# Awty International ZZ --- King Round Robin --- NEG vs. Seven Lakes CM

## 1NC

### 1NC --- Transmission

**Construction of new transmission lines is low.**

**Slayter 24** [Chloe; July 30th; Communications Manager for Americans for a Clean Energy Grid; “Americans for a Clean Energy Grid and Grid Strategies Release New Report on Declining Large-Scale Transmission Construction in the U.S.”; Americans for a Clean Energy Grid; https://www.cleanenergygrid.org/fewer-new-miles-2024/] cameron

The new report reveals a contrast between **transmission spending** and the **dwindling expansion** of **new infrastructure**, posing significant challenges to the nation’s energy future.

Key findings from the report include:

**Construction** of new **h**igh-**v**oltage **t**ransmission in the U.S. has **slowed** to a **trickle** over the past decade, with only **55** new miles built in 2023.

Projected load growth has doubled in the last year, and serving that load will require expanded transmission capacity.

Despite this **decline** in new **construction**, annual **transmission spend** has **risen** to more than **$25 billion** in 2023. **Ninety percent** of this spend is driven by **reliability upgrades** and the **replacement** of aging equipment, which **does not increase** delivery **capacity**.

The U.S. only builds **20%** as much new transmission in the 2020s as it did a decade ago in the first half of the 2010s.

This trend began over a **decade** ago, when the average of **1,700** miles of new **h**igh-**v**oltage **t**ransmission miles per year from 2010 to 2014 dropped to only **925** miles from 2015 to 2019, and has fallen further to an average of **350** miles per year from 2020 to 2023.

**Affirming necessitates new transmission lines.**

**Miet 24** [Hannah; October 14th; Founding Editor of The Red Deal, Commercial Real Estate Reporter for Urban Land; “Nuclear Power Makes a Comeback as Data Centers Adapt to Rising Power Demands”; Urban Land; https://urbanland.uli.org/resilience-and-sustainability/nuclear-power-makes-a-comeback-as-data-centers-adapt-to-rising-power-demands] cameron

Regulatory challenges

In the U.S., **regulatory barriers** can **prevent** green **solutions** from **scaling**. Utility **grids** are **not connected**, and **renewable plants** often exist **far** from **population centers**. Connecting them **requires new transmission lines**, but the **process** of getting them is **plagued** by **lengthy schedules** and **delays**, according to Daniel Crosby, CEO of Legend Energy Advisors.

**That triggers permanent deforestation.**

**Williams 03** [Dr. James H.; October 3rd; Professor of Applied Mechanics in the Mechanical Engineering Department at the Massachusetts Institute of Technology, Ph.D. in Engineering from the University of Cambridge; “International Best Practices for Assessing and Reducing the Environmental Impacts of High-Voltage Transmission Lines”; Nautilus Institute; https://www.nautilus.org/wp-content/uploads/2015/06/Env\_Best\_Practices\_Williams\_final.pdf] cameron

**Transmission line construction** and maintenance can lead to the **permanent removal** of woody vegetation and in some cases to the **complete conversion** of strips of **forest** ecosystem into **bare land** or land covered by completely different vegetation communities. Fragmentation, **pesticide use**, and **invasive plant species** within the right-of-way can also affect **surrounding forest areas**.

**It’s uniquely disruptive.**

**Biasotto 18** [Dr. Larissa D.; July; Ph.D. in Ecology from the University of Rio Grande; “Power lines and impacts on biodiversity: A systematic review”; Environmental Impact Assessment Review; Vol. 71; pp. 110-119; https://www.sciencedirect.com/science/article/abs/pii/S0195925517304432] cameron

\*RoW = Right of Way

The **increasing need** for **access** to **energy demands** the **installation** of **new transmission lines** (TLs). According to the International Energy Outlook 2016 (IEO, 2016), there is a predicted growth of approximately 48% on energy consumption over the next 26 years worldwide, with a consequent large expansion of the transmission system.

Due to the long distances between power plants and main consumption regions, electricity reaches consumers by an extensive network of transmission (**h**igh-**v**oltage) and distribution (low-voltage) lines. **T**ransmission **lines** differ from **distribution** lines by supporting higher voltages (from 69 kV to 800 kV), and usually extending for longer distances.

Transmission lines might cause **significant impacts** on the environment both during the **construction** and **operation** phases (Bagli et al., 2011). The most obvious impacts of power lines on the environment are associated with the right of way (RoW), the zone below the cables where vegetation is cleared and managed to avoid interference and risk to line structures and/or to energy transmission. **The RoW width** varies according to many factors (Weedy, 1989), **being wider** for lines with higher voltages. Although the disturbed area is limited in width, the linear **disturbance** may extend for **hundreds of kilometers** (e.g. Cardoso Junior et al., 2014).

**North America is key.**

**Skene 21** [Jennifer Skene, Natural Climate Solutions Policy Manager, International Program at the NRDC, Visiting Clinical Lecturer in Law at Yale Law School, JD from Yale Law School, “Our Climate Future Is Rooted in North America’s Forests”, https://www.nrdc.org/bio/jennifer-skene/our-climate-future-rooted-north-americas-forests]

**Forest protection**, once the “forgotten” climate solution, has become an integral pillar of **climate** discussions. But while attention has largely focused on forests like those of the Amazon and Indonesia, the climate doesn’t hinge just on what happens in the **tropics**. It also depends on the **boreal**; the temperate rainforests of the **Pacific**; the conifer forests of the **Rockies**; the **Northeastern coastal** forests; the **Southern wetland** forests. These forests in **North America** are being lost or stripped of carbon rich mature trees right under our noses and need to remain **standing and intact** if we are going to achieve a climate-**safe**, **sustainable future.** As the Biden administration looks to act on its historic commitment to reducing U.S. greenhouse gas emissions by at least 50% by 2030, it needs to embrace a bold new vision for forest protection that looks at how we can protect the climate-critical forest resources in our own backyard.

**North America’s forests**, the homelands of Indigenous communities and havens of rich biodiversity, are some of the most **carbon-dense areas** on **Earth**. These forests are part of the **global** forest **respiratory system** that, each year, absorbs one-third of human-caused greenhouse gas emissions. They are also gatekeepers of **vast stores of carbon** locked **safely** out of the atmosphere in their soils and biomass. The Canadian boreal forest alone stores twice as much carbon as the world’s oil reserves, while U.S. forests collectively absorb the equivalent of about **12 percent of the nation’s annual carbon pollution**. **Their sentry** stands between **us** and **climate catastrophe.**

**Climate change is existential.**

**Kemp et al. 22** [Luke Kemp et al, PhD in political science and international relations + climate expert and researcher @ Centre for the Study of Existential Risk, Climate Endgame: Exploring Catastrophic Climate Change Scenarios, Centre for the Study of Existential Risk at University of Cambridge; Proceedings of the National Academy of Sciences, Vol. 119, No. 34, https://www.pnas.org/doi/pdf/10.1073/pnas.2108146119] recut BZ

The Potential for Climate Catastrophe

There are four key reasons to be concerned over the potential of a global climate catastrophe. First, there are warnings from history. Climate change (either regional or global) has played a role in the collapse or transformation of numerous previous societies (37) and in **each of the five** mass **extinction** events in Phanerozoic Earth history (38). The current carbon pulse is occurring at an unprecedented geological speed and, by the end of the century, may surpass thresholds that triggered previous mass extinctions (39, 40). The worst-case scenarios in the IPCC report project temperatures by the 22nd century that last prevailed in the Early Eocene, reversing 50 million years of cooler climates in the space of two centuries (41).

This is particularly alarming, as human societies are locally adapted to a **specific climatic niche**. The rise of large-scale, urbanized agrarian societies began with the shift to the stable climate of the Holocene ∼12,000 y ago (42). Since then, human population density peaked within a narrow climatic envelope with a mean annual average temperature of ∼13 °C. Even today, the most economically productive centers of human activity are concentrated in those areas (43). The cumulative impacts of warming may **overwhelm societal adaptive capacity**.

Second, climate change could directly trigger **other catastrophic risks**, such as international **conflict**, or exacerbate infectious **disease spread**, and **spillover** risk. These could be potent extreme **threat multipliers**.

Third, climate change could exacerbate **vulnerabilities** and cause multiple, **indirect stresses** (such as **economic damage**, **loss of land**, and **water and food** **insecurity**) that coalesce into **system-wide synchronous** failures. This is the path of systemic risk. Global crises tend to occur through such reinforcing “synchronous failures” that spread across countries and systems, as with the 2007–2008 global financial crisis (44). It is plausible that a sudden shift in climate could trigger systems failures that unravel societies **across the globe**.

The potential of systemic climate risk is marked: The most **vulnerable** states and communities will continue to be the **hardest hit** in a warming world, exacerbating inequities. Fig. 1 shows how projected population density intersects with extreme >29 °C mean annual temperature (MAT) (such temperatures are currently restricted to only 0.8% of Earth’s land surface area). Using the medium-high scenario of emissions and population growth (SSP3-7.0 emissions, and SSP3 population growth), by 2070, around **2 billion** people are expected to live in these extremely hot areas. Currently, only 30 million people live in hot places, primarily in the Sahara Desert and Gulf Coast (43).

<<Figure 1. Omitted>>

Extreme temperatures combined with high humidity can negatively affect outdoor worker productivity and yields of major cereal crops. These deadly heat conditions could significantly affect populated areas in South and southwest Asia(47).

Fig. 2 takes a political lens on extreme heat, overlapping SSP3-7.0 or SSP5-8.5 projections of >29 °C MAT circa 2070, with the Fragile States Index (a measurement of the instability of states). There is a striking overlap between currently vulnerable states and future areas of extreme warming. If current **political fragility** does not improve significantly in the coming decades, then a belt of instability with potentially serious ramifications could occur.

<<Figure 2. Omitted>>

Finally, climate change could irrevocably undermine humanity’s ability to recover from **another cataclysm**, such as nuclear war. That is, it could create significant latent risks (Table 1): Impacts that may **be manageable during times of stability** become dire when responding to and recovering from catastrophe. These different causes for catastrophic concern are **interrelated** and must be examined together.

Defining the Key Terms

Although bad-to-worst case scenarios remain underexplored in the scientific literature, statements labeling climate change as catastrophic are not uncommon. UN Secretary-General Antonio Guterres called climate change an “existential threat.” Academic studies have warned that warming above 5°C is likely to be “beyond catastrophic” (50), and above 6°C constitutes “an indisputable global catastrophe” (9).

Current discussions over climate catastrophe are undermined by unclear terminology. The term “catastrophic climate change” has not been conclusively defined. An existential risk is usually defined as a risk that cause an enduring and significant loss of long-term human potential (51, 52). This existing definition is deeply ambiguous and requires societal discussion and specification of long-term human values (52). While a democratic exploration of values is welcome, it is not required to understand pathways to human catastrophe or extinction (52). For now, the existing definition is not a solid foundation for a scientific inquiry.

We offer clarified working definitions of such terms in Table 1. This is an initial step toward creating a lexicon for global calamity. Some of the terms, such as what constitutes a “plausible” risk or a “significant contributor,” are necessarily ambiguous. Others, such as thresholding at 10% or 25% of global population, are partly arbitrary (10% is intended as a marker for a precedented loss, and 25% is intended as an unprecedented decrease; see SI Appendix for further discussion). Further research is needed to sharpen these definitions. The thresholds for global catastrophic and decimation risks are intended as general heuristics and not concrete numerical boundaries. Other factors such as morbidity, and cultural and economic loss, need to be considered.

We define risk as the probability that exposure to climate change impacts and responses will result in adverse consequences for human or ecological systems. For the Climate Endgame agenda, we are particularly interested in catastrophic consequences. Any risk is composed of four determinants: hazard, exposure, vulnerability, and response (3).

We have set global warming of 3 °C or more by the end of the century as a marker for extreme climate change. This threshold is chosen for four reasons: Such a temperature rise well exceeds internationally agreed targets, all the IPCC “reasons for concern” in climate impacts are either “high” or “very high” risk between 2 °C and 3 °C, there are substantially heightened risks of self-amplifying changes that would make it impossible to limit warming to 3 °C, and these levels relate to far greater uncertainty in impacts.

<<Table 1. Omitted>>

Key Research Thus Far

The closest attempts to directly study or comprehensively address how climate change could lead to human extinction or global catastrophe have come through popular science books such as The Uninhabitable Earth (53) and Our Final Warning (10). The latter, a review of climate impacts at different degrees, concludes that a global temperature rise of 6 °C

We know that health risks worsen with rising temperatures (54). For example, there is already an increasing probability of multiple “breadbasket failures” (causing a food price shock) with higher temperatures (55). For the **top** four maize-producing regions (accounting for 87% of maize production), the likelihood of production losses greater than 10% jumps from 7% annually under a 2 °C temperature **rise to 86%** under 4 °C (56). The IPCC notes, in its Sixth Assessment Report, that 50 to 75% of the global population could be exposed to life-threatening climatic conditions by the end of the century due to extreme heat and humidity (6). SI Appendix provides further details on several key studies of extreme climate change.

The IPCC reports synthesize peer-reviewed literature regarding climate change, impacts and vulnerabilities, and mitigation. Despite identifying 15 tipping elements in biosphere, oceans, and cryosphere in the Working Group 1 contribution to the Sixth Assessment Report, many with irreversible thresholds, there were very few publications on catastrophic scenarios that could be assessed. The most notable coverage is the Working Group II “reasons for concern” syntheses that have been reported since 2001. These syntheses were designed to inform determination of what is “dangerous anthropogenic interference” with the climate system, that the UNFCCC aims to prevent. The five concerns are unique and threatened ecosystems, frequency and severity of extreme weather events, global distribution and balance of impacts, total economic and ecological impact, and irreversible, large-scale, abrupt transitions. Each IPCC assessment found greater risks occurring at lower increases in global mean temperatures. In the Sixth Assessment Report, all five concerns were listed as very high for temperatures of 1.2 °C to 4.5 °C. In contrast, only two were rated as very high at this temperature interval in the previous Assessment Report (6). All five concerns are now at “high” or “very high” for 2 °C to 3 °C of warming (57).

A Sample Research Agenda: Extreme Earth System States, Mass Mortality, Societal Fragility, and Integrated Climate Catastrophe Assessments

We suggest a research agenda for catastrophic climate change that focuses on four key strands:

• Understanding extreme climate change dynamics and impacts in the long term

• Exploring climate-triggered pathways to mass morbidity and mortality

• Investigating social fragility: vulnerabilities, risk cascades, and risk responses

• Synthesizing the research findings into “integrated catastrophe assessments”

Our proposed agenda learns from and builds on integrated assessment models that are being adapted to better assess large-scale harms. A range of tipping points have been assessed (58–60), with effects varying from a 10% chance of doubling the social cost of carbon (61) up to an eightfold increase in the optimal carbon price (60). This echoes earlier findings that welfare estimates depend on fat tail risks (31). Model assumptions such as discount rates, exogenous growth rates, risk preferences, and damage functions also strongly influence outcomes.

There are large, important aspects missing from these models that are highlighted in the research agenda: longer-term impacts under extreme climate change, pathways toward mass morbidity and mortality, and the risk cascades and systemic risks that extreme climate impacts could trigger. Progress in these areas would allow for more realistic models and damage functions and help provide direct estimates of casualties (62), a necessary moral noneconomic measure of climate risk. We urge the research community to develop integrated conceptual and semiquantitative models of climate catastrophes.

Finally, we invite other scholars to revise and improve upon this proposed agenda.

Extreme Earth System States. We need to understand potential long-term states of the Earth system under extreme climate change. This means mapping different “Hothouse Earth” scenarios (21) or other extreme scenarios, such as alternative circulation regimes or large, irreversible changes in ice cover and sea level. This research will require consideration of long-term climate dynamics and their impacts on other planetary-level processes. Research suggests that previous mass extinction events occurred due to threshold effects in the carbon cycle that we could cross this century (40, 63). Key impacts in previous mass extinctions, such as ocean hypoxia and anoxia, could also escalate in the longer term (40, 64).

Studying potential tipping points and irreversible “committed” changes of ecological and climate systems is essential. For instance, modeling of the Antarctic ice sheet suggests there are several tipping points that exhibit hysteresis (65). Irreversible loss of the West Antarctic ice sheet was found to be triggered at ∼2 °C global warming, and the current ice sheet configuration cannot be regained even if temperatures return to present-day levels. At a 6 °C to 9 °C rise in global temperature, slow, irreversible loss of the East Antarctic ice sheet and over 40 m of sea level rise equivalent could be triggered (65). Similar studies of areas such as the Greenland ice sheet, permafrost, and terrestrial vegetation would be helpful. Identifying all the potential Earth system tipping elements is crucial. This should include a consideration of wider planetary boundaries, such as biodiversity, that will influence tipping points (66), feedbacks beyond the climate system, and how tipping elements could cascade together (67).

Mass Morbidity and Mortality. There are many potential contributors to climate-induced morbidity and mortality, but the “four horsemen” of the climate change end game are likely to be **famine** and **undernutrition**, **extreme weather** events, **conflict**, and vector-borne **diseases**. These will be worsened by additional risks and impacts such as mortality from **air pollution** and **sea level** rise.

These pathways require further study. Empirical estimates of even direct fatalities from heat stress thus far in the United States are systematically **underestimated** (68). A review of the health and climate change literature from 1985 to 2013 (with a proxy review up to 2017) found that, of 2,143 papers, only 189 (9%) included a dedicated discussion of more-extreme health impacts or systemic risk (relating to migration, famine, or conflict) (69). Models also rarely include adaptive responses. Thus, the overall mortality estimates are uncertain. How can potential mass morbidity and mortality be better accounted for? 1) Track compound hazards through bottom-up modeling of systems and vulnerabilities (70) and rigorously stress test preparedness (71). 2) Apply models to higher-temperature scenarios and longer timelines. 3) Integrate risk cascades and systemic risks (see the following section) into health risk assessments, such as by incorporating morbidity and mortality resulting from a climate-triggered food price shock.

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Societal Fragility: Vulnerabilities, Risk Cascades, and Risk Responses. More-complex risk assessments are generally more realistic. The determinants of risk are not just hazards, vulnerabilities, and exposures, but also responses (3, 72). A complete risk assessment needs to consider climate impacts, differential exposure, systemic vulnerabilities, responses of societies and actors, and the knock-on effects across borders and sectors (73), potentially resulting in systemic crises. In the worst case(s), a **domino** effect or spiral could continuously worsen the initial risk.

Societal risk cascades could involve conflict, disease, political change, and economic crises. Climate change has a complicated relationship with conflict, including, possibly, as a risk factor (74) especially in areas with **preexisting ethnic conflict** (75). Climate change could affect the spread and transmission of infectious diseases, as well as the **expansion and severity of different zoonotic infections** (76), creating conditions for **novel** outbreaks and infections (6,77). Epidemics can, in turn, trigger cascading impacts, as in the case of COVID-19. Exposure to ecological stress and natural disasters are key determinants for the cultural “tightness” (strictness of rules, adherence to tradition, and severity of punishment) of societies (78). The literature on the median economic damages of climate change is profuse, but there is far less on financial tail risks, such as the possibility of global financial crises.

Past studies could be drawn upon to investigate societal risk. Relatively small, regional climate changes are linked to the transformation and even collapse of previous societies (79, 80). This could be due to declining resilience and the passing of tipping points in these societies. There is some evidence for critical slowing down in societies prior to their collapse (81, 82). However, care is needed in drawing lessons from premodern case studies. Prehistory and history should be studied to determine not just how past societies were affected by specific climate hazards but how those effects differ as societies change with respect to, for example, population density, wealth inequality, and governance regime. Such framing will allow past and current societies to be brought under a single system of analysis (37).

The characteristics and vulnerabilities of a modern globalized world where food and transport distribution systems can buffer against traumas will need to feature in work on societal sensitivity. Such large, interconnected systems bring their own sources of fragility, particularly if networks are relatively homogeneous, with a few dominant nodes highly connected to everyone else (83). Other important modern-day vulnerabilities include the rapid spread of misinformation and disinformation. These epistemic risks are serious concerns for public health crises (84) and have already hindered climate action. A highlevel and simplified depiction of how risk cascades could

unfold is provided in Fig. 3.

Integrated Catastrophic Assessments. Climate change will unfold in a world of changing ecosystems, geopolitics, and technology. Could we even see “warm wars”—technologically enhanced **great power conflicts** over **dwindling carbon budgets, climate impacts**, or SRM **experiments**? Such developments and scenarios need to be considered to build a full picture of climate dangers. Climate change could reinforce other interacting threats, including rising **inequality**, **demographic stresses, misinformation**, **new destructive weapons**, and the **overshoot** of other planetary boundaries (85). There are also natural shocks, such as solar flares and high-impact volcanic eruptions, that present possible deadly synchronicities (86). Exploring these is vital, and a range of “standardized catastrophic scenarios” would facilitate assessment.

### 1NC --- NRC

**The NRC maintains nuclear safety now.**

**Goldfin 23** [Robert P. Goldfin and Jane Accomando, 12-22-2023, "NRC to Increase Focus on Appendix B Compliance in View of FY2023 Enforcement Findings," MorganLewis, https://www.morganlewis.com/blogs/upandatom/2023/12/nrc-to-increase-focus-on-appendix-b-compliance-in-view-of-fy2023-enforcement-findings, DOA: 3/30/2025] JZ + shaan

**The US Nuclear Regulatory Commission (NRC) recently published its annual vendor newsletter,** The Vendor Times, documenting findings of NRC vendor inspection staff and lessons learned related to the vendor inspection program. The newsletter follows the NRC’s November 20 vendor inspection program self-assessment for fiscal year 2023. Through these two issuances, the NRC **noted an increase in enforcement findings and indicated that it will focus on 10 CFR Part 21 and supplier oversight compliance during future inspections.**

FY2023 Vendor Inspection Metrics

**In fiscal year 2023, the NRC vendor inspection staff conducted 22 inspections for operating reactors, including 18 vendor inspections, one licensing audit, and three observations of Nuclear Procurement Issues Corporation audits.** These compliance monitoring actions led the NRC to **issue 12 notices of nonconformance (NOCs) and four notices of violation (NOVs) for eight vendors, an overall increase in the total number of findings over fiscal year 2022.** None of the NOCs or NOVs were contested.

The NRC identified that this increase in NOCs and NOVs is mainly in the areas of corrective actions, 10 CFR Part 21, and supplier oversight. Therefore, the **NRC stated it will focus on these areas during future inspections and stress the importance of adequately implementing correction action** and 10 CFR Part 21 programs to vendors. With respect to supplier oversight, the NRC will focus on the areas of commercial-grade dedication and supplier audits.

NRC vendor inspection staff also supported 47 allegation actions during fiscal year 2023, one of which resulted in a reactive inspection.

Lessons Learned

**The NRC continues to support the implementation of Inspection Procedure** (IP) No. 71111.21N.03, Commercial Grade Dedication, last revised in March 2023. To that end, NRC staff **supported technical process and inspection implementation training for regional inspectors,** including tabletop scenario discussions, and engaged in discussions with stakeholders to provide clarity on the IP.

The **NRC will carry out inspections through 2026, and each nuclear plant site will have an inspection.** As of October 2023, the NRC has completed 20 inspections, identifying seven noncited violations. The NRC identified the following common themes associated with the noncited violations:

**Affirming overstretches resources, killing implementation.**

**Gilbert 21** [Alex Gilbert, 5-15-2021, A complex systems researcher with expertise in nuclear innovation, space mining, energy markets,  and climate policy.  "Unlocking Advanced Nuclear Innovation: The Role of Fee Reform and Public Investment," Nuclear Innovation Alliance, https://www.nuclearinnovationalliance.org/unlocking-advanced-nuclear-innovation-role-fee-reform-and-public-investment, DOA: 3/30/2025] JZ + shaan

**Due to the limited resources and flexibility, NRC was unable to proactively develop rules and perform technical activities for advanced reactors.** Many of these are now **being done on an adhoc basis for individual applications.** The current fee model **creates uncertainty for developers, customers, and investors as NRC reviews of advanced reactors can be lengthy and thus involve unexpected and open-pended licensing review costs.** While the NRC regulations require fees to recover “full cost” of NRC’s review, there is **no way to predict what that “full cost” will be and therefore what the fees will be.** In some cases, at the time that NRC accepts an application for review, it has provided an estimate of how much the fees will be. But that estimate is only an estimate. **The applicant is still responsible for the full cost, regardless of the estimate.**

Congress addressed some of these concerns when it passed NEIMA (See Section 2.c.). Off-fee funding in NEIMA and subsequent legislation are providing initial resources for NRC activities to build advanced reactor regulatory infrastructure. While NIA applauds these activities, **expanded and more durable public resources are needed to ensure NRC remains a global leader in nuclear regulation.** In addition, a more holistic review and revision to NRC’s fee structure can address the underlying issues that NEIMA attempted to address.

Fees are an **important consideration for commercializing advanced reactors**, and nearterm licensing activities make reconsideration of licensing fees an urgent imperative. In the case of fees collected for NuScale’s recent design certification, estimated upfront licensing fees were equivalent to at least 10-15 years of annual fees for operating facilities. 12 These costs could be even more significant for combined or operating license applicants who must recoup fees through revenues from a specific and limited customer base. As licensing fees occur at the beginning of the project, they require equity or debt servicing until operation commences, and can **have large impacts on a project’s net present value.** Therefore, even though fees are only a small part of a project’s lifecycle cost, they can have **disproportionate impacts on early-stage projects and even discourage consideration of nuclear energy in the first place.**

Today, NRC’s regulatory framework for licensing reviews is largely predicated on review of large light-water reactors. **To apply this framework to advanced reactors requires extensive company and staff work to identify non-applicability of regulations**, exemptions, and other adaptations. This can **cause initial advanced reactor reviews to take longer and cost more** than historical reviews. This conflicts with the general principle of risk-informed, performancebased regulation. Advanced reactors are expected to be significantly safer than past designs, and the fees incurred should be reflective of the enhanced safety, rather than a result of inefficient requirements. Until regulations are modernized, fees **pose additional undue burdens on innovators and may be costlier compared to licensing with performance-based regulatory frameworks in other countries.**

**That shreds oversight.**

**CBS 19** [CBS News, 7-17-2019, CBS News is the news division of the American television and radio broadcaster CBS. It is headquartered in New York City. "Nuclear Regulatory Commission mulls cutting back on inspections at nuclear reactors,"CBS News, https://www.cbsnews.com/news/nuclear-regulatory-commission-mulls-cutting-back-on-inspections-at-nuclear-reactors/, DOA: 3/30/2025] JZ

Washington – The staff of the **Nuclear Regulatory Commission is recommending that the agency cut back on inspections at the country's nuclear reactors, a cost-cutting move promoted by the nuclear power industry** but denounced by opponents as a threat to public safety.

The recommendations, made public Tuesday, **include reducing the time and scope of some annual inspections at the nation's 90-plus nuclear power plants.** Some other inspections would be cut from every two years to every three years.

Some of the staff's recommendations would require a vote by the commission, which has a majority of members appointed or reappointed by President Trump, who has urged agencies to reduce regulatory requirements for industries.

The nuclear power industry has prodded regulators to cut inspections, saying the nuclear facilities are operating well and that the inspections are a financial burden for power providers. Nuclear power, like coal-fired power, has been struggling in market completion against cheaper natural gas and rising renewable energy.

While Tuesday's report made clear that there was **considerable disagreement among the nuclear agency's staff on the cuts, it contended the inspection reduction "improves efficiency** while still helping to ensure reasonable assurance of adequate protection to the public."

Commission member Jeff Baran criticized the proposed changes Tuesday, saying **reducing oversight of the nuclear power industry "would take us in the wrong direction."**

"NRC shouldn't perform fewer inspections or **weaken its safety oversight to save money,"** Baran said.

The release comes a day after Democratic lawmakers faulted the NRC's deliberations, saying they had failed to adequately inform the public of the changes under consideration.

"Cutting corners on such critical safety measures may eventually **lead to a disaster that could be detrimental to the future of the domestic nuclear industry,**" Rep. Frank Pallone, D-N.J., chair of the House Energy and Commerce Committee, and other House Democrats said in a letter Monday to NRC Chairwoman Kristine Svinicki.

Asked for comment Tuesday, NRC spokespeople pointed to the staff arguments for the changes in the report. Trimming **overall inspections "will improve effectiveness because inspectors again will be focused on issues of greater safety significance,"** staffers told commission members in the recommendations.

Edwin Lyman, a nuclear-power expert at the nonprofit Union of Concerned Scientists, faulted the reasoning of commission staff that the good performance of much of the nuclear power industry warranted cutting back on agency inspections for problems and potential problems.

"That completely ignores the cause-and-effect relationship between inspections and good performances," Lyman said.

**Accidents deck biodiversity.**

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

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

Consequences or impacts to species

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

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

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

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

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

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

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

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

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

Food web and ecosystem impacts

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

**Extinction!**

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

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

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

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

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

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

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

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

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

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

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

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

### 1NC --- Poland

**Poland wants nukes BUT lacks capacity.**

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

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

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

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

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

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

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

Starting from scratch

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

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

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

**They’ve turned to American company Westinghouse.**

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

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

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

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

**America’s provided funding BUT only more allows completion.**

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

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

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

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

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

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

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

**Empirically, US investment in Westinghouse got the project started.**

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

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

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

**Competition decks prolif safeguards.**

**Gilinsky 20** [Victor Gilinsky, former Commissioner of the Nuclear Regulatory Commission, and Henry Sokolski, Executive Director of NPEC, 5-15-2020, "“Bad Business: Pushing US Nuclear Exports,” The American Interest – NPEC", Nonproliferation Policy Education Center, https://npolicy.org/bad-business-pushing-us-nuclear-exports-the-american-interest/] //dg

The nuclear industry and the Department of Energy (DOE) want to raid our wallets…again. This time, it’s not to save the planet, but supposedly to give industry a fighting chance against rising Russian and Chinese civilian nuclear export competition.

As Victor Gilinsky and I warn in “The Nuclear Industry at the Feeding Trough,” posted by The American Interest, the American taxpayer shouldn’t buy this.

First, the Russian and Chinese nuclear industry is not as healthy or as influential as claimed. Second, the nuclear industry’s pleas (most recently trumpeted in DOE’s nuclear strategy report, “Restoring America’s Competitive Nuclear Energy Advantage”) presume an American commercial nuclear industry that no longer exists. Westinghouse, General Electric, and Combustion Engineering have sold themselves out to foreign partners and holding companies. US nuclear exports are no longer significant. Also, US nuclear electricity is now more expensive than gas-fired electricity, hydroelectric, and renewables.

Finally, **what the industry is demanding** in regulations to promote **exports** — a **relaxed** approach to nuclear **nonproliferation controls** — **will** actually **undermine** America’s **national security.**

May 15, 2020

AUTHOR: Henry Sokolski and Victor Gilinsky

Bad Business: Pushing US Nuclear Exports

By Henry Sokolski and Victor Gilinsky

The nuclear lobby is playing the national security card in trying to justify federal handouts. It’s a con.

We are getting used to brazen coronavirus claims for federal largess, but it’s hard to beat the claims coming from the nuclear industry. Even before the pandemic hit, it had for the most part given up competing for new power plant sales in the domestic and international energy marketplace and instead was wrapping itself in the flag and declaring itself essential to U.S. national security, and therefore deserving of generous federal support.

This approach has the full backing of the Trump Energy Department, and has been dutifully rolled out as part of the broader scramble for federal relief funds unleashed by the coronavirus crisis. As Energy Secretary Danny Ray Brouillette made clear to radio talk show host Hugh Hewitt in an April 28 interview:

We’ve lost our leadership both on the technology side and on the market side… to the Russians and the Chinese. And why does that matter? Well, obviously it matters, because we are, we were the world leader not only in the development of nuclear technology, but in the export of this technology around the world. And we lost that, and it leads to a national defense issue.

**And, indeed, DOE’s web site announces: “Nuclear power is intrinsically tied to National Security.”** Among the ways DOE plans to restore American nuclear energy leadership are “minimizing commercial fleet fiscal vulnerabilities [DOE-speak for subsidizing],” and “leveling the playing field against state-owned enterprises.”

**The implication is that other countries are not competing fairly, as if they snuck around us to jump the line. Now, to cope with this, we have to sweeten the deals we offer to get the sales.** And as a thriving nuclear sector is **supposedly** a necessary condition for gaining foreign sales, **we have to prop up domestic nuclear plants, too.**

If nothing else, **there is a stunning lack of self-awareness in this view.** Yes, the United States pioneered the light water reactor technology used around the world. But, as a result of U.S. business decisions, in part reflecting the unfavorable economics of nuclear power in the United States but also poor management, we effectively no longer have any reactor manufacturers.

Combustion Engineering, a company with 28,000 employees, a pressurized water reactor manufacturer, sold itself in 1989 to the European firm ABB Asea Brown Boveri Ltd. The great Westinghouse firm, once the world leader on pressurized water reactors, blundered financially into becoming a subsidiary of the CBS Corporation. In 1995, CBS sold it to British Nuclear Fuels Limited. BNFL in turn sold Westinghouse nuclear activities to Toshiba in 2006.

Westinghouse, by then a shell of its former self, performed so miserably in constructing the last large reactors to be built in the United States in South Carolina and Georgia that it went bankrupt and almost took Toshiba down, too. The South Carolina owners canceled their two plants, and the remaining two in Georgia will cost nearly $30 billion, double the original contract price. After this experience, it is hard to see any future sales of large reactors in the United States.

General Electric used to build boiling water reactors, but it only offers sales abroad as a junior partner to Japan’s Hitachi Corporation. Its reputation is anyway tarnished because it designed the plants that failed during the 2011 Fukushima accident. In short, U.S. nuclear plant manufacturing capabilities are much diminished, and the domestic market just isn’t there. And it isn’t there because nuclear economics are extremely unfavorable.

Currently, the US still has 95 power reactors online, supplying a bit less than 20 percent of America’s electrical demand. They are on average 39 years old. Only two plants, the ones in Georgia, are now under construction and they are expected to be the last large ones to be built for some time.

That hasn’t fazed the nuclear faithful both in and out of government. **They still think,** as their predecessors thought sixty years ago, that **nuclear power is the technology of the future. They paint a picture of our putative arch-enemies, Russia and China, selling nuclear power plants and locking up nuclear relationships with numerous states, including important friendly states such as Saudi Arabia and Turkey,** relationships that will last for the rest of the century. We will be frozen out and will thereby lose influence throughout the world. **But it’s still not too late if we follow the advice of the Energy Department, the nuclear industry, and a gaggle of consultants looking to cash in.**

**What is it we have to do? The battles in Washington turn on so-called agreements for cooperation with potential customers that are prerequisites for sales of major reactors and components. The main issue concerns whether we will accept customers that also want to acquire acquires auxiliary facilities that can be used to produce plutonium and highly enriched uranium, the fuels that are also the explosives used in nuclear weapons. The only position consistent with non-proliferation, halting the spread of nuclear weapons, is “no.”**

But the **nuclear enthusiasts** say that’s too strict, that others have more accommodating terms, and that if we sell with **looser terms**, we’ll have more influence. They have their eye especially on Saudi Arabia, a country that at one point said, implausibly, it was going to build 16 nuclear power plants. They don’t seem to pay attention to the other thing the Saudis said—**the crown prince’s statement that if Iran was going to get a bomb, he was going to get one, too, and fast.**

I**t’s not just the Trump** crowd that opposes tightening security rules over nuclear exports (in the name, they say, of security). President **Obama’s** Energy Secretary, Ernest Moniz, has been arguing that subsidizing domestic nuclear power and encouraging nuclear sales without especially tight security restrictions—restrictions that go by the rubric of “gold standard”—are in the interests of U.S. nuclear security, and even support the deterrence value of our nuclear weapons.

All this is a bit much. **Do we really think that Russia, with a GNP below that of Italy, is capable of freezing us out of the world? Does it have the financial capacity to offer generous terms on many projects? Will they ever be completed?**

**Nuclear power is just one U.S. export technology**, and not exactly the most promising. For example, the U.S. exported $136 billion in aircraft last year; U.S. nuclear exports for the same period could only be measured in millions of dollars. **China is building a comparatively large number of nuclear plants but nuclear power supplies less than five percent of its electrical demand** and is only projected to account for seven percent by 2040. **Any large accident will turn this program off**.

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

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

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

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

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

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

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

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

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

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

**Steps to prolif cause pre-emption.**

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

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

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

**NATO-Russia war goes nuclear.**

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

Escalation: Can a NATO - Russia conflict be managed?

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

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

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

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

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

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

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

Conflict termination

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

### 1NC --- Russia

**Russia’s economy is at the brink --- oil is Putin’s lifeline.**

**Matthews 25** [Owen Matthews, Degree in Modern History at Oxford University, 3-13-2025, The Russian economy is on the **brink of collapse** and Putin knows it, The Independent, https://www.the-independent.com/news/world/europe/russia-economy-putin-ukraine-war-deal-talks-trump-b2714371.html, Willie T.] \*\*edited for objectionable language\*\*

How close is Russia’s economy to collapse? As Donald Trump’s negotiators open direct talks with the Kremlin, Kyiv’s European allies hope that a final push on sanctions against Russia could be Ukraine’s last – and best – hope of victory. Mr Trump has warned that the US could impose a “devastating” financial blow on Russia if Putin refuses to accept the ceasefire agreement. “There are things you can do that wouldn’t be pleasant in a financial sense. I can do things financially,” he said in the Oval Office.

Putin intended his full-scale invasion of Ukraine to be a three-day operation that would force regime change in Kyiv. Neither Putin nor his military or economic planners anticipated a grinding war that now soaks up over **40 per cent of Kremlin spending**.

Nor did they expect Europe to impose serious sanctions, and even less did they anticipate the destruction of three of the four Gazprom gas pipelines under the Baltic Sea that before the war supplied over 30 per cent of Europe’s gas.

The result in Russia has been **rampant inflation**, currently running at over 9 per cent, crippling **[staggering] interest rates** of 21 per cent and runaway price hikes on staple goods that far **outpace the headline inflation rate** and have hit ordinary Russians hard.

Last summer the price of **eggs jumped by 42 per cent**, **bananas by 48 per cent, tomatoes by 39.5 per cent and potatoes by 25 per cent**. The Russian ruble has lost over **half of its value** since Putin first invaded Crimea in 2014, and over $600bn of the Kremlin’s foreign currency reserves have been frozen in Western banks.

More than **1,000 Western businesses** – including Ikea and McDonald’s – pulled out, as did Western car manufacturers. Imports of Western goods – especially technology – are now **expensively routed through sanctions-busting neighbours** like Kazakhstan and Georgia. And last month Russian utility companies hiked prices for electricity by up to **250 per cent.**

“Everyone drives Chinese cars these days, but there are no spare parts,” says Alexandra, 39, a former journalist who lives in Moscow and whose ex-husband is fighting in Ukraine. “The only foreign cars you buy are right-hand-drive [from Japan]. Anyone with a mortgage is paying crazy interest. People complain how expensive everything has become.”

Russia spent more on its military in 2024 than the rest of Europe combined, according to the International Institute for Strategic Studies’ latest Military Balance report – a staggering $462bn, if adjusted for purchasing power. The Kremlin’s spending splurge on its war effort has produced some winners, notably the 1.5 million troops currently serving in Putin’s army who are paid up to $2,500 a month to fight – four times the average salary in Russia’s most impoverished provinces.

Massive losses on the battlefield have **worsened labour shortages**, with a record-low unemployment rate of 2.4 per cent. Factories are **running at capacity and beyond**. Russia’s economy has “reached the **limits of its productive capacity** while demand continues to be stimulated,” Central Bank chief Elvira Nabiullina warned the Russian parliament in November, predicting a fatal combination of economic stagnation and inflation known as “stagflation”.

For the first three years of the war, the Kremlin’s war spending fuelled GDP growth which peaked at a staggering 5.4 per cent in early 2024. But 2025 will be the year that growth flatlines, experts predict.

The Kremlin has been able to afford its spending spree thanks, mostly, to India and China, which have continued to import Russian oil in record quantities. The EU has in theory capped the price that customers can pay for Russian Urals crude at $60 a barrel – somewhat below the current market price of $67. But so-called “attestation fraud” – such as making up the difference in fake transportation and other costs – makes the rules easy to bend.

Natural gas has **never been sanctioned** by the EU at all – and until 1 January of this year, 13 per cent of Europe’s piped gas was still being shipped from Russia through Ukrainian pipelines to Slovakia and Hungary.

Ukrainian fire and fury are currently doing damage to Russia’s war economy that near-**nonexistent European sanctions have failed to achieve**

Southern Europe **continues to import** millions of cubic meters of Russian gas via Turkey. And despite its posturing, Europe still sources more than 15 per cent of its liquefied natural gas or LNG from Russia – with some 17.8m tonnes of LNG docking in European ports in 2024, **up by more than 2 million tonnes from the year before**, according to analysts Rystad Energy.

In fact the only really effective “sanctions” on the Russian energy sector – which accounts for over **two-thirds of government revenues** – have been in the form of Ukrainian drone attacks on Russian oil refineries, pumping stations and storage facilities. Ukrainian fire and fury are currently doing damage to Russia’s war economy that European “sanctions” have failed to achieve.

International pressure has made it harder, but not impossible, for the Russian war machine to obtain important components such as semiconductors. And sanctions have certainly “achieved the crucial goal of leaving Russia’s economy highly unstable in the medium to long term”, according to Oliver Ruth of London’s Royal United Services Institute.

The current crazy levels of expenditure are unsustainable, so Putin has a strong economic incentive to bring his war to an end. Ukraine’s economy is also under attack.

But on the flip side, even as Russia’s economy slips into stagflation Ukraine’s economy is doing far worse. Concerted Russian assaults, damage to vital energy infrastructure and mass emigration have inflicted catastrophic damage of up to 40 per cent of the country’s pre-war GDP. Kyiv’s budget payments to millions of soldiers and state employees are currently being paid by the EU. Without those subsidies – the lion’s share of the €60bn in direct financial support so far sent by Brussels – Ukraine’s government finances would instantly collapse.

Ukraine’s European allies hoped that sanctions would force Putin into taking an early off ramp and bring his **economy crashing down**. That hasn’t yet happened yet – largely because Europe has been unable to kick its addiction to Russian gas, and the US did not want to risk a global **oil price spike by cutting off Russian exports.**

But while they have **not brought Putin to his knees**, they have made the war disastrous for Russia. As Moscow and Washington begin talks in Riyadh, and European leaders hold their own emergency meeting, keeping up economic pressure on Putin is the real weapon that they still have left in their arsenal.

**Affirming collapses state stability.**

**Proedrou 23** [Filippos; Senior Lecturer in Global Political Economy @ the University of South Wales, PhD in IR from the University of Thrace; November 10; Elgar; “Chapter 27: The global energy transition and Russian structural power: scenarios and strategic options,” https://www.elgaronline.com/edcollchap/book/9781800370432/book-part-9781800370432-35.xml; DOA: 3-21-2025] tristan

Lower fossil-induced profits will test the current rent-based social contract (Scholten et al., 2019, p. 190). **Shrinking** budget **revenues** will **decelerate** the country’s **fiscal** **capacity** to **maintain** the **wealth** and the **welfare** level of the Russian population (Henderson & Mitrova, 2020, p. 110). The ensuing likely **removal** of gas **subsidies** and **cuts** to **healthcare**, **education** and **social** **services** have the potential to **destabilize** the **regime**. This will be so especially in the resource-producing regions, which are going to be hit the hardest by the progressive divestment from the fossil industry. One could counterargue that Russia retains strong fiscal capacity and has managed to successfully support its budget in cases of low oil prices. Hence, one should not anticipate such drastic deterioration of the social contract in Russia. Nevertheless, and while Russia will manage to offset some of these repercussions at least for some time, the pace and **scale** of the **revenue** **decrease** caused by the global energy transition is **expected** to be very **severe**. More importantly, **unlike** the **case** of **low** oil **prices** that at some point **rebound** in **normal** boom-and-bust **cycles**, the trend of the **global** **energy** **transition** will be exactly towards **lower** oil and gas quantities exported and lower prices (Coffin et al., 2021), thus bringing the **Russian** **economy** to its **knees**. Such **developments** are likely to **increase** the **infighting** between the **Russian** **elites** as the **consolidated** **power** of incumbents **weakens**, thus opening up a **window** of **opportunity** for **contenders** (Øverland, 2021). This, at the same time, can **intensify** (a sense of) non-governability and **instability**, and precipitate/invite **insurrections** and **separatist** **movements**, as separatist factions may **perceive** **Russian** **impoverishment** and **economic** **hardship** as the **opening** of a **grand** **opportunity** for achieving longstanding **political** **goals**. The precedent of Chechnya in an impoverished and largely unproductive Russia in the 1990s (Aliyev, 2013) may offer insight into the likely internal political problems Russia may face once the global energy transition dilutes a substantial chunk of Russia’s budget and spending capacity. **Regional** **nationalism** in, among others, Tatarstan, Bashkortostan, the Urals and the Far East (exposing the populations to Chinese influence and encroachment) renders **secessionist** **tendencies** a **real** **danger** to Russian integrity. The shifting of budgetary priorities to meet the war economy goals, in conjunction with anticipated progressively **lower** energy-borne **revenues**, resistance to mobilization of the part of the population for war needs and frustration with the war constitute a context more conducive to **political** **turmoil**, resistance and **pressures** to the **regime** (Lieven, 2022).

**Perception triggers financial shocks.**

**Baltvilks 22** [Witajewski; Expert @ the Centre for Climate and Energy Analyses @ the Polish National Centre for Emission Management; April 26; euractiv; “How the green paradox and climatepolicy can become Putin’s nightmare,” https://www.euractiv.com/section/energy/opinion/how-the-green-paradox-and-climate-policy-can-become-putins-nightmare/; DOA: 3-21-2025] tristan

**Russia’s** **invasion** of Ukraine **pushed** global **oil** and **gas** **prices** even **higher** than they stood in 2021 because of the Russian **export** **restriction**. Many experts believe that further sanctions on Russia, including the gradual isolation of Russia in the sphere of global trade, would **keep** oil and gas **prices** **high** in the medium term.

Ironically, **high** global **prices** **imply** that many Asian **countries** are more likely to **purchase** Putin’s **oil**, especially if it is **offered** at a **lower** **price**. Should this happen, Putin’s oil revenues will remain high, and sanctions by G7 countries will not achieve their primary goal.

This risk can be avoided if sanctions are complemented by a firm climate policy.

The ability of climate policy to influence the oil market and oil prices is illustrated in the so-called green paradox. The green paradox is a hypothetical scenario in which the **announcement** of a rigid **climate** **policy** becomes a **signal** for **oil** **producers** that the **demand** for oil will **end** **soon**, motivating them to **sell** as **much** as they **can** as soon as they can.

**Flooding** the **market** with oil **depresses** its **price** and **incentivises** **consumers** to **use** **more**. If this were to happen, emissions would increase, **rendering** the climate **policy** **ineffective**. The green paradox is particularly relevant in the context of oil markets, but the mechanisms of the paradox can also apply to natural gas and coal.

Until recently, the green paradox was a problem for climate change economists, but the one who should be most concerned is, in fact, Vladimir Putin. The green paradox has the potential to turn radical climate policy into a weapon against Putin’s regime. It is especially important because Russia, the second-largest worldwide gas producer and the third-largest oil producer, currently uses fossil fuels as a weapon against the West for the purpose of pacification.

A **clear** and credible **commitment** by the largest economies in the world to halve the consumption of oil over the next two decades would be a **clear** **signal** to all oil producers that their **resources** will soon **lose** **value**. **No** **producer** with low extraction costs will **keep** its **reserves** for the **future** — they will **attempt** to **pump** their **oil** into the market as long as it **exists**.

**Low**-**cost** oil from Saudi Arabia and the United Arab Emirates will, at least partly, **crowd** **out** the more **expensive** **product** from **Russia**, Venezuela and Iran. Even if that crowding out is not complete, the low oil price will **render** these countries’ **oil** **revenues** **negligible**. In Russia, where **oil** **rents** constitute more than **9% of** the nation’s **GDP** (**36%** of public-sector **revenue**), this will unavoidably **complicate** the **financial** **landscape** of the regime.

**Nuclear is unique.**

**Adams 13** [Rod Adams; Reporter for the American Nuclear Society; 12-10-2013; "Do oil and gas suppliers worry about nuclear energy development?"; Nuclear Newswire; https://www.ans.org/news/article-1481/do-oil-and-gas-suppliers-worry-about-nuclear/; accessed 03-04-2025] leon

That is the most important take away for attendees at the OPEC Embargo +40 summit held in Washington DC on October 16. Unfortunately, the meeting sponsors avoided acknowledging that nuclear energy is the **alternative** energy source that **most worries** established **hydrocarbon suppliers**. Nuclear has held that position since the early 1960s, when General Electric first won a head-to-head competition against coal to sell the Oyster Creek nuclear power plant.

Nuclear energy is **reliable**, virtually **emission-free**, and uses a **widely distributed**, **abundant** fuel source that is **no longer subject to influence** by the same producers that manipulate other fuel prices. Its cheap, clean heat can help turn coal, natural gas, and plants (vegetation) into liquid fuels that can be drop-in replacements for petroleum-based fuels.

**Decline causes great power war.**

**Kaplan 16** [Robert D. Kaplan; American author, Senior fellow at the Center for a New American Security; March/April 2016; "Eurasia’s Coming Anarchy"; Foreign Affairs; https://www.foreignaffairs.com/articles/china/2016-02-15/eurasias-coming-anarchy; access at https://archive.ph/YfaTO; accessed 03-29-2025] doobz

Not coincidentally, these military **adventures have accompanied** the sharp reversal of Russian economic power. In 2014, the price of oil collapsed, the countries of central and eastern Europe continued to wean themselves off Russian gas, slow global growth further reduced the appetite for Russian hydrocarbons and other natural resources, and the West levied damaging sanctions on Moscow. The result has been a full-blown economic crisis, with the ruble losing roughly half of its value against the U.S. dollar since 2014. That year, Russian GDP growth fell to nearly zero, and by the third quarter of 2015, the economy was shrinking by more than four percent. In the first eight months of 2015, capital investment declined by six percent and the volume of construction fell by eight percent.

Russia’s economic problems run deep, leaving its leaders with few easy options for fixing them. For decades, Russia has **relied on natural resource production** and a manufacturing sector that makes **consumer goods** for the domestic market (since few foreigners want to buy Russia’s nonmilitary products). Despite some pockets of ostentatious wealth, the service sector has remained **underdeveloped**. Because Putin and his camarilla never built civil institutions or a truly free market, the corrupt, gangster-led economy of Russia today exhibits eerie similarities to the old Soviet one.

Back in the 1980s, when that economy was hit by a crisis, Mikhail Gorbachev responded by opening up the political system—only to be rewarded with anarchy and the collapse of Russia’s empire. Putin learned this lesson well and is determined to do the opposite: keep the political system closed while distracting the masses with displays of Russian power in the near abroad. Putin is a former intelligence agent, not a former apparatchik. Thus, although he nurses historical grudges concerning Russia’s place in the world, he is not deceiving himself about Russia’s internal problems. As the Russian economy decays further, Putin **surely knows** that for the sake of **domestic approval**, his foreign policy must become more creative and calculating, even deceptively conciliatory at moments. Over time, expect him to find new ways to undermine NATO and the EU, even as he claims to be helping the West fight the Islamic State, or ISIS. For the **more chaos** he can generate **abroad**, the **more valuable** the autocratic **stability** he provides at home will **appear**. Russians may know in the abstract that a freer society is preferable, but they fear the risks of such a transition.

Try as he might, however, Putin will not be able to shelter his regime from the fallout of economic collapse. Desperation will spawn infighting among a ruling elite that has grown used to sharing generous spoils. Given the absence of strong institutions, as well as the brittle and highly centralized nature of the regime, a **coup** like the one that toppled Nikita Khrushchev in 1964 cannot be **ruled out**; Russia remains Soviet in its style of governance. The country has experienced the crumbling of autocracy followed by chaos before (as during and after the 1917 revolutions), and it’s possible that enough turmoil could cause Russia to fragment yet again. The heavily Muslim North Caucasus, along with areas of Russia’s Siberian and Far Eastern districts, distant from the center and burdened by bloody politics, may begin loosening their ties to Moscow in the event of instability inside the Kremlin itself. The result could be Yugoslavia lite: **violence and separatism** that begin in one place and spread **elsewhere**. As Moscow loses control, the **global jihadist movement could take advantage** of the vacuum and come to Russia’s outlying regions and to Central Asia.

Bad as this sounds, things could still get worse. Back in 1991, the Polish intellectual Adam Michnik predicted that future leaders in Russia and eastern Europe would fill the gap left by the collapse of communism with “a coarse and primitive nationalism.” Putin has adopted just such a **nationalism** in recent years. He has slyly backed separatist movements in Abkhazia, the Donbas, Nagorno-Karabakh, South Ossetia, and Transnistria, creating deniable conflicts that result in warlord-run statelets. In the years ahead, he may well choose to provoke more of these so-called frozen conflicts, but this time in **NATO Baltic member states** (which have sizable Russian populations and which Moscow still considers lost provinces). Meanwhile, Putin will try to play on Europe’s need for Russian support in Syria to force Europe to acknowledge his annexation of Crimea and his de facto rule over eastern Ukraine.

**Extinction!**

**Clare 23** [Stephen Clare; Effective Altruism writer and existential risks researcher; June 2023; "Great power war"; 80000 Hours; https://80000hours.org/problem-profiles/great-power-conflict/; accessed 12-05-2024, BZ + Willie T. + sumzom]

A modern great power war could see **nuclear weapons**, **bioweapons**, **autonomous weapons**, and other destructive **new** technologies deployed on an unprecedented scale.

It would probably be the most destructive event in history, shattering our world. It could even threaten us with **extinction**.

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We’ve come perilously close to just this kind of catastrophe before.¶ On October 27, 1962 — near the peak of the Cuban Missile Crisis — an American U-2 reconnaissance plane set out on a routine mission to the Arctic to collect data on Soviet nuclear tests. But, while flying near the North Pole, with the stars obscured by the northern lights, the pilot made a navigation error and strayed into Soviet airspace.1¶ Soviet commanders sent fighter jets to intercept the American plane. The jets were picked up by American radar operators and nuclear-armed F-102 fighters took off to protect the U-2.¶ Fortunately, the reconnaissance pilot realised his error with enough time to correct course before the Soviet and American fighters met. But the intrusion enraged Soviet Premier Nikita Khrushchev, who was already on high alert amidst the crisis in Cuba.¶ “What is this, a provocation?” Khrushchev wrote to US President John F. Kennedy. “One of your planes violates our frontier during this anxious time when everything has been put into combat readiness.”¶ If the U-2’s path had strayed further west, or the Soviet fighters had been fast enough to intercept it, this incident could have played out quite differently. Both the United States and the USSR had thousands of nuclear missiles ready to fire. Instead of a nearly-forgotten anecdote, the U-2 incident could have been a trigger for war, like the assassination of Franz Ferdinand.

<<LINE BREAKS CONTINUE>>

**Competition** among the world’s most powerful countries shapes our world today. And whether it’s through future incidents like the lost U-2, or something else entirely, it’s plausible that it could **escalate** and lead to a major, devastating war.

Is there anything you can do to help avoid such a terrible outcome? It is, of course, difficult to imagine how any one individual can hope to influence such world-historical events. Even the **most powerful** world leaders often **fail to predict** the global consequences of their decisions.

But I think the **likelihood** and **severity** of great power war makes this among the **most pressing problems** of our time — and that some solutions could be impactful enough that working on them may be one of the highest-impact things to do with your career.

By taking action, I think we can create a future where the threat of great power war is a distant memory rather than an ever-present danger.

Summary

Economic **growth** and **technological progress** have **bolstered** the arsenals of the world’s most powerful countries. That means the next war between them could be far worse than World War II, the deadliest conflict humanity has yet experienced.

Could such a war actually occur? We can’t rule out the possibility. Technical **accidents** or diplomatic **misunderstandings** could spark a conflict that **quickly escalates**. Or international **tension** could cause leaders to decide they’re **better off fighting than negotiating**.

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It seems hard to make progress on this problem. It’s also less neglected than some of the problems that we think are most pressing. There are certain issues, like making nuclear weapons or military artificial intelligence systems safer, which seem promising — although it may be more impactful to work on reducing risks from AI, bioweapons or nuclear weapons directly. You might also be able to reduce the chances of misunderstandings and miscalculations by developing expertise in one of the most important bilateral relationships (such as that between the United States and China).¶ Finally, by making conflict less likely, reducing competitive pressures on the development of dangerous technology, and improving international cooperation, you might be helping to reduce other risks, like the chance of future pandemics.¶ Our overall view¶ Recommended¶ Working on this issue seems to be among the best ways of improving the long-term future we know of, but all else equal, we think it’s less pressing than our highest priority areas (primarily because it seems less neglected and harder to solve).¶ Scale ¶ There’s a significant chance that a new great power war occurs this century.¶ Although the world’s most powerful countries haven’t fought directly since World War II, war has been a constant throughout human history. There have been numerous close calls, and several issues could cause diplomatic disputes in the years to come.¶ These considerations, along with forecasts and statistical models, lead me to think there’s about a one-in-three chance that a new great power war breaks out in roughly the next 30 years.¶ Few wars cause more than a million casualties and the next great power war would probably be smaller than that. However, there’s some chance it could escalate massively. Today the great powers have much larger economies, more powerful weapons, and bigger military budgets than they did in the past. An all-out war could kill far more people than even World War II, the worst war we’ve yet experienced.¶ Could it become an existentially threatening war — one that could cause human extinction or significantly damage the prospects of the long-term future? It’s very difficult to say. But my best current guess is that the chance of an existential catastrophe due to war in the next century is somewhere between 0.05% and 2%.¶ Neglectedness ¶ War is a lot less neglected than some of our other top problems. There are thousands of people in governments, think tanks, and universities already working on this problem. But some solutions or approaches remain neglected. One particularly promising approach is to develop expertise at the intersection of international conflict and another of our top problems. Experts who understand both geopolitical dynamics and risks from advanced artificial intelligence, for example, are sorely needed.¶ Solvability ¶ Reducing the risk of great power war seems very difficult. But there are specific technical problems that can be solved to make weapons systems safer or less likely to trigger catastrophic outcomes. And in the best case, working on this problem can have a leverage effect, making the development of several dangerous technologies safer by improving international cooperation and making them less likely to be deployed in war.¶ At the end of this profile, I suggest five issues which I’d be particularly excited to see people work on. These are:¶ Developing expertise in the riskiest bilateral relationships¶ Learning how to manage international crises quickly and effectively and ensuring the systems to do so are properly maintained¶ Doing research to improve particularly important foreign policies, like strategies for sanctions and deterrence¶ Improving how nuclear weapons and other weapons of mass destruction are governed at the international level¶ Improving how such weapons are controlled at the national level¶ Profile depth¶ In-depth ¶ This is one of many profiles we've written to help people find the most pressing problems they can solve with their careers. Learn more about how we compare different problems, see how we try to score them numerically, and see how this problem compares to the others we've considered so far.¶ Why might preventing great power war be an especially pressing problem?¶ A modern great power war — an all-out conflict between the world’s most powerful countries — could be the worst thing to ever happen to humanity.¶ Historically, such wars have been exceptionally destructive. Sixty-six million people died in World War II, likely the deadliest catastrophe humanity has experienced so far.¶ Since World War II, the global population and world economy have continued to grow, nuclear weapons have proliferated, and military technology has continued to advance. This means the next world war could be even worse, just as World War II was much deadlier than World War I.¶ It’s not guaranteed that such a war will break out. And if it does, it may not escalate to such a terrible extent. But the chance can’t be ignored. In fact, there are reasons to think that the odds of World War III breaking out this century are worryingly high.¶ A modern great power war would be devastating for people alive today. But its effects could also persist long into the future. That’s because there is a substantial chance that this century proves to be particularly important. Technologies with the potential to cause a global catastrophe or radically reshape society are likely to be invented. How we choose to develop and deploy them could impact huge numbers of our descendants. And these choices would be affected by the outcomes of a major war.¶ To be more specific, there are three main ways great power conflict could affect the long-term future:¶ High international tension could increase other risks. Great power tensions could make the world more dangerous even if they don’t lead to war. During the Cold War, for example, the United States and the USSR never came into direct conflict but invested in bioweapons research and built up nuclear arsenals. This dynamic could return, with tension between great powers fueling races to develop and build new weapons, raising the risk of a disaster even before shots are fired.¶ War could cause an existential catastrophe. If war does break out, it could escalate dramatically, with modern weapons (nuclear weapons, bioweapons, autonomous weapons, or other future technologies) deployed at unprecedented scale. The resulting destruction could irreparably damage humanity’s prospects.¶ War could reshape international institutions and power balances. While such a catastrophic war is possible, it seems extremely unlikely. But even a less deadly war, such as another conflict on the scale of World War II, could have very long-lasting effects. For example, it could reshape international institutions and the global balance of power. In a pivotal century, different institutional arrangements and geopolitical balances could cause humanity to follow different long-term trajectories.¶ The rest of this profile explores exactly how pressing a problem great power conflict is. In summary:¶ Great power relations have become more tense. (More.)¶ Partly as a result, a war is more likely than you might think. It’s reasonable to put the probability of such a conflict in the coming decades somewhere between 10% and 50%. (More.)¶ If war breaks out, it would probably be hard to control escalation. The chance that it would become large enough to be an existential risk cannot be dismissed. (More.)¶ This makes great power war one of the biggest threats our species currently faces. (More.)¶ It seems hard to make progress on solving such a difficult problem (more) — but there are many things you can try if you want to help (more).¶ International tension has risen and makes other problems worse¶ Imagine we had a thermometer-like device which, instead of measuring temperature, measured the level of international tension.2 This ‘tension metre’ would max out during periods of all-out global war, like World War II. And it would be relatively low when the great powers3 were peaceful and cooperative. For much of the post-Napoleonic 1800s, for example, the powerful European nations instituted the Concert of Europe and mostly upheld a continental peace. The years following the fall of the USSR also seem like a time of relative calm, when the tension metre would have been quite low.4¶ How much more worried would you be about the coming decades if you knew the tension metre would be very high than if you knew it would be low? Probably quite a lot. In the worst case, of course, the great powers could come into direct conflict. But even if it doesn’t lead to war, a high level of tension between great powers could accelerate the development of new strategic technologies, make it harder to solve global problems like climate change, and undermine international institutions.¶ During the Cold War, for instance, the United States and USSR avoided coming into direct conflict. But the tension metre would still have been pretty high. This led to some dangerous events:¶ A nuclear arms race. The number of nuclear warheads in the world grew from just 300 in 1950 to over 64,000 in 1986.¶ The development of new bioweapons. Despite signing the Biological Weapons Convention in 1972, the search for military advantages motivated Soviet decision makers to continue investing in bioweapon development for decades. Although never used in combat, biological agents were accidentally released from research facilities, resulting in dozens of deaths and threatening to cause a pandemic.5¶ Nuclear close calls. Military accidents and false alarms happened regularly, and top decision makers were more likely to interpret these events hostilely when tensions were high. On several occasions it seems the decision about whether or not to start a nuclear war came down to individuals acting under stress and with limited time.¶ This makes international tension an existential risk factor. It’s connected to a number of other problems, which means reducing the level of international tension would lower the total amount of existential risk we face.¶ The level of tension today¶ Recently, international tension seems to have once again been rising. To highlight some of the most salient examples:¶ China-United States relations have deteriorated, leading to harsh diplomatic rhetoric and protectionist trade policies that aim to reduce the countries’ economic interdependence.¶ Russia’s invasion of Ukraine has killed about a hundred thousand people so far, raised the risk of nuclear war, and sent United States-Russia relations to their lowest point since the Cold War.¶ Chinese and Indian soldiers fought deadly skirmishes along their countries’ disputed border in 2020–21.¶ These dynamics raise an important question: how much more dangerous is the world given this higher tension than it would be in a world of low tension?¶ I think the answer is quite a bit more dangerous — for several reasons. First, international tension seems likely to make technological progress more dangerous. There’s a good chance that, in the coming decades, humanity will make some major technological breakthroughs. We’ve discussed, for example, why one might worry about the effects of advanced artificial intelligence systems or biotechnology. The level of tension could strongly affect how these technologies are developed and governed. Tense relations could, for example, cause countries to neglect safety concerns in order to develop technology faster.6¶ Second, great power relations will strongly influence how nations do, or do not, cooperate to solve other global collective action problems. For example, in 2022, China withdrew from bilateral negotiations with the United States over climate action in protest of what it perceived as American diplomatic aggression in Taiwan. That same year, efforts to strengthen the Biological Weapons Convention were reportedly hampered by the Russian delegation after their country’s invasion of Ukraine raised tensions with the United States and other western countries.¶ And third, if relations deteriorate severely, the great powers could fight a war.¶ How likely is a war?¶ Wars are destructive and risky for all countries involved. Modern weapons, especially nuclear warheads, make starting a great power war today seem like a suicidal undertaking.¶ But factors like the prevalence of war throughout history, the chance that leaders make mistakes, conflicting ideologies, and commitment problems, make me think that conflict could break out anyway.¶ On balance, I think such an event is somewhat unlikely but hardly unthinkable. To quantify this: I put the chance we experience some kind of war between great powers before 2050 at about one-in-three.7¶ War has occurred regularly in the past¶ One reason to think a war is quite likely is that such conflicts have been so common in the past. Over the past 500 years, about two great power wars have occurred per century.8¶ Naively, this would mean that every year there’s a 2% chance such a war occurs, implying the chance of experiencing at least one great power war over the next 80 years — roughly until the end of the century — is about 80%.9¶ This is a very simple model. In reality, the risk is not constant over time and independent across years. But it shows that if past trends simply continue, the outcome is likely to be very bad.¶ Has great power war become less likely?¶ One of the most important criticisms of this model is that it assumes the risk is constant over time. Some researchers have argued instead that, especially since the end of World War II, major conflicts have become much less likely due to:¶ Nuclear deterrence: Nuclear weapons are so powerful and destructive that it’s just too costly for nuclear-armed countries to start wars against each other.10¶ Democratisation: Democracies have almost never gone to war against each other, perhaps because democracies are more interconnected and their leaders are under more public pressure to peacefully resolve disputes with each other.11 The proportion of countries that are democratic has increased from under 10% in 1945 to about 50% today.¶ Strong economic growth and global trade: Global economic growth accelerated following World War II and the value of global exports grew by a factor of almost 30 between 1950 and 2014. Since war disrupts economies and international trade, strong growth raises the costs of fighting.12¶ The spread of international institutions: Multilateral bodies like the United Nations General Assembly and Security Council promote diplomatic dialogue and facilitate coordination to punish transgressors.13¶ It is true that we are living through an unusually long period of great power peace. It’s been about 80 years since World War II. We just saw that a simple model using the historical frequency of great power wars suggests there was only a 20% chance of going that long without at least one more war breaking out. This is some evidence in favour of the idea that wars have become significantly less common.¶ At the same time, we shouldn’t feel too optimistic.¶ The numerous close calls during the Cold War suggest we were somewhat lucky to avoid a major war in that time. And a 20% chance of observing 80 years of peace is not that low.14 Structural changes might have dramatically reduced the likelihood of war. Or perhaps we’ve just been lucky. It could even be that technological advances have made war less likely to break out, but more deadly when it occurs, leaving the overall effect on the level of risk ambiguous. It just hasn’t been long enough to support a decisive view.15¶ So while the recent historical trend is somewhat encouraging, we don’t have nearly enough data to be confident that great power war is a thing of the past. To better predict the likelihood of future conflict, we should also consider distinctive features of our modern world.16¶ One might think that a modern great power war would simply be so destructive that no state leader would ever choose to start one. And some researchers do think that the destruction such a war would wreak globally makes it less likely to occur. But it would be hard to find anyone who claims this dynamic has driven the risk to zero.¶ First, a war could be started by accident.¶ Second, sometimes even prudent leaders may struggle to avoid a slide towards war.¶ We could blunder into war¶ An accidental war can occur if one side mistakes some event as an aggressive action by an adversary.¶ This happened several times during the Cold War. The earlier example of the wayward American reconnaissance plane shows how routine military exercises carry some escalation risk. Similarly, throughout history, nervous pilots and captains have caused serious incidents by attacking civilian planes and ships.17 Nuclear weapons allow for massive retaliatory strikes to be launched quickly — potentially too quickly to allow for such situations to be explained and de-escalated.¶ It is perhaps more likely, though, that an accidental war could be triggered by a technological malfunction. Faulty computers and satellites have previously triggered nuclear close calls. As monitoring systems have become more reliable, the rate at which such accidents have occurred has been going down. But it would be overconfident to think that technological malfunctions have become impossible.¶ Future technological changes will likely raise new challenges for nuclear weapon control. There may be pressure to integrate artificial intelligence systems into nuclear command and control to allow for faster data processing and decision making. And AI systems are known to behave unexpectedly when deployed in new environments.18¶ New technologies will also create new accident risks of their own, even if they’re not connected to nuclear weapon systems. Although these risks are hard to predict, they seem significant. I’ll say more about how such technologies — including AI, nuclear, biological, and autonomous weapons — are likely to increase war risks later.¶ Leaders could choose war¶ All that said, most wars have not started by accident. If another great power war does break out in the coming decades, it is more likely to be an intentional decision made by a national leader.¶ Explaining why someone might make such a costly, destructive, unpredictable, and risky decision has been called “the central puzzle about war.” It has motivated researchers to search for “rationalist” explanations for war. In his 2022 book Why We Fight, for example, economist Chris Blattman proposes five basic explanations: unchecked interests, intangible incentives, uncertainty, commitment problems, and misperceptions.19¶ Blattman's Five (Rationalist) Explanations for War¶ This section discusses how great power tensions may escalate to war in the next few decades. It focuses on three potential conflicts in particular: war between the US and China, between the US and Russia, and between China and India. These are discussed because each of these countries are among the world’s largest economies and military spenders, and seem particularly likely to fight. At the end, I briefly touch on other potential large conflicts.¶ Projected real GDP of the US, China, India and Russia according to a 2022 Goldman Sachs analysis Source: Author’s figure using data from: Kevin Daly and Tadas Gedminas, “Global Economics Paper The Path to 2075 — Slower Global Growth, But Convergence Remains Intact,” Global Economics Paper (Goldman Sachs, December 6, 2022), https://www.goldmansachs.com/intelligence/pages/gs-research/the-path-to-2075-slower-global-growth-but-convergence-remains-intact/report.pdf.¶ United States-China¶ The most worrying possibility is war between the United States and China. They are easily the world’s largest economies. They spend by far the most on their militaries. Their diplomatic relations are tense and have recently worsened. And their relationship has several of the characteristics that Blattman identifies as causes of war.¶ At the core of the United States-China relationship is a commitment problem.¶ China’s economy is growing faster than the United States’. By some metrics, it is already larger.20 If its differential growth continues, the gap will continue to widen between it and the United States. While economic power is not the sole determinant of military power, it is a key factor.21¶ The United States and China may be able to strike a fair deal today. But as China continues to grow faster, that deal may come to seem unbalanced. Historically, such commitment problems seem to have made these kinds of transition periods particularly dangerous.22¶ In practice, the United States and China may find it hard to agree on rules to guide their interactions, such as how to run international institutions or govern areas of the world where their interests overlap.¶ The most obvious issue which could tip the United States-China relationship from tension into war is a conflict over Taiwan. Taiwan’s location and technology industries are valuable for both great powers.¶ This issue is further complicated by intangible incentives.¶ For the United States, it is also a conflict over democratic ideals and the United States’ reputation for defending its allies.¶ For China, it is also a conflict about territorial integrity and addressing what are seen as past injustices.¶ Still, forecasts suggest that while a conflict is certainly possible, it is far from inevitable. As of 8 June 2023, one aggregated forecast23 gives a 17% chance of a United States-China war breaking out before 2035.24¶ A related aggregated forecast of the chance that at least 100 deaths occur in conflict between China and Taiwan by 2050 gives it, as of 8 June 2023, a much higher 68% chance of occurring.25¶ United States-Russia¶ Russia is the United States’ other major geopolitical rival.¶ Unlike China, Russia is not a rival in economic terms: even after adjusting for purchasing power, its economy is only about one-fifth the size of the United States’.¶ However, Russia devotes a substantial fraction of its economy to its military. Crucially, it has the world’s largest nuclear arsenal. And Russian leadership has shown a willingness to project power beyond their country’s borders.¶ Country Military spending in 2021 (2020 USD, PPP adjusted)¶ United States 801 billion¶ China 293 billion¶ India 76.6 billion¶ United Kingdom 68.4 billion¶ Russia 65.9 billion¶ Top five countries by estimated military spending, 2021. Source: SIPRI¶ Russia’s 2022 invasion of Ukraine demonstrated the dangers of renewed rivalry between Russia and the United States-led West. The war has already been hugely destructive: the largest war in Europe since World War II, with hundreds of thousands of casualties already and no end to the conflict in sight. And it could get much worse. Most notably, Russian officials have repeatedly refused to rule out the use of nuclear weapons.¶ Unchecked interests and intangible incentives are again at play here. Vladimir Putin leads a highly-centralised government. He has spoken about how his desire to rebuild Russia’s reputation played in his decision to invade Ukraine.¶ Given their ideological differences and history of rivalry, it is reasonable to expect that the United States and Russia will continue to experience dangerous disagreements in the future. As of 8 June 2023, an aggregated forecast gives a 20% chance that the United States and Russia will fight a war involving at least 1,000 battle deaths before 2050.¶ China-India¶ India is already the world’s third-largest economy. If national growth rates remain roughly constant, the size of the Indian economy will surpass that of the United States’ sometime this century. India also has nuclear weapons and is already the world’s third-largest military spender (albeit at a much lower level than China or the United States).¶ One reason to worry that China and India could fight a war is that they already dispute territory along their border. Countries that share a border, especially when it is disputed, are more likely to go to war than countries that do not. By one count, 88% of the wars that occurred between 1816 and 1980 began as wars between neighbours.26¶ In fact, China and India already fought a brief but violent border war in 1962. Deadly skirmishes have continued since, resulting in deaths as recently as 2020.¶ Forecasters agree that a China-India conflict seems relatively (though not absolutely) likely. An aggregated forecast gives a 19% chance of war before 2035.¶ Other dangerous conflicts¶ These three conflicts — United States-China, United States-Russia, and China-India — are not the only possible great power wars that could occur. Other potential conflicts could also pose existential risk, either because they drive dangerous arms races or see widespread deployment of dangerous weapons.¶ We should keep in mind India-Pakistan as a particularly likely conflict between nuclear-armed states and China-Russia as a potential, though unlikely, conflict between great powers with a disputed border and history of war. Plus, new great powers may emerge or current great powers may fade in the years to come.¶ While I think we should prioritise the three potential conflicts I’ve highlighted above, the future is highly uncertain. We should monitor geopolitical changes and be open to changing our priorities in the future.¶ Overall predictions¶ Below is a table listing relevant predictions from the forecasting platform Metaculus, including the number of predictions made, as of 10 March 2023. Note the different timescales and resolution criteria for each question; they may not be intuitively comparable.¶ Prediction Resolution criteria Number of predictions Metaculus prediction¶ World war by 2151 Either:¶ A war killing >0.5% of global population, involving >50% of countries totalling >50% of global population from at least 4 continents.¶ Or:¶ A war killing at least >1% of global population, involving >10% of countries totalling >25% of global population¶ 561 52%¶ World War III before 2050 Involving countries >30% of world GDP OR >50% of world population¶ AND¶ >10M deaths¶ 1640 20%¶ Global thermonuclear war by 2070 EITHER:¶ 3 countries each detonate at least 10 nuclear warheads of at least 10 kt yield outside of their territory¶ OR¶ 2 countries each detonate at least 50 nuclear warheads of at least 10 kt outside of their territory¶ 337 11%¶ When will be the next great power war? Any two of the top 10 nations by military spending are at war¶ “At war” definition:¶ EITHER¶ Formal declaration¶ OR¶ Territory occupied AND at least 250 casualties¶ OR¶ Media sources describe them as “at war”¶ 25th percentile: 2031¶ Median: 2048¶ 75th percentile: 2088¶ Never (not before 2200): 8%¶ No non-test nuclear detonations before 2035 No nuclear detonation other than controlled test¶ [Note the negation in the question. It resolves negatively if a warhead is detonated]¶ 321 69%¶ At least 1 nuclear detonation in war by 2050 Resolves according to credible media reports 476 31%¶ I have previously independently estimated the likelihood of seeing a World War III-like conflict this century. My calculation first adjusts historical base rates to allow for the possibility that major wars have become somewhat less likely, and uses the adjusted base rate to calculate the probability of seeing a war between now and 2100.¶ This method gives a 45% chance of seeing a major great power war in the next 77 years. If the probability is constant over time then the cumulative probability between now and 2050 would be 22%. This is aligned with the Metaculus predictions above.¶ We can also ask experts what they think. Unfortunately, there are surprisingly few expert predictions about the likelihood of major conflict. One survey was conducted by the Project for the Study of the 21st Century. The numbers were relatively aligned with the Metaculus forecasts, though slightly more pessimistic. However, it seems a mistake to put too much stock in this survey (see footnote).27¶ We now have at least a rough sense of a great power war’s probability. But how bad could it get if it occurred?¶ A new great power war could be devastating¶ At the time, the mechanised slaughter of World War I was a shocking step-change in the potential severity of warfare. But its severity was surpassed just 20 years later by the outbreak of World War II, which killed more than twice as many people.¶ A modern great power war could be even worse.¶ How bad have wars been in the past?¶ The graph below shows how common wars of various sizes are, according to the Correlates of War’s Interstate War dataset.28¶ The x-axis here represents war size in terms of the logarithm of the number of battle deaths. The y-axis represents the logarithm of the proportion of wars in the dataset that are at least that large.¶ Using logarithms means that each step to the right in the graph represents a war not one unit larger, but 10 times larger. And each step up represents a war that is not one unit more likely, but 10 times more likely.¶ Cumulative frequency distribution of severity of interstate wars, 1816-2007 Source: Author’s figure. See the data here. Data source: Correlates of War Interwar dataset, v4.029¶ What the graph shows is that wars have a heavy tail. Most wars remain relatively small. But a few escalate greatly and become much worse than average.¶ Of the 95 wars in the latest version of the database, the median battle death count is 8,000. But the heavy tail means the average is 334,000 battle deaths. And the worst war, World War II, had almost 17 million battle deaths.30¶ The number of battle deaths is only one way to measure the badness of wars. We could also consider the proportion of the population of the countries involved who were killed in battle. By this measure, the worst war since 1816 was not World War II. Instead, it’s the Paraguayan War of 1864–70. In that war, 30 soldiers died for every 1,000 citizens of the countries involved. It’s even worse if we also consider civilian deaths; while estimates are very uncertain, it’s plausible that about half of the men in Paraguay, or around a quarter of the entire population, was killed.31¶ What if instead we compared wars by the proportion of the global population killed? World War II is again the worst conflict since 1816 on this measure, having killed about 3% of the global population. Going further back in time, though, we can find worse wars. Ghengis Khan’s conquests likely killed about 9.5% of people in the world at the time.¶ The heavy tail means that some wars will be shockingly large.32 The scale of World War I and World War II took people by surprise, including the leaders who initiated it.¶ It’s also hard to know exactly how big wars could get. We haven’t seen many really large wars. So while we know there’s a heavy tail of potential outcomes, we don’t know what that tail looks like.¶ That said, there are a few reasons to think that wars much worse than World War II are possible:¶ We’re statistically unlikely to have brushed up against the end of the tail, even if the tail has an upper bound.¶ Other wars have been deadlier on a per-capita basis. So unless wars involving countries with larger populations are systematically less intense, we should expect to see more intense wars involving as many people as World War II.¶ Economic growth and technological progress are continually increasing humanity’s war-making capacity. This means that, once a war has started, we’re at greater risk of extremely bad outcomes than we were in the past.¶ So how bad could it get?¶ How bad could a modern great power war be?¶ Over time, two related factors have greatly increased humanity’s capacity to make war. 33¶ First, scientific progress has led to the invention of more powerful weapons and improved military efficiency.¶ Second, economic growth has allowed states to build larger armies and arsenals.¶ Since World War II, the world economy has grown by a factor of more than 10 in real terms; the number of nuclear weapons in the world has grown from basically none to more than 9,000, and we’ve invented drones, missiles, satellites, and advanced planes, ships, and submarines.

Ghengis Khan’s conquests killed about 10% of the world, but this took place over the course of two decades. Today that proportion may be killed in a matter of hours.

First, nuclear weapons could be used.

Today there are around 10,000 nuclear warheads globally.34 At the peak of nuclear competition between the United States and the USSR, though, there were 64,000. If arms control agreements break down and competition resurges among two or even three great powers, nuclear arsenals could expand. In fact, China’s arsenal is very likely to grow — though by how much remains uncertain.

Many of the nuclear weapons in the arsenals of the great powers today are at least 10 times more powerful than the atomic bombs used in World War II.35 Should these weapons be used, the consequences would be catastrophic.

By any measure, such a war would be by far the **most destructive**, dangerous event in human history, with the potential to cause billions of deaths.

The probability that it would, on its own, lead to humanity’s **extinction** or unrecoverable collapse, is contested. But there seems to be some possibility — whether through a **famine** caused by **nuclear winter**, or by **reducing** humanity’s resilience enough that something else, like a **catastrophic pandemic**, would be far more likely to reach **extinction**-levels (read more in our problem profile on nuclear war).

**Nuclear weapons** are **complemented** and **amplified** by a **variety** of other **modern military** technologies, including **improved missiles**, **planes**, **submarines**, and **satellites**. They are **also not** the only **military technology** with the **potential** to cause a **global catastrophe** — **bioweapons**, too, have the potential to cause massive harm through accidents or unexpected effects.

## 2NC

### OFF --- T

**Interpretation: the NEG need not rejoin untopical AFFs.**

**“United States” means the federal government, not private entities.**

**Ikuta 10** [Sandra; December 8; Circuit Judge for the United States Court of Appeals in the Ninth Circuit; Ninth Circuit, “Transwestern Pipeline Company, LLC v. 3.42 acres of permanent easement located in Maricopa County et al,” Lexis]

We disagree with the last step of Agua Fria's analysis.  When determining statutory meaning, we look first to the plain meaning of the text. Paul Revere Ins. Grp. v. United States, 500 F.3d 957, 962 (9th Cir. 2007). "[U]nless otherwise defined, words will be interpreted as taking their ordinary, contemporary, common meaning." Perrin v. United States, 444 U.S. 37, 42, 100 S. Ct. 311, 62 L. Ed. 2d 199 (1979). "When determining the plain meaning of language, we may consult dictionary definitions." Af-Cap Inc. v. Chevron Overseas (Congo) Ltd., 475 F.3d 1080, 1088 (9th Cir. 2007). **Taking its ordinary, common meaning, the term "United States" means our nation,** located primarily in North America, which acts **through our federal form of government. The dictionary definitions are consistent with this common understanding**. See, e.g., 19 Oxford English Dictionary 79-80 (J.A. Simpson & E.S.C. Weiner eds., 2d ed. 1989) (definition 1b: "The Republic of North America"); Black's Law Dictionary 1675 (9th ed. 2009) ("A federal republic . . . made up of 48 coterminous states, plus the state of Alaska and the District of Columbia in North America, plus the state of Hawaii in the Pacific."). 3 The Act does not define the term "United States" and does not indicate that we are to read the special definition of "Federal agency" from § 4601(1) into the term "United States." Accordingly, we decline to do so, and adhere instead to the common understanding of the term "United States." **Given our interpretation** of the term, the landowner's right to costs and fees is triggered **only** when **the federal government** abandons a condemnation proceeding, **not** when **a private entity** such as Transwestern does so, **even if** that private entity is **exercising federally granted** condemnation **power**. 4 Agua Fria contends that Tennessee Gas Pipeline Co. v. 104 Acres of Land, 828 F.Supp. 123 (D.R.I.1993), aff'd in part and vacated in part on other grounds, 32 F.3d 632 (1st Cir.1994), supports its contention that the term “United States” includes Transwestern for purposes of § 4654(a)(2). We disagree. In Tennessee Gas, a private gas company, acting under FERC's authority to acquire property for a pipeline, dismissed a condemnation proceedings it had brought against a landowner after FERC approved a change in the pipeline's route. Id. at 124–25. The district court held that, under these circumstances, it would deem FERC to have abandoned the proceedings for purposes of § 4654(a)(2). Id. at 128. The court therefore concluded that the landowner was entitled to litigation costs and fees under § 4654(a)(2) “whether or not Tennessee Gas is an entity within the term ‘United States' as used in the statute.” Id. In other words, Tennessee Gas avoided the very point Agua Fria claims it supports.5 5 “If the plain meaning of the statute is unambiguous, that meaning is controlling and we need not examine legislative history as an aid to interpretation unless the legislative history clearly indicates that Congress meant something other than what it said.” Greenwood v. CompuCredit Corp., 615 F.3d 1204, 1207 (9th Cir.2010) (quoting Carson Harbor Vill., Ltd. v. Unocal Corp., 270 F.3d 863, 877 (9th Cir.2001) (en banc)) (internal quotation marks omitted). Agua Fria has not pointed to any legislative history that contradicts the plain language of the statute. Rather, the House Report on which Agua Fria relies indicates that § 4654(a) was intended to reimburse property owners for fees and costs incurred “where (1) the court determines that a condemnation was unauthorized, [or] (2) the government abandons a condemnation.” H.R.Rep. No. 91–1656, 91st Cong.2d Sess., reprinted in 1970 U.S.C.C.A.N. 5850, 5874–75 (emphasis added). This interpretation is consistent with the plain language of the statute and does not suggest that Congress intended to make fees and costs available when a private party abandons a proceeding. Further, Congress made no changes to the term “United States” in § 4654(a)(2) when it changed the definition of “Federal agency” to include private persons. See Uniform Relocation Act Amendments of 1987, Pub.L. No. 100–17, § 402, 101 Stat. 132, 246. Had Congress wished to include private persons in the meaning of the term “United States,” it clearly knew how to do so. See Landgraf v. USI Film Prods., 511 U.S. 244, 255–56, 114 S.Ct. 1483, 128 L.Ed.2d 229 (1994). Because we adhere to the plain meaning of **the term “United States**” in § 4654(a)(2), and that term **does not include private entities**, we affirm the district \*1272 court's denial of Agua Fria's motion for litigation costs and fees.6

**Vote NEG:**

**1. FAIRNESS. The resolution is a stasis point. Non-T affs create an impossible prep burden for the neg. AND, they can specialize in 1 area of literature for 4 years while we are forced to switch every month which means they can win every round with a good T prepout. Fairness outweighs --- both sides depend on it, and it provides a model for understanding why their impacts, like suffering and racism, have any basis in morality. It’s the most important because it’s key for testing.**

**2. CLASH. Topical stasis is key to research and contestation. Recursive debates enable argument refinement which strengthens their method. Robustly defending your advocacy against well prepared criticism and convincing others is key to movement building and strong real life advocates. Prep asymmetry and incontestable truisms ensure shallow debates which make poor activists. Only our model can actualize the affirmative.**

**Główczewski and Burdziej 22** [Michał Główczewski, Faculty of Philosophy and Social Sciences at Nicolaus Copernicus University and Stanisław Burdziej, Assistant Professor of Sociology at Nicolaus Copernicus University "(In)justice in academia: procedural fairness, students’ academic identification, and perceived legitimacy of university authorities", PubMed Central (PMC), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9360702/, DOA: 12-23-2022 //ArchanSen]

Method Participants and design **Seven hundred and fifty-one participants**, 445 women and 306 men, aged 18–49 (M=23.45; SD=2.61), took part **in the study**. They were students from Polish public universities, recruited via the Pollster Research Institute, a Polish online research platform. Participants filled out measures of their experience of procedural and distributive justice, identification with the academic community, perceived university legitimacy, academic burnout (exhaustion, cynicism, academic efficacy), academic engagement (vigor, dedication, absorption), fear of COVID-19, and demographics (age, gender, place of living, year of studies). Measures Procedural fairness was measured by the same scale as used in study 1, α=0.85. Distributive fairness was measured by own scale consisting of seven items (e.g., “How often have you felt that the lecturer judged you unfairly?”; “How often have you been satisfied with your grades?”; or “How often did you feel that the grades you received during your studies reflected correctly your level of knowledge and skills?”) on a response scale from hardly ever (1) to almost always (7), α = 0.80. Academic identification was measured with five items based on Cameron’s Social Identity Scale (Cameron, [2004](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9360702/#CR14)), e.g., “I have a lot in common with other members of my academic community” or “Overall, being a member of my academic community is an important part of who I am.” The participants indicated to what extent they agreed with the given statements on a scale from definitely not (1) to definitely yes (7), α = 0.86. University legitimacy was measured by own scale consisting of nine items (e.g., “Most academic lecturers have extensive knowledge”; “I trust the authorities of my university”; and “Universities generally serve society well” or “Academic lecturers deserve respect”) on a response scale from definitely not (1) to definitely yes (7), α = 0.92. Academic burnout was measured by the Maslach Burnout Inventory — MBI-GS (Schaufeli et al., 1996), translated for this study. The scale consists of three factors: exhaustion, cynicism, and academic efficacy. Exhaustion was measured by five items (e.g., “I feel emotionally drained by my studies” or “I feel burned out from my studies”) on a response scale from hardly ever (1) to almost always (7), α = 0.86. Cynicism was measured by four items (e.g., “I have become less interested in my studies since my enrollment at the university” or “I doubt the significance of my studies”) on a response scale from hardly ever (1) to almost always (7), α = 0.84. Academic efficacy was measured by six items (e.g., “I can effectively solve the problems that arise in my studies” or “During class, I feel confident that I am effective in getting things done”) on a response scale from hardly ever (1) to almost always (7), α = 0.82. Academic engagement was measured by the Utrecht Work Engagement Scale for Students — UWES-S (Schaufeli et al., 2002), which was translated for this study. The scale consists of three factors: vigor, dedication, and absorption. Vigor was measured by five items (e.g., “When I’m studying, I feel mentally strong” or “When studying I feel strong and vigorous”) on a response scale from definitely not (1) to definitely yes (7), α = 0.88. Dedication was measured by five original items (e.g., “I find my studies to be full of meaning and purpose” or “My studies inspire me”) and three items included for this study (“I am proud of my university”; “I would recommend my friends to study at my university”; and “I highly appreciate the prestige of my university”) on a response scale from definitely not (1) to definitely yes (7), α = 0.90. Absorption was measured by four items (e.g., “Time flies when I’m studying” or “I feel happy when I am studying intensively”) on a response scale from definitely not (1) to definitely yes (7), α = 0.79. Fear of COVID-19 was measured by the Fear of COVID-19 Scale (Ahorsu et al., 2020), which was translated for this study. The scale consists of seven items (e.g., “I am most afraid of coronavirus-19” or “I am afraid of losing my life because of coronavirus-19”). The participants indicated to what extent they agreed on the given statements on a scale from definitely not (1) to definitely yes (7), α = 0.88. Results and discussion The descriptive statistics and correlations are presented in Table ​Table3.3. All our key variables were correlated in the expected directions: both the experience of **procedural** and distributive **fairness** were positively correlated with academic efficacy, vigor, dedication, and absorption, and **negatively correlated with** **exhaustion and cynicism**. Academic identification was positively correlated with procedural and distributive fairness, university legitimacy, academic efficacy, and all the dimensions of academic engagement. Also, we observed **negative correlations** between academic identification and the two dimensions of **academic burnout**—exhaustion and cynicism. University legitimacy was positively correlated with procedural and distributive fairness, academic efficacy, and all the dimensions of academic engagement. Moreover, we observed negative correlations between university legitimacy and exhaustion, and cynicism. The fear of COVID-19 correlated positively with academic identification, vigor, dedication, and absorption, and negatively with procedural and distributive fairness. [TABLE THREE OMMITTED]  In a further analysis, we took into account all the dimensions of academic engagement and academic burnout as underlying variables. As Schaufeli and colleagues (2002) pointed out, academic engagement should be considered as a second-order variable formed by three dimensions—vigor, dedication, and absorption. Also, Schaufeli and colleagues (1996) indicated that academic burnout was a three-factor construct, consisting of exhaustion, cynicism, and self-efficacy. To test for mediation effects, we conducted our analyses using Hayes Process Macro for SPSS. Initially, four models were estimated. Model 1 was similar to that tested in study 1, with procedural and distributive fairness as predictors of perceived university legitimacy. Model 2 was intended to verify Hypothesis 2, which assumed that the positive relationship between the experience of procedural justice and perceived university legitimacy would be at least partially mediated by greater in-group identification—i.e., identification with the academic community of one’s university. The objective of model 3 was to verify Hypothesis 3a, which was that the experience of procedural fairness would positively predict academic engagement. Model 4 was intended to investigate Hypothesis 3b, which was that the experience of procedural fairness would negatively predict academic burnout. In **every model**, **we controlled for** participants’ **demographics**, **year of studies**, and **fear of COVID-19**. We conducted our analyses with the use of bias-corrected bootstrapping (with 5,000 re-samples). Model 1 revealed that perceived university legitimacy was positively predicted by the experience of procedural fairness (B = 0.70, SE = 0.04, β = 0.58, p < 0.001) and the experience of distributive fairness (B = 0.24, SE = 0.04, β = 0.21, p < 0.001). Thus, we obtained further support for Hypothesis 1. Taken together, these two experiences of justice in academia, along with the control variables, explained 53% of the variability in the perceived legitimacy of university authorities. In model 2, when we added in-group identification as a mediator, both the positive effect of the experience of procedural fairness (B = 0.63, SE = 0.04, β = 0.53, p < 0.001) and the experience of distributive fairness (B = 0.18, SE = 0.04, β = 0.16, p < 0.001) on perceived university legitimacy decreased, but remained significant. At the same time, in-group identification served as a positive predictor of perceived university legitimacy (B = 0.20, SE = 0.03, β = 0.23, p < 0.001) and was positively predicted by the experience of procedural fairness (B = 0.32, SE = 0.07, β = 0.23, p < 0.001) and by the experience of distributive fairness (B = 0.30, SE = 0.07, β = 0.23, p < 0.001). In line with Hypothesis 2, the indirect effect of procedural fairness on perceived university legitimacy was positive and significant (IE = 0.05, SE = 0.01, 95% CI [0.03, 0.08]). Interestingly, the positive effect of distributive justice was also mediated by in-group identification (IE = 0.05, SE = 0.01, 95% CI [0.03, 0.08]). In model 2, 17% and 58% of the variability in in-group identification and perceived university legitimacy was explained, respectively. In model 3, both procedural fairness (B = 0.32, SE = 0.06, β = 0.25, **p < 0.001**) and distributive fairness (B = 0.25, SE = 0.06, β = 0.21, p < 0.001) positively predicted academic engagement. Thus, we obtained support for Hypothesis 3a. Taken together, these two experiences with fairness in academia, with the control variables, explained 19% of the variability in academic engagement. In model 4, both the experience of **procedural fairness** (B =  − 0.30, SE = 0.05, β =  − 0.27, **p < 0.001**) and the experience of distributive fairness (B =  − 0.32, SE = 0.05, β =  − 0.30, p < 0.001) **negatively predicted academic burnout**. Thus, we obtained support for Hypothesis 3b. Taken together, these two forms of justice experience in academia, with the control variables, **explained 27% of** the **variability** in academic burnout. These results confirmed that the experience of procedural fairness was associated with the perception of university authorities as more legitimate. Those treated fairly more strongly identified with their university had more trust in academic authorities and were more likely to accept their grades and other decisions affecting them. These findings led us to propose two additional hypotheses aimed at illuminating the link between fair treatment, academic identification, university legitimacy, students’ academic engagement, and burnout: Hypothesis 4a: The positive effect of procedural fairness on academic engagement would be serially mediated by high academic identification and high perceived university legitimacy. Hypothesis 4b: The negative effect of procedural and distributive fairness on academic burnout would be serially mediated by high academic identification and high perceived university legitimacy. To test for the hypothesized serial mediations, we estimated two additional models. Model 5 was intended to verify Hypothesis 4a, and model 6 was intended to verify Hypothesis 4b. In model 5 (Fig. 1), we tested procedural and distributive fairness as predictors, in-group identification as mediator 1, perceived university legitimacy as mediator 2, and academic engagement as the dependent variable. Both procedural (B =  − 0.05, SE = 0.06, β =  − 0.04, p = 0.398) and distributive fairness (B = 0.05, SE = 0.05, β = 0.05, p = 0.322) were nonsignificant predictors of academic engagement. Academic engagement was positively predicted by in-group identification (B = 0.35, SE = 0.04, β = 0.39, p < 0.001) and perceived university legitimacy (B = 0.37, SE = 0.05, β = 0.35, p < 0.001). At the same time, perceived university legitimacy was positively predicted by the experience of procedural fairness (B = 0.63, SE = 0.04, β = 0.53, p < 0.001), the experience of distributive fairness (B = 0.18, SE = 0.04, β = 0.16, p < 0.001), and in-group identification (B = 0.20, SE = 0.02, β = 0.23, p < 0.001). In-group identification was positively predicted by the experience of procedural fairness (B = 0.32, SE = 0.07, β = 0.23, p < 0.001) and the experience of distributive fairness (B = 0.30, SE = 0.07, β = 0.23, p < 0.001). The serial indirect effect of the experience of procedural justice via in-group identification and perceived university legitimacy on academic engagement was positive and significant (IE = 0.02, SE = 0.01, 95% CI [0.01, 0.03]), which supported Hypothesis 4a. In line with our expectations, the positive relationship between the experience of procedural fairness and academic engagement was mediated by increased in-group identification and increased perceived university legitimacy. The two single-mediator positive indirect effects of procedural fairness were also significant: procedural fairness was positively associated with academic engagement via both increased in-group identification (IE = 0.09, SE = 0.02, 95% CI [0.05, 0.13]) and increased perceived university legitimacy (IE = 0.19, SE = 0.03, 95% CI [0.13, 0.25]). The positive relationship between distributive fairness and academic engagement was serially mediated by increased in-group identification and increased perceived university legitimacy (IE = 0.02, SE = 0.01, 95% CI [0.01, 0.03]). Simple mediations of this effect via increased in-group identification (IE = 0.09, SE = 0.02, 95% CI [0.05, 0.13]) and increased perceived university legitimacy (IE = 0.06, SE = 0.01, 95% CI [0.03, 0.09]) were also significant. In total, 42% of the variability in academic engagement was explained. In model 6 (Fig. [2](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9360702/figure/Fig2/)), we tested the experience of procedural fairness and the experience of distributive fairness as predictors, with in-group identification as mediator 1, perceived university legitimacy as mediator 2, and academic burnout as the dependent variable. The experience of procedural fairness was a nonsignificant predictor of academic burnout (B =  − 0.09, SE = 0.06, β =  − 0.08, p = 0.096). Academic burnout was negatively predicted by the experience of distributive fairness (B =  − 0.20, SE = 0.05, β =  − 0.19, p < 0.001), in-group identification (B =  − 0.26, SE = 0.03, β =  − 0.32, p < 0.001), and perceived university legitimacy (B =  − 0.18, SE = 0.04, β =  − 0.19, p < 0.001). The results of the experience of procedural fairness, the experience of distributive fairness, and in-group identification as predictors of perceived university legitimacy and the experience of procedural and distributive fairness as predictors of in-group identification were the same as described in model 5. **The** serial indirect **effect of** the experience of **procedural fairness** via in-group identification and perceived university legitimacy **on** academic **burnout was negative and significant** (IE =  − 0.01, SE = 0.003, 95% CI [− 0.02, − 0.004]), which supported Hypothesis 4b. In line with our expectations, the negative relationship between procedural fairness and academic burnout was mediated by increased in-group identification and increased perceived university legitimacy. The two single-mediator negative indirect effects of procedural fairness were also significant: procedural fairness was negatively associated with academic burnout via both increased in-group identification (IE =  − 0.07, SE = 0.02, 95% CI [− 0.11, − 0.04]) and increased perceived university legitimacy (IE =  − 0.10, SE = 0.03, 95% CI [− 0.15, − 0.05]). The negative relationship between distributive fairness and academic burnout was serially mediated by increased in-group identification and increased perceived university legitimacy (IE =  − 0.01, SE = 0.003, 95% CI [− 0.02, − 0.004]). Simple mediations of this effect via increased in-group identification (IE =  − 0.07, SE = 0.02, 95% CI [− 0.11, − 0.04]) and increased perceived university legitimacy (IE =  − 0.03, SE = 0.01, 95% CI [− 0.05, − 0.01]) were also significant. In total, 39% of the variability in academic burnout was explained. General discussion The present research aimed to investigate the link between students’ experience of procedural and distributive fairness during their studies and their perceived legitimacy of academia, as well as their academic engagement and academic burnout. Based upon previous studies on the procedural effect in the court system (e.g., Burdziej et al., 2019; Tyler, 1984) and policing (e.g., Hough et al., 2013; Jackson et al., 2012), we hypothesized that the experience of procedural fairness would significantly shape students’ attitudes towards university authorities. We also predicted it would positively correlate with greater students’ identification with their university and academic engagement, as well as negatively correlate with academic burnout. Our results provide evidence in favor of all the above hypotheses. Using two samples of university students, we have demonstrated the salience of fair treatment in the academic context. Students place more value on fair decision-making procedures, such as the opportunity to speak and appeal, be treated in a neutral and respectful way, and so forth, than on distributive fairness, i.e., the grades they receive and other decisions affecting them. In study 1, we examined the relationship between students’ experience of procedural and distributive fairness and their perceived university legitimacy. We observed that procedural fairness was a stronger predictor of the perceived legitimacy of academic authorities than distributive fairness, which supported Hypothesis 1. These results confirmed the findings from numerous studies examining the link between procedural fairness and the legitimacy of various public institutions (e.g., Mazerolle et al., 2013; Rottman & Tyler, 2014). Moreover, our results support the conclusions of Reisig and Bain (2016), who tested the Tyler-Jackson three-dimensional model of legitimacy in the university context. They argued that university legitimacy can be established through lecturers and university authorities treating students according to the principles of procedural fairness. Tyler (2011) advocated treating the encounters between authorities and subordinates as “teachable moments,” which can strengthen or damage the perceived legitimacy of institutions. Our findings show that students who are treated with respect and offered opportunities to speak perceive academic authorities as more legitimate, are more prepared to accept the grades they receive and other decisions that affect them, and are less likely to complain about these grades or appeal these decisions. In study 2, we wanted to further investigate what psychological mechanism might account for the relationship between the experience of procedural fairness and the perceived legitimacy of university authorities. We observed that in-group identification, i.e., the identification with the academic community of one’s university, was a positive mediator of that relationship, which supported Hypothesis 2. The experience of being treated fairly was also linked with increased academic identification, and academic identification, in turn, was associated with stronger perceived university legitimacy. These results are in line with the group engagement theory (Tyler & Blader, 2003), which states that fair treatment reflects an individual’s status within the group to which they belong. As Blader and Tyler noted elsewhere (2009), in-group identification also plays a vital role in determining the behavior of employees. Thus, students who are treated fairly tend to see themselves as an important part of their academic community and consider their student status a vital part of their identity. They feel proud of being part of their academic community and view this as important for them. This can lead to the increased perceived legitimacy of university authorities, greater decision acceptance, and greater trust in academia more generally. Additionally, we examined the relationship between the experience of procedural fairness and two attitudes towards university and university studies: academic engagement and academic burnout. We observed that procedural fairness was a strong and positive predictor of academic engagement, as well as a negative predictor of academic burnout. These results supported Hypotheses 3a and 3b. We, therefore,replicate the findings of Navarro-Abal et al. (2018) in the context of Polish higher education. The experience of **being** **treated fairly** can **bolster students’ engagement** during their studies, **including** their **dedication to academia, greater involvement** in lectures and class activities, **engagement** in various students’ associations and clubs, **and commitment** to studying. On the other hand, the experience of procedural **fairness** also **decreases their sense of burnout, which includes** a **low** sense of **self-efficacy, exhaustion** with studies, **cynicism, and feeling of a lack of meaning** in pursuing further studies.

#### Prefer our impacts:

#### Losing just encourages new ways to beat your AFF. Ballots don’t spill over --- they become white noise because no one remembers specific rounds. Factors like friends and culture all overwhelm subjectivity outside of debate. The only proximal impacts are FAIRNESS and CLASH because those can be resolved and used beyond debate.

#### They can’t weigh case --- topicality determines whether their aff should have been read in the first place.

#### Our interpretation doesn’t exclude them:

#### 1. Our interpretation is that we don't need to rejoin the AFF, not that you can’t read it. Every debate requires a winner, so voting NEG doesn’t reject them, it just says they should make a better argument next time.

#### 2. They’ve adhered to other norms such as speech times and would never let us give a 10 minute final even if it was “more educational”. If so, they should adhere to T.

**3. It’s a limit on arguments, not people. We would also read the same on non-topical policy AFFs.**

#### 4. SSD and TVA solve:

#### Drop the debaters --- it sets norms through negative reinforcement AND rectifies abuse.

**Use competing interps:**

**Reasonability is arbitrary --- there is no threshold for what is reasonable, judges will insert their opinions rather than evaluate who did the better debating.**

**No RVIs:**

**1] Illogical - you shouldn’t win for being fair.**

**2] Chilling - people won't call out abuse in front of good theory debaters because they’re scared they’ll lose on it which encourages a race to the bottom.**

### On The K

#### 1. Existential threats are truly universal and outweigh.

**Zimmer 22** [Daniel Zimmer, postdoctoral scholar at the Stanford Existential Risk Initiative. I received my PhD in political thought from the Government Department of Cornell University in 2022. "THE IMMANENT APOCALYPSE: HUMANITY AND THE ENDS OF THE WORLD." https://www.proquest.com/docview/2712811466?pq-origsite=gscholar&fromopenview=true]

There is **nothing necessary** about the prospect of universal death by **hydrogen bomb**, just as the prospect of annihilating all complex life in nuclear fire or a tide of synthetic **viruses** robbed the whole order of terrestrial Nature of any lingering claim it might have had to being ‘necessary.’ What remains is a near **infinitude** of contingent processes that collectively make up the continuous flux of a finite Earth. **Within this welter**, it has become possible for human beings to initiate new processes that **universally impinge** on the **survival of all human beings**, and even **all complex life**. While it remains urgently necessary to treat all contingently universal claims with careful scrutiny, the introduction of the power to **kill life itself** into human affairs means that the critical thinkers of today should **not be too hasty** in concluding that “whoever invokes **humanity wants to cheat**”197 or that “despite their **claims to universality**…‘end of the world’ discourses are more specifically concerned about protecting the **future of whiteness**.”198

\*\*\*Footnote 198 Begins\*\*\*

198 **Audra Mitchell and Aadita Chaudhury**, “Worlding Beyond ‘The’ ‘End’ of ‘The World’: White Apocalyptic Visions and BIPOC Futurisms” in International Relations (2020), pp. 309-332; 310.

\*\*\*Footnote 198 Ends\*\*\*

When the biological threshold of modernity was crossed and the politically modern world born with the first thermonuclear explosions, the death of the sum total of all living human beings became a source of contingent **universalizability** that every subsequent generation must continually **keep at bay**.  There are indeed many who can justly be accused of taking an interest in the immanent apocalypse less out of concern for all human beings or solidarity with all earthly life, but instead out of a desire to preserve their **privileged place** in the existing order or because “it is easier to imagine the end of the world than to imagine the end of capitalism.”199 (Here the millions of dollars in billionaire philanthropy that is pouring into existential risk research centers such as Oxford’s Future of Humanity Institute affords ample food for thought.)200 **This being said**, on a planet where death itself has become **contingently universal**, nothing would be less **critical** than to **reflexively assume** that all appeals to human universality are necessarily a **ruse of power**. The reality of collective life on Earth has become a political concern contingently, but **no less urgently**. It is seventy years since this realization broke on Arendt and almost a half century since it dawned for Foucault. Contemporary political and critical theorists must begin to **directly address** the new forms of **non-humanist universality** that have arisen alongside the immanentization of the **apocalypse or risk** missing increasingly planetary contexts within which all specific political **struggles** are now being waged.

#### 2. Comparing opportunity costs is best for clash and argument refinement, which is a prerequisite.

**Fairclough and Fairclough**, **18**—emeritus Professor of Linguistics at Lancaster University AND School of Humanities and Social Sciences, University of Central Lancashire (Norman and Isabela, “A procedural approach to ethical critique in CDA,” Critical Discourse Studies Volume 15, 2018 - Issue 2, 169-185, dml)

\*CDA = critical discourse analysis

The term ‘discourse ethics’ is Habermas’s (Fairclough & Fairclough 2012: 30-34), but we are using it here in a general sense: for the view that an **adequate framework for ethical evaluation** and **critique must include the comparison** and **evaluation of different arguments for different lines of action** in a process of deliberation. Such assessments of arguments pose difficult problems, and deliberation is by no means guaranteed to produce consensus. Nevertheless, deliberation can **contribute to the quality of ethical critique** by ensuring that a **wide range of arguments are considered** in making decisions, that all alternatives are **taken into account** and **thoroughly criticized**, and that people have to (at least) **moderate their own partialities** in evaluating a range of arguments collectively. To illustrate this, we shall refer to two ethically contentious political decisions and the courses of action which they led to. The first is the decision by the British Prime Minister Tony Blair to advocate Britain’s participation in the invasion of Iraq in 2003 (we have discussed this in Fairclough & Fairclough 2012: 96-97). The second is the decision by the German Chancellor Angela Merkel to open Germany’s borders to the refugees coming from the Middle East in the autumn of 2015. In so doing, we will illustrate the relevance of ethical critique from all three of the major ethical positions: deontological, consequentialist and virtue ethics. CDA and practical argumentation CDA is mainly concerned with critical analysis of discourse which is **oriented to action**, including political discourse, but also managerial, organisational and other forms of discourse. The **primary activity** in such discourse is **practical argumentation**, argumentation over action, over **what is to be done** (e.g. **what policies should be adopted**). Practical argumentation should accordingly be the **primary analytical focus** in CDA (Fairclough & Fairclough 2012). This **does not exclude other** familiar **forms of analysis** (such as **analysing representations**) but subsumes them. The point of representing (or ‘framing’) an issue in a particular way is to **create particular public attitudes** and **opinions**, and thus **legitimize** or **facilitate a particular course of action**. Critique of discourse is the focal concern for CDA, but critique of discourse is by no means exclusive to CDA. On the contrary, critique of discourse is a normal part of all discourse. It is a **normal part of everyday practical argumentation**: people **find reasons in favour** and **against proposals for action**, they **consider alternatives**, **adopt them** or **discard them**, and so on. A course of action **worthy of being adopted** is **one that has withstood criticism**. Agents may decide to discard proposals either because they are **likely to be instrumentally inadequate** in relation to the goals they are supposed to achieve, or because they find them **ethically problematic**, for example because the values or goals they are motivated by are unacceptable. Ethical critique is a concern for CDA at three levels: as an aspect of agents’ reasoning, for example as an aspect of politicians’ deliberation over what policy to adopt; as an aspect of the normative critique of those deliberative practices which CDA carries out; as an aspect of the critique that CDA itself is open to. There are therefore three main places where ethical values come into the picture: what values are arguers (e.g. politicians) arguing from? what are the values that CDA analysts are espousing, from the perspective of which they are evaluating the arguments of those arguers? what are the values of other critics (including critics of CDA)? CDA is itself a form of discourse, which is specialized for academic critique of social actions, events, practices and structures, with a focus on discourse. It can itself be viewed as a **form of practical argumentation** (Fairclough 2013), open to the **same critical questions** that it directs at the discourse it subjects to critique. CDA practitioners are bound by an obligation to address ethical evaluations that are critical of their work. Moreover, the ethical judgement which is part of the normative critique carried out in CDA **does not come out of thin air**, but is built upon elements drawn selectively from ethical judgement and critique in public discourse. And CDA needs to rethink its own critique in response to shifts in public discourse and political reality, such as the emergence of controversy over ‘political correctness’ (Fairclough 2003). We have argued that the **primary focus** of critical analysis in CDA should be **practical argumentation** and **deliberation** (Fairclough & Fairclough 2012). This was based upon a claim about the character of political discourse, which we saw as primarily concerned with the question of **what is to be done**. Deliberation is an abstract genre in which **(alternative) proposals are being tested**. The **framework** for critical analysis of **practical argumentation** and **deliberation** which we have developed since 2012 provides CDA with an **effective way of evaluating** and **critiquing discourse** from an **ethical point of view**. One of its strengths is that it allows **different approaches** to thinking about ethical questions (deontological, consequentialist and virtue ethics) to be combined within an **ethical deliberative procedure for achieving impartiality**. In a more recent version of this framework (Fairclough, I. 2016, 2018), deliberation is modelled as a critical procedure designed to **filter out those practical conclusions** (and corresponding decisions) that **would not pass the test of critical questioning**. Two distinct argument schemes are involved in deliberative activity types: an argument from goals, circumstances and meansgoal relations, and an argument from (negative or positive) consequences. Proposals are **tentatively supported** by **practical arguments from goals**, and are **tested in the light of their potential consequences**, via **practical arguments from consequence**. Goals are generated by various sources of normativity, and these can be what conventionally is called ‘values’, but can also be obligations, rights and duties. Critical questioning seeks to **expose potential negative consequences** of proposals and thus evaluate them in terms of their **acceptability** or **reasonableness**: if the consequences are **on balance unacceptable** for those affected, then it would be **more reasonable not to engage in the proposed course of action**. Unacceptable consequences are **critical objections** which can **conclusively rebut a proposal**. Where two or more proposals survive critical testing, one may be **chosen as the better proposal** on nonarbitrary grounds (e.g. being simpler to enact). In our view, the **most significant perspective** in the light of which proposals are to be tested is a **consequentialist** one (Fairclough & Fairclough 2012, Fairclough, I. 2016). The term ‘consequence’ is however used here broadly to refer to several types of states-of-affairs: the goals of the proposed action (the intended consequences); the potential unintended consequences (or risks) involved; various known and predictable impacts, including impacts on institutional, social facts. If a proposal is **likely to result in a situation** that is illegal or **unjust**, then the proposal can be **evaluated as unacceptable** from both a **consequentialist ethics** and a **deontological ethical position**. Our framework can therefore **accommodate** deontological **ethical issues** within a **broader consequentialist perspective**. By inquiring into the motives of action, the framework can also accommodate a virtue-ethical perspective.

#### 3. Epistemology is secondary to the plan’s harm reduction --- anything less causes endless debates at the cost of material improvements in the day to day.

**Jarvis 2k** [Darryl; 2000; Former Senior Lecturer in International Relations at the University of Sydney; *International Relations and the Challenge of Postmodernism*, *University of South Carolina Press*, “Continental Drift,” p. 128-129, https://www.jstor.org/stable/j.ctv2321hxj; GR] \*\*brackets in original\*\*

More is the pity that such irrational and obviously abstruse debate should so occupy us at a time of great global turmoil. That it does and continues to do so reflect our lack of judicious criteria for evaluating theory and, more importantly, the lack of attachment theorists have to the real world. Certainly, it is right and proper that we ponder the depths of our theoretical imaginations, engage in **epistemological and ontological debate**, and analyze the sociology of our knowledge. But to support that this is the **only task** of international theory, let alone the most important one, smacks of **intellectual elitism** and displays a certain **contempt** for those who search for guidance in their **daily struggle** as actors in international politics. What does Ashley’s project, his **deconstructive efforts**, or valiant fight against positivism say to the truly marginalized, **oppressed**, and destitute**?** How does it help solve the plight of the poor, the displaced refugees, the **casualties of war**, or the émigrés of death squads**?** Does it **in any way speak** to those whose actions and thoughts comprise the **policy and practice** of international relations? On all these questions one must answer **no**. This is not to say, of course, that all theory should be judged by its technical rationality and problem-solving capacity as Ashley forcefully argues. But to support that **problem-solving** technical theory is not necessary—or in some way bad—is a **contemptuous position** that **abrogates** any **hope of solving** some of the **nightmarish realities** that **millions confront daily**. As Holsti argues, we need ask of these theorists and their theories the ultimate question, “So what?” To what purpose do they deconstruct, problematize, destabilize, undermine, ridicule, and belittle modernist and rationalist approaches? Does this get us any further, make the world any better, or enhance the human condition? In what sense can this “debate toward [a] **bottomless pit** of **epistemology and metaphysics”** be judged pertinent, relevant, **helpful**, or cogent to **anyone** other than those **foolish enough** to be scholastically excited by **abstract** and recondite debate.

#### 4. Debating nuclear risk is necessary.

**Bernstein 18** [Aron; September 21; Professor, Physics, MIT; The Bulletin, “Reducing the risk of nuclear war begins in the classroom,” https://thebulletin.org/2018/09/reducing-the-risk-of-nuclear-war-begins-in-the-classroom/]

The need for education on nuclear weapons. When it comes to **nuc**lear weapon**s**, the students of today have **less lived experience** to draw on than older generations. Today’s typical college student was born **after** the end of the **Cold War** and has no memory of a time when most Americans were deeply afraid of nuclear war (excluding, to an extent, the fiery exchange of threats between President Trump and Kim Jong-un last year). Perhaps as a result, these students also have very limited knowledge about nuclear weapons. The majority do not have a strong **understand**ing of what nuclear weapons are, their **destructive power**, or their role in the **international order**, and even fewer have a sense of how many nuclear weapons exist. They are **not aware** of the $1.2 trillion nuclear **modernization** program, in which the majority of costs come from modernizing and improving delivery systems rather than performing the technically necessary maintenance of the nuclear warheads. History education on the Cold War often addresses the US-Soviet arms race of that time, but nuclear weapons issues in other regions—such as the tense situation between India and Pakistan—are rarely ever mentioned. The distant, but **persistent**, **possibility** of an unintentional nuclear launch due to unauthorized access, **technical failure**, or a cyberattack on warning systems, is also **overlooked**, as is general information about which states possess nuclear weapons today.

In short, students in the United States (and likely elsewhere) typically graduate from high school having received almost no information on nuclear weapons. It is generally assumed that today’s American public simply **doesn’t care** about the **complicated** and somewhat **abstract issues** of nuclear weapons and deterrence because they rarely affect people’s lives **directly**. **However**, an alternative explanation exists: The American public doesn’t know enough about nuclear weapons to have much political opinion on them, but if they had more **knowledge**, that could **change**. If so, **educating** students on nuclear weapons on a large scale could have the **long-term effec**t of creating an American public that is politically **engaged** on the nuclear issue and **motivated** to hold its elected leaders **accountable** for implementing **nuclear policy** that reduces the risk of **nuclear war**.

For some students, education on nuclear issues may have an impact beyond just putting nuclear weapons on their radar (pun intended). Today’s students are the next politicians, scientists, and journalists, and some of them will inevitably be tasked with addressing the nuclear issue in their careers. For these students, early **exposure** to the issues of nuclear weapons in an **educational** context could be useful **preparation** for grappling with those issues professionally. Indeed, for some students, **learning** about nuclear weapons could have a **decisive impact** on their career trajectory and **inspire** them to dedicate themselves to **solving** these problems.

#### 5. Zero reason why they need the ballot. Their scholars already wrote the literature and they already performed it. Nothing more needs to happen

#### Presume NEG:

#### NO SUBJECTIVITY SHIFT. Individual debates are content neutral.

#### A --- ALT CAUSES. Friends, family, religion, and the next 80 years outweigh.

#### B --- EMPIRICALLY DISPROVEN. Every round they have won or lost reading this argument disproves the idea that norms will change because of your ballot. Otherwise, thousands of rounds on the K solve.

#### C --- BLOCKS CHANGE, NOT PEOPLE. If we lose, we will internalize the decision as a technical error and update our blocks. Arguments are divorced from beliefs.

#### 6. Their performance undermines intrinsic motivation—outweighs.

**Kohn 93 –** Alfie Kohn, MA in Social Sciences from the University of Chicago, BA from Brown University, internally quoting Edward L. Deci, Professor of Psychology and Gowen Professor in the Social Sciences at the University of Rochester, No Contest: The Case Against Competition, p. 59-60

The idea that trying **to do well** and **trying to do better than others** may work at cross-purposes can be understood in the context of an issue addressed by motivational theorists. We do best at the tasks we enjoy. An outside or extrinsic motivator (money, grades, the trappings of competitive success) simply cannot take the place of an activity we find rewarding in itself. "While extrinsic motivation may affect performance," wrote Margaret Clifford, "performance is dependent upon learning, which in turn is primarily dependent upon intrinsic motivation." More specifically, "a **significant performance-increase on a** highly complex **task will be dependent upon intrinsic motivation**."59 In fact, even people who are judged to be high in achievement motivation do not perform well unless extrinsic motivation has been minimized, as several studies have shown.60 Competition works just as any other extrinsic motivator does. As Edward Deci, one of the leading students of this topic, has written, "The reward for extrinsically motivated behavior is something that is separate from and follows the behavior. **With competitive activities, the reward is typically 'winning' (that is, beating the other person or the other team), so the reward is actually extrinsic** to the activity itself."51 This has been corroborated by subjective reports: people who are more competitive regard themselves as being extrinsically motivated.62 Like any other extrinsic motivator, competition cannot produce the kind of results that flow from enjoying the activity itself.

But this tells only half the story. As research by Deci and others has shown, **the use of extrinsic motivators actually tends to undermine intrinsic motivation and thus adversely affect performance in the long run**. The introduction of, say, monetary reward will edge out intrinsic satisfaction; once this reward is withdrawn, the activity may well cease even though no reward at all was necessary for its performance earlier. Money "may work to 'buy off one's intrinsic motivation for an activity. And this decreased motivation appears (from the results of the field experiment) to be more than just a temporary phenomenon."63 **Extrinsic motivators**, in other words, **are not only ineffective but corrosive. They eat away at the kind of motivation that *does* produce results**. **This effect has been shown specifically with competition**. In a 1981 study, eighty undergraduates worked on a spatial relations puzzle. Some of them were asked to try to solve it more quickly than the penons sitting next to them, while others did not have to compete. The subjects then sat alone (but clandestinely observed) for a few minutes in a room that contained a similar puzzle. The time they voluntarily spent working on it, together with a self-report on how interested they had been in solving the puzzle, constituted the measure of intrinsic interest. As predicted, the students who had been competing were less intrinsically motivated than those who had originally worked on the puzzle in a noncompetitive environment. It was concluded that