| **SY AFF [Nuclear Energy]** |
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**Carrollton affirms the resolution**

**First, an overview**

**Increasing investment in nuclear energy means shifting away from fossil fuels in the squo, Scott 24 finds,**

**Scott 24,** Mike Scott, 10/30/2024, “Why is the transition away from fossil raw materials not happening faster?” Neste [https://www.neste.com/news-and-insights/renewable-solutions/transition-away-from-fossil-raw-materials]

“There are economic, political, technological and social reasons that emissions are not falling fast enough,” adds Carrie Song, Senior Vice President for Renewable Products at [Neste](https://www.neste.com/about-neste), the leading producer of [renewable diesel](https://www.neste.com/products-and-innovation/neste-my-renewable-diesel), [sustainable aviation fuel](https://www.neste.com/products-and-innovation/sustainable-aviation) (SAF) and one of the leading suppliers of [renewable feedstock](https://www.neste.com/products-and-innovation/plastics/neste-re) for plastics manufacturing. “**Investment in** renewables and other **lower-carbon tech**nologies **is growing, but not at the level required to enable** us to achieve **the complete energy transition** towards more sustainable alternatives. And investments in fossil fuel infrastructure are continuing, locking in emissions for decades to come.” So, while the green transition away from fossil raw material is indeed underway, it is clear that the shift is dependent on a complex web of factors, which need to be properly understood and dealt with holistically, so that we can come to a new world order for energy as effectively and fairly as possible. As the tide slowly changes, let’s take a closer look at the technologies that are needed, the bottlenecks in electrification, the role of consistent regulation worldwide, and how a just transition is crucial for the long-term. The technologies to change the global energy foundation Alongside new alternatives for fossil raw materials, many **tech**nologies **that enable a complete** energy **transition are already in existence but not yet at full maturity.** **Great strides are being made to develop innovative and stable energy storage solutions,** critical to enable improvements in the capacity of battery storage, but also to enable the long-term storage and long-distance transport of non-fossil energy, such as “green” hydrogen. Another area where further technological developments are needed are in industries, which contribute a great deal to GHG emissions but are difficult to transition away from fossil fuels. Such technologies include [”Power-to-X''](https://www.neste.com/products-and-innovation/raw-materials/future-raw-materials), which involves making hydrogen from water using electricity – when renewable electricity is used this produces renewable or “green” hydrogen, with a very low carbon footprint. It is this green hydrogen, together with carbon dioxide from captured CO2 emission sources, that has the potential to transform currently carbon-intensive industries such as steelmaking and cement, with also exciting potential applications for example in aviation. Another key component of cutting emissions in hard-to-abate industries is carbon capture, utilization and storage (CCUS), which will enable emissions reductions where other options are impractical or too costly. The electrification bottlenecks For many sectors, the now well-known answer to transitioning away from fossil fuels is a switch to electrification and, crucially importantly, for that electricity to come from renewable sources. One of the key bottlenecks for electrification is the slow pace of grid upgrades to allow more renewable energy capacity onto the network. “Everyone likes renewable energy in the abstract, until developers try to build it near your house,” says Samantha Gross, Director of the Energy Security and Climate Initiative at The Brookings Institution. Meanwhile, for passenger cars and light commercial vehicles, electrification works well because the vehicles are carrying lighter loads for shorter distances and they can recharge often. It is, however, a different story for example for aviation and maritime shipping or in heavy machinery used in remote locations. They are heavy, they carry large loads and they are unable to stop frequently to recharge. Where electrification is challenging, there are other alternatives to fossil fuels, such as renewable diesel and sustainable aviation fuel i.e. “SAF”. These are an effective drop-in solution with an immediate impact on emissions – but while upfront costs to switching are low, the higher price compared to fossil fuels can still be a barrier. “Renewable fuels, such as SAF, can be three to four times more expensive, but we need to look at why that is. Conventional fossil fuels don’t include the cost of emissions, local air pollution and other problems. Having said this, we are only talking about an added cost of what amounts to a couple of euros per passenger, the same that many pay for a coffee at the airport,” says Song. “In the wealthy world, a lot of this is a marketing problem,” Gross adds. “If you present something as a sacrifice, it doesn’t sell. You need to sell this as going somewhere better.” **Consistent regulation and more investment [is] needed to drive the energy transition** **Currently, there is little consensus on the best approach to remov[e]**ing **fossil fuels** from the energy system, **and regulation is uneven** in different parts of the world. “Policies to encourage the energy transition are still insufficient and inconsistent across different cities, countries and regions,” Song says, “and they often have to compete with fossil-fuel-friendly policies. **We need clear, [and] consistent,** ambitious **policies to drive continued investment** and to encourage business to make the right decisions.”

**Efforts spill over globally as empirically countries model after US policy, Lacerda 22 finds,**

**Lacera 22,** Leonardo Lacerda, 09/06/2022, “The U.S. Strengthened its Climate Pledge. Will Other Countries Follow Suit?” The Nature Conservancy [https://www.nature.org/en-us/what-we-do/our-insights/perspectives/inflation-reduction-act-will-world-follow-suit/]

Signed into law in August, the Inflation Reduction Act (IRA) represents the single biggest climate investment in U.S. history—by far. The landmark law invests $369 billion in renewable energy, zero carbon transportation, clean manufacturing, community resilience, and natural climate solutions. These investments deliver on a long list of priorities that The Nature Conservancy promotes to drive down greenhouse gas emissions, build more resilient communities, and enhance equitable outcomes. Science tells us that in order to avoid the most catastrophic impacts of climate change, we need to keep global temperatures below a 1.5-degree rise from pre-industrial levels. This is simply not possible without the U.S. taking action. The IRA would put the U.S. on a path to roughly 40% emissions reduction by 2030. The Paris Agreement was built on trust between countries that they would all take action together, and not create economic disparities between those who act and those who do not. **When the U.S. pulled out of the Paris Agreement,** other **countries questioned why they should** continue to **reduce** their own **emissions** if the U.S. wasn’t. **But when the U.S. reversed course** last year **and put forward a** new **commitment pledging** 50-52% **reductions**, the globe noticed. Some trust returned, and it was not a surprise to see **other major economies** such as Canada, Japan and China **soon enhance[d] their own targets.**

Contention one is Climate Change

**Fossil fuels cause mass carbon emissions, the US Energy Administration 24 writes that,**

<https://www.eia.gov/energyexplained/energy-and-the-environment/where-greenhouse-gases-come-from.php>

**In the U**nited **S**tates, most (about **74%**) human-caused ([anthropogenic](https://www.eia.gov/tools/glossary/index.php?id=Anthropogenic)) **[of] greenhouse gas** (GHG) **emissions come from burning fossil fuels**—coal, natural gas, and petroleum—**for energy** use. Economic growth (with short-term fluctuations in growth rate) and weather patterns that affect heating and cooling needs are the main factors that drive the amount of energy consumed. Energy prices and government policies can also affect the sources or types of energy consumed.

**But a switch to nuclear power produces no greenhouse gases during operation.**

“How can nuclear combat climate change?” World Nuclear Association, n.d.,

https://world-nuclear.org/nuclear-essentials/how-can-nuclear-combat-climate-

change.

**Nuclear power plants produce no greenhouse gas emissions during operation**, and over the course of its life-cycle, nuclear produces about the same amount of carbon dioxide-equivalent emissions per unit of electricity as wind, and one-third of the

emissions per unit of electricity when compared with solar. Experts have concluded

that in order to achieve the deep decarbonization required to keep the average rise in

global temperatures to below 1.5°C, combating climate change would be much harder,

without an increased role for nuclear. **Because nuclear power is reliable and can be**

**deployed on a large scale, it can directly replace fossil fuel plant**, avoiding the

combustion of fossil fuels for electricity generation. The use of nuclear energy today

avoids emissions roughly equivalent to removing one-third of all cars from the world’s

roads.

**Additionally, empirics prove nuclear energy significantly suppresses global greenhouse gas emissions.**

Li, Tingzhu et. al. “Can Nuclear Power Products Mitigate Greenhouse Gas Emissions?

Evidence from Global Trade Network.” International Journal of Environmental

Research and Public Health, June 25, 2022,

<https://pmc.ncbi.nlm.nih.gov/articles/PMC9265604/>

The overall regression analysis finds that **nuclear power** product trade **had a**

**significant suppressive effect on global GHG emissions** and had the greatest influence

among all the selected variables. (3) As for the impact of the GNT network on GHG

emissions, nuclear power product trade was better able to curb GHG emissions in

countries with the dominate positions compared to those with affiliated positions,

which reflects the heterogeneous effect of nuclear power product trade on GHG

emissions. These results provide further evidence for the dialectical debate on

whether nuclear power products contribute to GHG emissions reductions. This paper

also provides corresponding recommendations for policymakers.

**The impact is scalar: each degree of warming matters and will reduce suffering for billions, McKay 22**

David McKay 22, Researcher in Earth System Resilience, Stockholm University, 10-18-2022, "Climate tipping points could lock in unstoppable changes to the planet – how close are they?," World Economic Forum, https://www.weforum.org/agenda/2022/10/climate-tipping-points-could-lock-in-unstoppable-chan ges-to-earth || DOA 9/6/2023 BRP

A new assessment of the past 15 years of research has found there is a risk of certain tipping points being triggered now when global warming stands at roughly 1.2°C. But the Paris agreement’s aim of halting warming at 1.5°C would reduce the chances of triggering multiple climate tipping points, the researchers say. **Continued** greenhouse gas **emissions risk triggering** climate **tipping points. These** are self-sustaining shifts in the climate system that **would lock-in devastating changes**, like sea-level rise, even if all emissions ended. The first major assessment in 2008 identified nine parts of the climate system that are sensitive to tipping, including ice sheets, ocean currents and major forests. Since then, huge advances in climate modelling and a flood of new observations and records of ancient climate change have given scientists a far better picture of these tipping elements. Extra ones have also been proposed, **like permafrost around the Arctic** (permanently frozen ground **that could unleash more carbon** if thawed). Estimates of the warming levels at which these elements could tip have fallen since 2008. The collapse of the west Antarctic ice sheet was once thought to be a risk when warming reached 3°C-5°C above Earth’s pre-industrial average temperature. Now it’s thought to be possible at current warming levels. In our new assessment of the past 15 years of research, myself and colleagues found that we can’t rule out five tipping points being triggered right now when global warming stands at roughly 1.2°C. Four of these five become more likely as global warming exceeds 1.5°C. These are sobering conclusions. Not all of the news coverage captured the nuance of our study, though. So here’s what our findings actually mean. Uncertain thresholds **We synthesised the results of** more than **200 studies to estimate warming thresholds** for each tipping element. The best estimate was either one that multiple studies converged on or which a study judged to be particularly reliable reported. For example, records of when ice sheets had retreated in the past and modelling studies indicate the Greenland ice sheet is likely to collapse beyond 1.5°C. We also estimated the minimum and maximum thresholds at which collapse is possible: model estimates for Greenland range between 0.8°C and 3.0°C. Within this range, **tipping becomes more likely as warming increases.** We defined tipping as possible (but not yet likely) when warming is above the minimum but below the best estimate, and likely above the best estimate. We also judged how confident we are with each estimate. For example, we are more confident in our estimates for Greenland’s ice sheet collapse than those for abrupt permafrost thaw. This uncertainty means that we do not expect four climate tipping points to be triggered the first year global temperatures reach 1.5°C (which climate scientists suggest is possible in the next five years), or even when temperatures averaged over several years reach 1.5°C sometime in the next couple of decades. Instead, **every fraction of a degree makes tipping more likely**, but we can’t be sure exactly when tipping becomes inevitable. This is especially true for the Greenland and west Antarctic ice sheets. While our assessment suggests their collapse becomes likely beyond 1.5°C, ice sheets are so massive that they change very slowly. Collapse would take thousands of years, and the processes driving it require warming to remain beyond the threshold for several decades. If warming returned below the threshold before tipping kicked in, it may be possible for ice sheets to temporarily overshoot their thresholds without collapsing. For some other tipping points, change is likely to be more dispersed. We estimate that both tropical coral reef death and abrupt permafrost thaw are possible at the current warming level. But thresholds vary between reefs and patches of permafrost. Both are already happening in some places, but in our assessment, these changes become much more widespread at a similar time beyond 1.5°C. Elsewhere, small patches of the Amazon and northern forests might tip and transition to a savannah-like state first, bypassing a more catastrophic dieback across the whole forest. Model results that are yet to be published suggest that Amazon tipping might occur in several regions at varying warming levels rather than as one big event. There may also be no well-defined threshold for some tipping elements. Ancient climate records suggest ocean currents in the North Atlantic can dramatically flip from being strong, as they are now, to weak as a result of both warming and melting freshwater from Greenland disrupting circulation. Recent modelling suggests that the threshold for the collapse of Atlantic circulation depends on how fast warming increases alongside other hard-to-measure factors, making it highly uncertain. Into the danger zone There are signs that some tipping points are already approaching. Degradation and drought have caused parts of the Amazon to become less resilient to disturbances like fire and emit more carbon than they absorb. The front edge of some retreating west Antarctic glaciers are only kilometres away from the unstoppable retreat. Early warning signals in climate monitoring data (such as bigger and longer swings in how much glaciers melt each year) suggest that parts of the Greenland ice sheet and Atlantic circulation are also destabilising. These signals can’t tell us exactly how close we are to tipping points, only that destabilisation is underway and a tipping point may be approaching. The most we can be sure of is that every fraction of further warming will destabilise these tipping elements more and make the initiation of self-sustaining changes more likely. **This strengthens the case for ambitious emissions cuts** in line with the Paris agreement’s aim of halting warming at 1.5°C. **This would reduce the chance**s **of triggering** multiple climate **tipping points** – even if we can’t rule out some being reached soon.

**To quantify, Shindell et al 18 empirically found that decreasing warming by just .5 degrees Celsius would:**

Shindell et al 18, Shindell D, Faluvegi G, Seltzer K, Shindell C. Quantified, Researchers at Duke University, Localized Health Benefits of Accelerated Carbon Dioxide Emissions Reductions. Nat Clim Chang. 2018;8(4):291-295. doi: 10.1038/s41558-018-0108-y. Epub 2018 Mar 19. PMID: 29623109; PMCID: PMC5880221, accessed from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5880221/ on 9/6/2023 BRP

Societal risks increase as Earth warms, but also for emissions trajectories accepting relatively high levels of near-term emissions while assuming future negative emissions will compensate even if they lead to identical warming [1]. Accelerating carbon dioxide (CO2) emissions reductions, including as a substitute for negative emissions, hence reduces long-term risks but requires dramatic near-term societal transformations [2]. A major barrier to emissions reductions is the difficulty of reconciling immediate, localized costs with global, long-term benefits [3, 4]. However, 2°C trajectories not relying on negative emissions or 1.5°C trajectories require elimination of most fossil fuel related emissions. This generally reduces co-emissions that cause ambient air pollution, resulting in near-term, localized health benefits. We therefore examine the human health benefits of increasing ambition of 21st century CO2 reductions by 180 GtC; an amount that would shift a ‘standard’ 2°C scenario to 1.5°C or could achieve 2°C without negative emissions. The decreased air pollution **lead**s **to 153**±43 **million fewer premature deaths worldwide**, with ~40% occurring during the next 40 years, and minimal climate disbenefits. More than a million premature deaths would be prevented in many metropolitan areas in Asia and Africa, and >200,000 in individual urban areas on every inhabited continent except Austra

**Climate change causes extinction---multiple internal links and no adaptability.**

Dr. Yew-Kwang Ng 19 [Winsemius Professor of Economics at Nanyang Technological University, Fellow of the Academy of Social Sciences in Australia and Member of Advisory Board at the Global Priorities Institute at Oxford University, PhD in Economics from Sydney University, “Keynote: Global Extinction and Animal Welfare: Two Priorities for Effective Altruism”, Global Policy, Volume 10, Number 2, May 2019, pp. 258–266, https://onlinelibrary.wiley.com/doi/10.1111/1758-5899.12647] Accessed 10/09/2024, DSL

Catastrophic **climate change** Though by no means certain, CCC **caus**ing **global extinction** is possible **due to** interrelated factors of **non-linearity**, cascading effects, **positive feedbacks**, multiplicative factors, critical thresholds **and tipping points** (e.g. Barnosky and Hadly, 2016; Belaia et al., 2017; Buldyrev et al., 2010; Grainger, 2017; Hansen and Sato, 2012; IPCC 2014; Kareiva and Carranza, 2018; Osmond and Klausmeier, 2017; Rothman, 2017; Schuur et al., 2015; Sims and Finnoff, 2016; Van Aalst, 2006).7 A possibly imminent tipping point could be in the form of ‘an **abrupt ice sheet collapse** [that] could **cause** a **rapid sea level rise**’ (Baum et al., 2011, p. 399). There are many avenues for positive feedback in global warming, including: • the replacement of an ice sea by a liquid ocean surface from melting reduces the reflection and increases the absorption of sunlight, leading to faster warming; • the **drying of forests** from warming **increases forest fires and** the release of more carbon; and • **higher ocean temperatures** may lead to the **release** of **methane** trapped under the ocean floor, producing runaway global warming. Though there are also avenues for negative feedback, the scientific consensus is for an overall net positive feedback (Roe and Baker, 2007). Thus, the Global Challenges Foundation (2017, p. 25) concludes, ‘The world is currently completely unprepared to envisage, and even less deal with, the consequences of CCC’. The threat of sea-level rising from global warming is well known, but **there are** also **other** likely and more imminent **threats to** the survivability of mankind and other living things. For example, Sherwood and Huber (2010) emphasize **the adaptability limit** to climate change **due to heat stress** from high environmental wet-bulb temperature. They show that **‘even modest** global **warming** could ... **expose large fractions of the** [world] **population to unprecedented heat stress**’ p. 9552 and that with substantial global warming, ‘the area of land rendered uninhabitable by heat stress would dwarf that affected by rising sea level’ p. 9555, **making extinction** much more **likely** and the relatively moderate damages estimated by most integrated assessment models unreliably low. While imminent extinction is very unlikely and may not come for a long time even under business as usual, the main point is that we cannot rule it out. Annan and Hargreaves (2011, pp. 434–435) may be right that there is ‘an upper 95 per cent probability limit for S [temperature increase] ... to lie close to 4°C, and certainly well below 6°C’. However, probabilities of 5 per cent, 0.5 per cent, 0.05 per cent or even 0.005 per cent of excessive warming and the resulting extinction probabilities cannot be ruled out and are unacceptable. Even if there is only a 1 per cent probability that there is a time bomb in the airplane, you probably want to change your flight. Extinction of the whole world is more important to avoid by literally a trillion times.

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Contention two is Desalination

**Droughts are becoming more frequent and devastating, the UN 22 writes,**

“World ‘at a crossroads’ as droughts increase nearly a third in a generation.” United

Nations, May 12, 2022, https://news.un.org/en/story/2022/05/1118142.

Accessed March 11, 2025.

The report reveals that from 1970 to 2019, weather, climate and water hazards,

accounted for 50 per cent of disasters and 45 per cent of disaster-related deaths, mostly

in developing countries. Moreover, while droughts represented 15 per cent of natural

disasters, they accounted for approximately 650,000 deaths throughout that period.

And from 1998 to 2017, droughts triggered global economic losses of roughly $124

billion – a **number and duration of [droughts]** which **have risen 29 per cent since 2000**. Meanwhile in 2022, **more than 2.3 billion people** are **facing water stress and almost 160 million children are exposed to severe and prolonged droughts.**

**Droughts are both more common and worse than ever before, Baird et al 25 write**

Baird, Fairlie, et al. “Projected increases in extreme drought frequency and duration by

2040 affect specialist habitats and species in Scotland.” British Ecological Society,

August 2023, https://doi.org/10.1002/2688-8319.12256. Accessed March 11,

2025.

We found **likelihood of extreme drought events increased from** an average of **one event every 20 years** in the baseline period, **to one event every 3 years by 2040**. Typical **events were projected to be** up to 2–**3 months longer**, with an average of 11 extra drought months per decade. Increases were projected throughout the country, but the effect was most severe in the east, and during autumn. Ombrotrophic wetlands

have some level of adaptive resilience to drought, but are considered at high risk as

several key sites are in drought hotspot areas.

**This is critical as groundwater depletion threatens agricultural yields, Scott 24 writes**

Schrage, Scott. “Husker study finds aquifer depletion threatens crop yields.” University

of Nebraska, January 16, 2024, https://news.unl.edu/article/husker-study-finds-

aquifer-depletion-threatens-crop-yields. Accessed March 11, 2025.

Three decades of data have informed a new Nebraska-led study that shows how **the**

**depletion of groundwater** — the same that many farmers rely on for irrigation — **can**

**threaten food production** amid drought and drier climes. The study found that, due in

part to the challenges of extracting groundwater, **an aquifer’s depletion can curb crop**

**yields** even when it appears saturated enough to continue meeting the demands of

irrigation. Those **agricultural losses escalate as an aquifer dwindles**, the researchers reported, so that its depletion exerts a greater toll on corn and soybean yields when

waning from, say, 100 feet thick to 50 than from 200 feet to 150.

**But the expansion of nuclear energy can solve through desalination technology, Shatilla 25 writes,**

Shatilla, Youssef. “Nuclear Reactor Technology Development and Utilization.” Science

Direct, 2020, www.sciencedirect.com/topics/engineering/nuclear-desalination.

Accessed March 11, 2025.

**Nuclear desalination** has been def**i**ned a**s the use of** both electricity and heat

generated by **nuclear power** plant **to remove salt and minerals from seawater. It has** accumulated a couple of hundred of reactor-years of **successful operations around the globe.** A combination of a variety of desalination techniques (thermal or membrane in single or hybrid mode) have been shown to be successfully coupled with different types of nuclear power plants to produce water and electricity at different scales. **The economics of nuclear desalination has been found to be competitive** with other desalination techniques driven by other sources of energy. Nuclear desalination doesn’t require additional safety measures than those already existing for the nuclear power

plant. Special consideration for potential water radiation contamination is achieved

through insertion of additional physical barrier between the nuclear island and

pathways of final water product.

**Nuclear desalination is particularly effective and efficient in delivering results, Amar 25 writes**

Yusuf, Omar. “Harnessing Nuclear Power for Desalination to Secure Freshwater

Resources.” International Atomic Energy Agency, n.d.,

https://www.iaea.org/bulletin/harnessing-nuclear-power-for-desalination-to-

secure-freshwater-resources. Accessed March 11, 2025.

**Nuclear** power **plants could** offer a solution, while **serv**ing **a dual purpose: producing low carbon electricity and turning seawater into fresh water.** “The non-electric applications powered by nuclear energy, such as desalination, present sustainable

solutions for a number of water-intensive endeavours — from the consumption needs

of millions of households and the industrial applications of fresh water to agriculture

and livestock rearing — that current and future generations will face,” said Francesco

Ganda, Technical Lead for Non-Electric Applications at the IAEA.

**US trade linkages mean that if America reduces production of food, food shocks go global --- climate change means they’re reliant on imports. Win 20 writes,**

[Thin Lei Win, 3-19-2020, Climate shocks in just one country could disrupt global food supply, Reuters,[https://www.reuters.com/article/us-climate-change-usa-food/climate-shocks-in-just-one-country-could disrupt-global-food-supply-idUSKBN2170GZ/ //SJID]

ROME (Thomson Reuters Foundation) - Catastrophic crop failures caused by extreme weather in just one country could disrupt global food supplies and drive price spikes in an interconnected world, exposing how climate change threatens global stability, researchers said on Friday. They examined how the global trade and supplies of wheat, a crop used for food staples like bread and pasta, would be affected by four years of severe drought in the United States, one of the world’s top exporters of the grain. Based on two models of how countries could try to meet their needs, an international research team found the United States would deplete nearly all its wheat reserves after four years in both scenarios, while global stocks could drop by 31%. **The 174 countries** to which **America exports wheat would see their reserves decrease**, even though they did not themselves suffer failed harvests, according to a study published in the journal Frontiers in Sustainable Food Systems. “It affects almost every country in the world because the U.S. has **so many trade links**,” said lead author Alison Heslin, a researcher at Columbia University’s Center for Climate Systems Research and NASA’s Goddard Institute for Space Studies. **Those links mean there is a cascading effect,** either directly **from the United States or via one of its trading partners**, which could reduce the amount of wheat available and increase prices, she told the Thomson Reuters Foundation. As reserves are depleted, changes in production would have a bigger impact on the price of food, Heslin added. Reduced global reserves would also mean a **smaller buffer** against future shocks such as a drought in other wheat-producing nations like Russia or France, she said. Scientists have warned hotter temperatures and more erratic rainfall could increase the frequency and intensity of droughts, with multi-year droughts already **wreaking havoc in many nations**. Five years of recurring droughts have destroyed maize and bean harvests in Central America’s Dry Corridor, for example, leaving poor farmers struggling to feed their families and pushing them to migrate, the United Nations said in 2019. The wheat study was based on data from the 1930s American Dust Bowl disaster when maize and wheat production plummeted due to intense drought, higher temperatures and strong winds, causing thousands of deaths. Heslin said globalfood security was key to people’s health and safety, with international food price spikesin 2008 and 2011 curtailing families’ ability to purchase food and rattling **political stability** as people protested on the streets. Maintaining strategic food reserves and a diverse set of trading partners could help countries reduce risks, she added.

**And that food shortage will cause millions of deaths, as Walker et al 19 write,**

Walker RJ, Chawla A, Garacci E, Williams JS, Mendez C, Ozieh MN, Egede LE. Assessing the relationship between food insecurity and mortality among U.S. adults. Ann Epidemiol. 2019 Apr;32:43-48. doi: 10.1016/j.annepidem.2019.01.014. Epub 2019 Feb 5. PMID: 30799207; PMCID: PMC6441375.

11.6% of the 20,918 participants (representing 208,789,244 US residents) were food insecure. **When food insecurity was dichotomized, there was a 49% higher odds of mortality after adjusting for demographics**

**But that's only the best case scenario, because countries go to nuclear war over food insecurity, Cribb 19 writes that**

Cribb, Julian. “Food or War.” Cambridge University Press. August 23, 2019.

https://www.cambridge.org/core/books/food-or-war/food-as-an-existential-

risk/8C45279588CD572FE805B7E240DE7368?utm\_campaign=shareaholic&utm\_

medium=copy\_link&utm\_source=bookmark. Accessed March 8, 2025.

Although there may at first glance appear to be no close linkage between weapons of

mass destruction and food, in the twentyfirst century with world resources of food, land

and water under growing stress, nothing can be ruled out. Indeed, chemical weapons

have frequently been deployed in the Syrian civil war, which had drought, agricultural

failure and hunger among its early drivers. And **nuclear conflict remains a** distinct

**possibility in South Asia and the Middle East, especially, as these regions are already stressed in terms of food**, land and water, and their nuclear firepower or access to nuclear materials is multiplying. It remains an open question whether panicking

regimes in Russia, the USA or even France would be ruthless enough to deploy atomic

weapons in an attempt to quell invasion by tens of millions of desperate refugees,

fleeing famine and climate chaos in their own homelands – but the possibility ought

not to be ignored. That nuclear war is at least a possible outcome of food and climate

crises was first flagged in the report The Age of Consequences by Kurt Campbell and the

US-based Centre for Strategic and International Studies, which stated ‘it is clear that

even nuclear war cannot be excluded as a political consequence of global warming’.

15 **Food insecurity is therefore a driver in the preconditions for the use of nuclear weapons**, whether limited or unlimited.

Contention three is Hegemony

**American adversaries dominate nuclear energy** **Cohen 24 writes**

(Dr. Ariel Cohen, Ph.D. is a Senior Fellow at the Atlantic Council and the Founding Principal of International Market Analysis, a Washington, D.C.-based global risk advisory boutique. He is also Managing Director of the Energy, Growth, and Security Program (EGS) and a Senior Fellow with the International Tax and Investment Center (ITIC). 7 June 2024, “China And Russia Now Dominate The Global Nuclear Trade” Forbes,<https://www.forbes.com/sites/arielcohen/2024/06/07/china-and-russia-now-dominate-the-global-nuclear-trade/>, DOA: 3/5/25) LLO

Russia is not alone in surpassing the US. **China is also far ahead of the US in the nuclear energy industry. China’s nuclear power industry has retained its domestic focus, with** [**twenty-three power plants**](https://www.worldnuclearreport.org/IMG/pdf/wnisr2023-table02-reactors_under_construction.pdf) **under construction in China as of July 2023.** This is due to [increasing energy demand](https://www.iaea.org/bulletin/how-china-has-become-the-worlds-fastest-expanding-nuclear-power-producer), as China continues to develop its economy. The United States is constructing a [single nuclear power plant](https://www.statista.com/statistics/513671/number-of-under-construction-nuclear-reactors-worldwide/). **While China has refined its nuclear power production process, the last plant built in the** [**US arrived 7 years late and 17 billion dollars over budget**](https://apnews.com/article/georgia-nuclear-power-plant-vogtle-rates-costs-75c7a413cda3935dd551be9115e88a64)**, as a testament to America’s byzantine permitting and environmental review system.** **China has built upon this expertise also to begin supplying reactors abroad. The China National Nuclear Corporation and China General Nuclear Power Group have** [**developed**](https://www.cipe.org/wp-content/uploads/2021/05/Nuclear-Dragon-Goes-Abroad.pdf) **a third-generation reactor called Hualong One.** This new reactor began operations in [2021](https://apnews.com/article/china-nuclear-power-7996f4ec51f0a70716da779eb8ff237f) in Fuqing**. In 2023,** [**China began construction**](https://www.voanews.com/a/china-begins-construction-of-pakistan-s-largest-nuclear-power-plant-/7181016.html) **on the Chashma-5 nuclear power plant in Pakistan, which will use Hualong One reactors. Such actions contribute to China’s capacity to construct infrastructure abroad and expand its influence.** The American nuclear power industry was once the world's envy, peaking with [112 operational reactors](https://www.statista.com/statistics/184981/number-of-nuclear-power-plants-in-the-us/) in 1990, with America on a path to carbon neutrality much earlier than current predictions. **34 years later, the United States has lost nearly a third of its operational nuclear reactors, has built almost no new ones, and its average reactor age is decades old. If nothing is done to rectify this, in the next 10-15 years, scores of nuclear reactors will have to be retired as their operational lifecycles end, and as a result, America will have to contend with** [**nearly 20% of its electricity capacity**](https://www.energy.gov/nuclear) **evaporating.**

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**Through Rosatom, Russia remains the global leader in nuclear reactor construction.** According to the World Nuclear Strategy Report, **as of July 2023, Russia had** [**twenty-four**](https://www.worldnuclearreport.org/IMG/pdf/wnisr2023-table02-reactors_under_construction.pdf)**. Nuclear reactors under** [**construction**](https://www.worldnuclearreport.org/IMG/pdf/wnisr2023-table02-reactors_under_construction.pdf) **in seven countries: China, India, Turkey, Egypt, Bangladesh, Iran, and Slovakia. For comparison, the US was constructing zero. Russia dominates the nuclear industry in more areas than just reactors. They also have the** [**largest**](https://www.rferl.org/a/russia-nuclear-power-industry-graphics/32014247.html) **uranium conversion and enrichment industries in the world, at 38% and 46% of international capacity**, respectively, in 2020. **This makes it a major fuel exporter as well. Russia exported** [**over $1 billion**](https://static.rusi.org/RUSI-Russian-Exports-final-web_0.pdf#:~:text=Russian%20customs%20data%2C%20sourced%20though%20a%20third-party%20commercial,exports%20to%20members%20of%20NATO%20and%20the%20EU.) **worth of nuclear energy-related products from February 2022-2024. Two of the countries in which Russia is constructing nuclear power plants, Turkey and Slovakia, are NATO members.** They are not alone amongst the collective West in enabling Russia’s nuclear dominance while ostensibly being committed to containing the Kremlin.As my colleague Wesley A. Hill wrote, Russian-enabled [geopolitical turmoil in Africa](https://nationalinterest.org/feature/russia%E2%80%99s-kitchen-chaos-west-africa-206681), which Russia is using to [try to acquire formerly French uranium assets](https://www.msn.com/en-us/news/world/russian-federation-wants-to-acquire-uranium-assets-in-niger-isw/ar-BB1nAkmN), helped force Europe to [double its import](https://bellona.org/news/nuclear-issues/2024-03-europe-russian-nuclear-fuel) of Russian uranium in 2023. The US was no better, remaining [dependent on Russian nuclear exports](https://www.ft.com/content/2c9c325e-e734-4a9f-b089-2f64deebc658) even after the war in Ukraine restarted in 2022. The US [imported Russian nuclear fuel](https://www.reuters.com/business/energy/ban-russian-uranium-aims-revive-american-supply-2024-06-04/) until May 14th, 2024, over two years after Russia’s invasion of Ukraine began, from the same entities that the White House sanctioned.

**And, America is losing influence** **Policy Circle 24 writes that,**

(Policy Circle is a digital platform that offers in-depth coverage of public policy issues in governance, environment, and society. It was launched in 2020 by a group of policy experts who share a vision of promoting evidence-based policymaking and constructive policy dialogue. It also organises summits, roundtables, and online discussions to bring together policymakers, researchers, corporate executives, professionals, and other stakeholders to deliberate on policy issues. December 27, 2024 “End of American hegemony: Can the superpower reinvent power for the 21st century” Policy Circle,<https://www.policycircle.org/world/end-of-american-hegemony/>, DOA: 3/28/25) LLO

**In 2010, a** [**historian**](https://www.fairobserver.com/author/alfred-w-mccoy/) **predicted that the American hegemony might end by 2025 — not with a bang but with a whimper** **— as domestic divisions deepened and rival powers rose to challenge its authority. Today, that prediction appears prophetic** as America faces increasing pressures from within and outside. Even as the US retains military dominance and an economy capable of immense influence, **the structural underpinnings of its global power are eroding. This decline, though not necessarily terminal, signals a transition away from the so-called American Century. Historically, the US leveraged its unmatched economic strength, technological innovation, and cultural influence to dominate the post-World War II global order. However, the foundations of the American hegemony are crumbling. The US share of global GDP has steadily declined,** falling from 50% in the mid-20th century to approximately 15% today when adjusted for purchasing power parity. **The globalisation, initially championed by the US, has redistributed industrial power, with China emerging as a key beneficiary. China’s rise has reoriented global economic networks, particularly in the Global South.** In contrast to America’s interventionist foreign policy, **China has cultivated influence through infrastructure investments, soft power campaigns**, and state-sponsored media. The United States, while still a major player, has failed to present an alternative vision that resonates with developing nations, where perceptions of Chinese leadership are increasingly favourable.

**Domestic production is critical to hegemony**

**Hiltibran et al 24** (Christel Hiltibran, Director of International Policy, Climate and Energy Program, Rowen Price, Policy Advisor for Nuclear Energy, Ryan Norman, Senior Policy Advisor for Clean Energy Finance, Climate and Energy Program, Alan Ahn, Deputy Director for Nuclear, 31 January 2025, “Trump Has Been a China Hawk on Nuclear Energy. But Congress Could Compromise That During Reconciliation.”, Third Way,<https://www.thirdway.org/memo/trump-has-been-a-china-hawk-on-nuclear-energy-but-congress-could-compromise-that-during-reconciliation#:~:text=A%20strong%20US%20nuclear%20energy,valuable%20hundred%2Dyear%20geopolitical%20relationships>., DOA 3/1/2025) ESR

President **Trump has long considered himself a China hawk,** stoking a trade war with the country, supporting ever-increasing tariffs on its goods, and using aggressive rhetoric to combat its growing global influence. **But his approach has a blind spot, failing to mitigate China’s increasing dominance in the energy sector, especially in nuclear energy development and deployment**. Until we confront China’s rising role in global energy markets, **the US will continue to cede market share and lose geopolitical influence, threatening national security both in the US and among our allied nations**. The US needs a synchronized foreign policy to counter Chinese attacks on American hegemony. But since the election, **the incoming administration and Congress have signaled misaligned approaches to foreign energy policy**. The Trump Administration’s [Day 1 executive orders](https://time.com/7208691/trump-day-one-presidential-actions-executive-orders-memorandum-proclamation-explainer/) reaffirmed the President’s commitment to domestic energy production—now it’s up to Congress to ensure legislation is going to support energy goals. Nuclear Energy Must Be a Foreign Policy Priority Beyond bilateral trade barriers, the US must also dominate critical global industries to remain competitive. **There is broad consensus that investments in national defense, space, artificial intelligence, and quantum computing will help make America more secure and more prosperous. The same is true of** [**investments in nuclear energy**](https://www.thirdway.org/memo/the-global-race-for-advanced-nuclear-is-on)**. A robust domestic nuclear supply chain has corollary benefits, including reliable energy supply, that are foundational to our** [**defense**](https://www.thirdway.org/memo/nuclear-fuel-is-a-national-security-imperative) **and** [**technology sectors**](https://www.thirdway.org/blog/dawn-of-a-nuclear-era). Moreover, **the strength of our nuclear industry directly supports our competitiveness abroad, which in turn affects** [**our ability to uphold the highest global norms in nuclear security and nonproliferation**](https://nationalinterest.org/feature/why-nuclear-fuel-vital-us-national-security-interests-ukraine-and-middle-east-207782)**. Failure to compete overseas will enable China, Russia, and other rivals to** [**erode our influence on these international standards**](https://www.defensenews.com/opinion/commentary/2023/03/29/the-global-nuclear-energy-market-is-a-geopolitical-battleground/) **and cement** [**century-long geostrategic partnerships**](https://www.thirdway.org/memo/2023-map-the-world-wants-nuclear-energy-china-and-russia-are-racing-ahead) **around the world.** [**Putting the US at the forefront of global civil nuclear markets will make us stronger, more secure, and more influential on the global stage**](https://www.thirdway.org/report/nuclear-export-financing-today-and-tomorrow?utm_source=Pardot&utm_medium=email). Our adversaries understand the stakes. **China and Russia have state-owned, heavily subsidized nuclear industries that are a key part of their efforts to gain allies and influence throughout the developing world.** China and Russia view nuclear exports as a way to develop century long partnerships in Africa, Asia, and Eastern Europe. Their interest in advanced nuclear power is less about economics, and more about influence. The competition is well underway and the United States is losing. According to the International Atomic Energy Agency, [**85% of all new reactors**](https://pris.iaea.org/PRIS/worldstatistics/UnderConstructionReactorsByCountry.aspx) **currently under construction in 2024 are Russian or PRC designs; 0% are US designs.** This year, President Trump and the new Republican Congress have an opportunity to do just that—through budget reconciliation.  Trump Could Cede Critical Geopolitical “Energy Dominance” to China in His First 100 Days by Compromising America’s Nuclear Industry—But It’s Not Too Late Put simply, **if we want to outcompete China, Congress needs to continue to prioritize clean energy.** The incoming Trump administration has made no secret of its hostility to the Inflation Reduction Act (IRA) and its clean energy provisions, especially its investments in wind and solar. But despite recent bipartisan alignment in support of nuclear energy, **Trump’s agenda not only targets renewables but may also incidentally deal a significant blow to programs supporting nuclear development and demonstration in the US.** During the 117th Congress, **IRA and the Bipartisan Infrastructure Law (BIL) created tax credits, grants, and loan programs to finance the research, development, demonstration, and even the deployment of emerging clean energy technologies**, including nuclear. In a flurry of signals issued during the lame-duck period, the incoming administration and Republican Congressional leadership have made clear **that many of these programs are on the chopping block in the first 100 days of the second Trump administration**. In competition with state-backed civil nuclear programs such as China**, the US needs to bolster its federal government funding for nuclear, not decrease it.  China is churning out large reactors at home, demonstrating** (i.e., [building and operating](https://www.thirdway.org/memo/the-global-race-for-advanced-nuclear-is-on)) **advanced reactor technologies, and marketing advanced reactors cheaply along its “Belt and Road.”** To stay relevant in this race for international market share, **the US must rapidly finance the demonstration and subsequent commercialization of US nuclear small modular reactors** (SMRs) **and advanced nuclear reactors. The time is now, in the 2025 reconciliation process, to save this critical sector from opening its global market to China.** Why? **The decisions the US government makes this year will dictate whether US nuclear developers have the resources they need to keep pace and ground test these technologies. In the interest of national security and to ensure US competitiveness, Congress must robustly appropriate funding for advanced nuclear demonstrations and maintain federal programs critical to the scale-up of these technologies**. The following programs are all essential to preserve or expand during budget reconciliation.

**Affirming enables exports**

**Bowen et al 20** (Matt Bowen is a research scholar at the Center on Global Energy Policy at Columbia University School of International Public Affairs and a senior fellow at the Atlantic Council Global Energy Center. Jackie (Kempfer) Siebens is a senior policy adviser for the energy and climate program at Third Way and a senior fellow at the Atlantic Council Global Energy Center. Jennifer T. Gordon is the managing editor and senior fellow for nuclear energy at the Atlantic Council Global Energy Center. 10/7/20, “Strengthening cooperation with allies could help the United States lead in exporting carbon-free nuclear energy”, The Atlantic Council,<https://www.atlanticcouncil.org/blogs/energysource/strengthening-cooperation-with-allies-could-help-the-united-states-lead-in-exporting-carbon-free-nuclear-energy/>   //.  DOA: 3/3/25)JDE

First, **the federal government should establish a more comprehensive and coordinated interagency system focused on the development and deployment of civilian nuclear technologies**, which would **support bringing advanced nuclear power to the global market.** This would involve establishing a collaborative network of nuclear-specific staff positions embedded in the collection of government agencies that **play a meaningful role in safely and securely developing**, deploying, and exporting US energy **technologies**. Similar to the “Team USA” whole-of-government approach first initiated under the Obama Administration, a network of nuclear-specific staff positions could be located across different US agencies including: the Department of Energy, Department of State, Nuclear Regulatory Commission (NRC), White House Office of Science and Technology Policy, National Security Council (NSC), Department of Commerce, and any future Climate Office. While the Obama Administration created an NSC role to coordinate interagency nuclear policy, and the DOE report released earlier this year, [Restoring America’s Competitive Nuclear Advantage](https://www.energy.gov/sites/prod/files/2020/04/f74/Restoring%20America%27s%20Competitive%20Nuclear%20Advantage_1.pdf), recommended reinstating that role, there is currently no high-level mechanism for interagency coordination on US nuclear exports. And, **since it is difficult to export a product that lacks a domestic market, continued policy support for constructing advanced reactors here in the United States is imperative.**

**Exports secure positive global relationships**

**Graham 19** (Thomas Graham is a retired diplomat who helped negotiate every international arms control and nonproliferation agreement from 1970 to 1977, co-chair of the Nuclear Energy and National Security Coalition, 5/29/19, “National security stakes of US nuclear energy” The Hill,<https://thehill.com/opinion/national-security/445550-national-security-stakes-of-us-nuclear-energy/>, DOA: 3/4/25) ST

We have dedicated our careers to controlling the destructive potential of nuclear weapons. But since the Atoms for Peace era, **U.S. leadership in supplying peaceful nuclear energy technology, equipment, and fuel to the world has been important for world development and therefore critical for the United States to establish and enforce standards for nuclear safety, security and nonproliferation**. But in recent decades, the U.S. share of international commercial nuclear energy markets has diminished, and so with it has the United States’ ability to influence global standards in peaceful nuclear energy. The critical moment for U.S. leadership in nuclear energy is when a country is developing nuclear energy for the first time. **The supplier country and the developing country typically forge a relationship that endures for the 80- to 100-year** life of the nuclear program. Unlike a coal or gas plant**, nuclear reactors need specialized fuel and maintenance. Once established, the bilateral commercial relationship is not easily dislodged by a rival nation, providing the supplier profound and lasting influence on the partner’s nuclear policies and practices.** **Russia and China have identified nuclear energy as a strategic export, to be leveraged for geopolitical influence as well as for economic gain.** According to a recent analysis, **Russia is the supplier of more nuclear technology than the next four largest suppliers combined, and China is quickly emerging as a rival. If the United States fails to compete in commercial markets, it will cede leadership to these countries on nuclear safety, security and nonproliferation, as well as foreign policy influence.** As the competition intensifies to deliver **the next generation of nuclear power technologies**, U.S. nuclear leadership is approaching a watershed opportunity. Simpler, scalable, and less expensive, small and advanced reactors **are commercially attractive to an expanded range of markets** — particularly in Africa, Asia and the Middle East. The United States has the world’s best training and development programs, unmatched regulatory experience, and multiple small and advanced reactor designs; we should be the easy choice for the next generation of nuclear technology. But early U.S. engagement in these important geopolitical regions is critical. Without it, **Russia and China will lock up future nuclear markets through MOUs and other bilateral agreements.** And for addressing the national security risks of climate change, nuclear energy is not just an option but a necessity. Developing nations that are planning to meet power and water needs for large and growing populations must have reliable, demonstrated, zero-emission nuclear power in order to meet global climate goals as well. Advanced reactors are integral to these goals. In the United States, nuclear energy is responsible for a fifth of the United States’ total electricity and more than 55 percent of our emissions-free energy, but the pace of domestic construction of new natural gas plants far exceeds the few nuclear plants under development, and the existing fleet is retiring prematurely at an alarming rate. Which brings us back to the domestic nuclear industry**. U.S. global competitiveness and leadership are inextricably linked to a strong domestic nuclear program. Without a healthy domestic fleet of plants, the U.S. supply chain will weaken against international rivals. Russia has brought six new plants online in the past five years and has six more plants currently under construction. In the same period, China has brought 28 new plants online and has 11 others under construction. These domestic projects provide Russia and China with a robust supply chain, an experienced workforce, and economies of scale that make them more competitive in bidding on international projects. Unless we continue to innovate and build new plants, we will cease to be relevant elsewhere.** Even our own domestic energy security is supported by nuclear power. The nuclear plants operating today are the most robust elements of U.S. critical infrastructure, offering a level of protection against natural and adversarial threats that is unmatched by other plants. Because the nation’s grid supplies power to 99 percent of U.S. military installations, large scale disruptions affect the nation’s ability to defend itself. **We can regain U.S. leadership in nuclear energy. The key steps are to maintain the domestic reactor fleet, with its reservoir of know-how, and to assist American entrepreneurs in developing the next generation of the technology**.

**US hegemony deters multiple revisionists**

**Ignatieff 24** (Michael Ignatieff is Professor of History at Central European University and the author of On Consolation: Finding Solace in Dark Times (Metropolitan Books, 2021)., , “The Threat to American Hegemony is Real,” 3-15-2024, https://www.project-syndicate.org/commentary/us-western-hegemony-vulnerable-to-russian-chinese-coordinated-challenge-by-michael-ignatieff-2024-03, // accessed 10-29-2024)ops

**The post-1945 world order** – written into international law, ratified by the United Nations, and kept in place by the balance of nuclear terror among major powers – **is hanging by a thread**. The United States is divided against itself and stretched to the limits of its capabilities. Europe is waking up to the possibility that, come November, America may no longer fulfill its collective-defense obligations under Article 5 of the NATO treaty. Faced with this new uncertainty, Europe is cranking up its defense production, and European politicians are screwing up the courage to persuade their electorates that they will need to ante up 2% of their GDP to guarantee their own safety. **The Western alliance** doesn’t just face the challenge of doubling down on defense while maintaining unity across the Atlantic. It also now **faces an “axis of resistance” that might be tempted to threaten Western hegemony with a simultaneous, coordinated challenge**. The lynchpin of this axis is the Russia-China “no-limits” partnership. While the Chinese supply the Russians with advanced circuitry for their weapons systems, Russian President Vladimir Putin ships them cheap oil. **Together they have imposed autocratic rule over most of Eurasia**. If **Ukraine’s exhausted defenders are forced to concede Russian sovereignty over Crimea and the Donbas region, the Eurasian axis of dictators will have succeeded in changing a European land frontier by force**. **Achieving this will threaten every state on the edge of Eurasia: Taiwan, the Baltic countries, and even Poland**. Both **dictatorial regimes will use their vetoes on the UN Security Council to ratify conquest, effectively consigning the UN Charter to history’s dustbin**. **This partnership of dictators works in tandem with a cluster of rights-abusing renegades**, led by Iran and North Korea. The **North Koreans provide Putin with artillery shells while plotting to invade the rest of their peninsula.** The Iranians manufacture the drones that terrorize Ukrainians in their trenches. Meanwhile, **Iran’s proxies – Hamas, Hezbollah, and the Houthis – are helping Russia and China by tying down America and Israel**. Unless the US can force Israel into a long-term ceasefire, **it will find itself struggling to control conflicts on three fronts (Asia, Europe, and the Middle East)**. Not even a country that outspends its rivals on defense by two to one can maintain a war footing simultaneously across so many theaters. The idea that democracies around the world will join up with America and Europe against the authoritarian threat seems like an illusion. **Instead of joining with the embattled democracies of the Global North, the rising democracies of the Global South – Brazil, India, and South Africa – seem unembarrassed to be aligning with regimes that rely on mass repression**, the cantonment of entire populations (the Uighurs in China), and shameless murder (Navalny being only the most recent example). To be sure, **the authoritarian axis currently is united only by what it opposes: American power**. It is otherwise divided by its ultimate interests. The Chinese, for example, cannot be overjoyed that the Houthis are blocking freight traffic through the Red Sea. The world’s second most powerful economy doesn’t have all that much in common with an impoverished Muslim resistance army or with theocratic Iran. Moreover, **both Russia and China remain parasitic beneficiaries of a global economy that is sustained by US alliances and deterrence**. That is why they still hesitate to challenge the hegemon too directly. However, like sharks, they smell blood in the water. **They have not only survived US sanctions but continued to prosper, replacing their dependence on embargoed markets with new markets in Latin America, Asia, and India**. Both Russia and China have discovered that American control of the global economy is not what it once was. **This discovery of American weakness might tempt them to risk a joint military challenge**. As matters stand, **US diplomacy and deterrence have successfully kept the axis divided**. CIA Director William Burns and National Security Adviser Jake Sullivan are keeping the channels open to China. Blowback American strikes against Iran have apparently convinced the theocrats to rein in Hezbollah and the militias in Iraq – though not the Houthis, whom nobody seems able to control. It doesn’t take strategic genius to see the opportunity China and Russia might be contemplating. **If they decided to mount an overt challenge to the American order** – for example, with a coordinated, **simultaneous offensive against Ukraine and Taiwan – the US would struggle to rush weapons and technology into the breach**. **Nuclear weapons would not** necessarily **deter China and Russia from risking a coordinated attempt to take Taiwan and the rest of Ukraine**. All parties would pay a horrendous price, but **Russia has shown what it is willing to expend in Ukraine, and both China and Russia may believe that there will never be a more opportune moment to overthrow American hegemony. If they were to combine forces, we would face the most serious challenge to the global economic and strategic order since 1945**. Nobody has any idea what the world would be like on the other side of such a confrontation. We cannot even assume, as we have always done, that America would prevail if faced with a simultaneous challenge from two formidable powers. If a pessimist is someone who imagines the worst in order to forestall it, we should all be pessimists. **Keeping the authoritarian axis from becoming a full-fledged alliance should be America’s first-order priority**.

**Great power war would cause extinction, Clare 21 finalizes**

(Stephen Clare: Research Fellow at the Forethought Foundation for Global Priorities Research Fellow, November 2021, “Great Power Conflict,”<https://dkqj4hmn5mktp.cloudfront.net/Great_Power_Conflict_report_Founders_Pledge_e4124df2ac.pdf> , Founders Pledge .//. DOA: 12/11/24) TZL

This report explores issues at the intersection of international relations, conflict studies, and longtermism.l In it, we draw extensively on the mainstream international relations literature but focus specifically on understanding the potential effects of war on the long-term future. Taking **a lng-term view focuses our attention on the risk a Great Power war poses to humanity's future potential. Extinction, an unrecoverable collapse of civilization, or a permanent end to humanity's growth** and progress **would** all **destroy the long-term potential of our species**. We call events that could lead to one of **these** scenarios **existential risks** .2 Such an event, if it occurred, would be unprecedented in human history. It **would cause unimaginable suffering for everyone alive today and extinguish any possibility for trillions of our would-be descendants to live happy lives**. **Some** of these global catastrophic risks, like an asteroid impact, **are direct risks. By contrast, Great Power conflict is a risk factor**: it is **connected to multiple other risks**, and **raising or lowering the amount of conflict affects the seriousness of** the **threats** we face **in** these **other areas**. In section 4 of this report we consider several concrete pathways through which **Great Power conflict poses a global catastrophic risk**. We will sort these pathways into three broad categories. First, we consider ways in which Great Power conflict poses a risk **even without a full-blown war breaking out**. For example, **a new Cold War could hasten the development of dangerous technologies or cause a breakdown in cooperation that precludes international agreements to mitigate other existential risks**. Second, **a Great Power war could itself be a global catastrophic risk**. In an all-out war between Great Power nations, **weapons with the potential to kill everyone on earth or irreparably damage civilization could be used**. Or, **in the aftermath** of a major war, **the victorious side could** emerge as a global hegemon that is able to **use advanced technologies to lock in** its **sub-optimal values**. 3 Third, **a Great Power war could weaken humanity and leave us more vulnerable to subsequent disasters**, like a serious pandemic.