "Prevented Mortality and Greenhouse Gas Emissions from Historical and Projected Nuclear Power"; ACS; https://pubs.acs.org/doi/10.1021/es3051197; accessed 03-10-2025] leon

In the aftermath of the March 2011 accident at Japan's Fukushima Daiichi nuclear power plant, the future contribution of nuclear power to the global energy supply has become somewhat uncertain. Because nuclear power is an abundant, low-carbon source of base-load power, it could make a large contribution to mitigation of global climate change and air pollution. **Using historical production data, we**

calculate that global nuclear power has prevented an average of 1.84 million air pollution-related deaths and 64 gigatonnes of CO2-equivalent (GtCO2-eq) **greenhouse gas** (GHG) **emissions that would have resulted from fossil fuel burning**. On the basis of global projection data that **take into account the effects of the Fukushima accident, we find that nuclear power could additionally prevent an average of 420 000–7.04 million deaths** and 80–240 GtCO2-eq emissions due to fossil fuels by midcentury, depending on which fuel it replaces. By contrast, we assess that **large-scale expansion of unconstrained natural gas use would not mitigate the climate problem and would cause far more deaths than expansion of nuclear power**.

Nuclear energy is key for climate goals. Matthew 22 continues…

Matthew 22 [M.D. Matthew, Professor @ Saintgits College of Engineering (India), January 2022, Nuclear energy: A pathway towards mitigation of global warming, Progress in Nuclear Energy, https://aben.com.br/wp-content/uploads/2022/02/Nuclear-energy-a-pathway-towards-mitigation-of-global-warming.pdf] sumzom

The clean energy transition means shifting from fossil energy to energy resources that **release little or no greenhouse gases** such as nuclear power, hydro, wind and solar. About a **third of the world's carbonfree electricity** comes from **nuclear energy.**

Nuclear power has a **great potential** to contribute to the 1.5 ◦C Paris climate change target. Nuclear power plants produce **no greenhouse gas** emissions during their operation; only very low emissions are produced over their full life cycle. Even after accounting for the entire life cycle from mining of nuclear fuel to spent fuel waste management, nuclear power is proven to be a low carbon electricity source. During operation and maintenance, nuclear power plants produce different levels of solid and liquid waste and are **treated and disposed-off safely**. While conventional fossil-fueled power plants cause emissions almost exclusively from the plant site, the majority of greenhouse gas emissions in the nuclear fuel cycle are caused in processing stages upstream (exploration and processing of the uranium ore, fuel fabrication etc.), and downstream from the plant (fuel reprocessing, spent fuel storage etc.). Over the course of its life-cycle, the amount of CO2-equivalent emissions per unit of electricity produced by nuclear power plants is comparable with that of wind power, and **only one-third** of the emissions by solar. The greenhouse gas emissions correspond to 10–15 gm of CO2 per kilowatt hour electricity produced in comparison with the emission from a fossil fueled plant of 600–900 gm, 15–25 gm from wind turbines and hydroelectricity, and around 90 g from solar power plants (Fig. 8) (Carbon Dioxide Emissions, 2021).

Nuclear power delivers reliable, affordable and clean energy to support economic growth and social development. **Without a larger role for nuclear energy, it would not be possible to combat climate change.**

Nuclear power can be **deployed on a large scale**. So, nuclear power plants can directly replace fossil fueled power plants. As of end December 2020, global nuclear power capacity was 393 GW(e) and accounted for around 11% of the world's electricity and around 33% of global low carbon electricity. Currently, there are 442 nuclear power reactors in operation in 32 countries. There are 54 reactors under construction in 19 countries, including 4 countries that are building their first nuclear reactors according to the IAEA reports (Nuclear Power Proves its, 2021; Climate Change and Nuclea, 2020a, 2020b). Nuclear power is reducing CO2 emissions by about **two gigatons per year**. Therefore, nuclear power will be imperative for achieving the low carbon future. In France, nuclear power plants accounted for 70.6% of the total electricity generation in 2019, the largest nuclear share for any industrialized country. About 90% of France's electricity comes from low carbon sources (nuclear and renewable combined). Nuclear power contributes 20% of electricity generation in the United States over the past two decades and it remains the single largest contributor of non-greenhouse-gas-emitting electric power generation out of 1,117, 475 MWe total electricity generating capacity of which 60% is from fossil fuel.

The second-largest source of low carbon energy in use today is nuclear power, after hydropower. Nuclear power plants provide **continuous and stable** energy to the grid whereas solar and wind energy require back-up power during their output gaps, such as at night or when the wind stops blowing. The International Panel on Climate Change (IPCC) has proposed at least doubling of nuclear power generation by 2050 to meet the Paris agreement. Nuclear power has compensated about 60 Gt of CO2 emissions over the past 50 years, nearly equal to **2 years** of global energy-related CO2 emissions and can help to conquer the challenges of climate change.

Existing reactors and future advanced nuclear technologies, like Small Modular Reactors (SMRs), can meet base load power needs and also **operate flexibly** to accommodate renewables and respond to demand. SMRs are a recent concept to accelerate the construction and commissioning of large nuclear power projects. By adopting the concept of modular manufacture of components, significant reduction in on-site construction time can be achieved. This can also help in reducing the capital costs. Several types of SMRs are currently under development and these offer improved economics, operational flexibility, enhanced safety, a wider range of plant sizes and the ability to meet the emerging needs of sustainable energy systems. Some of these reactors are designed to operate up to 700–950 ◦C (for gas cooled reactors) compared to LWRs, which operate at 280–325 ◦C. The electrical efficiency is higher and it can supply high temperature heat to industrial processes. High temperature SMRs can generate hydrogen through more energy efficient processes such as high temperature steam electrolysis or thermochemical cycles. Their smaller size and easier siting are expected to be a better fit for most non-electric applications, which require an energy output below 300 MWe.

Transition now solves before the brink

Stiglitz 21, (Joseph E. Stiglitz [Economics Nobel laureate, Professor of Economics at Columbia University, Ph.D., Massachusetts Institute of Technology], “The Cost of Inaction on Climate Change,” United States Senate Committee on the Budget, 4-xx-2021, https://www.budget.senate.gov/imo/media/doc/Joseph%20Stiglitz%20-%20Testimony%20-%20U.S.%20 Senate%20Budget%20Committee%20Hearing.pdf)//Shwillett

Risks Let me spend a few moments discussing the real risks our economy and society face if we do not take stronger actions than we have so far. We have been treating truly **scarce** resources, our **environment**, our water, our air, as if they **were free**. But economics teaches us that there is no such thing as a free lunch. We will have to pay the check someday. And **delay** is **costly**. Taking carbon out of the atmosphere is far more expensive than not putting it into the atmosphere. A smooth **transition** is far **less costly** than the one we will surely **face** if we do not take action **urgently**. In 2008 we saw the financial destruction that came about as a result of the sudden readjustment in the pricing of one part of our housing market. The failure there would have brought down our financial system if governments had not acted forcefully. A full accounting of the costs to our societies over the succeeding years suggests that they were in the trillions of dollars. There will be a **repricing** of carbon **assets**. This I firmly believe. Carbon assets, such as those associated with **coal** and **oil** companies, **do not** today adequately **reflect** the realities of **climate change**. The **longer** we **delay** dealing with **climate change**, the **larger** the necessary **adjustments** will be, and the **greater** the potential for **huge** economic **disruption**—an **economic** disruption that could **make** the **2008** Great Recession **look like child’s play** by comparison.6 The **danger** of a **crash** is **particularly acute** for the **U.S.** economy, given that large **U.S. banks** are the largest **financiers** of fossil fuel.7 The insurance industry is heavily exposed, too. Over time, I would expect that they will be more careful in providing coverage—and that means more Americans will have to manage these risks on their own. And ultimately, we know what that means: When large calamities occur, as seems inevitable, the government will pick up the bill. This is a huge hidden liability on the government’s balance sheet. Opportunities Economics has, for good reason, been called the dismal science. The scenario of doom and gloom that I have painted is, unfortunately, all too real. But I want to end on a sunnier note. Doing something about climate change could be a real boon for the economy. Too often, critics of taking action point to the job losses. **Change** is **costly**. But change provides **opportunity**. I am also firmly convinced that the **opportunities afforded** by addressing climate change are **enormous**. The number of jobs that will be lost in the old fossil fuel industries are dwarfed by those that will be created in the new industries. The **value** created in the **new industries** will also **dwarf** the **value** of the **stranded assets** in the fossil fuel and related sectors. As just two examples: the number of **installers** of solar panels already is a

mbultiple of the number of **coal miners**; the auto company with the **highest valuation** today is **Tesla.** The current focus on changing to a green economy is already stimulating enormous innovation, innovation that holds out the promise of significant increases in standards of living. The price of renewable energy has been plummeting, and in many areas outcompetes fossil fuels. The drive for a greener society is stimulating the design of new buildings and new ways of doing agriculture, which turn out actually to save resources, particularly if we value them appropriately. Our country especially has much to gain, because innovation is a key comparative advantage. If we are ahead of the game—rather than a laggard—we will develop technology that will be in demand around the world. If we are behind the game, we will pay a high price. It is almost inevitable that other countries will demand cross-border adjustments that will put our companies at a disadvantage. Government has an important role in enabling, facilitating, and encouraging the transition to a green economy. One might say we are in good luck: The deficiencies in public investment over the past decades has made it imperative that we undertake such investments now; and we can make those investments "green" investments. The investments themselves will create an enormous number of jobs, stimulating the economy and banishing to the past discussions of secular stagnation that have abounded for the past two decades. They will also crowd-in private investment. Basic research and technology investments by government, for instance, provide the foundations for investments by the private sector. We saw that in the case of the internet; we saw that in the case of the vaccines that were produced with such rapidity in response to Covid-19. And we will see it with these green investments as well. More To Be Done There is much more to be done to protect the economy from the risks I have described.8 For instance, we need immediately to end fossil fuel subsidies and require full disclosure of climate risks—both the risks of physical damage and the financial risks. Markets on their own don't provide adequate disclosure, necessary both for the efficient allocation of scarce capital and for protecting investors. We need to change statutes governing fiduciary responsibility to mandate looking at these long-run risks, and especially where government is at risk, as in government insurance pension schemes. When the government is providing insurance or finance—whether it's through FDIC or through Fannie Mae—we as taxpayers need to be apprised of all these risks; or more pointedly, we shouldn't be taking on these risks. We shouldn't be insuring banks that make loans that put our planet at risk. We also know that when all is said and done, the government will pick up the pieces when there is systemic financial fragility—and that's why it's imperative that we start assessing, and regulating, systemic climate risk. We have long been aware that in certain key areas there may be deficiencies in the provision of adequate finance. Economists have explained why that's the case, and governments around the world have stepped into the breach. There is, I believe, the need for the founding of a national infrastructure bank and for seeding the creation of community, state, and regional banks to facilitate green investments. We should never again allow the deficiency in infrastructure, which I referred to earlier, to be built up. Social Cost of Carbon Within the **economy**, within **companies**, and within **government**, prices help **guide decisions**. That's why assigning a **near-zero** price to resourcesthat are scarce is such a bad **mistake**, and leads to such **bad outcomes**. We need to **be aware** of the social **cost** of carbon. Unfortunately, the **interim** social **cost** of carbon that was arrived at was much, **much too low**. If used as a **basis** for guiding the economy, it would **result** in temperature increases of 3.5 to **4 degrees** C.— temperatures we have not seen in millions of years, with untold risksthat the international community has rightly shied away from.9 We need to **employ** a significantly **high** social **cost** of carbon, accompanied by regulations, and public investments that will **enable us** to deal **with risks** that have rightly been called **existential**.10

And this is crucial , as failure to address climate change is existential. Specktor '19…

Brandon **Specktor 19**, 6-4-2019, "Civilization could crumble by 2050 if we don't stop climate change now, new paper says," NBC News, https://www.nbcnews.com/mach/science/civilization-could-crumble-2050-if-we-don-t-stop-climate-ncna1013701 || DOA 9/6/2023 BRP

It seems every week there's a scary new report about how man-made climate change is going to cause the collapse of the world's ice sheets, result in the extinction of up to 1 million animal species and — if that wasn't bad enough — make our beer very, very expensive. This week, a new policy paper from an Australian think tank claims that those other reports are slightly off; the risks of climate change are actually much, much worse than anyone can imagine. According to the paper, climate change poses a "near- to mid-term existential threat to human civilization," and there's a good chance society could collapse as soon as 2050 if serious mitigation actions aren't taken in the next decade. Published by the Breakthrough National Centre for Climate Restoration in Melbourne (an independent think tank focused on climate policy) and authored by a climate researcher and a former fossil fuel executive, the paper's central thesis is that climate scientists are too restrained in their predictions of how climate change will affect the planet in the near future. [Top 9 Ways the World Could End] The current climate crisis, they say, is larger and more complex than any humans have ever dealt with before. General climate models — like the one that the United Nations' Panel on Climate Change (IPCC) used in 2018 to predict that a global temperature increase of 3.6 degrees Fahrenheit (2 degrees Celsius) could put hundreds of millions of people at risk — fail to account for the sheer complexity of Earth's many interlinked geological processes; as such, they fail to adequately predict the scale of the potential consequences. The truth, the authors wrote, is probably far worse than any models can fathom. How the world ends What might an accurate worst-case picture of the planet's climate-addled future actually look like, then? The authors provide one particularly grim scenario that begins with world

governments "politely ignoring" the advice of scientists and the will of the public to decarbonize the economy (finding alternative energy sources), resulting in a global temperature increase [of] 5.4 F (3 C) by the year 2050. At this point, the world's ice sheets vanish; brutal droughts kill many of the trees in the Amazon rainforest (removing one of the world's largest carbon offsets); and the planet plunges into a feedback loop of ever-hotter, ever-deadlier conditions. "Thirty-five percent of the global land area, and 55 percent of the global population, are subject to more than 20 days a year of lethal heat conditions, beyond the threshold of human survivability," the authors hypothesized. Meanwhile, droughts, floods and wildfires regularly ravage the land. Nearly one-third of the world's land surface turns to desert. Entire ecosystems collapse, beginning with the planet's coral reefs, the rainforest and the Arctic ice sheets. The world's tropics are hit hardest by these new climate extremes, destroying the region's agriculture and turning more than 1 billion people into refugees. This mass movement of refugees — coupled with shrinking coastlines and severe drops in food and water availability — begin to stress the fabric of the world's largest nations, including the United States. Armed conflicts over resources, perhaps culminating in nuclear war, are likely. The result, according to the new paper, is "outright chaos" and perhaps "the end of human global civilization as we know it." How can this catastrophic vision of the future be prevented? Only with the people of the world accepting climate change for the emergency it is and getting to work — immediately. According to the paper's authors, the human race has about one decade left to mount a global movement to transition the world economy to a zero-carbon-emissions system. (Achieving zero-carbon emissions requires either not emitting carbon or balancing carbon emissions with carbon removal.) The effort required to do so "would be akin in scale to the World War II emergency mobilization," the authors wrote. The new policy paper was endorsed with a foreword by Adm. Chris Barrie, a retired Australian defense chief and senior royal navy commander who has testified before the Australian Senate about the devastating possibilities climate change poses to national security and overall human well-being. "I told the [Senate] Inquiry that, after nuclear war, human-induced global warming is the greatest threat to human life on the planet," Barrie wrote in the new paper. "Human life on Earth may be on the way to extinction, in the most horrible way."

Thus, we urge you to affirm

A. Interp:

Debaters must disclose at least 30 minutes before a round on the OpenCaseList PF wiki **all tags, cites, full text, and portions read of all cards read** in cases run at prior rounds on all TOC-bid or national championship tournaments on the current topic.

B. Violation:

They don't. Cards don't include the full cites/links to full cards or full text of read cards. We don't know what's missing.

Tournament	Round	Side	Opponent	Judge	Round Report (Expand All)	Open Source
:ional Championships						
National Debate Coaches Association National Championships	Round 1	Con	Delbarton EP	Srivastava	1ac - smr, ai, heg 1nc - accid...	

Contention 1 is Accidents

Trump is decking NRC independence allowing companies to skip steps causing Fukushima 2.0
Macfarlane 25

Trump, through Exec Order attacked independent agencies free from influence. This subordin regulators to the president. Fukushima result of collusion between government and TEPCO because Trump assault the N R C Proponents pressured the executive to reduce regulation They wish reactors be exempted from requirements If any reactor suffers a accident, the entire industry will be shut down

AND Energy Secretary Chris Wright has a history of neglecting safety.
Accountable 25

Energy Secretary Wright a member of nuclear company application before the N R C was denied due to safety. Wright will look other way when companies violate safety

Affirming gives Wright the keys.
Lynch 25 additional gov support needed to reach costs secretary of energy need appropriations to engineer nuclear 'win.'

Accidents cause BioD Loss.
Olsson 11

reviewed 521 studies existing data sparse for marine biased toward few groups elevated radiation occur thousands of kilometers away changes permanent genetic alterations occur Lethal mutations observed reduced reproduction immune and reproductive systems accumulation through food web

Extinction! Torres 16
catastrophe have conflict effects biod loss isn't limited to species ecosystems provide us food materials and medicines teetering on brink of irreversible collapse "tipping points crossed initiate radical changes if environment implodes civilization is doomed inflate wars and likelihood of nucs

Contention 2 is Russia

Russia's economy is at the brink --- oil is Putin's last straw. Matthews 25

Russian economy on **brink of collapse** in Russia **inflation** over 9 per cent crippling **interest** 21 per cent ruble lost **half its value** **Western businesses** pulled out, utility companies hiked prices **250 per cent.** Natural gas **never been sanctioned** Europe **continues to import** Russian gas via Turkey despite posturing energy accounts for **two-thirds of revenues** Ukraine's allies hoped sanctions would bring **economy crashing** That hasn't happened because the US did not want a **oil price spike** they have **not brought Putin to his knees**

Sanctions won't come. Bush 25

Trump hesitant on energy sanctions against Russia Trump's **domestic agenda** makes it hard to go after **Russia** Trump **promise to drive prices at the pump down** they'll be cautious about taking **barrels off the market** The E U spent more on Russian gas than assistance to Ukraine the West "hasn't put **pressure**

Affirming decreases oil demand AND insulates Americans from sanctioning Russia. Zadrowski 24 energy demand increased The U.S. has **nuclear energy** infra but not at scale Why ? there exist **high costs to producing plants** nuc energy as **main source of energy** is a possibility Nuclear Energy a **Alternative to Fossil Fuels** decreased dependency on fossil fuel provides **stability** after Ukraine, Russian exports decreased to Western countries resulted in **increase in oil prices** in the U.S. if the U.S. had energy available from nuclear power oil prices may not increased, as less would be needed nuclear power **reduced demand for fossil fuels**.

Decreased demand means more exports. Rua 13

domestic conditions influence ability to export in **slacking** domestic demand firms **compensate** through increased export studies found significant effect of domestic demand on exports in **the U S**

Empirically, increased supply lowers oil prices --- decks Russia's military and economy. Cooper 24

to increase supply **jeopardise** Russian war effort Russia and Saudi Arabia at the outset of Covid increas production oil price **went to freefall.** the market **bear heavily on Russia** revenues from oil are **critical** Putin **draw on them** to fund aggression Russia **fund trade** through sale of fuels to meet **needs of the populace** oil is critical.

It's instant AND turns case. Baltvilks 22

announcement of **policy signal producers demand** will **end** motivating them to **sell** as soon as they can.**Flooding market depresses price** and **incentivises use rendering** climate **policy ineffective Low-cost** oil **crowd out Russia render revenues negligible** this **complicate** the regime.

A losing warfront ensures nukes. Stein 24

Russia explodes a nuc to **force Ukraine** to end fighting **In** a situation where forces are pushed **out Ukraine significantly lowered threshold** 2024, Putin signed a decree to use nucs against state that attacks Russia or **allies** in response to when **existence of the state is in jeopardy**

C. Standards:

1) Time skew out of round — Debaters can't use pre round prep time to verify sources if there isn't full text and cites disclosed. This gives an unfair advantage to non-disclosing teams.
2) Time skew in round — Debaters have to use time in round to verify information if they can't before a round. This gives an unfair time advantage to non-disclosing teams.
3) Transparency — this is teaching kids to conceal information and hide things. Without cites, debaters learn to only provide information once prompted as opposed to upfront. This leads to the default position that people are probably cheating and this isn't what debate is about.
4) Real World Education — Lawyers have to turn over all evidence and not hold anything back. This is the most real world situation for all of us because many debaters go into law. Teaching debaters to cheat, lie, and/or withhold information is only setting them up for failure with the most portable skill debate provides. The Brady rule is a key example of this.

Brady disclosure requires full disclosure of evidence in criminal cases.

LII '21 [LII / Legal Information Institute, 01-01-2023, "Brady rule", https://www.law.cornell.edu/wex/brady_rule] tristan

The Brady rule, named after Brady v. Maryland , requires prosecutors to disclose material , exculpatory information in the government's possession to the defense. Brady material , or the evidence the prosecutor is required to disclose under this rule, includes any information favorable to the accused which may reduce a defendant's potential sentence, go against the credibility of an unfavorable witness , or otherwise allow a jury to infer against the defendant's guilt. Initially, the Brady rule was only applicable if the defendant made a pretrial request for specific information which the prosecution denied. In United States v. Bagley , however, the Supreme Court eliminated this request requirement and stated that the prosecution has a constitutional duty to disclose all material, favorable information in their possession to defendants regardless of whether it is requested. This duty is breached regardless of whether that information is withheld intentionally or unintentionally. If a Brady rule violation is discovered during trial, the court can either declare a mistrial or prohibit the prosecution from using unfavorable evidence which could be discredited by the withheld information. Because the Brady rule inherently involves a lack of information on the side of the defense, however, violations of the Brady rule are typically only discovered after the defendant is already convicted . As a result, the most common outcome of a Brady rule violation is overturning that conviction. Additionally, if the prosecution withheld Brady material intentionally or knowingly, they may be subject to sanctions . The defendant bears the burden

to prove that any withheld information was both material and favorable. A defendant meets this burden if they can show that there is a reasonable probability that the outcome of the trial would have been different had the information been disclosed. In Kyles v. Whitley , the Supreme Court clarified four aspects of this test: “Reasonable probability” is a question of whether the government’s failure to disclose this information undermines confidence in the outcome of the trial. “Reasonable probability” is not a sufficiency of evidence test and the defendant does not need to show that the evidence, barring any evidence undermined by the withheld information, is inadequate to support a conviction. Rather, the defendant merely must show that the withheld information can reasonably be taken to put the whole case in a different light. Failure to disclose information which has a reasonable probability of changing the outcome of the trial is inherently harmful, thus there is no need for a separate harmless error review. All information not disclosed must be considered collectively, not item by item.

Voter — Drop the debater – three reasons.

1 – No Difference – It’s the same as dropping the argument since the argument is the entire case that wasn’t disclosed.

2. Norm-setting – Voting for us sets a precedent in favor of a positive model of debate—wins and losses determine the direction of activity. This is especially true at a national level tournament.

3. Dropping them remedies the advantages they got from their abuses and disincentives debaters from not disclosing in the future.

Prefer Competing Interps.

It sets bright lines, while Reasonability encourages judge intervention. Bad disclosure here is even less excusable than at a lower stakes tournament because everyone at the TOC is going to be looking at the cases read at this tournament. This is the place where norms are created.

No RVIs

– Encourages baiting. Teams shouldn’t win just for following the rules.

Underview:

Need to answer in the next speech to avoid time, strategy skewing, and late breaking debates

We Affirm, “Resolved: The United States federal government should substantially increase its investment in domestic nuclear energy.”

Our contention is climate

SMR development is being hampered by lack of investment.

Waleed ‘25 Hammad Waleed (Research Associate at Strategic Vision Institute), 03-13-2025, "Nuclear’s Next Chapter: Can Small Modular Reactors Succeed?," SVI - Strategic Vision Institute - Strategic Vision Institute, https://thesvi.org/nuclears-next-chapter-can-small-modular-reactors-succeed/, accessed 3-31-2025 //RP

In the vast chessboard of global energy, a new player is making its move—a promise wrapped in steel and uranium, heralded as the saviour of both the climate crisis and the nuclear industry itself. **Small Modular Reactors (SMRs) are being hailed as the future of clean energy, a technology that could redefine power generation as we know it**. **Compact, factory-built, and supposedly safer, faster, and cheaper,** SMRs have been cast as the solution to nuclear energy’s greatest pitfalls. SMRs are marketed as a nuclear breakthrough—smaller, safer, and scalable—but their **high costs and lack of investment**

slow progress. Yet, for all the fanfare, the revolution has yet to arrive. Over 80 different SMR projects have been proposed in recent decades, yet **only two have been designed and put into commercial operation .** The Western world, despite its enthusiasm, is struggling to make SMRs a reality. **Meanwhile, the East—led by Russia and China—is racing ahead, proving that when it comes to nuclear energy, state-backed ambition often trumps free-market hesitation**. Not too long ago , nuclear energy was the great hope of modern civilization. It was the power of the future, promising limitless energy without the environmental scars of coal and oil. But then came Chernobyl. Three Mile Island. Fukushima. One disaster after another shattered public confidence, turning nuclear into a relic of a more naive era. Now, as the world plummets toward climate catastrophe, **nuclear power is finding its way back into the mainstream energy discourse .** The International Energy Agency (IEA) has stated, unequivocally, that **nuclear capacity must double by 2050 if we are to meet global net-zero targets.** But here's the problem—**traditional nuclear plants are too expensive, too slow to build, and too politically fraught**(something that politicians dependant upon five year election cycles would consider too costly and politically less rewarding) **Enter SMRs, the golden compromise. They're small. They're scalable. They can be mass-produced in factories like airplanes instead of being built from scratch on-site. They take up a fraction of the space required by wind and solar farms**. In theory, they're a silver bullet. In practice? Not so much. **China and Russia lead the SMR race, using state-backed funding, streamlined regulation, and full-service nuclear deals to outpace the West**. The logic behind **SMRs is simple: make them smaller, make them safer, and make them modular. Instead of sprawling mega-facilities that take decades to construct, SMRs could be produced assembly-line style and shipped to wherever they're needed**. They could power remote towns, support industrial manufacturing, and even serve as a replacement for decommissioned coal plants. More importantly,**they are designed with passive safety features—instead of relying on external power and human intervention, many SMRs cool themselves naturally. No pumps, no backup generators—just physics doing its job**. The nuclear industry argues that this makes them inherently safer than their predecessors, ensuring that a **Fukushima-style meltdown would be nearly impossible.**

Climate change is worsening – most recent studies confirm we're on the brink of irreversibility and the next 20 years are key.

Martina **Igini**, **02-**11-20**25**, "Breaching 1.5C Threshold Could Come 'Earlier Than Expected'", Earth.Org, https://earth.org/paris-agreements-1-5c-threshold-breach-could-come-earlier-than-expected-scientists-warn/ [Martina holds two BA degrees - in Translation Studies and Journalism - and an MA in International Development from the University of Vienna.] DOA: 3/10/2025 //RRM

Two **new** studies indicate that we might have already **crossed a key threshold** to limit global warming in line with the **Paris Agreement**, after 2024 became the first calendar year where global temperatures surpassed 1.5C. – **The planet might be on track to breach a key global warming threshold "earlier than expected," two new papers warned on Monday. The studies, published in Nature Climate Change, follow the hottest year on record and the first in which global temperatures reached 1.5C for the entire year**. This has left scientists wondering what this means for warming trends, as it puts us closer to a temperature limit we have pledged to do everything we can to avoid crossing. EO Movement Become an EO Member today and join a growing movement of people determined to make a change. JOIN EARTH.ORG Whether the planet has breached the Paris Agreement 1.5C warming target or not is measured over a 20-year retrospective average, meaning last year does not signal a permanent breach. **What the new studies investigated, however, is whether we have already entered the 20-year period above 1.5C.** Both concluded we have. One study, authored by Alex Cannon, a research scientist with Environment and Climate Change Canada, concluded that if 1.5C anomalies continue beyond 18 months, "breaching the Paris Agreement threshold is virtually certain." **Meanwhile, Emanuele Bevacqua, a climate scientist at the Helmholtz Centre for Environmental Research in Germany, and colleagues put the odds of 2024 being the first year of a 20-year period reaching the 1.5C warming level at "likely" to "virtually certain."** The Paris deal was drafted in 2015 to strengthen the global response to the growing threat of climate change. It set out a framework for limiting global warming to below 1.5C or "well below 2C" above pre-industrial levels by the end of the century. **Beyond this limit, experts warn that critical tipping points will be breached, leading to devastating and potentially irreversible consequences for several vital Earth systems that sustain a hospitable planet.** The United Nations had already estimated that current emissions reduction pledges put the planet on track for a temperature increase of 2.6-3.1C over the course of this century. The only way to avoid this is do drastically reduce greenhouse gas emissions, the primary driver of global warming as they trap heat in the atmosphere, raising Earth's surface temperature. Scientists are not optimistic either. A survey of 380 IPCC scientists conducted by the Guardian last May revealed that 77% of them believe humanity is headed for at least 2.5C of warming. And on Monday, renowned climatologist James Hansen said even the 2C target "is dead" after his latest paper concluded that Earth's climate is more sensitive to rising greenhouse gas emissions than previously thought. The former top NASA climate scientist famously announced to the US Congress in 1988 that global warming was underway. Warming Continues Hopes that the recent warming trend would subside with the arrival of a cooling weather pattern known as La Niña were dashed last month, as January turned out to be the hottest January ever recorded. Surface air temperature anomaly for January 2025 relative to the January average for the period 1991-2020. Data source: ERA5. Surface air temperature anomaly for January 2025 relative to the January average for the period 1991-2020. Image: C3S/ECMWF. "[M]any of us expect that 2025 will be cooler than both 2023 and 2024, and is unlikely to be the warmest year in the instrumental record," climatologist Zeke Hausfather wrote in a blog post on Monday. Their expectations were not met, he went on to say, describing how last beat the prior record set in January 2024 "by a sizable margin." "January 2025 stands out as anomalous even by the standards of the last two years," Hausfather wrote. "[A]t least at the start of the year nature seems not to be following our expectations."

Fortunately, nuclear energy offers an effective solution.

Hansen '13 confirms [James E. Hansen; PhD, American adjunct professor; Pushker A. Kharecha; PhD, Climate scientist; 03-15-2013; "Prevented Mortality and Greenhouse Gas Emissions from Historical and Projected Nuclear Power"; ACS; https://pubs.acs.org/doi/10.1021/es3051197; accessed 03-10-2025] leon

In the aftermath of the March 2011 accident at Japan's Fukushima Daiichi nuclear power plant, the future contribution of nuclear power to the global energy supply has become somewhat uncertain. Because nuclear power is an abundant, low-carbon source of base-load power, it could make a large contribution to mitigation of global climate change and air pollution. **Using historical production data, we calculate that global nuclear power has prevented an average of 1.84 million air pollution-related deaths and 64 gigatonnes of CO2-equivalent** (GtCO2-eq) **greenhouse gas** (GHG) **emissions that would have resulted from fossil fuel burning**. On the basis of global projection data that **take into account the effects of the Fukushima accident, we find that nuclear power could additionally prevent an average of 420 000–7.04 million deaths** and 80–240 GtCO2-eq emissions due to fossil fuels by midcentury, depending on which fuel it replaces. By contrast, we assess that **large-scale expansion of unconstrained natural gas use would not mitigate the climate problem and would cause far more deaths than expansion of nuclear power**.

Nuclear energy is key for climate goals. Matthew 22 continues…

Matthew 22 [M.D. Matthew, Professor @ Saintgits College of Engineering (India), January 2022, Nuclear energy: A pathway towards mitigation of global warming, Progress in Nuclear Energy, https://aben.com.br/wp-content/uploads/2022/02/Nuclear-energy-a-pathway-towards-mitigation-of-global-warming.pdf] sumzom

The clean energy transition means shifting from fossil energy to energy resources that **release little or no greenhouse gases** such as nuclear power, hydro, wind and solar. About a **third of the world's carbonfree electricity** comes from **nuclear energy.**

Nuclear power has a **great potential** to contribute to the 1.5 ◦C Paris climate change target. Nuclear power plants produce **no greenhouse gas** emissions during their operation; only very low emissions are produced over their full life cycle. Even after accounting for the entire life cycle from mining of nuclear fuel to spent fuel waste management, nuclear power is proven to be a low carbon electricity source. During operation and maintenance, nuclear power plants produce different levels of solid and liquid waste and are **treated and disposed-off safely**. While conventional fossil-fueled power plants cause emissions almost exclusively from the plant site, the majority of greenhouse gas emissions in the nuclear fuel cycle are caused in processing stages upstream (exploration and processing of the uranium ore, fuel fabrication etc.), and downstream from the plant (fuel reprocessing, spent fuel storage etc.). Over the course of its life-cycle, the amount of CO2-equivalent emissions per unit of electricity produced by nuclear power plants is comparable with that of wind power, and **only one-third** of the emissions by solar. The greenhouse gas emissions correspond to 10–15 gm of CO2 per kilowatt hour electricity produced in comparison with the emission from a fossil fueled plant of 600–900 gm, 15–25 gm from wind turbines and hydroelectricity, and around 90 g from solar power plants (Fig. 8) (Carbon Dioxide Emissions, 2021).

Nuclear power delivers reliable, affordable and clean energy to support economic growth and social development. **Without a larger role for nuclear energy, it would not be possible to combat climate change.**

Nuclear power can be **deployed on a large scale**. So, nuclear power plants can directly replace fossil fueled power plants. As of end December 2020, global nuclear power capacity was 393 GW(e) and accounted for around 11% of the world's electricity and around 33% of global low carbon electricity. Currently, there are 442 nuclear power reactors in operation in 32 countries. There are 54 reactors under construction in 19 countries, including 4 countries that are building their first nuclear reactors according to the IAEA reports (Nuclear Power Proves its, 2021; Climate Change and Nuclea, 2020a, 2020b). Nuclear power is reducing CO2 emissions by about **two gigatons per year**. Therefore, nuclear power will be imperative for achieving the low carbon future. In France, nuclear power plants accounted for 70.6% of the total electricity generation in 2019, the largest nuclear share for any industrialized country. About 90% of France's electricity comes from low carbon sources (nuclear and renewable combined). Nuclear power contributes 20% of electricity generation in the United States over the past two decades and it remains the single largest contributor of non-greenhouse-gas-emitting electric power generation out of 1,117, 475 MWe total electricity generating capacity of which 60% is from fossil fuel.

The second-largest source of low carbon energy in use today is nuclear power, after hydropower. Nuclear power plants provide **continuous and stable** energy to the grid whereas solar and wind energy require back-up power during their output gaps, such as at night or when the wind stops blowing. The International Panel on Climate Change (IPCC) has proposed at least doubling of nuclear power generation by 2050 to meet the Paris agreement. Nuclear power has compensated about 60 Gt of CO2 emissions over the past 50 years, nearly equal to **2 years** of global energy-related CO2 emissions and can help to conquer the challenges of climate change.

Existing reactors and future advanced nuclear technologies, like Small Modular Reactors (SMRs), can meet base load power needs and also **operate flexibly** to accommodate renewables and respond to demand. SMRs are a recent concept to accelerate the construction and commissioning of large nuclear power projects. By adopting the concept of modular manufacture of components, significant reduction in on-site construction time can be achieved. This can also help in reducing the capital costs. Several types of SMRs are currently under development and these offer improved economics, operational flexibility, enhanced safety, a wider range of plant sizes and the ability to meet the emerging needs of sustainable energy systems. Some of these reactors are designed to operate up to 700–950 ◦C (for gas cooled reactors) compared to LWRs, which operate at 280–325 ◦C. The electrical efficiency is higher and it can supply high temperature heat to industrial processes. High temperature SMRs can generate hydrogen through more energy efficient processes such as high temperature steam electrolysis or thermochemical cycles. Their smaller size and easier siting are expected to be a better fit for most non-electric applications, which require an energy output below 300 MWe.

Transition now solves before the brink

Stiglitz 21, (Joseph E. Stiglitz [Economics Nobel laureate, Professor of Economics at Columbia University, Ph.D., Massachusetts Institute of Technology], "The Cost of Inaction on Climate Change," United States Senate Committee on the Budget, 4-xx-2021, https://www.budget.senate.gov/imo/media/doc/Joseph%20Stiglitz%20-%20Testimony%20-%20U.S.%20 Senate%20Budget%20Committee%20Hearing.pdf)//Shwillett

Risks Let me spend a few moments discussing the real risks our economy and society face if we do not take stronger actions than we have so far. We have been treating truly **scarce** resources, our **environment**, our water, our air, as if they **were free**. But economics teaches us that there is no such thing as a free lunch. We will have to pay the check someday. And **delay** is **costly**. Taking carbon out of the atmosphere is far more expensive than not putting it into the atmosphere. A smooth **transition** is far **less costly** than the one we will surely **face** if we do not take action **urgently**. In 2008 we saw the financial destruction that came about as a result of the sudden readjustment in the pricing of one part of our housing market. The failure there would have brought down our financial system if governments had not acted forcefully. A full accounting of the costs to our societies over the succeeding years suggests that they were in the trillions of dollars. There will be a **repricing** of carbon **assets**. This I firmly believe. Carbon assets, such as those associated with **coal** and **oil** companies, **do not** today adequately **reflect** the realities of **climate change**. The **longer** we **delay** dealing with **climate change**, the **larger** the necessary **adjustments** will be, and the **greater** the potential for **huge** economic **disruption**—an **economic** disruption that could **make** the **2008** Great Recession **look like child's play** by comparison.6 The **danger** of a **crash** is **particularly acute** for the **U.S.** economy, given that large **U.S. banks** are the largest **financiers** of fossil fuel.7 The insurance industry is heavily exposed, too. Over time, I would expect that they will be more careful in providing coverage—and that means more Americans will have to manage these risks on their own. And ultimately, we know what that means: When large calamities occur, as seems inevitable, the government will pick up the bill. This is a huge hidden liability on the government's balance sheet. Opportunities Economics has, for good reason, been called the dismal science. The scenario of doom and gloom that I have painted is, unfortunately, all too real. But I want to end on a sunnier note. Doing something about climate change could be a real boon for the economy. Too often, critics of taking action point to the job losses. **Change** is **costly**. But change provides **opportunity**. I am also firmly convinced that the **opportunities afforded** by addressing climate change are **enormous**. The number of jobs that will be lost in the old fossil fuel industries are dwarfed by those that will be created in the new industries. The **value** created in the **new industries** will also **dwarf** the **value** of the **stranded assets** in the fossil fuel and related sectors. As just two examples: the number of **installers** of solar panels already is a **mbultiple** of the number of **coal miners**; the auto company with the **highest valuation** today is **Tesla**. The current focus on changing to a green economy is already stimulating enormous innovation, innovation that holds out the promise of significant increases in standards of living. The price of renewable energy has been plummeting, and in many areas outcompetes fossil fuels. The drive for a greener society is stimulating the design of new buildings and new ways of doing agriculture, which turn out actually to save resources, particularly if we value them appropriately. Our country especially has much to gain, because innovation is a key comparative advantage. If we are ahead of the game—rather than a laggard—we will develop technology that will be in demand around the world. If we are behind the game, we will pay a high price. It is almost inevitable that other countries will demand cross-border adjustments that will put our companies at a disadvantage. Government has an important role in enabling, facilitating, and encouraging the transition to a green economy. One might say

we are in good luck: The deficiencies in public investment over the past decades has made it imperative that we undertake such investments now; and we can make those investments “green” investments. The investments themselves will create an enormous number of jobs, stimulating the economy and banishing to the past discussions of secular stagnation that have abounded for the past two decades. They will also crowd-in private investment. Basic research and technology investments by government, for instance, provide the foundations for investments by the private sector. We saw that in the case of the internet; we saw that in the case of the vaccines that were produced with such rapidity in response to Covid-19. And we will see it with these green investments as well. More To Be Done There is much more to be done to protect the economy from the risks I have described.8 For instance, we need immediately to end fossil fuel subsidies and require full disclosure of climate risks—both the risks of physical damage and the financial risks. Markets on their own don’t provide adequate disclosure, necessary both for the efficient allocation of scarce capital and for protecting investors. We need to change statutes governing fiduciary responsibility to mandate looking at these long-run risks, and especially where government is at risk, as in government insurance pension schemes. When the government is providing insurance or finance—whether it’s through FDIC or through Fannie Mae—we as taxpayers need to be apprised of all these risks; or more pointedly, we shouldn’t be taking on these risks. We shouldn’t be insuring banks that make loans that put our planet at risk. We also know that when all is said and done, the government will pick up the pieces when there is systemic financial fragility—and that’s why it’s imperative that we start assessing, and regulating, systemic climate risk. We have long been aware that in certain key areas there may be deficiencies in the provision of adequate finance. Economists have explained why that’s the case, and governments around the world have stepped into the breach. There is, I believe, the need for the founding of a national infrastructure bank and for seeding the creation of community, state, and regional banks to facilitate green investments. We should never again allow the deficiency in infrastructure, which I referred to earlier, to be built up. Social Cost of Carbon Within the **economy**, within **companies**, and within **government**, prices help **guide decisions**. That’s why assigning a **near-zero** price to resourcesthat are scarce is such a bad **mistake**, and leads to such **bad outcomes**. We need to **be aware** of the social **cost** of carbon. Unfortunately, the **interim** social **cost** of carbon that was arrived at was much, **much too low**. If used as a **basis** for guiding the economy, it would **result** in temperature increases of 3.5 to **4 degrees** C.— temperatures we have not seen in millions of years, with untold risksthat the international community has rightly shied away from.9 We need to **employ** a significantly **high** social **cost** of carbon, accompanied by regulations, and public investments that will **enable us** to deal **with risks** that have rightly been called **existential**.10

And this is crucial , as failure to address climate change is existential. Specktor ’19…

Brandon **Specktor 19**, 6-4-2019, "Civilization could crumble by 2050 if we don't stop climate change now, new paper says," NBC News, https://www.nbcnews.com/mach/science/civilization-could-crumble-2050-if-we-don-t-stop-climate-ncna1013701 || DOA 9/6/2023 BRP

It seems every week there's a scary new report about how man-made climate change is going to cause the collapse of the world's ice sheets, result in the extinction of up to 1 million animal species and — if that wasn't bad enough — make our beer very, very expensive. This week, a new policy paper from an Australian think tank claims that those other reports are slightly off; the risks of climate change are actually much, much worse than anyone can imagine. According to the paper, climate change poses a "near- to mid-term existential threat to human civilization," and there's a good chance society could collapse as soon as 2050 if serious mitigation actions aren't taken in the next decade. Published by the Breakthrough National Centre for Climate Restoration in Melbourne (an independent think tank focused on climate policy) and authored by a climate researcher and a former fossil fuel executive, the paper's central thesis is that climate scientists are too restrained in their predictions of how climate change will affect the planet in the near future. [Top 9 Ways the World Could End] The current climate crisis, they say, is larger and more complex than any humans have ever dealt with before. General climate models — like the one that the United Nations' Panel on Climate Change (IPCC) used in 2018 to predict that a global temperature increase of 3.6 degrees Fahrenheit (2 degrees Celsius) could put hundreds of millions of people at risk — fail to account for the sheer complexity of Earth's many interlinked geological processes; as such, they fail to adequately predict the scale of the potential consequences. The truth, the authors wrote, is probably far worse than any models can fathom. How the world ends What might an accurate worst-case picture of the planet's climate-addled future actually look like, then? The authors provide one particularly grim scenario that begins with world governments "politely ignoring" the advice of scientists and the will of the public to decarbonize the economy (finding alternative energy sources), resulting in a global temperature increase [of] 5.4 F (3 C) by the year 2050. At this point, the world's ice sheets vanish; brutal droughts kill many of the trees in the Amazon rainforest (removing one of the world's largest carbon offsets); and the planet plunges into a feedback loop of ever-hotter, ever-deadlier conditions. "Thirty-five percent of the global land area, and 55 percent of the global population, are subject to more than 20 days a year of lethal heat conditions, beyond the threshold of human survivability," the authors hypothesized. Meanwhile, droughts, floods and

wildfires regularly ravage the land. Nearly one-third of the world's land surface turns to desert. Entire ecosystems collapse, beginning with the planet's coral reefs, the rainforest and the Arctic ice sheets. The world's tropics are hit hardest by these new climate extremes, destroying the region's agriculture and turning more than 1 billion people into refugees. This mass movement of refugees — coupled with shrinking coastlines and severe drops in food and water availability — begin to stress the fabric of the world's largest nations, including the United States. Armed conflicts over resources, perhaps culminating in nuclear war, are likely. The result, according to the new paper, is "outright chaos" and perhaps "the end of human global civilization as we know it." How can this catastrophic vision of the future be prevented? Only with the people of the world accepting climate change for the emergency it is and getting to work — immediately. According to the paper's authors, the human race has about one decade left to mount a global movement to transition the world economy to a zero-carbon-emissions system. (Achieving zero-carbon emissions requires either not emitting carbon or balancing carbon emissions with carbon removal.) The effort required to do so "would be akin in scale to the World War II emergency mobilization," the authors wrote. The new policy paper was endorsed with a foreword by Adm. Chris Barrie, a retired Australian defense chief and senior royal navy commander who has testified before the Australian Senate about the devastating possibilities climate change poses to national security and overall human well-being. "I told the [Senate] Inquiry that, after nuclear war, human-induced global warming is the greatest threat to human life on the planet," Barrie wrote in the new paper. "Human life on Earth may be on the way to extinction, in the most horrible way."

Thus, we urge you to affirm

A/2: FLOATING WE-MEET (They Access 30 Min bc we could have talked to them before round)

This is reasonability, it is not about whether we could have reasonably contacted our opponents because that leaves it up to the judge to decide which is arbitrary based on the judges own moral ideals. prefer setting actual rules with interpretations instead of moral gray zones. A lack of norms causes this discussion about whether we could have reasonably obtained this information to spill over to almost every round where the judge will have to decide if the disclosure was reasonable, which harms education and harms time skew for every future round in debate

A/2 To "We Put Contact Information On The Page!"

Putting contact information on the page does not meet our interpretation of disclosing on the Wiki, don't evaluate it, they are saying it is reasonable for emails to be placed on case list but reasonability is completely arbitrary don't evaluate this unless they give you another interpretation.

And, Putting contact info on the wiki is a bad norm

1. **MINOR SAFETY:** Voting for the Neg encourages a norm of minors putting their personal information on the internet for anyone to access and private message them, debate is a safe space and should be kept that way. This is distinct from email chains because those are between two teams of debaters, not the entire open case list that adults and all judges can access

2. **IGNORING EMAILS:** under their norms, debaters don't have to respond to emails they get or might just never see them, and that destroys fairness because it's up to the debtor to give their opponents information and they won't get dropped if they don't, meaning there is no incentive. while we give our evidence to everyone, all the time.

3. **LIES:** They could also just send random docs and we wouldnt know, we literally have know way of verifying what rounds they were in so we don't even know what to ask for.

T – Nuclear energy produces the least radiation AND no meltdown impact.

Rhodes 18 [Richard Rhodes, visiting scholar @ Harvard, MIT, and Stanford University, 7-19-2018, Why Nuclear Power Must Be Part of the Energy Solution, Yale e360, https://e360.yale.edu/features/why-nuclear-power-must-be-part-of-the-energy-solution-environmentalists-climate, Willie T.]

In the United States in 2016, nuclear power plants, which generated almost 20 percent of U.S. electricity, had an average capacity factor of 92.3 percent, meaning they operated at full power on 336 out of 365 days per year. (The other 29 days they were taken off the grid for maintenance.) In contrast, U.S. hydroelectric systems delivered power 38.2 percent of the time (138 days per year), wind turbines 34.5 percent of the time (127 days per year) and solar electricity arrays only 25.1 percent of the time (92 days per year). Even plants powered with coal or natural gas only

generate electricity about half the time for reasons such as fuel costs and seasonal and nocturnal variations in demand. Nuclear is a clear winner on reliability.

Third, nuclear power releases **less radiation** into the environment than any other major energy source. This statement will seem paradoxical to many readers, since it's not commonly known that non-nuclear energy sources release *any* radiation into the environment. They do. The worst offender is coal, a mineral of the earth's crust that contains a substantial volume of the radioactive elements uranium and thorium. Burning coal **gasifies its organic materials**, concentrating its mineral components into the remaining waste, called **fly ash**. So much coal is burned in the world and so much fly ash produced that coal is actually **the major source** of radioactive releases into the environment.

In the early 1950s, when the U.S. Atomic Energy Commission believed high-grade uranium ores to be in short supply domestically, it considered extracting uranium for nuclear weapons from the abundant U.S. supply of fly ash from coal burning. In 2007, China began exploring such extraction, drawing on a pile of some 5.3 million metric tons of brown-coal fly ash at Xiaolongtang in Yunnan. The Chinese ash averages about 0.4 pounds of triuranium octoxide (U3O8), a uranium compound, per metric ton. Hungary and South Africa are also exploring uranium extraction from coal fly ash.

Studies indicate even the worst possible accident at a nuclear plant is **less destructive** than other major industrial accidents.

The partial meltdown of the Three-Mile Island reactor in March 1979, while a disaster for the owners of the Pennsylvania plant, released only a **minimal quantity** of radiation to the surrounding population. According to the U.S. Nuclear Regulatory Commission:

"The approximately 2 million people around TMI-2 during the accident are estimated to have received an average radiation dose of only **about 1 millirem** above the usual background dose. To put this into context, exposure from a chest X-ray is about 6 millirem and the area's natural radioactive background dose is about 100-125 millirem per year… In spite of serious damage to the reactor, the actual release had negligible effects on the physical health of individuals or the environment."

It's statistically near-zero risk.

Ottoway ND [HJ Ottoway, No Date, IAEA, Nuclear Power Plant Safety, https://www.iaea.org/sites/default/files/publications/magazines/bulletin/bull16-1/161_202007277.pdf, Willie T.]

Early work in estimating the probability of large-scale accidents [4,6] summarized in WASH-1250, has indicated that the probability of a catastrophic accident in a nuclear power plant is **very small** — in the order of 10'9 to 10*10 per year. (10-9/year means **1 chance in 1,000,000,000 per year of operation**). Preliminary results from more thorough study in U.S.A. [3] appear to be in rather close agreement. Results of Refs. 4 and 6 have been interpreted in WASH-1250 to imply an average mortality risk to people living in the vicinity of a nuclear power plant of about 10'10 per person/year. In comparison with the relationship of Figure 1 this risk is seen to be trivial, even if there were no benefit involved — yet there is an obvious benefit provided in the form of electrical energy.

T: Nuclear research boosts ally cooperation- reassuring them stops prolif

Columbia 20 (Columbia Center on Global Energy Policy: research center located within the School of International and Public Affairs at Columbia University. August 4, 2020, "Past, Present, and Future: Nuclear Energy Cooperation between the U.S. and Its Allies", Center on Global Energy Policy, https://www.energypolicy.columbia.edu/events/past-present-and-future-nuclear-energy-cooperation-between-us-and-its-allies/ . DOA March 17, 2025) CLS

The U.S. nuclear industry is being challenged by multiple factors: cheap natural gas, cost overruns in the first AP1000 pressurized water reactor construction projects, competition from Russia and (increasingly) China on foreign reactor bids, and more. One element of a U.S. nuclear energy strategy could be to pursue deepened cooperation with key U.S. allies, such as Canada, the United Kingdom, France, Japan, and South Korea, in order to both preserve the existing

reactor fleet and demonstrate the potential of advanced reactors as part of efforts to reduce greenhouse emissions and address climate change. The Center on Global Energy Policy will host a discussion on the past, present and future of nuclear energy cooperation between the U.S. and its allies, especially in response to the urgency and challenge of climate change.

T - Transition is inevitable, but U.S. leadership can prevent prolif.

Poneman '19 [Daniel; Senior Fellow @ the Harvard Kennedy School, President & CEO of Centrus Energy; May 24; Scientific American; "We Can't Solve Climate Change without Nuclear Power," https://www.scientificamerican.com/blog/observations/we-cant-solve-climate-change-without-nuclear-power/; DOA: 3-23-2025] tristan

Nuclear energy is the largest source of carbon-free energy in the U.S. by a huge margin and it has a major role to play in confronting the global climate challenge. But we must also be vigilant about the prospect of nuclear weapons falling into the hands of terrorists or rogue regimes.

The **threat** of nuclear **proliferation** abroad should **not lead** us to **abandon** nuclear **energy** at home. Indeed, American **nuclear leadership** has always been **critical** to **guiding** the **safe**, **responsible use** of civilian **nuclear energy** around the **world**.

For example, a number of American **companies** are **developing** advanced generation-reactor **tech**nologies that offer a host of **safety** and **nonproliferation advantages**. These advanced designs would have "**walk away**" **safety**, meaning they do **not need** any **backup power** or external cooling systems in the event of an accident. And since many of the new reactor designs would **rarely** if ever need to be **refueled**, the **risk** of **diversion** of **fuel** from uranium-enrichment or plutonium-reprocessing plants to a bomb program would be greatly **diminished**.

The U.S. should **lead** the way in the **development** of these **reactors** so they can be deployed at home and abroad over the next decade. As a **growing number** of **countries** around the world **turn** to **nuclear** power as a source of carbon-free electricity, it is **strongly** in our **interest** that they do so with **safe**, **American**-made **technology**. Countries that **adopt** the new **U.S.** reactor **designs** will also be **subject** to U.S. **nonproliferation requirements**, which are **second** to **none**.

We must also confront the challenge posed by countries like North Korea, which has nuclear weapons, and Iran, which has sought to develop them. There is no substitute for tough diplomacy, backed by a unified international community willing to exercise its leverage—through sanctions or ultimately military means, if necessary—to persuade these nations to give up their weapons in a transparent and verifiable way. Here again, America's **technical expertise** in building, operating and fueling reactors **informs** and strengthens our **ability** to design **enforceable nonproliferation agreements** and effective **verification** measures to **detect** and **respond** to **violations**.