# CP - Advantage Counterplans - CGNO Classic

### Notes

Special thanks to: Zaria Jarman, Alizah Mudaliar, Andy Pincus, Maurice Kolodny, Siddharth Reddy, Sasha Duda, Blaine Yarborough, & Jordan Yao.

# Neg

## AI CP

### 1NC---AI CP---American AI Initiative

#### Text: The United States federal government should invest in the American AI Initiative.

#### The CP solves — the American AI Initiative enhances resources and development for national defense and security.

Parker 20 — Lynne Parker, Director of the National Artificial Intelligence Initiative Office, 2020 (“The American AI Initiative: The U.S. strategy for leadership in artificial intelligence,” *OECD AI Policy Observatory,* June 11th, Available Online at <https://oecd.ai/en/wonk/the-american-ai-initiative-the-u-s-strategy-for-leadership-in-rtificial-intelligence>, Accessed 07-21-2020)

* The American AI Initiative focuses the resources of the Federal Government in support of AI innovation that will increase prosperity, enhance national security, and improve quality of life. In the past year since the signing of the Executive Order, the United States has made significant progress on achieving the national strategy‘s objectives. This national strategy is well-aligned with the OECD AI Principles and takes important action to support the development of trustworthy AI. The Initiative emphasizes the following key policies and practices:
* Invest in AI research and development: The United States must promotes Federal investment in AI R&D in collaboration with industry, academia, international partners and allies, and other non-Federal entities to generate technological breakthroughs in AI. President Trump called for a two-year and in 2019 the Administration developed the first and published the first-ever reporting of government-wide non-defense AI R&D spending.
* Unleash AI resources: The United States must enhances access to high-quality Federal data, models, and computing resources to increase their value for AI R&D, while maintaining and extending safety, security, privacy, and confidentiality protections. The American AI Initiative directs Federal agencies to increase access to and use of Federal data and models. In 2019, the White House Office of Management and Budget established the as a framework for operational principles and best practices for Federal agencies and how they use and manage data.
* Remove barriers to AI innovation: The United States reduces barriers to the safe development, testing, deployment, and adoption of AI technologies by providing guidance for the governance of AI consistent with our Nation’s values and by driving the development of appropriate AI technical standards. As part of the American AI Initiative, The White House proposed the a first-of-its-kind national AI regulatory policy that advances innovation underpinned by American values. In addition, the National Institute of Standards and Technology (NIST) issued the first-ever
* Promote an international environment supportive of American AI innovation: The United States engages internationally to promote a global environment that supports American AI research and innovation and opens markets for American AI industries while ensuring that AI is developed in a matter consistent with our Nation’s values, including protecting privacy, civil rights, and civil liberties. Last year, the United States joined with allies in historic efforts at the Organisation for Economic Cooperation and Development (OECD) to develop the first The United States supports OECD’s ongoing work to implement these principles through the AI Policy Observatory and related activities.
* Embrace trustworthy AI for government services and missions: The United States embraces technology such as artificial intelligence to improve the provision and efficiency of government services to the American people and ensure its application upholds our Nation’s values, including protecting privacy, civil rights, and civil liberties. The General Services Administration established and to enable Federal agencies to determine best practices for incorporating AI into their organizations.
* Train an AI-ready workforce: The United States empowers current and future generations of American workers through apprenticeships; skills programs; and education in science, technology, engineering, and mathematics (STEM), with an emphasis on computer science, to ensure that American workers are capable of taking full advantage of the opportunities of AI. President Trump directed all Federal agencies to prioritize AI-related apprenticeship and job training programs and opportunities. In addition to its R&D focus, the National Science Foundation’s new program will also contribute to workforce development, particularly of AI researchers.

America’s strong innovation ecosystem, fuelled by strategic Federal investments, visionary scientists and entrepreneurs, and renowned research institutions, has propelled the United States to global leadership in AI. However, continued leadership is not predetermined. Maintaining America’s preeminent role in AI can only be realized by continually building upon our progress and pursuing a strategic, forward-looking approach in partnership with industry, academia, non-profit organizations, other non-Federal entities, and like-minded international allies. Together, we will shape the trajectory of AI development for good — enriching our lives, promoting innovation, fostering trust and understanding, and ensuring our national defense and security.

### 2NC---AI CP---American AI Initiative

#### The American AI Initiative is key to increase U.S. leadership in AI.

Minevich 19 — Mark Minevich, President of Going Global Ventures, digital fellow at IPsoft, leading global AI expert and digital cognitive strategist and venture capitalist, 2019 (“The American AI Initiative: A good first step, of many,” *Tech Crunch*, August 20th, Available online at <https://techcrunch.com/2019/08/20/the-american-ai-initiative-a-good-first-step-of-many/>, Accessed 07-23-2022)

When the global economy starts to feel the shift ushered in with mass-adoption of AI, the United States needs to be leading the charge as opposed to chasing the pack.

If the U.S. is to compete on a global level, they’ll face an arms race of sorts from a litany of nations that are already doubling-down on the massive advantages that come with national AI proficiency. In fact, 18 different countries have launched national AI strategies, with government funding ranging from $20 million to almost $2 billion.

A first step in the right direction was taken by the Trump administration recently when the president signed an executive order launching the American AI Initiative. This policy will funnel federal funding and resources toward AI-specific research while also implementing U.S.-led international AI standards. Additionally, the program will call for new research into increasing AI literacy in American workers.

Unfortunately, there are no specifics around what exactly this new program actually looks like in practice, and there is no additional research being dedicated toward AI development. There are no timelines for implementation of these initiatives, only a vague goal of roughly six-ish months before a detailed plan is rolled out. Jason Furman, a Harvard professor who helped draft the Obama administration’s report on AI, said that the plan had “all the right elements” but was also “aspirational with no details and is not self-executing.”

Yet, the importance of government involvement in AI R&D cannot be overstated. If we remain on the path we’re on, one where large technology companies and VC firms are funding the bulk of AI research, the country would only see pockets of growth around the largest technology companies and the regions of the country would continue to stagnate. We would not be able to work on major moonshot projects and collectively pool our resources for the greater good across all regions of the U.S. All innovations would be tightly controlled by technology companies and adoption rates would not move up and actually make a difference in the way we utilize AI. This would result in a marginal talent pool, and new developments would be those of technology innovators — not problem-solvers. Everything would be driven by its contribution to business and not its contribution to society at-large.

### 1NC---AI CP---NIST

#### Text: The United States federal government should implement the National Institute of Standards and Technology Artificial Intelligence Risk Management Framework to increase the United States’ leadership in artificial intelligence.

#### CP solves — improving trustworthiness and developing innovative approaches creates the best framework.

NIST n.d. — National Institute of Standards and Technology, an agency within the U.S. Department of Commerce, removes a major challenge to the U.S. industrial competitiveness at the time, no date (“AI Risk Management Framework,” *National Institute of Standards and Technology,* no date, Available Online at <https://www.nist.gov/itl/ai-risk-management-framework>, Accessed 07-20-2022)

NIST is developing a framework to better manage risks to individuals, organizations, and society associated with artificial intelligence (AI). The NIST Artificial Intelligence Risk Management Framework (AI RMF or Framework) is intended for voluntary use and to improve the ability to incorporate trustworthiness considerations into the design, development, use, and evaluation of AI products, services, and systems.

The Framework is being developed through a consensus-driven, open, transparent, and collaborative process that will include workshops and other opportunities to provide input. It is intended to build on, align with, and support AI risk management efforts by others.

NIST’s work on the Framework is consistent with its broader AI efforts, recommendations by the National Security Commission on Artificial Intelligence, and the Plan for Federal Engagement in AI Standards and Related Tools. Congress has directed NIST to collaborate with the private and public sectors to develop the AI RMF.

The Framework aims to foster the development of innovative approaches to address characteristics of trustworthiness including accuracy, explainability and interpretability, reliability, privacy, robustness, safety, security (resilience), and mitigation of unintended and/or harmful bias, as well as of harmful uses. The Framework should consider and encompass principles such as transparency, accountability, and fairness during pre-design, design and development, deployment, use, and test and evaluation of AI technologies and systems. These characteristics and principles are generally considered as contributing to the trustworthiness of AI technologies and systems, products, and services.

### 2NC---AI CP---NIST

#### NIST AI RMF key to U.S. AI leadership.

NIST 19 — National Institute of Standards and Technology, an agency within the U.S. Department of Commerce, removes a major challenge to the U.S. industrial competitiveness at the time, 2019 (“U.S. Leadership in AI: A Plan for Federal Engagement in Developing Technical Standards and Related Tools,” *National Institute of Standards and Technology,* August 9th, Available Online at <https://www.nist.gov/system/files/documents/2019/08/10/ai_standards_fedengagement_plan_9aug2019.pdf>, Accessed 07-20-2022)

Emphasizing the importance of artificial intelligence (AI) to the future of the U.S. economy and national security, on February 11, 2019, the President issued an Executive Order (EO 13859) directing Federal agencies to ensure that the nation maintains its leadership position in AI. Among its objectives, the EO aims to “Ensure that technical standards…reflect Federal priorities for innovation, public trust, and public confidence in systems that use AI technologies…and develop international standards to promote and protect those priorities.”

United States global leadership in AI depends upon the Federal government playing an active and purpose-driven role in AI standards development. That includes AI standards-related efforts needed by agencies to fulfill their missions by:

• supporting and conducting AI research and development,

• actively engaging in AI standards development,

• procuring and deploying standards-based products and services, and

• developing and implementing supportive policies, including regulatory policies where needed.

The EO directs the Secretary of Commerce, through the National Institute of Standards and Technology (NIST), to issue “a plan for Federal engagement in the development of technical standards and related tools in support of reliable, robust, and trustworthy systems that use AI technologies.” This plan was prepared with broad public and private sector input.

There are a number of cross-sector (horizontal) and sector-specific (vertical) AI standards available now and many others are being developed by numerous standards developing organizations (SDOs). Some areas, such as communications, have well-established and regularly maintained standards in widespread use, often originally developed for other technologies. Other aspects, such as trustworthiness, are only now being considered.

This plan identifies the following nine areas of focus for AI standards:

• Concepts and terminology

• Data and knowledge

• Human interactions

• Metrics

• Networking

• Performance testing and reporting methodology

• Safety

• Risk management

• Trustworthiness

Trustworthiness standards include guidance and requirements for accuracy, explainability, resiliency, safety, reliability, objectivity, and security.

It is important for those participating in AI standards development to be aware of, and to act consistently with, U.S. government policies and principles, including those that address societal and ethical issues, governance, and privacy. While there is broad agreement that these issues must factor into AI standards, it is not clear how that should be done and whether there is yet sufficient scientific and technical basis to develop those standards provisions.

Standards should be complemented by related tools to advance the development and adoption of effective, reliable, robust, and trustworthy AI technologies. These tools—which often have overlapping applications—include, but are not limited to:

• Data sets in standardized formats, including metadata for training, validation and testing of AI systems

• Tools for capturing and representing knowledge, and reasoning in AI systems

• Fully documented use cases that provide a range of data and information about specific applications of AI technologies and any standards or best practice guides used in making decisions about deployment of these applications

• Testing methodologies to validate and evaluate AI technologies’ performance

• Metrics to quantifiably measure and characterize AI technologies

• Benchmarks, evaluations, and challenge problems to drive innovation

• AI testbeds

• Tools for accountability and auditing

U.S. government agencies should prioritize involvement in AI standards efforts that are: inclusive and accessible, open and transparent, consensus-based, globally relevant, and non-discriminatory. This plan provides guidance regarding important characteristics of standards to help agencies in their decision making about AI standards. It also groups potential agency involvement into four categories ranked from least- to most-engaged: monitoring, participation, influencing, and leading. The plan provides a series of practical steps for agencies to take as they decide about engaging in AI standards.

### 1NC---AI CP---R&D Spending

#### Text: The United States federal government should increase AI R&D spending.

#### CP solves — increasing AI R&D is necessary to have better AI systems.

Bipartisan Policy Center 20 — Bipartisan Policy Center, fosters bipartisanship by combining ideas from both parties to promote health, security, and opportunity, 2020 (“Cementing American Artificial Intelligence Leadership: AI Research & Development,” *Bipartisan Policy Center*, August, Available Online at <https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2020/08/BPC_RD-AI-Paper_RV5.pdf>, Accessed 07-20-2022, p. 6)

Recommendation #1: Congress and the White House should adopt the NSCAI and White House recommendations to double AI R&D spending immediately, and further commit to boosting total yearly federal AI R&D spending to $25 billion by FY2025. Spending at this level is realistic and doable: $25 billion is equal to about 19% of total federal R&D spending in the FY2020 budget. Congress should concurrently raise total federal R&D spending to 1.2% of GDP to achieve an overall boost of total public and private R&D spending to 4% of GDP.

Recommendation #2: Congress should ensure R&D includes funding to address shortcomings of current AI methods with novel fundamental approaches: prevalent deep learning systems in use today typically require large amounts of training data and computing resources that are often not available to academics and startups. Research of novel AI techniques requiring smaller data sets to train and that make more efficient use of compute could lead to important breakthroughs in the field.

While increased investments in AI R&D are urgently necessary, this should not come at the expense of research in other disciplines. American competitiveness in the 21st century will depend on strong capabilities in a broad range of capabilities. Importantly, R&D investments in other sectors can enable better AI systems, creating a virtuous cycle of scientific advancement.

### 2NC---AI CP---R&D Spending

#### Government leadership and funding are key.

Andriole 18 — Steve Andriole, Thomas G. Labrecque Professor of Business at Villanova University, former Professor of Information Systems & Electrical & Computer Engineering at Drexel University, former Director of the Cybernetics Technology Office of the Defense Advanced Research Projects Agency (DARPA), former Senior Vice President and Chief Technology Officer at Safeguard Scientifics, Inc.—a Fortune 50 company, former Chief Technology Officer and Senior Vice President for Technology Strategy at Cigna Corporation, founder of International Information Systems, Inc. and TechVestCo, Inc., received the Defense Meritorious Civilian Service Award along with several other awards for his work at DARPA, holds an M.A. and Ph.D. from the University of Maryland, 2018 ("Artificial Intelligence, China And The U.S.," *Forbes*, November 9th, Available Online at https://www.forbes.com/sites/steveandriole/2018/11/09/artificial-intelligence-china-and-the-us-how-the-us-is-losing-the-technology-war/#200c769d6195, Accessed 07-23-2022)

The Chinese have a very public, very-deep, extremely well-funded commitment to AI. Air Force General VeraLinn Jamieson says it plainly: "We estimate the total spending on artificial intelligence systems in China in 2017 was $12 billion. We also estimate that it will grow to at least $70 billion by 2020." According to the Obama White House Report in 2016, China publishes more journal articles on deep learning than the US and has increased its number of AI patents by 200%. China is determined to be the world leader in AI by 2030.

Listen to what Tristan Greene writing in TNW concludes about the US’s commitment to AI: “Unfortunately, despite congressional efforts to get the conversation started at the national level in the US, the White House’s current leadership doesn’t appear interested in coming up with a strategy to keep up with China.”  It gets worse: “China has allocated billions of dollars towards infrastructure to house hundreds of AI businesses in dedicated industrial parks. It has specific companies, the Chinese counterparts to US operations like Google and Amazon, working on different problems in the field of AI. And it’s regulating education so that the nation produces more STEM workers. But perhaps most importantly, China makes it compulsory for businesses and private citizens to share their data with the government – something far more valuable than money in the world of AI.”

Greene’s scary bottom line? “Meanwhile, in the US, the Trump administration has shown little interest in discussing its own country’s AI – yet, may soon have to talk to China’s.”

More data? According to Iris Deng, “China ranks first in the quantity and citation of research papers, and holds the most AI patents, edging out the US and Japan … (and) China has not been shy about its ambitions for AI dominance, with the State Council releasing a road map in July 2017 with a goal of creating a domestic industry worth 1 trillion yuan and becoming a global AI powerhouse by 2030.”

It's obvious: “Without more leadership from Congress and the President, the U.S. is in serious danger of losing the economic and military rewards of artificial intelligence (AI) to China. That’s the somber conclusion of a report published ... by the House Oversight and Reform IT subcommittee.”

Jerry Bowles also says it clearly: “The U.S. has traditionally led the world in the development and application of AI-driven technologies, due in part to the government’s commitment to investing heavily in research and development. That has, in turn, helped support AI’s growth and development. In 2015, the United States led the world in total gross domestic R&D expenditures, spending $497 billion. But, since then, neither Congress nor the Trump administration has paid much attention to AI and government R&D investment has been essentially flat. Meanwhile, China has made AI a key part of its formal economic plans for the future.”

The Response

The US House of Representative’s Subcommittee on Information Technology Committee on Oversight & Government Reform summarizes it but not definitively:

“There is a pressing need for conscious, direct, and spirited leadership from the Trump Administration. The 2016 reports put out by the Obama Administration’s National Science and Technology Council and the recent actions of the Trump Administration are steps in the right direction. However, given the actions taken by other countries – especially China – Congress and the Administration will need to increase the time, attention, and level of resources the federal government devotes to AI research and development, as well as push for agencies to further build their capacities for adapting to advanced technologies.”

“The government has an essential role to play in securing American leadership in AI. Fulfilling this role will require balancing the creative energy of innovative Americans whose knowledge and entrepreneurial spirit have driven the development of this technology with regulatory frameworks that protect consumers. To ensure the appropriate balance is met, it is vital Congress and the Executive Branch continue to educate themselves about AI, increase the expenditures of R&D funds, help set the agenda for public debate, and, where appropriate, define the role of AI in the future of this nation.”

Clearly, a coordinated, heavily-funded American response is way overdue. Here are some specific steps:

The individual American states – all 50 and Puerto Rico – need their own AI investment strategies. They should appoint commissions and, ideally, Chief AI Technology Officers. State’s should aggressively fund AI research and development, and partner with the federal government where AI intersects with problems all states face, like infrastructure, healthcare and education, among others.

Private and public universities should be funded by federal and state governments to develop educational programs in AI and conduct basic and applied research in AI. Block grants to universities should begin immediately.

Increased R&D tax incentives and credits to companies who invest specifically in AI.

Primary and secondary educational programs should be retrofitted with much deeper STEM content. Longer school years should begin immediately. Grants for science, mathematics and computer science education should be equally awarded to public, private and charter schools.

The US response to China (and other nations investing heavily in AI) must obviously be aggressive and immediate, which includes leadership from the recently appointed White House Science Advisor and the expansion of the Office of Scientific & Technology Policy, well beyond an offset to major recent personnel cuts, the restoration of cuts to major science programs recently eliminated by the Trump administration, and the creation of major new programs in AI, machine learning and deep learning.

A national AI Czar should be appointed with broad funding and programmatic authority. The Czar should be a Cabinet-level official, similar to the Director of National Intelligence. The Director of Artificial Intelligence should oversee a national research and development program and serve as the principal advisor to the President of the United States on all aspects of AI and intelligent systems technology.

Immigration policy regarding H-1B visas for technology professionals should be broadly widened and eased. Rani Molla writing in recode reminds us that “immigrants and their children have helped found 60 percent of the most highly valued tech companies in the U.S., Kleiner Perkins Caufield & Byers partner Mary Meeker told the Code Conference last year in her annual internet trends report. Right now those companies – which include Alphabet, Amazon, Apple and Facebook – have a combined market value of $3.8 trillion.”

These steps represent a good start to turn the tide of the AI war – a war the US simply cannot afford to lose.

## Animal Biotech CP

### 1NC---Animal Biotech CP

#### Plan Text: The United States Federal Government should:

#### Clarify regulatory approval in the area of animal biotechnology.

#### Animal Biotech.

Hallerman et al. 22 — Eric M. Hallerman, Virginia Polytechnic Institute and State University; Justin P. Bredlau, U.S. Department of Agriculture; Luiz Sergio A. Camargo, Brazilian Agricultural Research Corporation; Maria Lucia Zaidan Dagli, School of Veterinary Medicine and Animal Science, University of Sao Paulo; Margaret Karembu International Service for the Acquisition of Agri-Biotech Applications AfriCenter; Godfrey Ngure, International Service for the Acquisition of Agri-Biotech Applications AfriCenter; Rhodora Romero-Aldemita, ISAAA SEAsia Center; Pedro Jesu´s Rocha-Salavarrieta, InterAmerican Institute for Cooperation On Agriculture; Mark Tizard, Commonwealth Scientific and Industrial Research Organisation; Mark Walton; Diane Wray-Cahen, U.S. Department of Agriculture, 2022 (“Towards progressive regulatory approaches for agricultural

applications of animal biotechnology,” *Transgenic Res*, January, Available Online at https://link.springer.com/article/10.1007/s11248-021-00294-3, Accessed 07-13-2022)

Regulatory approval is a long and uncertain process in many countries, and regulatory uncertainty is a significant concern to both developers and academic

researchers. The experience of AquaBounty, with a 20-year regulatory and public acceptance pathway, has led to hesitancy among companies to invest heavily in animal biotechnology. Animal agricultural companies are awaiting examples of successful applications to pave the way for public acceptance. The regulatory landscape for animal biotechnology is continuing to evolve globally, with growing distinction between classical genetic modification using rDNA and more recent GnEd approaches used to generate changes that could occur through mutagenesis or conventional breeding. Unnecessary costs associated with non-risk-based regulatory frameworks may limit developments. Regulatory frameworks in some countries are costly and difficult to navigate, and can prove prohibitive to innovation, especially for academics and small companies developing technology. Public policies directly affect the choice of research topics. For example, basepair and gene deletions are easier to gain approval for through regulatory pathways than insertions, and thus research focuses on developing new traits through deletions. In Canada, proponents must put an economic value on a trait, which means that only highvalue traits are targeted. In several countries, there are two or more agencies involved in the approval of a

product. For example, in Australia food safety approval (conducted by FSANZ) is distinct from approval of the animal for commercial release (conducted by the Office of the Gene Technology Regulator). In Canada, it was recommended that a food safety evaluation be done for a GnEd animal although not required, as the trait was not novel, to ‘‘make the public more comfortable.’’ Of great concern to developers, breeders, and scientists are the lost opportunity costs—every year that existing technology is not used means avoidable costs in terms of disease prevention, animal welfare, and global food security (Van Eenennaam et al. 2021). Public trust in regulatory approaches and decisionsis critical. Regulations may enable public trust by reassuring the public that products are safe, but also may generate safety concerns unsubstantiated by science (i.e., ‘‘if this is safe, then why is it so strictly regulated?’’). Likewise, how the product is regulated—e.g., as an animal drug or as a food animal — may alter consumer perception of safety in different

ways. This may be particularly confusing in the United States because a single nucleotide deletion in plants is exempt from biotechnology regulation, yet the same type of edit in an animal is regulated as a drug. Further, perception of agricultural biotechnology is also closely tied to negative perceptions of large corporations. Ironically, as seen most clearly with the plant biotechnology sector,1 the costly regulatory process allows mainly large corporations to gain approval of their products and limits commercialization of products developed by the academic or public sectors and small businesses, as well as limiting the type of traits developed (Whelan et al. 2020). This situation likely compounds public mistrust of such corporations and increases mistrust of the products at issue. Developers

suggested that regulations should be streamlined so that small firms and academic institutions also can afford the approval process and thereby shift GM and GnEd products from the association with large corporations. Overall, science-based regulatory development and modernization was recognized as a critical issue for moving animal biotechnology forward. Marketing and trade As countries continue to develop regulations, sharing guidelines and experience is key to encouraging harmonization to enable international trade. Currently, variation among regulatory systems and regulatory uncertainty have limited international trade of animal biotechnology products in several regions. Moreover, differences in definitions make tracing products of biotechnology, when required, challenging and expensive. New products will likely have to be accepted on a market-by-market basis as regulatory approaches and frameworks develop. The challenge of regulatory approval has caused companies to avoid pursuing marketing in some regions, while at the same time still engaging with regions that have a large influence on global developments (e.g., the European Union). Often developers will delay the commercialization of new products until export is possible into major markets, as demonstrated in the seed industry, where seeds for new approved crops are not released until approvals in key markets are obtained, delaying farmer access to new traits. Mutual recognition of regulatory decisions would facilitate trade and encourage innovation. There is some alignment of regulatory processes among South American countries. Labeling presents a particular challenge for trade of products from GnEd animals that do not have new DNA sequences or edits that distinguish them from conventionally-bred animals. The need for labels based on process when two products cannot be distinguished was questioned by researchers and developers. Already a lot of information that could be provided on labels is not (e.g., cattle breeds, antibiotic use), even when consumers may care about these characteristics. Part of the challenge is to avoid misleading consumers with labels when the meaning to the public is not clear. The objective of the label needs to be critically evaluated. In some cases, labeling products of GnEd could be beneficial if the product develops a reputation for sustainability or improved safety and may occur voluntarily, although this is far from certain. Marketing and trade require some degree of agreement or mutual understanding relative to regulatory processes among trading partners. With GM products developed with rDNA insertion, the regulatory processes and timelines are not harmonized globally, resulting in asynchronous approvals. There is only one GM animal developed for food use on the market; therefore, it is necessary to look to the plant biotechnology sector for examples and analysis of impacts of regulatory approaches. However, historically there has been general agreement among most countries regarding the definition of rDNA-derived plants and animals and what types of products are regulated. One major challenge with lack of harmonization of regulatory approaches for products of GnEd could be that different countries will make differing determinations as to the types of GnEd products that are regulated as conventional products versus those that will be regulated under their GMO regulations.

### 2NC---Animal Biotech CP

#### Animal Biotech spill up to all biotechnology.

Quarles 20 — Ryan Quarles, Kentucky Agriculture Commissioner and President of the National Association of State Departments of Agriculture, 2020 (“Opinion: A Healthy and resilient world needs animal biotech innovation,” *Agri Pulse*, September 30th, Available Online at https://www.agri-pulse.com/articles/14589-opinion-a-healthy-and-resilient-world-needs-animal-biotech-innovation, Accessed 07-13-2022)

The COVID-19 crisis has delivered a devastating blow to every segment of our society, and our nation’s agriculture sector is no exception. Our food supply chain has been tested; our rural economies are suffering; and our farmworkers are on the front lines of risk. The need for innovation and resilient solutions has never been more urgent.

These unprecedented challenges were top of mind during the recent annual meeting of the National Association of State Departments of Agriculture (NASDA). I’m very proud that NASDA has adopted a new vision statement: “Agriculture leads the way toward a healthy and resilient world.”

Fundamental to this idea of resilience is the role of innovation. America has always been the global leader in agriculture innovation, and we have made some great strides. But our regulatory system for animal agriculture – specifically animal biotechnology – has not kept pace with science.

The pandemic continues to remind us about the importance of the One Health initiative adopted by the federal government to better understand the link between human and animal diseases. Sixty percent of human diseases begin in animals. As populations grow and move, zoonotic diseases will become more prevalent and potentially more dangerous.

One Health solutions, many made possible through biotechnology, can protect the health of our livestock, enhance human health, safeguard our economy, and strengthen our systems for preventing and responding to future outbreaks.

Biotechnology, for example, can arm pigs with resistance to African Swine Fever, protect American pork producers from significant economic loss, and create resiliency in our nation’s food supply. Scientists have also developed a chicken that is resistant to contracting and transmitting avian influenza. And researchers are using gene editing to make pigs resistant to Porcine Reproductive and Respiratory Syndrome (PRRS).

The economic benefits alone would be considerable. The 2015 outbreak of avian influenza cost the United States $3.3 billion. And a recent Iowa State University study estimates that an African Swine Fever outbreak in the United States could cost up to $50 billion. PRRS – a viral disease affecting the U.S. pork industry – already costs upwards of $664 million annually.

More urgent perhaps is the potential human health impacts. Advances in animal biotechnology can help prevent, prepare for, and respond to outbreaks of infectious diseases such as COVID-19, Ebola, MERS, Zika, among others, by providing prevention strategies and treatments for humans.

The need for science-based solutions is urgent, but these breakthroughs are being held back by an awkward and unworkable regulatory system.

The U.S. animal biotechnology regulatory process – currently under the Food and Drug Administration (FDA) – is confusing, unpredictable, and in dire need of reform. For technology developers, there is no way to know how long it will take, or how much it will cost before products are approved for market.

There has been only one food animal approved to date. AquaBounty’s salmon, genetically engineered to grow to market size twice as fast using 25 percent less feed than traditional salmon, was under consideration by the FDA for more than two decades. Most small companies can’t survive such delays and red tape.

If there were a clearer path to commercialization, U.S. companies, start-ups, universities, and independent researchers could be developing cutting edge solutions, bolstering local economies, and creating high-paying jobs. Instead, animal biotech researchers and investors are moving to other countries such as Brazil, Argentina, and China.

Part of the problem is FDA’s approach, which requires these animals to be regulated under the “New Animal Drug” model. It creates potential problems for farmers and ranchers to have their animals treated as “drugs” and their farms to be regulated as “drug manufacturing facilities.”

Over the past decade, both the Obama and Trump administrations have stepped up efforts to streamline biotechnology regulations, especially for crops and plants. Now we must do the same for our animal biotech sector.

One potential solution is an agreement between the FDA and the U.S. Department of Agriculture (USDA). The USDA, with expertise in food production, could lead regulatory oversight of genetically modified and gene-edited food animals. The FDA could maintain authority over animal biotechnology for biomedical purposes.

The FDA should also reexamine its process and make the necessary changes so decision-making is risk-based, consistent, and streamlined. Stakeholders need to have confidence that the FDA pathway to commercialization is clear and that timelines are reasonable and predictable.

As NASDA’s new president, I urge our federal officials to prioritize innovation, commit to long-range policies, cooperate with each other, and act thoughtfully. We need policies that will redefine agriculture toward a healthy and resilient world. Innovation is essential to making that goal a reality.

## Baltic War CP

### 1NC---Baltic War CP---Suwalki CP

#### The United States federal government should increase its military protection in the area of the Suwalki Corridor.

#### The Counterplan protects the Baltic Region from a Ukraine-esk attack by Russia--- boosts NATO confidence in their most exposed members

Deni 22, John R, 3-3-2022, a research professor at the U.S. Army War College’s Strategic Studies Institute and a nonresident senior fellow at the Atlantic Council. "NATO Must Prepare to Defend Its Weakest Point—the Suwalki Corridor," Foreign Policy, [https://foreignpolicy.com/2022/03/03/nato-must-prepare-to-defend-its-weakest-point-the-suwalki-corridor/ //BigSasher](https://foreignpolicy.com/2022/03/03/nato-must-prepare-to-defend-its-weakest-point-the-suwalki-corridor/%20//BigSasher%20%20%20)

As the Biden administration monitors Moscow’s reaction to dramatic U.S. and allied increases in assistance to Ukraine as well as the punishing Western economic and financial sanctions on Russia, it should turn its focus to a relatively small corner of northeastern Europe that is familiar to military strategists but often overlooked by most policymakers and the general public.

The Suwalki corridor (also known as the Suwalki Gap) separates the Russian exclave of Kaliningrad on the Baltic Sea from Belarus, now host to thousands of Russian troops and soon home to permanently stationed Russian forces, including advanced fighter jets and nuclear weapons. It is also the only way to get by road or rail from Poland and Central Europe to the Baltic states—arguably NATO’s most exposed members.

A Russian move to seize control of the corridor may seem far-fetched, as it would explicitly involve an attack on NATO territory, triggering a U.S. military response. Nonetheless, if **Moscow’s reinvasion of Ukraine** has any central **lesson** to offer at this point, it’s that **U.S. and allied officials must prepare now for worst-case scenarios** by **focusing on** actual **Russian military capabilities** in the region, rather than the Kremlin’s announced intent, considered estimates of Russia’s strategic logic, or intelligence assessments of Russian President Vladimir Putin’s outlook.

Forty miles wide as the crow flies, the Suwalki corridor isn’t much of a corridor, at least in terms of natural boundaries such as rivers, coastlines, or mountains. Driving through the area last October while on a research trip to NATO units, I found it a wide-open rural region, predominantly characterized by rolling farmland interspersed with forests and small villages. Much of it is ideal terrain for tracked vehicles like tanks, given the very limited roadways and the gentle hills.

Two highways—one with two lanes each way, the other with just a single lane each way—plus a rail line, are all the ground-based transportation infrastructure that connect Poland with the Baltic states. Since Russia’s first invasion of Ukraine, in 2014, Western government officials, military leaders, and think tank experts have paid extra attention to this relatively narrow passageway between allies, primarily because of the chokepoint it represents should Russia seek to cut off the Baltics.

These concerns have only amplified in the last week, as Western officials weigh whether assistance to Ukraine might paint the West as co-combatants in the eyes of international law, providing Putin with a justification for lashing out. It’s also possible **Moscow might respond militarily to the debilitating sanctions** imposed by the West in the last week, in an echo of imperial Japan’s 1941 attack on Pearl Harbor following the imposition of a U.S. oil export embargo. Or **as** U.S. and other **allied forces stream** **into the Baltic** Sea and NATO’s eastern flank, the **Kremlin may perceive** an **increased threat** to Kaliningrad **and seize** the **Suwalki** corridor to create a land bridge to the exclave.

Kaliningrad—formerly Königsberg—has been Russian territory since the end of World War II, and it’s now home to substantial Russian combat forces, including the Russian Baltic Fleet, advanced air defenses, and mobile nuclear-capable Iskander-M missiles. Given this, Russia is particularly sensitive to any perceived threats to its control of the noncontiguous territory and might risk escalation if it misinterpreted NATO’s actions near Kaliningrad.

Obviously, **seizing the Suwalki** corridor **would entail attacking Lithuania or Poland or both**, leading directly to a war between NATO and Russia. This seems illogical or at best strategically unwise for Putin. However, the West’s ability to know and understand Putin’s logic and the rationale behind his decision-making has been obviously constrained by a lack of imagination, quality intelligence, or both.

For instance, some thought it was illogical for Putin to order the full-scale invasion of Ukraine if his objective was simply to keep it out of NATO. The simmering Donbass conflict had effectively achieved this since 2014, since one of the informal requirements for alliance membership is a lack of territorial disputes with neighbors.

### 2NC--- Baltic War CP--- Suwalki CP---Solvency

#### Protecting the Suwalki corridor staves off Baltic severance---nuclear war

Karnitschnig 22,Matthew, 6-20-2022, POLITICO’s chief Europe correspondent, based in Berlin. "The most dangerous place on earth," POLITICO, <https://www.politico.eu/article/suwalki-gap-russia-war-nato-lithuania-poland-border/> //BigSasher

The worry is that **in** a **conflict with the West**, **Russia could** sweep into the corridor simultaneously from the east and the west, **sever**ing the European Union’s **Baltic countries from their allies** to the south. “It’s a huge vulnerability because an invasion would cut off Lithuania, Latvia and Estonia from the rest of NATO,” said Ilves.

Such a move would also result in an immediate **faceoff between Moscow and NATO’s nuclear-armed members, pushing the world to the brink of world-ending confrontation**.

Ilves’ warning to von der Leyen, now president of the European Commission, was a reaction to Russia’s annexation of Crimea the year before, but his doomsday scenario has gained new credence in the wake of Putin’s latest invasion of Ukraine.

Just as Putin is trying to create a land bridge between Russia and the Crimea peninsula, taking the Suwałki Gap, which is named for a prominent town on the Polish side of the border, could link Russian troops in Kaliningrad, a key Russian outpost, with those stationed in its de facto protectorate Belarus.

In Kaliningrad, Russia has built a formidable military presence, spanning nuclear weapons, its Baltic fleet and tens of thousands of soldiers. (The exclave, which has a population of nearly 1 million, was German territory until after World War II, when it was known as Königsberg. The Soviet Union wrested control of the region from Germany after the war, renamed it Kaliningrad and expelled the German population.)

While there’s no reason to suggest an attack is imminent, the Russian leader appears to delight in keeping the West guessing what his next move will be. Earlier this month, he praised the imperial exploits of Peter the Great, declaring that “a country is either a sovereign or a colony,” comments that did little to reassure the Baltics. Mikhail Kasyanov, a former Russian prime minister under Putin, added more fuel to the fire last week, predicting that **“the Baltic states will be next” if Ukraine falls.**

The expected NATO accession of Sweden and Finland has further raised tensions between Russia and the alliance. The addition of the two Scandinavian countries might make it more difficult for Russia to sever the Baltics from the rest of the alliance, but it would also turn the Baltic Sea into what some are calling a NATO lake, perhaps giving Moscow even more of an incentive to build a bridge to Kaliningrad.

### 1NC--- Baltic War CP---BALTBAT CP

#### The United States Federal Government should cooperate with NATO to promote the revitalization of the Baltic Battalion.

#### BALTBAT solves Baltic Conflict---increases military security in the region

Estonian Defence Forces 20, 12-08-2020, unified military forces of the Republic of Estonia. "Aims of the Baltic military co-operation – Estonian Defence Forces," <https://mil.ee/en/defence-forces/international-co-operation/aims-of-the-baltic-military-co-operation/> //BigSasher

Baltic military co-operation projects have assisted in developing the Estonian, Latvian and Lithuanian defence structures in accordance with the traditions and procedures of Western countries. The projects provide Estonia, Latvia and Lithuania with experience in international co-operation and consensus building, and **give the defence forces of the three states more visibility at home and abroad.**

An important part of the Baltic defence co-operation is achievement of interoperability between the defence structures of the three states and NATO. Joint projects help to implement common command and operational standards in the Baltic region. The procedural, language and equipment standards used in the projects and applied in the framework of NATO/PfP improve the interoperability of the Baltic states and NATO/PfP. The projects are led by permanent multinational staffs which follow NATO procedures and formats to the greatest extent possible.

English is the official working and command language for all of the projects.

The **role of** the co-operation **projects** in the **develop**ment of the **defence structures** is not limited to the projects themselves. Participant officers are rotated within the national defence forces, thereby spreading the skills and experience to the national defence structures. The aspect of training applies at all levels of the projects – management, implementation and operation. At the same time the Defence **Ministries involved gain expertise in international co-op**eration and, more specifically, on **how to run co-op**eration **programmes and multilateral projects**.

The Estonian Ministry of Defence views Baltic defence co-operation projects as one of the major tools for developing and facilitating the co-operation between partner and alliance structures. In the individual states the projects have already become a part of NATO’s extended planning and reporting process. Particular attention is paid to the future prospects of the projects and NATO’s extended peace partnership programme, specifically to its recently defined model of actual operation.

### 2NC---Baltic War CP--- BALTBAT CP---Solvency

#### Revitalization repairs a previously lacking BALTBAT

Chinchilla and Poast 18, Alexandra and Paul, Ph.D in Political Science from the University of Chicago; associate professor in the Department of Political Science at the University of Chicago, Ph.D from the University of Michigan, Summer-Fall 2018, "Defense Institution Building from Above? Lessons from the Baltic Experience on JSTOR," Connections, https://www.jstor.org/stable/26934691?seq=1&amp;cid=pdf-reference#references\_tab\_contents

But while the door to immediate NATO membership was closed, external assistance was on offer. Taking the lead in this effort were the Nordic countries, particularly the NATO member Denmark. The Nordic countries and the Baltics agreed that a peacekeeping-oriented international arrangement, the Baltic Battalion (**BALTBAT**), could serve as a vehicle for quickly **bolstering Baltic security**. This was for two reasons. First, BALTBAT was, in the words of one commentator with some involvement in the project, of “symbolic and political importance.” 16 By creating and cooperating through BALTBAT, the Baltic states signaled their willingness to find joint solutions to security problems. In other words, they demonstrated a desire and ability to fulfill a core function of NATO: provide collective defense. Second, BALTBAT facilitated the distribution of technical assistance and material resources from the established democracies to the Baltics. With respect to technical assistance, established democracies offered training in “Western” practices of military organization (such as the proper role of civil-military relations), and even English language classes (as English proficiency is necessary for operating within NATO). With respect to material assistance, through BALTBAT the Baltic states received everything from basic military supplies (from uniforms to office equipment) to light weaponry. 17 While far from onerous for the established democracies, these basic **resources helped the Baltic states** not only **strengthen** their **ties with the West** but also **improve** their **military capabilities**, professionalize their armies, and **learn from the West about** civil-military **relations** in a democratic setting.

## Biodiversity CP

### 1NC---Biodiversity---Natural Climate Solutions

#### The United States federal government should:

* fund new natural climate solutions nationwide,
* accelerate science-based, participatory, and socially equitable investments in the protection and responsible stewardship of our Federal lands and waters,
* continue and expand funding for all current state led biodiversity initiatives

#### Natural Climate Solutions solve---lack of federal authority now makes state-based efforts not enough

Molly Cross, 03-23-2021, The lead of the Wildlife Conservation Society (WCS) Climate Change Adaptation Program in North and South America, and the Science Director for the WCS Climate Adaptation Fund. They have a Ph.D. in Environmental Science, Policy and Management from the University of California-Berkeley, "Testimony of Dr. Molly Cross Climate Adaptation Scientist for the Wildlife Conservation Society & Science Director for the WCS Climate Adaptation Fund Before the House Natural Resource Committee " No Publication, <https://nccasc.colorado.edu/sites/default/files/2021-03/Cross%2C%20Molly%20-%20Testimony.pdf> / CROSSINGS BY

There are a wide range of strategies for addressing climate change, from actions that aim to reduce the buildup of greenhouse gases in the atmosphere (climate mitigation) to those that help nature and people proactively prepare for and adapt to the impacts of a changing climate (climate adaptation). **Natural Climate Solutions (also called “nature-based solutions to climate change”) are conservation, restoration, and improved land management actions that remove carbon from the atmosphere while also safeguarding biodiversity** and providing benefits to people such as clean air and water, and protection from climate disturbances such as floods and wildfire.

A recent study in the journal Science Advances estimated that up to 21% of the U.S.’s current annual greenhouse gas emissions can be removed from the atmosphere by restoring and responsibly managing our forests, farms, ranches, grasslands, and wetlands. The protection, restoration, and responsible management of natural resources is also a key strategy for adapting to the impacts of climate change. The Global Adaptation Commission, World Economic Forum, and United Nations Decade on Ecosystem Restoration have called for greater investment in the natural environment as a cost-effective and critical part of building resilience for human communities, while helping fish, plants and animals thrive in the face of a changing climate. When carefully planned and implemented, nature-based solutions can offer both climate mitigation and adaptation benefits by reducing emissions and helping people cope with an altered environment. Although most investments in climate action have focused on mitigation to-date, support for adaptation activities is growing. It is essential that we increase our investment in climate adaptation strategies alongside climate mitigation actions; the latter may slow impacts and help give time for people and nature to adjust to climate changes and its impacts.

One of the most impactful Natural Climate Solutions for both adaptation and mitigation is to protect and restore intact forests, grasslands, and coastal ecosystems, whether in the U.S. or across the planet. Globally, intact forests – forest areas free of significant anthropogenic degradation – are indispensable to any viable pathway for achieving net zero carbon by 2050 and keeping global warming below 2°C. They function as a massive ongoing carbon sink that absorbs over 25% of humanity’s global emissions every year. Intact forests also support important adaptation and other social and economic co-benefits, including:

- Enhancing ecological resilience, by sustaining regional rainfall and reducing vulnerability to fire, droughts, floods, etc.;

- Conserving the biological diversity essential to maintaining ecological functions, adaptation and resilience;

- Sustaining the livelihoods and cultures of Indigenous Peoples and Local Communities. Well over 35% of the world’s most intact forests are home to Indigenous Peoples;

- Delivering cost-effective social benefits such as functioning watersheds, food security and reduced disease transmission;

Currently, global and national commitments to mitigate climate change fail to recognize the critical role of the planet’s intact forests. The planet’s vast terrestrial carbon sink is incorrectly assumed to be secure and too remote to face serious threats, leading to a lack of political and financial commitments. If the existing carbon stocks and ongoing sequestration capacity of intact forests (including peatlands) are not maintained, humanity may find that all safe climate mitigation pathways are out of reach. **The U.S. Government has a critical role to play in acknowledging the foundational, stabilizing role that intact forests across the globe play for climate change mitigation and adaptation, and support necessary policy change, governmental action, and adequate finance for their protection.**

Intact forest protection will play an important role here in the U.S., but also important will be the protection and restoration of other intact ecosystems, such as grasslands and coastal and marine ecosystems, and the responsible management of multiple-use lands towards climate mitigation, climate adaptation, biodiversity conservation, and social well-being goals. Not only do these Natural Climate Solutions offer cost-effective approaches, but they also help create jobs and can play a key role in economic recovery.

The Role of Federal Lands, Programs, and Leadership

In the United States, the U.S. Government has an outsized role to play in advancing Natural Climate Solutions. According to the Congressional Research Service, the U.S. Government owns 640 million acres, approximately 28% of all land in the U.S. Opportunities abound for increasing the contribution that these lands – and U.S. freshwater systems and marine areas – are making towards climate change mitigation and adaptation.

Natural Climate Solutions are already being implemented in the U.S., on both public and private lands:

- In New Mexico, Federal and private partners are restoring wetlands in areas at high risk of burning in the Valles Caldera National Preserve, a unit of the National Park Service. By establishing zones of wet ecosystems in advance of a fire, these actions serve to reduce catastrophic changes from hotter fires by breaking up the landscape and reducing fire spread. After a fire, these wetlands are a repository for soil that erodes during heavier rain events that are projected to increase as the climate changes, providing protection to downstream communities from flooding and contaminated water supplies.

- Across the U.S., bison conservation efforts are protecting and rewilding some of the most threatened, carbon-rich ecosystems in North America: grasslands. As a keystone species and ecological engineer, bison deliver a cascade of ecological benefits for myriad species and ecosystems, as well as provide Natural Climate Solutions. Culturally, buffalo contribute to the identity of many Indigenous communities. Their restoration can therefore create a path for respect, reconciliation, justice, and equity through Indigenous and community-led conservation initiatives.

- In Arctic Alaska, conservation groups are advocating for greater protection of large protected areas such as the Arctic National Wildlife Refuge, rather than converting it to oil and gas production. Protection of these large, intact landscapes presents wildlife with the time and space to adapt to climate changes while also reducing the severity of climate changes being felt around the globe by reducing fossil fuel-related emissions.

- In Tennessee, the Cumberland River Compact and partners are building urban rain gardens to capture heavy downpours from climate change-driven increases in intense rain events, to keep polluted runoff out of rivers that are a drinking water source for local communities and also critical fish and wildlife habitat.

- In the Lower Rio Grande Valley of Texas, American Forests and their partners are designing reforestation projects in ways that provide carbon benefits while also helping wildlife adapt to a changing climate. They are planting drought-tolerant tree species that can withstand warmer and drier conditions, store carbon, and provide habitat, in critical riparian corridors that allow wildlife to move and track changing conditions to survive.

- In North Carolina, the Pocosin Lake National Wildlife Refuge is a freshwater bog ecosystem spanning over 1,325 acres. The Nature Conservancy and the U.S. Fish and Wildlife Service are protecting this area from climate change-driven fluctuations in precipitation patterns and increased wildfires. They installed water control structures that regulate the water level of the soil, which keeps the bogs wet and reduces the risk of wildfires, protects biodiversity and rare species that live in the pocosin, and increases carbon sequestration.

These examples and many others across the country offer inspiration and models that can be replicated; however, the scale at which Natural Climate Solutions are currently being implemented in the U.S. falls short of what is needed to address the problem. **To meet the scope and scale of the climate crisis, the U.S. Government must accelerate science-based, participatory, and socially equitable investments in the protection and responsible stewardship of our Federal lands and waters, that anticipate future climate conditions.** And although this expanded Federal role is essential, the U.S. Government cannot address the climate crisis on public lands alone. Increased Federal leadership, funding, and technical support to states, Tribes, municipalities, private landowners and others are also needed to address this pressing national--and global--concern.

We therefore urge the U.S. Government to invest more heavily in climate mitigation and adaptation outcomes for nature and people by:

- Meeting bold targets for conservation, including protecting 30% of U.S. lands and waters by 2030;

- Increasing investment in Indigenous-led conservation and climate change adaptation;

- Increasing funding and technical capacity for proactive, climate-informed management planning and action within Federal agencies and with state, Tribal and private land partners.

### 1NC--- Biodiversity---National Biodiversity Strategy

#### The United States executive branch should develop and implement a National Biodiversity Strategy based on the recommendations of the National Caucus of Environmental Legislators

#### NCEL based national biodiversity strategy solves

Dehara Weeraman, 5-26-2022, Communications Fellow at One Nature, "A Letter to President Biden: It’s Time for a National Biodiversity Strategy," OneNature, <https://onenatureinstitute.org/stories/a-letter-to-president-biden-its-time-for-a-national-biodiversity-strategy/> CROSSINGS BY

On May 20th, 2022, **the National Caucus of Environmental Legislators (NCEL) released a**[**letter to President Biden**](https://www.ncelenviro.org/app/uploads/2022/05/NCEL-NBS-Sign-On-Letter.pdf)**urging him to develop a national biodiversity strategy.**

Our planet is amidst a catastrophic biodiversity crisis, a crisis so harmful that states alone cannot solve it. U.S. states have been working diligently to conserve their plants and wildlife, but the threats to biodiversity come in various forms and don’t adhere to state boundaries; we must look to the federal government for help. This biodiversity strategy would not only protect, restore, and secure the prosperous biodiversity found throughout our nation but also solidify a better world for future generations.

The biodiversity loss crisis we face is only worsening as time goes on so it is critical that we take the necessary actions to combat this issue in an austere and rigorous manner.

The NCEL letter states that “The global scientific consensus is that as many as one million species are at risk of extinction” and that “Studies have shown that we are losing species and their habitats faster than ever before.”

As we continue to waste time thoughtlessly debating the severity of this issue, countless species are declining and habitats are degrading, which leads to humans losing essential ecosystem benefits that supply us with clean water, fertile soils, and the very air and food we survive off of. There are also several evident economic impacts of biodiversity loss. The [World Economic Forum’s 2022 Global Risk Report](https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2022.pdf) identified biodiversity loss as the third most severe risk on a global scale over the next ten years.

The second most severe risk is extreme weather, and the first most severe risk is climate action failure.

This letter addresses the bold efforts to combat the biodiversity crisis already made by the Biden-Harris administration. [America the Beautiful initiative](https://www.doi.gov/priorities/america-the-beautiful) addresses both habitat destruction and climate change, two key driving forces of biodiversity loss.

The Department of the Interior, Departments of Agriculture and Commerce, National Ocean and Atmospheric Administration, and the White House’s Council on Environmental Quality have been issued by President Biden to work together to conserve, connect, and restore 30% of our nation’s lands and waters by 2030 to better our economy, health, and well-being.

Finally, **the letter lays out what a national biodiversity strategy should look like. It should address all five driving forces of biodiversity loss and include a plan to secure and restore essential ecosystem services, advance social equity and environmental justice, and coordinate a powerful and effective national response to combatting the biodiversity crisis on a national and global scale.**

### 2NC--- Biodiversity---Solvency---International Leadership

#### Counterplan establishes US as an international leader on biod and adheres to scientific consensus

Kurt Repanshek, 2-10-2022, writer for National Parks Traveler, "Groups Call On Biden Administration To Create National Biodiversity Strategy," No Publication, https://www.nationalparkstraveler.org/2022/02/groups-call-biden-administration-create-national-biodiversity-strategy / CROSSINGS BY

Nearly 200 countries have developed various forms of biodiversity strategies, but the United States is not one of them, according to a coalition of conservation groups that wants the Biden administration to create a national biodiversity strategy in a bid to slow the sixth mass extinction.

Worldwide, 1 million species are threatened with extinction, according to Defenders of Wildlife, Earthjustice, World Wildlife Fund, International Fund for Animal Welfare, Wildlife Conservation Society, and the Natural Resources Defense Council. Against that threat, the United States must adopt an effective, whole-of-government approach to prevent the loss of species, "the collapse of ecosystems, and the increasing threats these pose to our health, security and well-being," the groups said in a joint release.

**The United States lacks a comprehensive and coordinated approach to tackling the five main drivers of the biodiversity crisis: habitat loss, direct exploitation of species, climate change, pollution, and invasive species, the groups said in urging the Biden administration to establish a national biodiversity strategy**.

**There is support for such an initiative, as 120 environmental organizations, leading scientists, and university students across the country back its creation**, the organizations said. The movement is also gaining significant [support](https://www.onemillionspecies.org/supporters) in Congress, led by Rep. Joe Neguse, a Colorado Democrat, and in several state legislatures, including in New Mexico, where a resolution calling for a national strategy sponsored by Senate President Pro Tempore Mimi Stewart is advancing.

“We are at a pivotal moment in history. As human activity continues to threaten the health and well-being of our planet’s wildlife and biodiversity, it is with the utmost urgency that the United States must take this opportunity to be a world leader in conservation and climate action,” said Rep. Neguse, chair of the U.S. Subcommittee on National Parks, Forests and Public Lands. “Establishing a whole-of-government approach will help to preserve our environment not only for ourselves, but for all generations to come.”

“New Mexico has the fourth-highest native species richness of any state. We are proud to lead the way to support a national biodiversity strategy,” said New Mexico Senate President Pro Tempore Mimi Stewart. “We must do everything we can to protect our vital biodiversity now and for future generations.”

Building on the momentum of Rep. Neguse’s proposal for a national biodiversity strategy detailed in [H.Res. 69](https://www.congress.gov/bill/117th-congress/house-resolution/69), which currently has 39 cosponsors, Rep. Neguse and 49 cosigners brought the issue directly to the White House this week with a [letter](https://www.onemillionspecies.org/_files/ugd/2cc790_5bb006b48b8a46a1918bd8ead2ebb263.pdf)highlighting the urgent need to combat the extinction crisis.

“Biodiversity is the foundation our planet is built on. We all depend on nature and the richness of species within it,” said Jamie Rappaport Clark, president and CEO of Defenders of Wildlife. “If the extinction crisis continues unabated, our nation will lose our unique landscapes, wildlife and biodiversity forever. It is imperative for President Biden to establish a national biodiversity strategy before it’s too late.”

“Simply put, biodiversity functions as a critical life support system across the entirety of our shared planet,” said Azzedine Downes, CEO of the International Fund for Animal Welfare. “It is as fundamental and foundational to all natural systems that support human health and livelihoods. Addressing the biodiversity crisis is essential to protecting against future pandemics as well as to meeting our urgent goals related to climate change. A robust future where both humans, wildlife and the natural environment thrive can only be achieved by elevating biodiversity protection to the highest priority.”

**A national biodiversity strategy would address the extinction crisis** by requiring more effective and coordinated use of laws and policies to protect biodiversity and reverse its decline, **while reasserting the United States’ international leadership in advance of the next meeting of the Parties to the Convention on Biological Diversity**. It would help protect and retain highly intact ecosystems, secure and restore ecosystems and their services, promote environmental justice and coordinate local, state, tribal, federal, and private landholder efforts to tackle the biodiversity crisis while also complementing the Biden administration’s other habitat loss and climate change initiatives.

“The U.S. must take action to address the biodiversity crisis that continues to worsen alongside the climate emergency because our own fate is inextricably linked to the plants and animals with which we share this planet. By showing leadership and establishing a national strategy, President Biden can take concrete steps to prevent extinctions, like restoring and strengthening the Endangered Species Act and investing in species recovery,” said Addie Haughey, legislative director at Earthjustice.

Ginette Hemley, senior vice president for Wildlife Conservation, World Wildlife Fund, pointed out that “In 2020, WWF’s Living Planet report showed that the overall abundance of wildlife populations globally has declined by more than two-thirds in just 50 years. This shocking number reinforces the alarms many scientists have sounded about the dangerous decline of our planet’s biodiversity and the urgent need to reverse this trend. This matters to all of us, because the health of nature underpins our own health and prosperity, as well as our long-term security. The United States has long been a leader in efforts to protect nature globally, but it also needs to lead by example. This is why we believe the Administration should put in place a strategic, whole-of-government approach to conserving America’s rich biodiversity while also taking stronger steps to ensure nature-positive growth and economic development, both at home and abroad.”

“Biodiversity loss is inextricably linked to the other great crises threatening our planet: climate change and zoonotic pandemics,” said John Calvelli, executive vice president of public affairs for the Wildlife Conservation Society. “Protecting biodiversity is the foundation we must build on to help safeguard our planet’s life support systems now and into the future. We urge the Biden Administration to establish a national biodiversity strategy because life on earth depends on a vibrant, healthy, and biodiverse planet.”

### 2NC--- Biodiversity---Solvency---States

#### States are on board

Eric Galatas, 7-9-2022, producer and head writer for Public News Service, "State Lawmakers Press Biden to Create National Biodiversity Strategy," No Publication, [https://www.publicnewsservice.org/2022-05-24/endangered-species-and-wildlife/state-lawmakers-press-biden-to-create-national-biodiversity-strategy/a79232-1 /](https://www.publicnewsservice.org/2022-05-24/endangered-species-and-wildlife/state-lawmakers-press-biden-to-create-national-biodiversity-strategy/a79232-1%20/) CROSSINGS BY

**More than 350 state lawmakers from across the U.S. are urging President Joe Biden to create a national strategy to protect, restore and secure the nation's rich biodiversity** for generations to come.  
  
Rep. Alex Valdez, D-Denver, was among 22 Colorado lawmakers to [sign a letter](https://www.ncelenviro.org/app/uploads/2022/05/NCEL-NBS-Sign-On-Letter.pdf) sent to the White House late last week. He said as more species and habitat are lost, the risks to ecosystems supplying clean water, food and even the air we breathe begin to compound.  
  
"We're seeing a massive impact, and frankly, moving toward extinction of a number of different species," Valdez asserted. "We need to do something about it, because we're kind of a part of that full picture in a healthy environment."  
  
Scientists estimate roughly one million species are at risk of extinction globally, a number well above historic norms and largely due to human activity. Climate change, habitat loss, pollution, invasive species and overfishing are seen as the biggest ecosystem disrupters.  
  
Robert Dewey, vice president of government relations and external affairs for Defenders of Wildlife, said it is critical for the federal government to work with states and local governments to identify strategies to address these leading causes. He explained the letter from state legislators is part of a growing chorus urging the president to respond to what he calls a biodiversity crisis.

#### States are doing their best efforts but still need a federal National Biodiversity Strategy

NCEL, 5-20-2022, National Caucus of Environmental Legislators is a collective group of state legislators committed to environmental protection, "365 State Legislators From 48 States and Territories Call for a National Biodiversity Strategy," National Caucus of Environmental Legislators, https://www.ncelenviro.org/articles/national-biodiversity-strategy/ CROSSINGS BY

Today more than 360 state legislators sent a letter to President Biden urging the creation of a National Biodiversity strategy to address the biodiversity crisis we’re facing. As species and habitats are disappearing at record rates, we need a unified national solution. The United States is one of the only nations without such a national strategy. The bipartisan letter was signed by 365 legislators from 48 states and territories.

The letter’s release coincides with Endangered Species Day. Globally, there are around one million species at risk of extinction. The unprecedented loss in species and habitats directly impacts our security, economy, health, and well-being. Our biodiversity provides us with crucial ecosystem services needed for clean water, healthy soils, nutritious food, and clean air.

“The biodiversity crisis is not just a global phenomenon. It’s impacting plant and animal species across this nation,” said North Carolina State Representative Pricey Harrison. “There is an urgent need for a National Biodiversity Strategy so that states can act with confidence to slow the loss of the diversity of life.”

The main drivers of biodiversity loss are fueled by human activity and include habitat destruction, climate change, wildlife exploitation, pollution, and invasive species.

**States and the federal government are working on addressing habitat destruction and climate change through the American the Beautiful Initiative** **and 30×30 legislation.** This year, [at least 12 states](https://www.ncelenviro.org/issue/30x30/) considered legislation to protect 30% of land and water by 2030.

However, for a comprehensive and national approach to the biodiversity crisis, wildlife exploitation, pollution, and invasive species must be addressed. Over the past two years, we’ve seen the impacts that overexploitation of wildlife and habitat destruction can have on public health and the economy through the COVID-19 zoonotic pandemic. With 75% of emerging diseases being zoonotic in origin, states such as [Oregon](https://www.ncelenviro.org/articles/oregon-passes-wildlife-disease-legislation/) and [Maryland](https://www.ncelenviro.org/articles/maryland-passes-wildlife-trafficking-ban/) are working to prevent the next pandemic by curbing the spread of wildlife diseases and addressing wildlife trafficking within state borders.

In addition, [**four states**](https://www.quorum.us/spreadsheet/external/gFimagZhVERxLqkWyktH/)**have already introduced memorials or**[**tributes**](https://www.ncelenviro.org/articles/colorado-tribute-supports-protection-of-biodiversity/)**in support of a National Biodiversity Strategy**. The [Vermont legislature](https://legislature.vermont.gov/bill/status/2022/H.606) has also passed a bill specifically to protect its state’s biodiversity.

“Biodiversity refers to every living thing on earth and protecting this mosaic of life helps preserve Colorado as we know it,” said Colorado State Representative Alex Valdez. “That’s why, alongside several of my colleagues, I read a Tribute on the House floor on this issue during Earth Week 2022 to show support for a National Biodiversity Strategy.”

“Washington is part of a growing number of states introducing legislation in support of a National Biodiversity Strategy as means of reducing the catastrophic impacts associated with the rapid rate of biodiversity loss,” said Washington State Senator Liz Lovelett. “It is imperative that we do everything possible to protect biodiversity, including keystone species like our state’s beloved Southern Resident Orca and iconic salmon that are fundamental to our environment and cultural vitality. Biodiversity is essential to the security, health, and well-being of our people and planet. That’s why I support state action on this urgent issue and think this letter is so important.”

However, **state action isn’t enough**. Just as biodiversity doesn’t recognize state borders, this crisis cannot be solved with a piecemeal approach. **States, therefore, call for a unified and united approach.**

“New Mexico is a land of great biodiversity and many varied ecosystems, all of which make New Mexico a true land of enchantment,” said New Mexico Senator Mimi Stewart. “States like New Mexico are leading the call for a national biodiversity strategy to deal with the biodiversity crisis that is impacting all of our states.”

In addition to a call from 365 state legislators, the [movement for a National Biodiversity Strategy](https://defenders.org/newsroom/environmental-organizations-federal-and-state-leaders-call-national-biodiversity-strategy) is supported by environmental organizations nationwide.

“The foundation of nature and life itself is crumbling rapidly,” said Jamie Rappaport Clark, President and CEO of Defenders of Wildlife. “The Biden administration can and must take bold and unprecedented action to combat the biodiversity crisis. The message is clear from federal, state, and NGO leaders. The United States needs a national biodiversity strategy. We thank these policymakers for demonstrating the leadership with the urgency needed to address this problem.”

**Only through a strategic and comprehensive approach can the U.S. government meet the scope and scale of the biodiversity crisis** and help lead the world in protecting and beginning to restore nature over the coming decade. States will continue to lead through policy action, but a National Biodiversity Strategy will ensure that America reaffirms and expands its role as a leader in biodiversity conservation.

“While states are taking innovative approaches to protect biodiversity, they recognize the need for more,” said Jeff Mauk, NCEL Executive Director. “States show their true power when they come together and speak in a strong and unified voice. With 48 states and territories on this letter, the need for a National Biodiversity Strategy is clear.”

### 2NC--- Biodiversity---NB: Politics

#### National biodiversity strategy has the house and environmental groups on board

Sharon Udasin, 2-9-2022, staff writer at The Hill, "House Dems, green groups demand national biodiversity strategy from Biden," Hill, <https://thehill.com/policy/equilibrium-sustainability/593526-house-dems-green-groups-demand-national-biodiversity/> CROSSINGS BY

**Fifty House Democrats — with the support of more than 100 environmental groups and academics — demanded the creation of a national biodiversity strategy** in a letter to President Biden on Tuesday.

“The loss of biodiversity presents a direct threat to our security, health, and well-being,” [said the letter](https://neguse.house.gov/imo/media/doc/Letter%20to%20Biden%20Administration%20in%20Final%20Support%20of%20a%20National%20Biodiversity%20Strategy.pdf), sent by Rep. [Joe Neguse](https://thehill.com/people/joe-neguse/)(D-Colo.). “As species decline and habitats degrade, we lose critical ecosystem services that provide us with clean water, fertile soils, food, and the very air we breathe.”

The letter follows up on Neguse’s January 2021 proposal, [H.R. 69](https://www.congress.gov/bill/117th-congress/house-resolution/69), for a federal biodiversity strategy. While the representatives who signed Tuesday’s letter were all Democrats, the 39 co-sponsors of last January’s resolution also included one Republican, Rep. [Brian Fitzpatrick](https://thehill.com/people/brian-fitzpatrick/)(Pa.).

Tuesday’s letter commended Biden for his efforts thus far to address “compounding environmental crises,” including his commitment to conserving 30 percent of U.S. lands and waters by 2030. But the signers also warned that as many as a million species worldwide are at risk of extinction, while in North America alone, almost 3 billion birds have disappeared since 1970.

As habitats and critical ecosystems degrade, the availability of clean water, air and food also diminishes, according to the letter. The World Economic Forum has likewise identified biodiversity loss as one of the top five threats to the global economy, the signers added.

Not only does the country’s loss of biodiversity imperil human health and cause economic distress, it “also disproportionately impacts communities of color, low-income communities, tribal communities, and others that have historically faced environmental injustice,” according to the letter.

The letter asks that the government address the “five drivers of biodiversity loss,” which H.R. 69 defines as human alteration of terrestrial and marine environments, exploitation of wildlife, acceleration of climate change, introduction of invasive species, and pollution of air, land and water.

The federal biodiversity strategy, according to the letter, should also “promote social equity and environmental justice” while coordinating the national response with other such initiatives around the world.

“The United States ought to be playing a global leadership role in addressing the biodiversity crisis, and with President [Joe Biden](https://thehill.com/people/joe-biden/)in office we have the opportunity to do so,” Neguse [said in a statement](https://neguse.house.gov/media/press-releases/congressman-neguse-urges-adoption-of-national-biodiversity-strategy-says-action-to-protect-ecosystems-and-wildlife-is-urgent-). “The decline of biodiversity presents a direct threat to our nation’s well-being, and it’s time for the U.S. to take an ambitious whole-of-government approach to address these issues.”

Jamie Rappaport Clark, president and CEO of the Defenders of Wildlife organization, described biodiversity as “the foundation our planet is built on,” emphasizing how humans “depend on nature and the richness of species within it.”

“If the extinction crisis continues unabated, our nation will lose our unique landscapes, wildlife and biodiversity forever,” she said in a statement. “It is imperative for President Biden to establish a national biodiversity strategy before it’s too late.”

On the same day that Neguse and his colleagues sent their letter to the president, Defenders of Wildlife and several other national conservation groups launched a campaign to advocate for a domestic biodiversity strategy. Worldwide, 193 other countries have already developed similar such plans, the cohort [said in a statement](https://defenders.org/newsroom/environmental-organizations-federal-and-state-leaders-call-national-biodiversity-strategy).

The **movement to implement a federal government strategy is garnering increasing support**, **with 120 environmental organizations, scientists and university** students across the U.S. supporting its creation, according to the groups.

Addie Haughey, legislative director of Earthjustice, called upon Biden to “take concrete steps to prevent extinctions” such as bolstering the Endangered Species Act and investing in the recovery of threatened species.

“The U.S. must take action to address the biodiversity crisis that continues to worsen alongside the climate emergency because our own fate is inextricably linked to the plants and animals with which we share this planet,” Haughey added.

## Bioethics CP

### 1NC---Bioethics CP

#### Plan Text: The United States Federal Government should:

#### Deploy K-Anonymity to allow re-identification.

#### The CP solves.

Eman and Dankar 2008 — Khaled El Emam, Children's Hospital of Eastern Ontario Research Institute; Fida Kamal Dankar, Children's Hospital of Eastern Ontario Research Institute, 2008 (“Protecting Privacy Using k-Anonymity,” *J am Med*, October, Available Online at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2528029/?tool=pmcentrez, Accessed 07-13-2022)

The way in which k-anonymity would be applied depends on the re-identification scenario one is protecting against. To protect against the prosecutor re-identification scenario, then k-anonymity should be used. If the prosecutor scenario is not applicable, then k-anonymity is not recommended, and k-map should be used instead (or our approximations of it using the hypothesis testing approach D4). If both scenarios are plausible, then k-anonymity should be used because this is the most protective. Therefore, being able to make a decision on whether the prosecutor scenario is applicable is important.

If we assume a threshold risk of 0.2, then under the prosecutor scenario the data custodian would just k-anonymize with k = 5. Under the journalist scenario the data custodian would determine An external file that holds a picture, illustration, etc.

Object name is 627.S1067502708001047.si83.jpg using the hypothesis testing approach (D4) and then k-anonymize with An external file that holds a picture, illustration, etc.

Object name is 627.S1067502708001047.si84.jpg.

An intruder would only pursue a prosecutor re-identification scenario if s/he has certainty that the VIP has a record in An external file that holds a picture, illustration, etc.

Object name is 627.S1067502708001047.si85.jpg. There are three ways in which an intruder can have such certainty: 79,95

1 The disclosed data set represents the whole population (e.g., a population registry) or has a large sampling fraction. If the whole population is being disclosed then the intruder would have certainty that the VIP is in the disclosed data set. Also, a large sampling fraction means that the VIP is very likely to be in the disclosed data set.

2 If it can be easily determined who is in the disclosed sample. For example, the sample may be a data set from an interview survey conducted in a company and it is generally known who participated in these interviews because the participants missed half a day of work. In such a case it is known within the company, and to an internal intruder, who is in the disclosed data set.

3 The individuals in the disclosed data set self-reveal that they are part of the sample. For example, subjects in clinical trials do generally inform their family, friends, and even acquaintances that they are participating in a trial. One of the acquaintances may attempt to re-identify one of these self-revealing subjects. However, it is not always the case that individuals do know that their data is in a data set. For example, for studies were consent has been waived or where patients provide broad authorization for their data or tissue samples to be used in research, the patients may not know that their data is in a specific data set, providing no opportunity for self-revealing their inclusion.

If any of the above conditions apply, then protecting against the prosecutor scenario is required. However, many epidemiologic and health services research studies, including secondary use studies, would not meet the criteria set out above. In such a case, protection against the journalist scenario with the D4 approach is recommended.

Relationship to Other Work

Re-identification risk is sometimes measured or estimated as the proportion of records that are unique in the population. Such uniqueness is then used as a proxy for re-identification risk. One approach for estimating population uniqueness from a sample uses the Poisson–gamma model with the α and β parameters estimated by the method of moments, 96,97 but it over-estimates with small sampling fractions and under-estimates as the sampling fraction increases. 98 Another method that uses sub-sampling performs well for larger sampling fractions. 99–101 More recent work developed probability models and estimators for two attack-based re-identification risk measures. 102 However, uniqueness measures of risk will by definition give an answer of zero for any k-anonymized data set, and therefore are inappropriate in this context.

### 2NC---Bioethics CP

#### The counter plan solves via reidentification.

Eman and Dankar 2008 — Khaled El Emam, Children's Hospital of Eastern Ontario Research Institute; Fida Kamal Dankar, Children's Hospital of Eastern Ontario Research Institute, 2008 (“Protecting Privacy Using k-Anonymity,” *J am Med*, October, Available Online at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2528029/?tool=pmcentrez, Accessed 07-13-2022)

There is increasing pressure to disclose health research data, and this is especially true when the data has been collected using public funds. However, the disclosure of such data raises serious privacy concerns. For example, consider an individual who participated in a clinical trial having all of their clinical and lab data published in a journal web site accompanying the article on the trial. If it was possible to re-identify the records of that individual from this public data it would be a breach of privacy. Such an incident could result in fewer people participating in research studies because of privacy concerns, and if it happened in Canada, would be breaking privacy laws.

It is therefore important to understand precisely the types of re-identification attacks that can be launched on a data set and the different ways to properly anonymize the data before it is disclosed.

Anonymization techniques result in distortions to the data. Excessive anonymization may reduce the quality of the data making it unsuitable for some analysis, and possibly result in incorrect or biased results. Therefore, it is important to balance the amount of anonymization being performed against the amount of information loss.

In this paper we focused on k-anonymity, which is a popular approach for protecting privacy. We considered the two re-identification scenarios that k-anonymity is intended to protect against. For one of the scenarios, we showed that actual re-identification risk under the baseline k-anonymity is much lower than the threshold risk that the data custodian assumes, and that this results in an excessive amount of information loss, especially at small sampling fractions. We then evaluated three alternative approaches and found that one of them consistently ensures that the re-identification risk is quite close to the actual risk, and always has lower information loss than the baseline approach.

It is recommended that data custodians determine which re-identification scenarios apply on a case-by-case basis, and anonymize the data before disclosure using the baseline k-anonymity model or our modified k-anonymity model accordingly.

## Bioterrorism CP

### 1NC---Bioterrorism CP

#### Plan Text: The United States Federal Government should

#### Create programs aimed to coordinate and direct emergency preparedness, and

#### Create training programs for health providers, and

#### Focus on vaccine production.

#### CP solves.

Erenler, Güzel, and Baydin 18 — Ali Kemal Erenler; Murat Güzel; Ahmet Baydin, 2018 (“How Prepared Are We for Possible Bioterrorist Attacks: An Approach from Emergency Medicine Perspective,” *ScientificWorldJournal*, July 8th, Available Online at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6076891/, Accessed 07-21-2022)

A secure communication pathway in association with health departments and public health officials to outbreaks of bioterrorist events may be created between emergency services and governmental public health departments. Communication between medical health providers, emergency room personnel, infection-control personnel, and infectious-disease personnel in hospitals might be constituted and maintained through a health advisory network. In addition, at regular intervals, meetings may be performed in order to share information regarding planning responses in collaboration against bioterrorist attacks. Local health authorities, including emergency services, should examine their preparedness repeatedly for a potential bioterrorist attack and routinely review coordination issues with agencies that take place in response. Programs aimed to coordinate and direct emergency preparedness and response including antibioterrorism efforts should be created [18]. Training programs for health providers are also useful for preparedness and alertness. It was shown that when gaming simulations were used to test knowledge and skill of individuals who engage in antibioterrorism, better outcomes were obtained with trained personnel [19]. Association of better scores with training underline the importance of training programs when a real event is faced. However, in a survey study with 1028 participants in Canada, it was reported that most of the emergency service providers have not been trained enough to identify and work in contaminated environments under chemical, biological, radiological, and nuclear attacks [20]. The situation must be considered worse in developing countries, and programs focusing on health providers, especially those in emergency services, must be initiated as quickly as possible. Public health providers can be trained either by online education programs or face to face [21]. Surveillance systems can also be developed to provide important new capabilities in responding to public health emergencies. However, these efforts may result in false alarms and related increased cost [22].

Measures to enhance diagnostic and therapeutic capabilities and capacities alongside training and education are thought to improve the ability of society to combat 'regular' infectious diseases outbreaks, as well as mitigating the effects of bioterrorist attacks [23].

When a public health emergency is identified, it may be wise to redirect resources, e.g., funding, staff, and space from core public health programs to contribute to the public health emergency response [24].

There are also studies in the literature suggesting step by step measures to address bioterrorist events. Current trends in biosecurity and cybersecurity include (1) the wide availability of technology and specialized knowledge that previously were available only to governments; (2) the global economic recession, which may increase the spread of radical non-state actors; and (3) recent US and EU commission reports that reflect concerns about non-state actors in asymmetric threats. The nature of bioterrorism threats requires collaboration across several sectors including intelligence, police, forensics, customs, and other law enforcement organizations who must work together with public and animal health organizations as well as environmental and social science organizations. Coordination in decision-making among these organizations is required, based on knowledge and information sharing. An “information sharing risk-benefit analysis” may be constituted to determine the risk of not sharing information among organizations compared to the benefit of sharing information in order to prevent a terrorist attack and to enhance a rapid response capability in case it occurs. In work package 3 of the EU project AniBioThreat, early warning is the main topic. A strategy has been generated based on an iterative approach to bring law enforcement agencies and human and animal health institutes together. Workshops and exercises were involved during the first half of the project, and spin-off activities include new preparedness plans for institutes and the formation of a legal adviser network for decision making. Additionally, in Stockholm, Sweden, in 2012, a seminar on actionable knowledge was held, which identified the need to bring various agency cultures together to work on developing a resilient capability to identify early signs of bio- and agroterrorism threats. The seminar concluded that there are a number of challenges in building a collaborative culture, including developing an education program that supports collaboration and shared situational awareness [25].

Policy makers must also focus on vaccine production since vaccines are the best protection against infectious diseases. There is an ongoing academic debate on use of vaccines in biological warfare. Uncertainty of the threats is the major challenging issue in vaccine development. Even though vaccines against smallpox, anthrax, and Ebola viruses seem to have priority, an extensive policy on vaccines covering both military personnel and civilians is needed [6].

### 2NC---Bioterrorism CP

#### Vaccines solve bioterrorism.

Erenler, Güzel, and Baydin 18 — Ali Kemal Erenler; Murat Güzel; Ahmet Baydin, 2018 (“How Prepared Are We for Possible Bioterrorist Attacks: An Approach from Emergency Medicine Perspective,” *ScientificWorldJournal*, July 8th, Available Online at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6076891/, Accessed 07-21-2022)

Reports reveal that we are not well-prepared to deal with a terrorist attack that employs biological weapons. As was done in response to the nuclear threat, the medical community should educate the public and policy makers about the threat. In the longer term, we need to be prepared to detect, diagnose, characterize epidemiologically, and respond appropriately to biological weapons use and the threat of new and reemerging infections. On the immediate horizon, we cannot delay the development and implementation of strategic plans for coping with civilian bioterrorism. [26]. As a result, education and training of the healthcare providers, especially emergency physicians, are the mainstay of the battle against bioterrorism. Emergency departments must be constructed in a way suitable for a possible chaos and overcrowding that may occur when a real event happens. Awareness and preparedness to biological warfare agents must be accepted as a part of national biodefense policy.

## China CP

### 1NC---China CP---Hotlines

#### ---establish a nuclear de-escalation crisis communication hotline between US and Chinese officials

#### Hotlines solve China

Robert Pape 14, Professor of Political Science and Director of the Chicago Project on Security and Terrorism at the University of Chicago, 4/29/14, Washington Post, “A hotline to cool Asian crises,” <https://www.washingtonpost.com/news/monkey-cage/wp/2014/04/29/a-hotline-to-cool-asian-crises/shppp>)

The “Red Telephone” connecting world leaders is the modern epitome of crisis management. Yet, it might surprise most Americans to learn that, despite the increasing power of China and the potential for conflict and misunderstanding, no such working connection exists between the U.S. and China. In the past five years, the East Asian region has been embroiled in a series of minor territorial disputes as China has asserted its regional dominance over its neighbors; some of these have directly involved China and the United States. There is no easier step to defuse potential conflict between these two great powers than to establish a hotline – to be known as CHILINK – between them.

The proposed hotline would be similar to the one between the United States and Russia (MOLINK) during the Cold War. Though popularized in “Dr. Strangelove,” MOLINK was not a telephone, but simply a plain text teletype transmission system. MOLINK was activated on Aug. 30, 1963, in response to the frantic and inefficient communication between the United States and the Soviet Union during the Cuban Missile Crisis. MOLINK has multiple terminals in key government buildings, only some of which are able to transmit a response. During the Cold War, the transmission traveled along multiple pathways to ensure reliable delivery; in 2008, the hotline was upgraded to a new fiber optic-enabled system, enabling both audio and e-mail messages.

The hotline worked effectively in situations in which neither the U.S. nor the Soviet Union was involved, but they both wanted to communicate their intentions, preventing potential superpower involvement, and unnecessary escalation. The hotline was used during the Six Day War in 1967, the Indo-Pakistani War in 1971, the Yom Kippur War in 1973, and the Turkish invasion of Cyprus in 1974. Given the increasing number and intensity of East Asian territorial disputes, a hotline is more necessary now than ever before.

China and the U.S. have tried and failed to establish a working hotline in the past. In 1989, after the Tiananmen Square protests, President Bush attempted to contact Deng Xiaoping via phone; because no hotline was in place, the president’s call went unanswered. Although Presidents Clinton and Jiang agreed to establish a presidential hotline in 1997, when the United States accidentally bombed the Chinese Embassy in Belgrade two years later, the call was not answered. In February 2008 the United States and China signed a formal agreement to establish a new hotline, called the Defense Phone Link, but the agreement was negotiated well below the presidential level. It has only been used four times.

The inability to establish a hotline is surprising because China has working hotlines with several other governments. There are currently functioning hotlines between China and Russia, South Korea, India and Vietnam.

Previous hotlines have failed for two primary reasons. First, the internal Chinese disconnect between the military and civilian personnel makes crisis management very difficult. Second, the Chinese Communist Party rules dictate that the Standing Committee must vote prior to conveying information to the Americans. This policy makes rapid communication between U.S. and Chinese presidents in times of crisis very difficult. The new Chinese National Security Council, established in November 2013, attempts to remedy these internal disconnects in authority. The creation of this new parallel body invites an unprecedented opportunity for a hotline connecting the U.S. National Security Council with its Chinese counterpart.

#### Solves escalation from cyberattacks.

Kylie Atwood 21, national security correspondent and graduated cum laude from Middlebury College with a major in international studies and a minor in economics, Biden administration looks to set up 'red phone' to China for emergency communications, CNN, 7-14-2021, https://www.cnn.com/2021/07/14/politics/biden-red-phone-china-xi/index.html/shppp

A hotline to Beijing would let President Joe Biden, or top officials on his national security team, immediately send encrypted phone calls or messages to President Xi Jinping or those around him, according to the two sources. For example, urgent information could be shared about sudden military movements or warning messages sent about cyber hacks.

The idea of setting up a hotline with Beijing dates back to at least the Obama administration, though the concept wasn't codified into a classified national security memo until the final year of the Trump administration, according to a source familiar with the memo.

Biden administration officials have continued to pursue the idea, sources said, but there remain numerous details to work out, including whether the Chinese would even agree to use the device. There have long been issues with securing rapid responses from Beijing when it comes to urgent matters, current and former US officials told CNN. The top-down nature of the Chinese political system means that most contact beyond leader-level engagement is disincentivized.

A similar hotline to China already exists at the Pentagon and is supposed to be used exclusively for military matters but rarely is.

"We do have a hotline. It's known to have, the couple of times we've used it, just rung in an empty room for hours upon hours," said Kurt Campbell, the senior National Security Council Indo-Pacific coordinator, earlier this year during a conversation about US-China diplomacy and Taiwan.

The issues with the current system coupled with China's increasingly offensive military have led to mounting concerns among US national security officials about the potential of miscalculation with China, and a feeling that more needs to be done to increase communication.

"There is a worrisome shortage of tools for incident management in the US-China relationship. It is pretty urgent that the US government pursues working lines of communication which allow them to respond to a crisis or to prevent a crisis. We need a 911 operator so to speak," said Danny Russel, a former assistant secretary at the State Department. Russel added that it is imperative to also consider tools "that can be integrated into a wider crisis communication strategy, with the focus on broad risk reduction."

A senior administration official declined to discuss the device when asked about it but did say that "generally speaking, of course we have an interest in ensuring that competition with China is managed in a responsible way. We have been clear this relationship will be defined by competition and we welcome that stiff competition, but we will also continue to work to ensure this competition doesn't veer into conflict."

Working out the technical details

Officials at the State Department and the National Security Council are still working on how the device would technically work, sources told CNN. The next step would be developing the overall concept and working it into the Biden administration's plan for engagement with China. Then the device would need approval from the White House and from Chinese officials before being implemented.

While the "red phone" between the US and Russia was viewed as a useful tool that increased communication during the Cold War, its recent effectiveness is questionable. For example, the Obama administration used the hotline to the Kremlin to warn Russia not to interfere in the 2016 US elections, a warning that was not heeded.

The efficacy of a new hotline with China would be highly dependent on Beijing's commitment to using it and placing it in a position where Xi would have regular access to it.

"There would be advantages to setting up this kind of tool for high-level messaging with China on strategic cyber concerns, but you have to make sure it is connected to the right place in the chain to connect with leadership effortlessly and quickly," said Chris Painter, former State Department coordinator for cyber issues under President Barack Obama. "You may not get information back that you want, but it could be used to send messages back and forth to put people on notice."

Trouble with timely responses from China

In recent years the US and other countries have been unable to secure timely responses from China on pressing issues. For example, in the last year it has been challenging to get answers from China surrounding Covid-19, US officials said.

"There are challenges when it comes to reaching Chinese officials during times of difficulty. That is largely because the way their system works is top down. During the early days of the Covid-19 outbreak, we often did not get any response to critical questions," said a former US official who served in Beijing.

In 2014, China's state-owned oil company dispatched an oil rig to a contested area of the South China Sea and they would not respond to calls from Vietnam to discuss the matter.

The idea of connecting the White House and Beijing has been loosely discussed for years, but implementation had always seemed far off.

"We discussed the idea of a cyber messaging system with Chinese officials during the Obama administration. It was brought up in the context of our cyber discussions, but we did not make much progress. It was not clear where it was going to be placed in China, and China did not have the same history of confidence-building measures with the US that Russia did, so they viewed it in a more suspicious way," said Painter. "But I think now they understand more about how it could be used. It is not a silver bullet, by any means, but it does give you a useful tool."

## Econ CP

### 1NC---Econ CP

#### The United States federal government should:

#### -improve workforce skills in the economy as per Baily

#### -increase funding for education in the US

#### -create an easily-accessible program for small business startups

#### The CP solves growth---creates a more productive and skilled workforce

Baily 20, Martin Neil, 12-16-2020, Ph.D. in economics in 1972 at the Massachusetts Institute of Technology, Senior Fellow Emeritus in Economic Studies at Brookings. "How to boost long-run growth after COVID-19," Brookings, [https://www.brookings.edu/research/how-to-boost-long-run-growth-after-covid-19/](https://www.brookings.edu/research/how-to-boost-long-run-growth-after-covid-19/%20) //BigSasher

Members of the workforce who have not completed a college degree and receive very little on-the-job training are shortchanged by our current educational system. These workers have seen their earnings stagnate, and they are undercutting their lifetime incomes by leaving the workforce early.[11] To improve the post-pandemic labor market and to help companies be more productive, policymakers should invest in an expanded skills training program. This is not a short-term policy, it is a long-run project. **Achieving stronger productivity and** more inclusive **growth depends on** creating **a more skilled workforce.**

In designing a training program it is vital to avoid the problems that have plagued such efforts in the past. Anthony Carnevale, a training expert now at Georgetown, has laid out the key problems. Many previous programs were designed to train workers for manufacturing jobs even though the availability of manufacturing jobs is limited. Most past programs were run in collaboration with unions and employers have adversarial relationships with them. Some past programs have been costly to employers and workers they have trained quit for a better jobs elsewhere. Some parents are opposed to training programs, seeing them as pushing their children into second-class careers.[12 ]Carnevale notes the federal training budget is only $8 billion, so we are not really trying to train the workforce. **This proposal** by Brookings expert Annelies Goger includes elements I just described. It **recommends** scaling up **“earn and learn” programs** in states and regions, in which employer and community college partnerships provide workers a compensation as they receive on-the-job training.

There are also lessons to be drawn from successful training programs. Harry Holzer, also of Georgetown and a Brookings nonresident senior fellow, has written extensively on training programs, finding that those with the right design have worked well. Programs do better when they provide training through community colleges that is linked to the needs of local employers. An assessment by Mathematica of registered apprenticeship programs in 10 states concluded that program participants had substantially higher earnings than nonparticipants. Other countries’ successes with training programs are also worth considering. Germany has a very extensive apprenticeship program that trains young people not just for manufacturing jobs but also for service sector jobs. Denmark has a program called Flexicurity which provides retraining for workers who have lost their jobs. If a company lays off workers, those workers are given generous financial support, but this is linked to their participation in a training program. If workers fail to participate in training or if they turn down a suitable job, they lose the financial support.[13]

The potential for improvement is great. A recent study by Peter Q. Blair and colleagues found that as many as 30 million workers that do not have Bachelor’s degrees have the potential to obtain better jobs and earn more than they are paid the positions they currently hold. They have intrinsic skills that are not being using in their current jobs.

In designing a new program, I propose that states and cities have the flexibility to organize their efforts in accordance with local labor market conditions. Programs should be run in collaboration with employers that can specify the skills they need, provide instructors, and promise jobs to those that pass qualifying exams. In return, the employers get trained workers at low cost. Community colleges provide a natural setting for this training to take place, but instructors must have the necessary experience and skills to provide hands-on training. It is futile to train more people for manufacturing jobs than there are jobs available, but as the older generation retires there will be job openings in this sector. Further, there are many blue-collar jobs in the service sector that pay well and remain in demand, such as auto mechanics, heating and air conditioning servicers, and plumbers. Participants in training should be paid a stipend, conditional on attendance and receive a bonus for passing the program, which may help overcome resistance to vocational education.

Experimentation by local governments should be encouraged as long as data is made available to allow independent post-program evaluation of successes and failures. The federal government should underwrite the cost of the programs, recognizing that a percentage of the funds will be wasted but that **a more skilled workforce benefits the whole economy**. There should be extensive marketing and messaging around the training programs and investments in outreach. Providing a stipend plus a good outreach program will help overcome the resistance of younger people to a non-academic program and the resistance of older workers to re-training. Funds should be included to set up an easy interface to inform people about the programs and to help people enroll online. As part of the training, people should be coached on how to apply for jobs. Technology can help in the learning process as long as there are good teachers and mentors available.

### 2NC---Econ CP---Solvency---Education

#### Investment in Education spurs economic growth

Boser 20, Ulrich, 8-26-2020, a senior fellow at American Progress and the CEO and founder of the Learning Agency and the Learning Agency Lab, which are devoted to scaling the science of learning. "Better Learning Outcomes Can Help Kick-Start the Economy," Center for American Progress, <https://www.americanprogress.org/article/better-learning-outcomes-can-help-kick-start-economy/> //BigSasher

This new study builds on a large body of research: **Economists** have clearly **shown that investing in education leads to** major **economic returns in** terms of both **salaries** and gross domestic product (**GDP**). It also contributes to an overall more successful economy and thriving labor market, as employment tends to closely track increasing educational outcomes. Indeed, one of the best predictors of economic growth is educational outcomes, and furthering education would provide a much-needed boost to the American economy—and American workers.

To better understand the exact connection between learning and economic growth, the study examined the economic benefits of additional learning. The inspiration behind the analysis came from a National Bureau of Economic Research (NBER) study, called “Returns to Skills around the World: Evidence from PIAAC,” that showed how workers could experience economic benefits from gaining more domain expertise—including math knowledge and cognitive skills such as critical thinking. The new analysis took the percentage calculations from this NBER study and turned them into a precise estimate of income growth per year. As part of the analysis, it considered all full-time workers in the United States and assumed a standard deviation increase in scores, which was equal to a 200-point jump in SAT scores.

The results showed that **better math skills would increase salaries by a whopping $21,000 each year.** The study looked only at U.S workers aged 35 to 54 who work full-time jobs that require some math skills. Still, the earnings increases were very large: Over two decades, an individual could earn up to $400,000 more by having more math skills. In some states, increases were even higher. For example, in California, better math outcomes would lead to a $25,000 annual increase in wages; in Washington, D.C., this figure jumped to $31,000; and in New York, over a 20 year period, the increase in income would come close to $500,000.

The study yielded similar results in writing and reading, finding that improved writing outcomes can increase salaries by as much as $11,000 per year. In fact, just having a high school diploma can deliver impressive economic results, garnering nearly $7,000 more in salaries each year for individuals.

In short, workers with more skills gain more money. This is in large part due to the fact that school gives young people the essential skills they need in life, such as how to write clearly and study effectively. However, these skills not only help students learn, they also provide them with more career and work opportunities. What’s more, individuals with such skills are more effective in their jobs, as they are better equipped to manage a range of situations in their work environment. In addition, with improved reasoning skills, employees are far more efficient and productive.

To put it differently, higher-skilled workers serve as an economic driver. They help boost GDP and improve the overall economy. Practically speaking, individuals should make sure to gain skills by setting aside time to learn and land degrees. But more broadly, education requires investment. Especially given the pandemic, policy leaders must invest—not cut—school funding. In particular, they should invest in what works, from online tutoring to proven math programs.

The new study does have a number of limitations. It doesn’t account for differences in schools’ needs, such as students with individualized education programs. What’s more, improving educational outcomes is hard, especially given COVID-19; and even before the pandemic, student outcomes had been lagging, according to the National Assessment of Educational Progress.

Still, **education is the way out of the nation’s current economic downturn.** Therefore, it is vital for policymakers to support improving educational outcomes. Even in this time of economic uncertainty, leaders must invest in a better education system—one that will reinvent our economy and drive the growth that the country so clearly needs.

### 2NC--- Econ CP---Solvency---Small Businesses

#### Small businesses are key---boosting startup propels their impact on the economy

Office Of Advocacy 19, 1-30-2019, Created by Congress in 1976, the Office of Advocacy of the U.S. Small Business Administration (SBA) is an independent voice for small business within the federal government. "Small Businesses Generate 44 Percent of U.S. Economic Activity," SBA's Office of Advocacy, <https://advocacy.sba.gov/2019/01/30/small-businesses-generate-44-percent-of-u-s-economic-activity/> //BigSasher

WASHINGTON, D.C. – **Small businesses are the lifeblood of the U.S. economy**: they create two-thirds of net new jobs and drive U.S. innovation and competitiveness. A new report shows that **they account for 44 percent of U.S. economic activity**. This is a significant contribution, however this overall share has declined gradually.

U.S. gross domestic product (GDP) is the market value of the goods and services produced by labor and property located in the United States. Across the 16 years from 1998 to 2014, the small business share of GDP has fallen from 48.0 percent to 43.5 percent. Over the same period, the amount of small business GDP has grown by about 25 percent in real terms, or 1.4 percent annually. However, real GDP for large businesses has grown faster, at 2.5 percent annually.

“This useful benchmark shows us that small businesses continue to be big contributors to the U.S. economy,” Acting Chief Counsel for Advocacy Major L. Clark said. “While their contribution has grown at a slower rate than that of large businesses, small businesses continue to be at the forefront of driving innovation, jobs and economic growth.”

Nominal small business GDP measured $5.9 trillion in 2014, the most recent year for which small business GDP data are available. The three largest small business sectors contributing to it were (1) the real estate and rental and leasing industry; (2) wholesale and retail trade; and (3) the manufacturing and mining sector.

The 2008 recession played a small part in the lower small business share, but structural changes may have played a part as well. These factors include long run declines in business dynamism, the rise of big-box stores, the changing regulatory environment and the critical role of credit availability.

### 2NC--- Econ CP---NB---Public

#### Education brings numerous benefits to the general public

Mitra 11, Dana, 6-27-11, Ph. D. from Stanford University in Educational Administration and Policy Analysis, Professor of Education Policy Studies at the Pennsylvania State University. “Pennsylvania’s Best Investment: The Social and Economic Benefits of Public Education,” <https://www.elc-pa.org/wp-content/uploads/2011/06/BestInvestment_Full_Report_6.27.11.pdf> //BigSasher

The national importance of education is based on the significant positive influence it has on

individual lives and on the welfare of communities. Education is primarily a way to train children in the

skills they will need as adults to find good jobs and live well [9]. But education also has broader social

and economic benefits for individuals, families, and society at large [9]. These benefits are received

even by people whose relationship to the public school system does not extend beyond “taxpayer.” The

widespread improvement of social and economic conditions is a direct outcome of an educated

population that is better able to use information to make good decisions and which is collectively better

trained for work.

A great deal of recent research demonstrates how the **benefits** of supporting public education

**extend** far **beyond** each child’s individual **academic gains**. A **population** that is **better educated** **has less**

**unemployment**, **reduced dependence on public assistance** programs, and **greater tax revenue**.

Education also plays a key role in the reduction of **crime, improved public health, and greater political**

**and civic engagement**. Investment in public education results in billions of dollars of social and

economic benefits for society at large.

In Pennsylvania, local communities invest significantly different amounts in their public

schools. State funding can mitigate these differences to ensure that each child’s education is supported

by adequate resources. But the state share of education funding in Pennsylvania has declined over

many years, so that only 6 states now spend a smaller share. Forced to increase revenue for schools

from local sources, many communities face an impossible combination of educational challenges – high

numbers of disadvantaged children, low student achievement, and insufficient resources despite high

property taxes. These problems affect social and economic well-being throughout the entire

Commonwealth, well beyond the boundaries of inadequately funded and low performing school

districts.

## Food Scarcity CP

### 1NC---Food Insecurity CP

#### Plan Text: The United States Federal Government should:

#### Provide children meals when schools are closed, and

#### Help hungry college kids when campuses are closed, and

#### Serve older adults food who are struggling due to COVID 19, and

#### Allocate funds to homemade meals.

#### The counterplan solves.

Morris and Larin 21 — Steve Morris, Kathy Larin, 2021 (“Addressing Food Insecurity in America, Before and During the Pandemic,” *GAO*, October 12th, Available Online at https://www.gao.gov/blog/addressing-food-insecurity-america%2C-and-during-pandemic, Accessed 7-23-2022)

Providing children meals, even when schools are closed

In the U.S., food assistance for children in need is often provided through K-12 public schools, for example through free or reduced-priced meals and snacks.

Programs like National School Lunch Program, the School Breakfast Program, and Summer Food Service Program received $23.1 billion in federal funding in FY 2019. The National School Lunch Program, which is the largest program, supported almost 30 million students in 2019, with more than 94,000 schools participating.

But, what happened when schools were closed during the pandemic?

When school closures began in the spring of 2020, USDA’s Food Nutrition Service (FNS), which runs the programs mentioned above, granted various nationwide waivers to facilitate the continuation of meal services. Waivers enabled parents and guardians to pick up meals, and provided flexibilities in foods served and meal times.

Despite these waivers, in March 2021, we reported that school meal programs served nearly 1.7 billion fewer meals from March through September 2020—a decline of more than 30% compared with the same months the previous year.

School district officials we interviewed pointed to several reasons for the drop in number of meals served, including fears by families of exposure to COVID-19, which kept some from venturing out to pick up meals. Officials also said that families may not have participated in school meal programs because they qualified for other assistance programs—such as Emergency Meals-to-You or Pandemic Electronic Benefit Transfer (Pandemic EBT).

Helping hungry college students even when campuses are closed

Many college students may not have enough to eat. The federal government spends billions each year on grants, loans, and work-study funding to help make attending college more affordable for students. Yet, many still cannot afford basic necessities such as food.

In 2019, we tried to measure how many college students faced food insecurity, and identified some programs that were available to them at their schools. We reviewed 31 studies with a wide range of reported rates of food insecurity, but could not determine a reliable national estimate for college students. We also looked at how 14 colleges addressed food insecurity among their students. All 14 colleges provided free food to students through on-campus pantries, and most colleges offered emergency funds to help students pay for living expenses.

Many of the colleges we looked at screened students for potential eligibility for federal programs like the Supplemental Nutritional Assistance Program (SNAP, formerly known as food stamps). However, we found that less than half of the 3.3 million students who were potentially eligible for SNAP in 2016 reported receiving it at school.

We found that the lack of clarity on SNAP’s eligibility rules for college students may be limiting its use. And in 2019, we recommended that FNS, which runs SNAP, increase awareness of SNAP, including providing clear information about who is eligible and increasing outreach. FNS generally agreed with our recommendations and has implemented 1 of them.

Whether or not they were eligible for or receiving SNAP, many students faced unexpected expenses as a result of the pandemic—including housing, food, and technology purchases—after schools closed their physical campuses. To help students and schools, Congress created the Higher Education Emergency Relief Fund in March 2020, as part of the CARES Act. In our August blog post, we explored how this funding was used—who got what and how much.

Serving older adults who may have faced additional challenges because of COVID-19

For America’s seniors, lack of mobility can impact their access to food. In 2019, we looked at meal delivery and other services for older Americans living in rural communities. These seniors are particularly vulnerable to isolation and food security issues because they may have less access to services, longer travel distances to grocery stories, and fewer transportation options.

Some community organizations and service providers have developed strategies for serving older adults in their communities. These included:

delivering frozen or shelf-stable meals to older adults, once every 1-2 weeks;

identifying neighbors to help pick up and drop off frozen meals, or using a service that ships refrigerated meals via FedEx when delivery is not an option;

providing older adults with extra frozen or shelf-stable meals or packages of non-perishable food in the event of emergency situations; and

transferring funds designated for congregate meals (those served in a group setting) to provide more home-delivered meals.

We have ongoing work on how COVID-19 has affected services for older adults, including meals, in-home care, transportation, and health and wellness activities.

Selected Colleges' Initiatives o Address Student Food Insecurity

### 2NC---Food Insecurity CP---Solvency

#### Foods too expensive — counterplan solves that.

Khan 22 — Nada Khan, an Exeter-based National Institute for Health Research Academic Clinical Fellow in general practice, 2022 (“The cost of living crisis: how can we tackle fuel poverty and food insecurity in practice?,” *British Journal of General Practice*, Available Online at https://bjgp.org/content/72/720/330.short, Accessed 07-23-2022)

Food prices are increasing rapidly, with grocery price inflation levels above 5% in April.7 Food insecurity is intrinsically linked to adverse health outcomes, especially among children, with increased risks of chronic disease and mental illness later in life.8 The first step must be to identify the scale of the problem, and indeed, some posit that doctors have an ethical obligation to ask about food insecurity.9

The Hunger Vital Signscreen10 identifies households at being at risk for food insecurity if they answer that either or both of the following two statements is often true or never true: ‘Within the past 12 months we worried whether our food would run out before we got money to buy more’‘Within the past 12 months the food we bought just didn’t last and we didn’t have money to get more’ 11

You could make it simpler than this to screen for poverty — and just ask, ‘Do you (ever) have difficulty making ends meet at the end of the month?’ 12 Being armoured with this information, however, is only half the battle. As Knight and Fritz write, ‘doctors may feel impotent to deal with food insecurity, even if they are empowered to unearth it.’ 9 As with fuel poverty, acting upon food insecurity requires local solutions such as knowledge of food banks, which can be challenging. Directing patients to Citizens Advice13 is a good first step, as advisers can signpost and refer to food banks as required.

## Grid CP

### 1NC---Grid CP---Open Source

#### The United States federal government should:

#### Open source the grid

#### The US can protect its grid now

Vaughan-Nichols 20 [Steven, Steven J. Vaughan-Nichols is a freelance writer and technology analyst. Besides ZDNet, he works with Foundry (Formerly IDG Communications), The Register, The New Stack, and Cathey Communications., The best way to protect the US electrical grid is with open source, 5/8/2020, <https://www.zdnet.com/article/the-best-way-to-protect-the-us-electrical-grid-is-with-open-source/>]

In specific, China is leading the way in advanced electrical grid technology. [State Grid Corporation of China (SGCC)](http://www.sgcc.com.cn/ywlm/index.shtml), the world's largest power company, is building the [first ultra-high-voltage DC (UHVDC) electrical lines](https://www.power-technology.com/features/chinas-mega-transmission-lines/), which can carry over a million volts. China is doing this in partnership with the Swiss-Swedish [ABB Group](https://new.abb.com/). Are Switzerland and Sweden "foreign adversaries" too?

We don't know. While Trump declared this to be a national emergency, it's up to the Energy Secretary and other cabinet-level officials to decide what electric equipment that may fall under the ban. The global [power companies are struggling to work out what Trump's executive order really means](https://www.powermag.com/trump-ban-on-foreign-bulk-power-equipment-triggers-new-uncertainty/).

It's a real problem because, as Shuli Goodman, the [LF Energy](https://www.lfenergy.org/) executive director, pointed out in an interview: "The US has lost almost all capacity to build large high-voltage equipment, like transformers. Our power grid is very dependent upon imports." LF Energy is an open-source electricity and power systems initiative. Its job is to build and maintain open-source commodity software for all electrical companies.

But, while we can't magically turn the US back into a manufacturing powerhouse, there is a way to make foreign electrical equipment safer. You see, Goodman, observed, "It is not entirely a hardware problem. We need to be looking at the attack surface and where the risk lies. It is the firmware embedded in those systems that is the problem."

Even when the equipment is assembled in the US, Jeff Pack, a senior product engineer and cybersecurity expert with [POWER Engineers](https://www.powereng.com/), observed: "[Each component will have something](https://www.tdworld.com/smart-utility/grid-security/article/21130590/executive-order-to-secure-power-system-met-with-favor-and-uncertainty), whether it be memory chips, boards, or processing chips, that are manufactured in foreign lands."

With today's global supply chain based manufacturing, it's hard to "buy American." Therefore, Goodman thinks we should look to open-sourcing the equipment's firmware and software:

This is also a long-term solution since, as Goodman observed, "Whether the hardware is made in those countries that we today deem adversaries is irrelevant. Big equipment investments are made with 50-year windows -- today's friends can be tomorrow's foes. A malevolent actor can access and attack the black boxes of all OEMs -- regardless of whether they are a nation-state or a major energy company. We want to future-proof the grid. The only way to do that is through open source, in an open community, with open governance, and complete transparency."

Some believe that we could [protect our power grid by mandating the use of "retro"-- that is analog or manual](https://www.zdnet.com/article/us-wants-to-isolate-power-grids-with-retro-technology-to-limit-cyber-attacks/)-- technologies on US power grids. While the [Securing Energy Infrastructure Act (SEIA)](https://www.king.senate.gov/imo/media/doc/01-17-19%20Securing%20Energy%20Infrastructure.pdf) has ordered a trial of this method, this back-to-the-past approach is unlikely to prove any kind of long-term answer.

Goodman concluded: "Given the heightened tensions between the US, Russia, and China, limiting any black-box technology from any vendor makes more sense. If a malevolent actor wants to exploit vulnerabilities, all black boxes threaten the grid, no matter the voltage level."

Since US companies aren't going to be building new high-end electrical grid equipment anytime soon, going open-source is really the only way forward. For true security, you need to know exactly what's running inside your equipment and that means open-source software.

### 2NC---Grid CP---Solvency---Open Source

#### Open source will protect the grid

T and D World 19[utility professionals with critical information related to the planning, design, construction, operations, maintenance and safety of transmission and distribution facilities, including automation and information technology, “Open-Source Cybersecurity Tool to Enhance Grid Protection”, 6/20/2019, <https://www.tdworld.com/smart-utility/grid-security/article/20972732/opensource-cybersecurity-tool-to-enhance-grid-protection>]

A revolutionary new cybersecurity tool that can help protect the electric power grid has been released to the public on the code-hosting website GitHub. Developed by researchers at the U.S. Department of Energy’s (DOE) Idaho National Laboratory (INL), the Structured Threat Intelligence Graph (STIG) software allows utility owners and operators to easily visualize, share, create, and edit cyberthreat intelligence information.

The ability to share threat intelligence is essential for protecting critical infrastructure like the electric power grid, water treatment facilities, oil refineries, and manufacturing plants from cyber exploits. Prior to the development of this software, threat information was too complex and cumbersome to share, limiting its application in operational environments. The new software standardizes collection via Structured Threat Information eXpression (STIX) and converts complex data on cybersecurity vulnerabilities into a visualization that is easy to understand and act on. With STIG, utility owners and operators have a common system for sharing threat intelligence information, thus increasing the chances of detecting and mitigating cyber exploits before they lead to a cyberattack.

“We’ve been working on the development of this tool for quite a while and have had success testing it with a major utility,” said Jed Haile, INL cybersecurity researcher and tool developer. “This software helps analysts process new threat information rapidly and makes it easier for them to find or create relationships between pieces of information.”

By releasing the open-source code on GitHub, INL researchers hope other developers will take on the challenge of making the tool even better and ultimately help better protect the nation’s critical infrastructure systems. Along with Haile, INL Infrastructure Security Strategic Adviser Rita Foster and cybersecurity researchers Justin Cox and Zach Priest were instrumental in the tool’s development.

The team has been working closely to test the software with Southern California Edison (SCE), a principal member of the California Energy Systems for the 21st Century (CES-21) Program, and the primary electricity supply company for much of Southern California. The company provides 14 million people with electricity across a service territory of approximately 50,000 sq miles. SCE sponsored the research that led to the development of the software. Seeing the potential for wider application of structured threat sharing, the California Public Utilities Commission (CPUC) approved a request to release the open-source code.

## Meltdowns CP

### 1NC---Meltdowns CP---SMRs

#### The United States federal government should:

* Extend the license renewal of current operating facilities only as necessary to replace them with Small Modular Reactors,
* change the national policy to permit the reprocessing of spent fuel, and
* replace the current nuclear power plant infrastructure with Small Modular Reactors.

#### **SMRs avoid meltdowns**

Scott Corbin 19, Emergency Management Director, Masters in Homeland Security and Defense, “Reducing the Potential Consequences of Nuclear Power Using Small Modular Nuclear Reactors,” Naval Post Graduate School, <https://www.hsdl.org/?view&did=825215> // CROSSINGS BY

The hypothesis in this thesis suggests that if the United States does not have a strategy for replacing its current fleet of commercial nuclear power plants, it might find itself short of the baseload power to sustain the population into the future. To analyze this problem, it was necessary to understand why the public perceives nuclear power as a higher risk than other forms of energy. This was accomplished by finding research already compiled that suggests the cause of these concerns and ways to improve public confidence moving forward. The research also had to examine what other nations are doing to address the recycling and storage of waste as well as new design models that could be safer and more versatile than traditional, fixed sites.

Using qualitative objectives, the Nuclear Regulatory Commission outlined its goals in a policy statement (51 Federal Register 30,028), which states,

• Individual members of the public should be provided a level of protection from the consequences of nuclear power plant operation such that individuals bear no significant additional risk to life and health.

• Societal risks to life and health from nuclear power plant operation should be comparable to or less than the risks of generating electricity by viable competing technologies and should not be a significant addition to other societal risks.

Using data from probabilistic risk assessments, this thesis concluded that moving ahead with **SMRs is in line with the commission’s goals and even exceeds its expectations**. The results also indicate that **other forms of energy have a higher frequency of risk and** with **more significant impacts on health and the environment than nuclear power**. The research also suggests that recycling could be to the nation's advantage by creating additional future fuel for new reactor designs and reducing waste storage. Also, **SMRs can operate with a high degree of safety**, and the reduction in off-site preparedness could be justified.

Various **recommendations include** 1) **extending the license renewal of current operating facilities only as necessary to replace them with SMRs**; 2) **changing the national policy to permit the reprocessing of spent fuel reduce long-term repositories and keep fuel available well into the future**; and 3) **replacing the current nuclear power plant infrastructure with SMRs** or passive systems that will reduce negative consequences and improve public confidence.

### 2NC---Meltdowns CP---Internal Net Benefit---China

#### Competes with Russian and Chinese reactors

Varun Sivaram, 9-4-2018, writer for Foreign Relations, "America Risks Missing Out On A Global Nuclear Power Revival," Council on Foreign Relations [https://www.cfr.org/blog/america-risks-missing-out-global-nuclear-power-revival //](https://www.cfr.org/blog/america-risks-missing-out-global-nuclear-power-revival%20//) CROSSINGS BY

The 2011 Fukushima disaster in Japan was a huge blow to the global nuclear power industry. After the meltdown, electricity generation from nuclear dropped 11 percent globally, and has yet to recover. In developed countries, including the United States, lingering fears have motivated early plant retirements and cancellations of proposed projects.

However, nuclear power is seeing a revival in emerging economies, which are seeking nuclear energy technology from abroad. **China and Russia are racing to dominate this space and win geopolitical leverage through potentially predatory state financing and full construction and operation packages. The United States, which used to lead in nuclear technology exports, has fallen behind because of restrictive export regulations.** To get back in the game—and secure economic and security advantages that the growing export market presents—the United States should simplify export controls and invest in innovative nuclear technologies. To begin the task, the White House should turn to Saudi Arabia, which is looking to develop its own nuclear energy program.

We’ve collected a series of essays and articles exploring nuclear’s growth in the developing world, the commercial and national security concerns connected to Russia and China’s growing control, and policy options for the current administration to revitalize America’s domestic nuclear industry without sacrificing safety and security.

A New “Half-Life”

Though nuclear power is projected to stagnate in OECD countries through 2040, it is also expected to grow [nearly fivefold](https://www.eia.gov/outlooks/aeo/data/browser/#/?id=31-IEO2016&region=0-0&cases=Reference&start=2010&end=2040&f=A&linechart=~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~Reference-d021916a.11-31-IEO2016~Reference-d021916a.26-31-IEO2016&map=&ctype=linechart&chartindexed=1&sourcekey=0) in non-OECD countries in the same time period, with the Middle East and Asia accounting for much of the growth.

In the latest issue of the [Washington Quarterly](https://twq.elliott.gwu.edu/sites/g/files/zaxdzs2121/f/downloads/TWQ_Summer2018_HolgateSaha.pdf), Laura Holgate and Sagatom Saha explore the forces driving this growth. Among them is the growing need to combat climate change and local pollution, they write:

“For many developing countries, the dangers that climate change pose are catastrophic. The 46 most polluted countries and the 146 cities with the worst air quality are all in the developing world. [...] While China and India expectedly dominate the list, countries in the Gulf, Southeast Asia, and Sub-Saharan Africa also populate it. These nations may see China’s and India’s fates—economic growth at the expense of public health—as an obstacle to bypass.”

Notably, ten countries accounting for about 40 percent of global energy demand—including three without reactors—incorporated nuclear into their Paris climate pledges. Holgate and Saha also expect innovative designs, **like the nearly-commercial small modular reactor (SMR)**, to bring nuclear to untapped markets.

Nuclear has been traditionally limited to the world’s wealthiest nations because today’s reactors have high upfront costs and generate far too much power for smaller electricity grids. **SMRs stand to eliminate both of these barriers**:

First, each module of an SMR only generates about 50 megawatts (MW), so SMRs can be sited on virtually any grid anywhere.

Second, SMRs are scalable—that is, additional modules can be added over time as power needs grow and financing becomes available.

Third, SMRs have lower construction costs and benefit from economies of scale as they can be uniformly mass produced in a central factory and transported by truck or rail.

For developing countries, the dangers that climate change pose provide a pressing need for zero-carbon power, and new nuclear designs provide a viable option. Even in a future with far more wind and solar, nuclear reactors could benefit—rather than suffer—from renewables’ explosive growth (see a 2017 [Greentech Media](https://www.greentechmedia.com/articles/read/nuclear-can-be-friends-with-renewables#gs.sn14f9k) article for an explainer on synergies between nuclear and renewables).

### 2NC---Meltdowns CP---Internal Net Benefit---Terror/Prolif

#### SMRS and new nuclear tech are key to solve security standards

Ken Luongo, 2-12-2021, Partnership for Global Security, "Outflanking China on Future Nuclear Standards", https://partnershipforglobalsecurity.org/outflanking-china-on-future-nuclear-standards/, CROSSINGS BY

|  |
| --- |
| After a two-hour call with China’s President Xi Jinping, President Biden [warned the nation](https://www.npr.org/2021/02/10/966537839/biden-holds-1st-call-as-president-with-chinas-xi-as-trade-security-issues-loom) that, “We don’t get moving, they’re going to eat our lunch” in reference to the technology competition between the two countries. Earlier in the day he [launched a China Task Force](https://www.defense.gov/Explore/News/Article/Article/2500271/biden-announces-dod-china-task-force/) at the defense department that will deliver rapid recommendations on how to counter the challenges posed by China.  The recently declassified [U.S. Strategic Framework for the Indo-Pacific](https://news.usni.org/2021/01/15/u-s-strategic-framework-for-the-indo-pacific), originally published in February 2018, provides a synopsis of the challenges the U.S. and its allies face from China.  Among the “assumptions” underlying the strategy are several that are very relevant to how nuclear energy develops in this decade and whether it will be effectively governed for the remainder of the century. These include the assertions **that “China will circumvent international rules and norms to gain an advantage” and that “China seeks to dominate cutting-edge technologies.”**  These statements are not new, but when coupled with a recent [analysis](https://www.wsj.com/articles/from-lightbulbs-to-5g-china-battles-west-for-control-of-vital-technology-standards-11612722698?mod=searchresults_pos2&page=1) by the Wall Street Journal about how China is seeking to control international technology standards across multiple “fields of the future” the resulting picture is very troubling when viewed through the lens of global nuclear security.  As the Journal report notes, “To the consternation of many Western countries, Beijing is employing state funding and political influence to define the norms for all manner of cutting-edge technologies.”   The strategy is two-fold – obtaining positions of influence in international standards organizations and using the Belt and Road Initiative to promote China’s preferred standards.  The transformation of international organizations from within was a major theme in the State Department Policy Planning staff’s recently published, [The Elements of the China Challenge](https://beta.documentcloud.org/documents/20407448-elements_of_the_china_challenge-20201117).  For the Belt and Road strategy, the Journal report notes that, “China offers countries subsidies to win the work and then uses its standards to lock in partner nations that would face major costs in switching to international standards.”  Th**e nuclear challenge lies in the development of next-generation nuclear energy technologies and the need to create the standards and governance regime for them so that they can be safely and securely deployed anywhere around the globe.** In a recent [analysis](https://www.macfound.org/media/article_pdfs/nuclear-challenges-synthesis-report_public-final-1.29.21.pdf%5b16%5d.pdf) for a major U.S. philanthropic foundation, the authors noted that, “the risks and policy implications of these new reactor technologies and their use on a global scale are not currently well understood…[and]…a framework for managing and minimizing the risks associated with new reactors” needs to be developed where it does not exist.  **The development of the next-generation nuclear governance regime is a significant issue because these technologies constitute a significant evolution from existing nuclear power reactors. Their smaller size and non-traditional coolants and fuel cycles make them deployable for many different circumstances**. Zero-carbon energy production is the primary rationale, but they also can be used for industrial power, hydrogen production, water desalination, and to power military bases and weapons.  The target international market for these reactors is increasingly looking like developing nations with small electric grids, serious climate change impacts, and growing populations. Many of these nations are not experienced with nuclear energy operation and additional measures will be required to prepare them for this task.  This process could create a potential battleground between the U.S. and China with effective **nuclear nonproliferation and security standards hanging in the balance**.  One arena where this conflict could play out is at the International Atomic Energy Agency. It will need to evolve its current approach to preparing new nuclear nations to account for the unique features of the novel nuclear technologies. That will require the approval of many different nations. Historically, the nations that are most aggressively selling into the global nuclear market have greater influence over international guidelines. That precedent argues for being the first to cultivate next-generation nuclear clients if a country wants to set the new governance baseline.  Additional support to these new nuclear nations likely will need to be provided by the reactor suppliers and their national governments. This process is not well established among democratic nation nuclear exporters, placing them at a disadvantage. But it is a core element of the export strategy of state-owned nuclear enterprises, like those in China.  The technology race between the U.S. and China on next-generation nuclear power has been developing under the radar. But losing that race could become a high-profile failure for global security if it results in weakened security and nonproliferation standards.  If China is able to establish a next-generation nuclear power beachhead in one or several developing countries before new international nuclear governance rules are established for these technologies, **it can tailor the guidelines to its advantage and lock them in. That could intensify nuclear dangers in an already precarious international security environment.**  That argues for American aggressiveness, perseverance, and effectiveness in developing and positioning its next-generation technologies. As the President said, “they’re going to eat our lunch” if the country does not get moving. |

﻿

### 2NC---Meltdowns CP---Solvency---International

#### Shapes global markets

Suzanne Hobbs **Baker et al.**, 01-10-2017, Former Visiting Fellow for Nuclear Security, Ryan Fitzpatrick, Director of the Climate and Energy Program, Matt Goldberg, Fellow, " Getting Back in the Game: A Strategy to Boost American Nuclear Exports," Third Way, [https://www.thirdway.org/report/getting-back-in-the-game-a-strategy-to-boost-american-nuclear-exports //](https://www.thirdway.org/report/getting-back-in-the-game-a-strategy-to-boost-american-nuclear-exports%20//) CROSSINGS BY

LWR - Light Water Reactor

Innovation has long been America’s greatest advantage over our global competitors. We win by delivering products that disrupt old markets and open up new ones. **We lose, however, when we rest on previous successes**. From cell phones to solar modules, U.S. industries have pioneered countless high-value technologies that were ultimately replicated by foreign manufacturers who could undercut the cost and overtake the market. We are beginning to see this same pattern play out with the LWR technologies that allowed the U.S. to reap huge financial benefits and shape global standards for decades. If we are going to succeed in this very lucrative market in the long-term, we have to keep inventing better nuclear technologies that consumers will want—and competitors will want to copy.

The good news is, we’re well positioned to deliver these new technologies. Over 50 companies and organizations in the U.S. are working to commercialize advanced nuclear reactor technologies. From a technical perspective, many of our companies are further along than those in China and Russia, though both countries can overtake us if we fail to play our cards right. The federal government can help U.S. innovators maintain their head start by accelerating nuclear research, development and demonstration and helping to scale up deployment of small modular reactors (SMRs).

SMRs have a number of advantages over today’s large GW nuclear reactors. Because of their size (under 300 MW vs. 1,000 MW for today’s reactors), SMRs can be built in a controlled factory setting and installed module-by-module, enhancing the level of construction quality, increasing efficiency, and lowering cost. Their size, versatility, and passive safety features are also attractive to countries with smaller grids and less experience with nuclear power. Taken together, these features make SMRs more useful and easier to finance.

But to get SMRs ready for export abroad, the U.S. must first demonstrate readiness at home. Vendors have to gain experience with licensing and constructing SMRs so that the U.S. nuclear supply chain remains robust. The U.S. Department of Energy (DOE) is essential to this mission and has supported the development of SMR technology through the SMR Licensing Technical Support (LTS) Program. They are now working with companies to accelerate the licensing and siting process. DOE’s SMR development efforts are making great progress, and they should be continued and expanded to assist with manufacturing, assembly, and operation of SMRs at home and for export. A substantial ramp up of federal funding for SMRs beginning in fiscal year 2018 will ensure that U.S. technologies reach the global market ahead of our competitors and lock-in a significant amount of lucrative long-term contracts.

#### Nations are buying---Poland proves

WNN, 2-14-2022, "NuScale, KGHM agree to deploy SMRs in Poland : New Nuclear," No Publication, <https://www.world-nuclear-news.org/Articles/NuScale,-KGHM-agree-to-deploy-SMRs-in-Poland> /// CROSSINGS BY

**NuScale Power and Polish copper and silver producer KGHM Polska Miedź SA have signed a definitive agreement to initiate work towards deploying a first NuScale VOYGR small modular reactor (SMR) power plant in Poland as early as 2029.**

The first task under the agreement - signed in Washington, DC - will identify and assess potential project sites and develop project planning milestones and cost estimates.

These activities support KGHM as it evaluates NuScale VOYGR plants as a coal repurposing solution for existing power plants, as well as opportunities to deploy VOYGR plants to provide safe, carbon-free, reliable energy for their operations and to support other Polish industrial energy users.

**The new agreement follows the signing of a Memorandum of Understanding (MoU) in September 2021 by NuScale Power, KGHM and business engineering advisory consultancy PBE** to jointly explore the deployment of NuScale's SMR technology as a repowering or repurposing solution for existing coal-fired power plants and electricity and heat for KGHM's industrial processes in Poland.

Under the MoU, NuScale will support KGHM and PBE's examination which will include an analysis of technical, economic, legal, regulatory, financial, and organisational factors.

"**This new commercial agreement marks a significant milestone** in NuScale's progress **towards commercialisation and advancing clean, reliable, and affordable energy** in Poland," NuScale said.

"In the global race to rapidly decrease emissions worldwide, NuScale's technology presents the perfect solution to reach this goal while simultaneously bringing economic prosperity to host countries," said NuScale Chairman and CEO John Hopkins.

### 2NC---Meltdowns CP---Solvency---Meltdowns

#### **It’s safe**

James Conca, 2-8-2021, PHD scientist in Earth and Environmental Sciences, "Small Modular Nuclear Reactors – the future is becoming clearer," forsys\_metals, [https://www.forsysmetals.com/single-post/2018/05/16/small-modular-nuclear-reactors-the-future-is-becoming-clearer //](https://www.forsysmetals.com/single-post/2018/05/16/small-modular-nuclear-reactors-the-future-is-becoming-clearer%20//) CROSSINGS BY

NuScale’s reactor is also America’s best chance to compete in the global SMR market as it gets started and puts the U.S. on a path to beat foreign competitors like Argentina, China, Russia and South Korea who are developing their own SMR designs. Conservative estimates predict between 55 and 75 GW of electricity will come from operating SMRs around the world by 2035, the equivalent of more than 1,000 NuScale Power Modules, and will bring the market up towards a trillion dollars. SMR developers expect modular designs and construction processes will generate economies of series and open up multiple supply opportunities. NuScale has estimated its first plant will cost just under $3 billion to build, giving an overnight capital cost of $5,078/kWe. Mr Conca states “But the real power of SMRs are the fact that they can’t melt down. This is a big deal. It means the reactor just won’t melt down or otherwise cause any of the nightmares people think about when imagining the worse for nuclear power. It just shuts down and cools off. No humans or computers are needed to intervene, no AC or DC power, no pumps, and no additional water for cooling.” The report further states that “A couple of additional features are: 1) no one can hack this reactor and 2) refuelling of this reactor does not require the nuclear plant to shut down. The components of the NuScale reactor can all be manufactured in a factory prior to shipping and assembly at the site, removing a major cost issue with building new nuclear plants. Traditional nuclear reactors are between about 600 and 1,200 MW, but these small power modules are about 50 MW each and 12 of them can be put together to make a power plant up to 600 MW - a 12-pack. These modules use standard 17x17 PWR fuel assemblies, also making them cost-effective, at only half the height, with an average U-235 enrichment of 3.8%. A single NuScale nuclear power module is 76-feet tall and 15-feet in diameter, and would sit in a plant covering less than a tenth of a square mile or about 60 acres. In comparison, it takes at least 130,000 acres, or about 200 square miles, of wind farms to produce the same amount of energy as one NuScale 12-pack is designed to. These innovative designs bring the total life-cycle cost to produce electricity with this SMR to below that of most other energy sources, just slightly above hydro and natural gas. This SMR can also be constructed in about half the time of traditional nuclear plants. In summary SNR’s: Significantly reduced environmental and health risks Reduces capital expenditure Reduces complexity Less development time required Lower power costs Reduced land area required to build The future for nuclear power is looking brighter thanks to the efforts of NuScale and other developers of SNR’s.

### 2NC---Meltdowns CP---Solvency---Warming

#### SMR investments independently solve warming – they’re the only way to successfully decarbonize

James Conca, 2-8-2021, PHD scientist in Earth and Environmental Sciences , "Washington State (U.S.) bill could make it the home for next generation Nuclear," Energy Post, <https://energypost.eu/washington-state-u-s-bill-could-make-it-the-home-for-next-generation-nuclear//> CROSSINGS BY

Nuclear may soon be getting a boost from Washington State in the north-west of the U.S. There, a bill is being presented to promote the manufacture and deployment of new nuclear reactors. It will provide generous tax incentives to nuclear investments in the state. It’s the sort of support that renewable energy technology is used to, yet nuclear struggles to get because of critics of nuclear energy. That opposition is very frustrating, explains James Conca, who quotes the IEA as saying nuclear is the lowest cost low-carbon energy source for the long-term. Washington State is one place that already has low-cost nuclear, so the population should be receptive. Conca points at advanced, small modular reactors already in the pipeline from TerraPower, X-energy, NuScale and Terrestrial Energy. He says the next generation of nuclear plants are almost ready, and Washington State has the nuclear-approved locations, experienced operators and maintenance personnel waiting for their arrival if and when the bill is passed. The Washington State Senate Environment, Energy & Technology Committee drafted a new bill, SB 5244, encouraging the production of advanced nuclear reactors, small modular reactors, and components through the Invest in Washington Act. Expanding nuclear power is important to address both climate change and to stimulate domestic manufacturing of the energy source America originally developed. These include small modular reactors that have a gross power output below 350 MW of electricity, are designed for factory manufacturing and ease of transport, or both, and advanced nuclear reactors having significant improvements over the present nuclear fission reactors, or a reactor employing nuclear fusion. Also included are components of these reactors. Tax incentives The Invest in Washington program provides sales and use tax deferral on the construction and cost of new, renovated, or expanded manufacturing facilities. The program was established to evaluate the effectiveness of a program providing a tax incentive for businesses that invest in manufacturing facilities and equipment and reinvest those tax savings in employee training programs in the State of Washington. There is no interest charged on deferred taxes, and the taxes may be repaid over a ten-year period. These kinds of programs are needed to encourage new energy technologies as they get over the hurdles that usually beset new technologies. **And these nuclear technologies are needed to address global warming and other energy-related challenges in the future. In fact, the world’s top climate scientists, including Dr. James Hansen, Dr. Tom Wigley, Dr. Ken Caldeira and Dr. Kerry Emanuel,** have all urged world leaders and environmental campaigners to **support the expansion of nuclear power as the only way to decarbonise the globe**. Even the Union of Concerned Scientists says we need nuclear to address global warming. Is Nuclear too expensive? No So it’s annoying to keep hearing anti-nuclear folks keep saying nuclear power is too expensive. It isn’t.

## Russia CP

### 1NC---Russia CP---Hotlines

#### ---establish a nuclear de-escalation crisis communication hotline between Russian and US officials.

#### Hotlines solve Russia

Jeremi Suri 18, PhD from Yale, holds the Mack Brown Distinguished Chair for Leadership in Global Affairs at the University of Texas at Austin. He is a professor in the University's Department of History and the Lyndon B. Johnson School of Public Affair. (1-9-2018; “What’s a Nuclear Hotline Good For Anyway;” *Foreign Policy*; https://foreignpolicy.com/2018/01/09/whats-a-nuclear-hotline-good-for-anyway/)

The history of previous nuclear hotlines offers important perspective. Their uses have been infrequent and often quite trivial, but their existence has discouraged rash behavior and encouraged confidence that crises can be managed short of war. Hotlines have facilitated signaling between adversarial states, and they have reduced the likelihood of dangerous miscalculations. They are valuable tools for diplomacy, especially in regions — like the Korean Peninsula — locked in conflict. The Cuban missile crisis inspired the creation of the first nuclear hotline. During the two weeks in October 1962 when the United States and the Soviet Union approached the precipice of thermonuclear war, U.S. President John F. Kennedy and Soviet First Secretary Nikita Khrushchev struggled to control events. Khrushchev famously warned Kennedy: “If we succeeded in finding a way out of a dangerous situation this time, next time we might not safely untie the tightly made knot.” The absence of direct communications between the two leaders tightened the knot as they struggled to understand each other’s motives and actions.The absence of direct communications between the two leaders tightened the knot as they struggled to understand each other’s motives and actions. Technological limitations, security concerns, and hostile Cold War attitudes made a point-to-point telephone line from the White House to the Kremlin impossible at that time. Instead, Kennedy and Khrushchev had to rely on intermediaries, including their ambassadors, who were underinformed and distrusted. They created special “back channels” to open new lines of negotiation, but these were often unreliable. Most significant unplanned events during the crisis, including the shoot-down of an American U-2 aircraft over Cuba, threatened to trigger major miscalculations and escalation. Leaders had long relied on diplomats, spies, and other intermediaries for their communications with adversaries. The difference in 1962 was that the speed and depth of potential destruction in a thermonuclear world reduced the time for deliberation and increased the dangers of miscalculation. Kennedy and Khrushchev felt that they needed to talk with more urgency and sobriety than their predecessors. They began by exchanging letters after the moment of acute crisis had passed. Then, in March 1963, the United States proposed “the establishment of direct and more secure communications” between American and Soviet leaders. On June 20, the two governments signed a memorandum of understanding in Geneva — the first arms control agreement of the Cold War — to create “a direct communications link” and “take the necessary steps to ensure continuous functioning of the link and prompt delivery to its head of government of any communications received by means of the link from the head of government of the other party.” Implementation came quickly, reflecting the eagerness of leaders in both capitals. On July 13, 1963, the first Soviet-American hotline became operational. It consisted of two pairs of Teletype machines, linked by dedicated telegraph wires routed through Europe and under the Atlantic Ocean. The receivers sat in the Pentagon and the Soviet Communist Party Headquarters, where they were continuously manned to receive messages and send them immediately to the White House and Kremlin. The communication between leaders was still textual and indirect, but the time required was reduced from days and hours to minutes, and the possibilities for distortion were minimized. In 1967, the White House added a terminal, connected to the Pentagon receivers, and over the next four decades the technology was updated to include satellite communications, facsimile equipment, and eventually, in 2008, email. The superpowers communicated through the hotline during numerous crises, beginning with the assassination of President Kennedy in November 1963, when Washington assured Moscow of political stability within the United States. The first extended exchange occurred during the 1967 Six-Day War, when American and Soviet leaders reassured one another that they would not intervene directly and would mutually sue for peace in the region. Similar communications during the Indo-Pakistani War of 1971, the Yom Kippur War of 1973, and the Cyprus crisis of 1974 clarified the lines of deterrence in conflicts that could have expanded beyond their regions. Communications during the Soviet invasion of Afghanistan in 1979 and the Polish Solidarity crisis of 1981 were less successful in defusing conflict between Washington and Moscow, but the exchange of messages limited possible miscalculations as Cold War tensions increased. A direct voice link between the White House and Kremlin was possible by the 1990s, and it has largely replaced the textual hotline, although the latter still exists. American presidents now call allies and adversaries frequently, particularly during crises.American presidents now call allies and adversaries frequently, particularly during crises. In the last decade, they have begun to use cell connections in addition to landlines. Mobile technology, coupled with secure long-distance capabilities, facilitates reliable voice communications as never before. For leaders in Washington, the notion of a hotline has become more diffuse — there are many “hotlines.” They remain essential for clarifying motives and actions during terrorist attacks, civil wars, and invasions — as well as a growing list of economic, health, and climactic crises. They also ensure confidential dialogue, free from the public posturing that makes crisis de-escalation difficult. Leaders must trust the sincerity of one another’s words for these connections to be meaningful, but their very existence deepens trust among those who use them.

#### Solves escalation — empirics

W.J. Hennigan 22, U.S. Russia Open Hotline To Avert Clashes, Time, 3-1-2022, https://time.com/6154459/russia-backchannel-ukraine//shppp

Amid rising tensions over the war in Ukraine, the U.S. military has established a communications hotline with Russian forces to prevent an accidental clash between the two nuclear powers, two U.S. defense officials say. The so-called de-confliction line is intended to ensure that the two countries’ pilots or warships do not mistakenly fire upon one another as they conduct daily missions in eastern Europe.

The military-to-military channel, which will run out of U.S. European Command headquartered in Stuttgart, Germany, was set up March 1 after the Russians responded to the Pentagon’s request. Maintaining communications to avoid accidental confrontations between the forces is critical, officials say, so hostilities don’t spiral out of control. “It’s really important that we don’t risk accident or miscalculation,” said a U.S. official, who was not authorized to speak publicly on the matter.

American forces are not fighting inside Ukraine, where Russia has deployed more than 100,000 troops and is carrying out daily bombing runs, but both militaries are now operating near each other along Ukraine’s borders. The U.S. has sent fighter jets to multiple countries on the North Atlantic Treaty Organization’s (NATO) eastern flank for air policing flights in solidarity with the transatlantic alliance. Now that the hotline is in place, it may prevent a collision or an accidental shoot-down in eastern Europe, U.S. officials said.

It is not the first time the two nations have created such a mechanism. The U.S. and Russian military established a back-channel after Russia entered Syria’s multi-sided civil war in 2015. Russia was there to prop up its ally, Syrian President Bashar Assad, while the U.S. flew sorties to bomb ISIS strongholds and deployed special forces for targeted missions on the ground. At the time, the de-confliction line consisted of an insecure phone line and a Google mail account, but it proved useful in avoiding a catastrophic accident.

#### Prevents miscalculation — assumes Ukraine

Guardian 22, Pentagon sets up hotline with Russia to avert Ukraine ‘miscalculation’, 3-4-2022, <https://www.theguardian.com/us-news/2022/mar/04/pentagon-hotline-russia-ukraine-miscalculation/shppp>

Pentagon sets up hotline with Russia to avert Ukraine ‘miscalculation’

The Pentagon has established a new hotline with Russia’s ministry of defense to prevent “miscalculation, military incidents and escalation” in the region as Russia’s invasion of Ukraine advances, a US official told Reuters on Thursday.

The US says it has no troops in Ukraine but it and Nato allies in Europe are worried about potential spillover, including accidents, as Russia stages the largest assault on a European state since the second world war.

The US and its allies are also channeling millions of dollars’ worth of weaponry to Ukraine’s armed forces, which are using the arms against Russian troops, despite Moscow’s warnings against foreign interference.

“The Department of the Defense recently established a de-confliction line with the Russian ministry of defense on March 1 for the purposes of preventing miscalculation, military incidents, and escalation,” a senior US defense official said, speaking on condition of anonymity, confirming a move first reported by NBC.

The US military has successfully created hotlines with Russia in the past, including during the war in Syria, where Moscow intervened on the side of the Syrian president, Bashar al-Assad.

There, the US and Russia were waging parallel military campaigns, with the US focused on battling Islamic State.

The move is just the latest effort to lower soaring tension between the US and Russia, where the Russian president, Vladimir Putin – in a clear warning to the west – announced last weekend he was putting his nuclear forces on high alert.

Putin’s foreign minister, Sergei Lavrov, was quoted on Wednesday warning that a third world war would be a nuclear conflict, remarks that added to growing unease.

The US military said on Wednesday it would postpone a scheduled test launch of a Minuteman III intercontinental ballistic missile.

“We recognize, at this moment of tension, how critical it is that both the United States and Russia bear in mind the risk of miscalculation and take steps to reduce those risks,” the Pentagon spokesman, John Kirby, said on Wednesday, announcing the move.

### 1NC---Russia CP---NFU

#### ---establish a No-First-Use over nuclear weapons with Russia

#### Russia-NATO NFU solves escalation

Zhou Bo 22, ‘No first use’ pledge by US, NATO and Russia can avert nuclear war, South China Morning Post, 04-25-2022, <https://www.scmp.com/comment/opinion/article/3175183/world-needs-no-first-use-pledge-us-nato-and-russia-avoid-nuclear/shppp>. Edited for spelling errors.

World needs ‘no first use’ pledge by US, NATO and Russia to avoid nuclear war

Nuclear weapons look awfully important again. Given Russian President Vladimir Putin’s not-so-thinly veiled warning of a nuclear attack, it is a fool’s errand to talk about nuclear disarmament now. One can imagine that North Korea thinks it is fortunate to have developed nuclear weapons, and one can only guess which would-be nuclear state might crop up next in Asia and the Middle East.

We are stepping into a nuclear jungle where nukes are like low-hanging fruit swaying enticingly. But if “a nuclear war cannot be won and must never be fought”, as the five nuclear powers vowed in a joint statement in January, then one realistic step is that they pledge not to be the first to use or threaten to use nuclear weapons against each other.

This is possible for all nuclear powers as it won’t compromise their effective deterrence. Since it detonated a nuclear device in 1964, China has pledged a policy of “no first use” of nuclear weapons at any time and under any circumstances. It says its nuclear strategies and policies are the most stable, sustainable and predictable among the nuclear powers.

The US Department of Defense announced last month in its Nuclear Posture Review that it “would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners”. Such a view is a step back from US President Joe Biden’s previous position that the sole purpose of the US nuclear arsenal is deterring – and if necessary, retaliating against – a nuclear attack. Such a position is only a stone’s throw from a no first use policy.

The United States can afford to make a no first use commitment more than any other country because it has overwhelming conventional military superiority. One can hardly cite a mission the US could not accomplish with conventional weapons.

The gap between the conventional forces of the People’s Liberation Army and the US military is closing in the western Pacific, but it is difficult to imagine a potential conflict in which the US would have to launch a nuclear strike first against China.

US, China, Russia, Britain and France pledge to only use nuclear weapons for defense

The primary concern over America’s nuclear policy comes from US allies who are worried about their security without the American nuclear umbrella. “Great powers don’t commit suicide for their allies”, as Henry Kissinger is often quoted as saying.

They do not have to worry. Knowing a nuclear strike on any US ally will almost certainly invite a devastating nuclear retaliation, an adversary is unlikely to launch a nuclear strike first. If the US could negotiate a “no first use” agreement with North Korea, it might discourage Pyongyang from further developing nuclear weapons.

Mutual assurance on no first use can serve as the first step in establishing strategic stability between Beijing and Washington. The Pentagon reportedly worries that China could triple its nuclear arsenal to 1,000 nuclear warheads by 2030.

Even if this turns out to be true, China’s nuclear stockpile is still only a fraction of that of the US. To talk about nuclear equilibrium, China would have to drastically increase its number of nuclear weapons or the US would have to reduce its stockpile to China’s level. Neither is possible.

The real challenge is how to get Russia involved. In June 1982, Soviet leader Leonid Brezhnev made the no first use pledge at the United Nations because Moscow was confident about the advantages of its conventional military forces on the battlefield over NATO in Europe. As the Russian conventional military forces deteriorated after the collapse of the Soviet Union in 1989, Russia dropped its pledge in 1993.

If Russia believes its “escalate to de-escalate” strategy has deterred the US from sending troops to intervene in Ukraine, it needs to think again. No matter how formidable nuclear weapons seem, they did not help the US in Vietnam, Iraq or Afghanistan.

They have not helped Moscow in mitigating Ukraine’s strong resistance against Russia’s invasion, either. Instead, Putin’s threat on the possible use of nuclear weapons has severely tarnished the image of Russia. In a 2018 documentary, Putin asked, “why do we need a world without Russia in it?”. The better question is, where would Russia be without the world?

Security in Europe rests on whether Russia and NATO can eventually make a deal. The transatlantic alliance can afford to pledge no first use, even unilaterally, against a Russia which relies on nuclear weapons more than ever. It is hard to imagine why Russia would in any circumstances launch a nuclear strike against a grouping that has 30 member states, including three with nuclear weapons.

China steps up pace in new nuclear arms race with US and Russia

In 2001, Russia and China agreed not to be the first to use nuclear weapons against each other or target strategic nuclear missiles against each other. If a similar agreement could be made between China and the US, then reaching an agreement between the US, NATO and Russia would become easier.

Here is a good lesson to learn. In the wake of the nuclear tests by India and Pakistan in 1998, China and the US came to a joint declaration that they would not target each other with their nuclear weapons to demonstrate solidarity. This led to a joint statement among the five nuclear-weapon states in 2000 that their nuclear weapons are not targeted at each other or at any other states.

## Space Wars CP

### 1NC---Space Wars CP

#### The United States federal government should:

#### -Create a new international Agreement centered around space security

#### -Use certain countermeasures towards kinetic and other attacks

#### A new international agreement would be greatly helpful towards space security

**Moltz 14** (James Clay, Chairman of the Department of National Security Affairs at the Naval Postgraduate school)

At the far end of the options spectrum is the possibility of new international agreements involving larger numbers of actors. These include codes of conduct, conventions (such as the 2007 UN Space Debris Mitigation Guidelines), and formal treaties. Depending on the nature of the agreements, the level of domestic approval required, and the intrusiveness of verification and/or enforcement mechanisms, negotiating these arrangements can be more (or less) difficult. But formal agreements do offer real advantages in terms of reliability, stability, clarity of rules, effectiveness of implementation, and longevity. U.S.-Russian nuclear arms control efforts would have been ineffective without treaties and effective verification. Similarly, worldwide efforts to prohibit and destroy chemical weapons would not have been as successful as they have been without the 1993 Chemical Weapons Convention, its timeline for dismantlement, and its verification mechanisms. Space may have specific threatening activities that could be most effectively addressed by treaties as well. To support such efforts, it may also be beneficial to create an international space monitoring organization to supplement or work alongside existing U.S. military systems. The U.S. Air Force is already working in this direction through its cooperation with allies and even, on a more limited basis, with China, to provide warning of potential collisions involving their spacecraft. But the United States cannot be expected to pay for such an international mechanism. If countries want the benefits of enhanced transparency and the stability it could bring, they are going to have to devote adequate resources to the task, just as the United States has done out of its own national security interests in developing its Joint Space Operations Center. Private companies have also begun to pool resources in the Space Data Association (mentioned in chapter 4). It remains to be seen if the countries that are worried about space weapons tests, orbital debris, and various types of harmful interference will be able to cooperate both politically and financially to support the creation of such a system.

#### There are ways to counter cyber and kinetic attacks

**Bateman 20** (Aaron, former US Air Force Intelligence Officer, published on technology and military strategy, Cold War history, and European security affairs, 7/30/2020, https://warontherocks.com/2020/07/america-can-protect-its-satellites-without-kinetic-space-weapons/)

Non-kinetic weapons are not without limitations. Cyber capabilities are dependent on access. In other words, the operator needs to be able to effectively infiltrate an adversary network. Sophisticated cyber actors like Russia and China recognize that space systems are critical resources in a conflict and will likely take measures to protect their networks associated with space system command and control. Cyber tools do not constitute a one-size-fits-all capability — they must be tailored to the target. As a result, it is unclear whether a cyber operation would be able to negate an adversary space system in a timely manner. If the goal is to permanently destroy an adversary space weapon in orbit, electronic warfare systems might not be deemed sufficient to eliminate the threat. Kinetic space weapons can be unreliable, too. Program 437, for example, had multiple problems with its ability to accurately target adversary satellites. Destroying a satellite requires highly accurate locational data that can be quickly transmitted to the anti-satellite weapon operator. If the targeting information from a space surveillance network is out-of-date because of a minor satellite maneuver, for example, the anti-satellite weapon could miss its target. For countries like Iran and North Korea that have the capability to build rudimentary kinetic anti-satellite systems, their space surveillance networks are likely not robust enough to field an effective weapon. Given the technical challenge involved, it is not clear if even the space surveillance networks of China and Russia can reliably target U.S. satellites or vice versa. While these adversary programs should be monitored, the United States and its allies should not overreact to them. To prevent the arms competition in space from becoming even more dangerous, Washington should work with its allies and adversaries to establish a moratorium on testing kinetic weapons in space. Concerns about verification mechanisms have been the primary impediment to progress on limiting kinetic space weapons. During the Cold War, U.S. officials believed the Soviet Union would be able to effectively conceal ground- and space-based weapons. Debris generated from tests cannot, however, be hidden. Focusing on banning kinetic testing is a feasible and immediate step to be taken. Due to increased awareness about space security issues among U.S. allies, now is the time to collectively develop a framework for preventing these harmful tests that create long-term hazards for both civil and military space operations.

## Tech Leadership CP

### 1NC---Tech Leadership CP---CSIS

#### Text: The United States federal government should implement actions based on the Center for Strategic & International Studies.

#### CP solves — U.S. leadership is only possible through combined action according to the Center for Strategic & International Studies.

CSIS 22 — Center for Strategic & International Studies, a bipartisan, nonprofit policy research organization dedicated to advancing practical ideas to address the world’s greatest challenges, 2022 (“Renewing U.S. Leadership in Standards,” *Center for Strategic & International Studies,* June 13th, Available Online at <https://www.csis.org/analysis/renewing-us-leadership-standards>, Accessed 07-21-2022)

U.S. policymakers must take specific actions with clear policy objectives to preserve a rules-based global standards ecosystem, adhering to and maintain a market- and consumer-driven innovation agenda (rather than one that is state-driven), and technology selection based on consensus and merit.

Various parts of the U.S. administration have recognized the importance of maintaining U.S. leadership in standards that are critical for economic growth and national security:

* Executive action: Last year, for example, the National Security Commission on Artificial Intelligence (NSCAI) released a final report making critical recommendations for maintaining U.S. leadership in AI standards. Various actions by the administration have underlined the importance of maintaining leadership in 5G standards, including the president’s Executive Order on “Promoting Competition in the American Economy” in July 2021.
* Cooperate with allies and strategic partners: The United States should work with its allies and strategic partners to establish and maintain a rules-based ecosystem globally. Currently, this should include greater attention to cooperation on standards issues through the U.S.- EU Trade and Technology Council and the Quad initiative with Australia, India, and Japan.
* Congressional action: Congress can outline key design principles and relevant interagency processes to guide the development and coordination of standards through the reconciliation of the USICA COMPETES In particular, Congress should give NIST a directive to work on a companion of the existing Office of Management and Budget (OMB) directive for tighter linkage between innovation and standards policy and investment. The policy of the United States regarding the role of government in the standards process is outlined in OMB Circular A-119.

Taken together, these actions should contribute to:

* Maintaining a robust intellectual property rights (IPR) regime: To maintain the incentives of U.S. firms to participate in long-term and risky R&D that is required to be an innovation leader and lead in critical standards, protecting the ability of U.S. firms to monetize their IP in international markets is the first step.
* Establishing strong governance principles: Setting out strong governance principles for SDOs based on openness, transparency, consensus, and majority voting will avoid gamesmanship and maintain a rules-based merit-driven ecosystem.
* Maintaining global standards: It is critical that global standards are maintained, both for U.S. firms to maintain a market-driven incentive in investing in standards (due to an economy of scale that would be lost in a bifurcated world where firms are forced to work only on national standards), and for the world to have the best technologies (due to the innovation agenda being set based on the market and not based on a state’s direction).
* Promoting U.S. government interagency and public-private coordination: Such action might entail reinstating and chartering the National Science and Technology Council (NSTC) interagency subcommittee on standards for this purpose, and promoting investments made by the U.S. government that leverage and accelerate private sector commitments to advance U.S. standards leadership—such as those based on tax-incentives, direct investments, and the ability to utilize federal R&D funds towards standards-relevant technologies.
* Investing in standards-based skill sets for U.S. workers: Increasing the United States’ focus and investment for standards literacy in higher education and research should be a critical step in driving home the importance of this work to U.S. global leadership. The United States, via the National Institute of Standards and Technology (NIST), currently provides limited funding, on the order of $400,000 per year for standards education and curriculum advancement in the United States. The United States’ global competitors invest substantially in this capacity. Additionally, the investment by NIST in international relationships for standards and metrology, including education and capacity development, is dwarfed by those investments being made by Europe and Asia, and particularly by China.

### 2NC---Tech Leadership CP---CSIS

#### The U.S. can only be a global leader by increasing investments, developments, and cooperation in technology platforms.

CSIS 22 — Center for Strategic & International Studies, a bipartisan, nonprofit policy research organization dedicated to advancing practical ideas to address the world’s greatest challenges, 2022 (“Renewing U.S. Leadership in Standards,” *Center for Strategic & International Studies,* June 13th, Available Online at <https://www.csis.org/analysis/renewing-us-leadership-standards>, Accessed 07-21-2022)

For the United States to continue to be a global leader in innovation and technology, it should shore up its commercial competitiveness, secure its national security advantages, and sustain its domestic economic growth and job creation potential. While this consideration is not new, the strategic environment within which to realize these objectives has changed in fundamental ways. The United States today confronts a world of geopolitical instability where, moreover, its primacy in science, technology, and innovation is being challenged by other nations seeking to leverage the benefits of this potential for their own commercial advantage and national power.

Indeed, other countries are strengthening their innovation and production ecosystems—from making significant investments in research and development (R&D) to supporting the development of national industrial champions. Importantly, they are also making investments in developing the technology standards that will govern not only the firm and industry cooperation needed to develop new technologies for the global market, but also the technology platforms that consumers around the word must use to work, transact, consume, and communicate. They are also investing in international organizations that help to coordinate and set new worldwide industry standards.

#### Technology standards are key to renew U.S. leadership.

CSIS 22 — Center for Strategic & International Studies, a bipartisan, nonprofit policy research organization dedicated to advancing practical ideas to address the world’s greatest challenges, 2022 (“Renewing U.S. Leadership in Standards,” *Center for Strategic & International Studies,* June 13th, Available Online at <https://www.csis.org/analysis/renewing-us-leadership-standards>, Accessed 07-21-2022)

Defining Standard

A “standard” is a collection of technical specifications, developed by leading engineers from around the world, which promote global coordination of R&D and ensure interoperability. The standards development process makes cutting-edge technology innovations broadly available to billions of consumers and provides the foundation, or the blueprint, for industries, business models, and further innovation that utilizes them.

Defining Standards Development Organizations

“SDOs” are voluntary, industry-led bodies that coordinate the development and publication of these standards. SDO members include both innovative companies that invent new technologies and implementers whose products incorporate standardized technologies. Because SDOs essentially help define the innovation agenda for future technologies, it is critical that technologies adopted into a standard reflect broad consensus on technological merit.

In this competition, the United States must renew its leadership of a rules-based global standards system—one that is founded on a market-driven process that rewards technological excellence in the development of new technologies—from 5G to artificial intelligence (AI).

## Ukraine CP

### 1NC---Ukraine

#### The United States federal government should:

#### Declare that Ukraine will not be admitted to NATO

#### Remove their offensive nuclear missiles from Russia's borders

#### Withdraw nuclear missiles from countries adjoining Russia

#### Give Russia an explicit plan on what they can do to reduce tensions

#### The Ukraine crisis can be ended tomorrow

Freeman 22[Robert, Freeman is Founder and Executive Director of The Global Uplift Project which builds small-scale infrastructure projects in the developing world to improve humanity’s capacity for self-development. Robert taught economics and history at Los Altos High School where he also coached the Speech and Debate team, including producing a national champion in 2006., “How the US Could Solve the Ukraine Crisis Tomorrow”, 3/7/22, <https://www.commondreams.org/views/2022/03/07/how-us-could-solve-ukraine-crisis-tomorrow>]

If the U.S. is sincerely interested in a peaceful resolution of the crisis—and for argument's sake, let's assume that it is—it can attain that end with two simple moves: declare that Ukraine will not be admitted into NATO; and remove its offensive nuclear missiles from Russia's borders.

Since Ukraine is not a matter of strategic interest to the U.S., this would come at little cost to the U.S. but will yield vastly disproportional gains to the situation by facilitating immediate de-escalation.   Both the U.S. and NATO have stated informally that Ukraine will not be admitted anyway, so nothing, save, perhaps a little face, is lost.  It would allow Russia to withdraw with something to be said for its efforts.

As for the second plank of the solution—withdrawal of U.S. nuclear missiles from countries adjoining Russia—the U.S. understands better than any nation on earth the value of having offensive nuclear missiles removed from its borders. It knows, from first-hand experience, better than any nation in the world, how to defuse this crisis.

This is the concept of "strategic empathy:" understanding your adversary's interests and motivations, not to give in to them, but to better attain your own ends. As Walt, Kennan, and other analysts have said, Russia feels aggressed upon, threatened, and out of peaceful options. If the U.S.'s ends are peace, the means are at hand to achieve it, and with no loss of strategic position.

If the U.S.'s interests are not peace, that will be revealed equally as clearly, equally as quickly. Yes, there will be necessary negotiations about withdrawal, reparations, and other such wind-downs, but those pale next to the threat of unintended escalation to what could very easily end up as nuclear war.

The stakes are huge. Simple, workable solutions are at hand. The costs are small. The alternatives are unfathomable. If the U.S. wants peace, it can have it tomorrow.

#### The U.S. can convince Putin to end the war

Beauchamp 22 [Zack, senior correspondent at Vox, where he covers global politics and ideology, and a host of Worldly, Vox's podcast on foreign policy and international relations., “How the US and its allies can help Ukraine without starting World War III”, 3/3/2022, <https://www.vox.com/policy-and-politics/22958725/ukraine-russia-us-nato-sanctions-military-aid-protest>]

While the current Western approach has been good at raising the costs of Putin’s invasion, it’s less obvious exactly how it’s supposed to end it.

One common misconception about sanctions, in particular, is that they work by brute force: that the target country suffers so much economic pain that they unilaterally give up on the policy the sanctioner dislikes. In actuality, sanctions more typically work when used as a negotiating tool — serving as a stick, accompanied by diplomatic carrots.

The Iranian nuclear program sanctions are a good example.

For years prior to the 2015 deal, the US and its allies had imposed harsh sanctions on Iran as punishment for its nuclear program — but Iran had refused to unilaterally cease its efforts. It took serious negotiations, and a whole raft of complex provisions in a final deal, for the US to convince Iran to accept limits on its nuclear program in exchange for sanctions relief. When Trump tore up the Iran deal, and returned to sanctions absent serious negotiations, Iran [returned right back to nuclear development](https://www.armscontrol.org/act/2021-12/news/irans-nuclear-growth-puts-deal-risk#:~:text=In%20January%202021%2C%20Iran%20began,%2C%20January%2FFebruary%202021.)).

In the Ukraine context, the US and its allies have not publicly laid out a plan for any kind of negotiated Russian climbdown. It’s not even clear that they have one: [Politico’s Alex Ward](https://www.politico.com/newsletters/national-security-daily/2022/03/01/tell-us-how-the-ukraine-war-ends-00012878)spoke to several US and European officials and found that only one even had a “clear-ish plan” for deescalating the sanctions.

Unless they’ve been considerably clearer in their communications with Russia, this vagueness makes the entire US strategy less effective — at least if the aim is to arrive at some kind of political settlement that ends the war short of regime change in Kyiv.

“If the goal is to compel, then the sanctioners need to be explicit about what Russia can do to get the sanctions lifted,” Dan Drezner, a political scientist at Tufts University who studies sanctions, [writes in the Washington Post](https://www.washingtonpost.com/outlook/2022/03/01/what-is-plan-behind-sanctioning-russia/). “Lack of clarity undermines coercive bargaining, because the targeted actor believes that sanctions will stay in place no matter what they do.”

There are several ways to go about this. Charap proposes trading relief of the central bank sanctions for a ceasefire, at least temporarily. More broadly, the West and Ukraine could pair sanctions relief with some diplomatic concessions — reassurance that US troops will never be stationed in Ukraine, for example — as part of a broader peace package.

### 2NC---Solvency---Ukraine

#### Neutral Ukraine will solve war

Falk 22 [Thomas, Thomas O. Falk is a journalist and political commentator. He has covered politics for The Spectator, The Diplomat, GB News, Haaretz, South China Morning Post and others, “Ukraine: What does neutrality mean, and could it lead to peace?”, 3/15/22, https://www.aljazeera.com/news/2022/3/15/ukraine-what-does-neutrality-mean-and-could-it-lead-to-peace]

“Russia does not have the desire or capacity to fully occupy the country. Neutrality is a panacea to solving the current crisis, and Finland is the model that provides a reasonable path ahead,” Moustakis said.

However, questions remain about what neutrality would mean to Ukraine, Katharine AM Wright, senior lecturer in international politics at Newcastle University, told Al Jazeera.

“For any conditions made by [Ukraine President Volodymyr] Zelenskyy to be realistic, they will need to have the buy-in of Ukrainians who have lived in the shadow of an increasingly aggressive neighbour for a long time and have now seen their worst fears come to fruition,” she said.

“A neutral Ukraine would no longer be a NATO partner, although other neutral states, notably Finland and Sweden, are NATO partners. Such a pathway to NATO membership, however unlikely it is to be fulfilled, will be a red line for Putin who views Ukraine differently.

“For Putin, Ukraine is part of an imagined ‘Russian World’ or community built on the markers of the Russian language, culture and a ‘common glorious past’ in a way Finland and Sweden are not, and this has been a driving motivation behind the decision to invade Ukraine,” Wright said.

The most pressing issue now is whether neutrality could deliver peace.

“A neutral Ukraine would need to seek security ties outside of NATO to prevent a recurrence of an invasion, given Russia is the aggressor this would need to come from them, but Ukraine would likely look to other members of the UN Security Council [China, France, UK, US] to help uphold this,” Wright noted.

Overall, experts seem to agree that neutrality is the way forward.

“It would go a long way towards solving it. In his ideal world, Putin may have dreamed of a Ukraine united with Russia in a single overarching state form, but events of the last weeks have shown that is a highly unlikely outcome,” said Graham Gill, professor emeritus at the University of Sydney.

He told Al Jazeera that “while there is still a substantial pro-Russian sentiment in some parts of the country, the invasion has soured many Ukrainians’ views of the Russians”.

He added: “Putin will hopefully realise unification is not on the cards. At least in the short term, a Ukrainian government that enjoys wide authority in the country is unlikely to be pro-Russian in outlook. Neutrality may then appear more attractive.”

At the start of the crisis, Putin has demanded that NATO guarantee non-membership for Ukraine and sought the withdrawal of NATO forces away from the Russian border.

“These were rejected out of hand by NATO and US leaders,” Gill said. “Had those negotiations been undertaken realistically, the conflict may have been avoided. Unfortunately, I doubt either NATO or the US will draw that conclusion because to do so would be to admit some responsibility for the conflict.”

Wright concurred, saying that a neutral Ukraine is “likely to be key to a peaceful resolution of the current conflict and to bring an end to the Russian invasion”.

However, the resolution of this conflict will rely on significant concessions on both sides, and Putin as the aggressor will want to withdraw his forces without losing face.

The idea of neutrality is likely to be a central part of any negotiations.

“The key message of the war in Ukraine is that every state should rely purely on its own forces for deterrence … In order to maintain peace and stability, it is sometimes necessary to surrender some of your ideals,” Moustakis said.

He added that in the end, “neutrality is not only realistic but also reasonable and pragmatic”.

## Warming CP

### 1NC---Warming CP

#### ---make a big machine that sucks carbon.

#### The carbon vacuum!

Lauren Sommer 22, Vacuuming carbon from the air could help stop climate change. Not everyone agrees, NPR.org, 5-2-2022, https://www.npr.org/2022/05/02/1095097566/carbon-dioxide-removal-climate-emissions/shppp

The world has moved so slowly over the last 40 years to rein in greenhouse gases that scientists are now finding that cutting the use of fossil fuels alone may not be enough to stave off the worst effects of climate change. The world is on track for increasingly destructive heat waves, floods and storms. That means heat-trapping gases may also need to be pulled out of the atmosphere.

It's known as "carbon dioxide removal." In the latest international climate assessment, scientists found that using it will be "unavoidable" if countries are going to meet their pledges to keep average global temperatures from rising to ever-harmful levels.

Diagram

Description automatically generated with medium confidence

Much of the technology to soak up carbon is still in its infancy. Some techniques can have significant impacts on the land. Some climate activists argue it's a risky distraction and that it would give the fossil fuel industry a free pass to keep operating.

Still, scientists running the numbers say the world has reached a point where every possible strategy is needed. Global emissions are still going the wrong direction. In 2021, they reached the highest level ever.

Why scientists say carbon removal is needed

To stave off extreme climate change impacts that could displace millions of people, scientific data shows that greenhouse gas emissions need to fall fast. Emissions need to drop 43% by 2030 and then fall to net-zero by midcentury, in order to limit warming to 1.5 degrees Celsius (2.7 degrees Fahrenheit).

Some solutions to cut emissions, like using renewable energy, are already widespread and cost-effective. But some emissions will be trickier to tackle. Farming produces emissions both from disturbing the soil and from the use of fertilizers, which provide food for soil microbes that release heat-trapping gases. The technology to create aircraft and oceangoing shipping vessels that don't produce emissions is still experimental. Some industrial processes, like steelmaking, require fuels that create extremely high heat.

How does carbon removal work?

Simply put, the idea is to absorb carbon dioxide emissions that have already accumulated in the atmosphere. Then, those emissions would be locked away in some kind of permanent storage, generally in underground geologic formations, so they don't escape to create more warming down the road. But despite carbon dioxide's power to heat the planet, it's very diffuse, making up less than 1% of the atmosphere. That makes it tricky to capture from the air in large quantities.

Option 1: Use nature to absorb carbon emissions

Nature is the most powerful carbon sponge around us. Plants take up carbon dioxide through the process of photosynthesis, locking it away in their tissues, making the world's forests, grasslands, soils and wetlands huge reservoirs of carbon. Building up these natural reserves could help slow warming, whether through planting forests, restoring wetlands and mangroves or encouraging agricultural practices that store carbon in the soil. This method is by far the cheapest so far. However, those ecosystems must be protected from development. If the plants and ecosystem are lost, the carbon escapes back into the atmosphere.

Option 2: Use leftover plants to make energy and capture the emissions

Plants are already used to make electricity in biomass power plants, which means that while that plant material trapped carbon, the carbon is released in the process of generating energy. A handful of biomass power plants are working on capturing those carbon emissions and then storing them in underground geologic formations. It's known as "bioenergy with carbon capture and storage."

The biomass used is often leftover material, like waste from agricultural crops, forest harvests or food waste, or it can come from crops grown specifically for that purpose. This strategy has the added benefit of producing electricity at the same time. But scaling it up could require more land, putting pressure on wild ecosystems that also store carbon and provide habitat for wildlife. It would take an estimated 115,000 to 166,000 square miles of land, as large as California, to grow the biomass needed to pull 1 billion tons of carbon dioxide out of the air.

Option 3: Pull it out of the air with big machines

Last year, the largest carbon removal project of its kind started up in Iceland. The Orca plant, run by the Swiss company Climeworks, is essentially a carbon vacuum. Fans pull in air, the carbon is captured by a special material and then it's pumped underground into geologic formations where it mineralizes, remaining trapped.

Other "direct air capture" plants, as they're known, are in development in the U.S. But most are still pilot projects. The technology is expensive and requires a lot of energy. One analysis shows that capturing a ton of carbon this way takes almost as much energy as burning 100 gallons of gasoline, which produces a ton of carbon. If the energy used isn't renewable, it would add more heat-trapping gases to the atmosphere.

# Aff

## AT: AI CP

### AT: AI CP---American AI Initiative

#### CP can’t solve — 7 problems with the American AI Initiative.

Schwab 19 — Katharine Schwab, Deputy editor of fast company’s technology section, 2019 (“7 problems with Trump’s ‘American AI’ Initiative,” *Fast Company*, February 12th, Available Online at <https://www.fastcompany.com/90305421/7-problems-with-trumps-american-ai-initiative>, Accessed 07-23-2022)

MORE RESOURCES FOR AI PROJECTS COULD BE GOOD–BUT ONLY IF IT’S DONE IN A RESPONSIBLE WAY

One element of Trump’s initiative calls for federal agencies to open up federal data, algorithms, and computing power to AI experts in industry and academia.

For Janelle Shane, research scientist and creator of the AI Weirdness blog, that could be a good thing. “Giving researchers more resources? That’s a nice thing especially if it gets released to students working in the area, or people who have a smallish project they want to try,” she commented. “I’ve seen a lot of people, hobbyists, artists, or students who have projects they want to do and they can only make some progress because they don’t have the computing power, or they sign up for cloud computing service, and didn’t realize how expensive it is.”

But for Nikki Stevens, a researcher at Arizona State University who studies software engineering ethics, opening up datasets for use can have negative consequences.

“I’m concerned about giving researchers access to federal datasets and algorithms,” she says. “We know that datasets and algorithms can be biased, so offering these up uncritically for AI research will perpetuate that bias.”

ETHICAL STANDARDS ARE AN EMPTY GESTURE

A key element of Trump’s proposal includes setting technical standards for AI development and use to ensure that the technology is “reliable, robust, trustworthy, secure, portable, and interoperable.” While the executive order doesn’t use the word ethics specifically, standards that ensure the trustworthiness and security of technology are clearly related to and influenced by ethical considerations. But as Stevens says, that doesn’t mean much:

“The inclusion of ethical standards as a main priority is an important, but empty, gesture. Government bodies that have a history of disregard for citizens’ rights are not the best choice for drafting ethical codes. I would look for this initiative to include a racially diverse group of academics, religious, and community leaders. I would especially hope that the administration would include members of groups that are most impacted by unjust AI: African American, Indigenous, disabled, and immigrant communities.

Instead, Morgan Klaus Scheuerman, a researcher at University of Colorado Boulder who studies gender recognition algorithms, believes that the government should work toward actual policies to hold agencies accountable for their AI development, not just technical guidelines:

The current proposed guidelines of reliable, robust, trustworthy, secure, portable, and interoperable AI systems certainly address some of the expected functionality of AI systems, but concretely legislating the way these systems can be used against citizens should also be a priority for policymakers. We should also be focused on the social and ethical standards we expect from research and development. Right now, academic researchers are self-regulating by following a still rather fuzzy set of guidelines in the FAT (Fairness, Accountability, Transparency) Framework. However, these are very hard to implement in practice, and the standards for implementation vary wildly. Thus, I hope setting AI governance standards includes the creation of legal policies, not just technical standards.

ITS APPROACH TO AI ETHICS IS ALL WRONG

Another element of the technical standard proposal is “Setting AI Governance Standards,” including “Federal agencies will foster public trust in AI systems by establishing guidance for AI development and use across different types of technology and industrial sectors.” In the same section, the order states that the National Institute of Standards and Technology (NIST), a government agency, will “lead the development of appropriate technical standards for reliable, robust, trustworthy, secure, portable, and interoperable AI systems.”

But for Os Keyes, University of Washington researcher who focuses on the impact of data science and AI on trans people, that’s a big problem:

“For an organization to produce ethical guidelines or ethical regulations, it needs two things: first expertise, and second, a degree of independence and power from organizations that have their own interests in what algorithmic systems that they’re allowed to make. In terms of ethics expertise, NIST really doesn’t have any. They’ve been engaged in [testing and evaluating] AI systems, like facial recognition, for literally decades. But their work rarely considers the ethical considerations of what’s being done. I’ve never seen any indication they have ethicists on staff or any indication they intend to have one.

“NIST isn’t independent…. They’re funded [in part] by the FBI. NIST isn’t just a government standards organization–it’s part of the Department of Commerce. Its job is to create standards with an eye to how they can enable the American free market and U.S. companies to flourish.

“So in the case of AI, what people are worried about is two things: the first is that it will enable an authoritarian government dystopia, and the second is it will enable a corporate surveillance and monetization dystopia. To give the job of preventing those things to NIST is to give it to an organization which takes funding from government law enforcement agencies that promote control and authoritarianism, and an organization whose remit is to promote and boost the degree to which monetization happens and to which corporate entities and private sector concerns play a role in American society.

“I think the result is going to be something that won’t constrain government from doing whatever it wants… and it’s not going to constrain other entities from doing whatever they want.”

After this story was published, NIST clarified that it “collaborates with other agencies and receives some funding from them for specific programs and projects but is independent of those agencies.” The executive order explicitly charges NIST with working on technical standards and not matters of ethics or morality. Of course, the way AI works technically is fundamentally tied to questions of ethics, given that these algorithms often use biased datasets.

WHO DETERMINES WHAT AMERICA’S “VALUES AND INTERESTS” ARE?

Trump’s plan also advances the idea that AI research should be a global project, with different countries cooperating to advance the good of everyone. But there’s a caveat: The initiative’s announcement states that the president is open to this international cooperation so long as development is “consistent with our Nation’s values and interests.” For Shane, that raises a serious question:

“There’s already tension now between AI researchers in industry or academia working on projects that may or may not be used for defense, or surveillance, or used to target civilians with drones from above. When we see things about American values and interests, under ‘international outreach,’ the concern is: Who gets to determine what those are? Will it be done in away that represents all Americans, and not just some subset of them? Will it be done in a way that researchers will be happy to work on these problems and won’t be conflicted about how their research might be used?“

WE SHOULDN’T APPROACH AUTOMATION WITH FEAR

Another element of Trump’s American AI Initiative tackles retraining the U.S. population as jobs are automated. But Stevens points out that the way Trump frames his solution–educational programs and training sessions–is ultimately harmful:

“The approach to [automation] is fear-based. Framing AI as a technology that will take people’s jobs is a disempowering and deterministic narrative. As [the government] moves to operationalize this, they have the freedom to position this instead as ‘how do we limit AI to protect citizen jobs’ rather than assuming that vast swaths of the working population will be displaced.”

JUST BECAUSE SOMETHING CAN BE AUTOMATED DOESN’T MEAN IT SHOULD BE

The last element of the initiative states that federal agencies will prioritize investment into AI technologies in their R&D budgets. But Keyes sees this directive as ultimately detrimental:

“It worries me to hear the federal government, which controls housing, medical care for a large number of Native Americans, law enforcement regulation, and boring stuff like highway standards, but also important stuff like Social Security payments, say that their priority in this kind of research is removing human factors and humanity from how decisions are made.

“You’re going to get a replication of a lot of the ethical issues we’ve seen with AI, and you’re going to get this attitude that if something exists or could be replaced with an algorithm, that means that it should be. That’s dangerous to me because, amongst other things, that’s often not the case. And it’s something where doing it leads to terrifying errors.

“If you say that Housing and Human Services should have its budget prioritize AI investments, they [could] come up with an algorithm to determine where houses should be built or who should get houses that replaces human beings. You get two problems: the factors that this algorithm can factor in are fundamentally things that can be quantified, which will constrain and change how those decisions are made. And the second thing is that we’re told [AI is] so much faster, it can make a million decisions in an hour. But even if it’s only wrong 1% of the time, with a million decisions, that’s 10k errors that need to be appealed somewhere and addressed and handled.”

IMMIGRATION HAS TO BE PART OF THE AI CONVERSATION

Finally, one of the biggest problems with the American AI Initiative is what it doesn’t address. For Shane, keeping America at the cutting edge of AI is dependent on immigration policy, and convincing the world’s brightest minds to come and stay in the country:

“If you talk to people who are actually in the field doing this research, one of the major things they say is that the U.S. needs to do better on immigration policies and not make things so miserable to come over here and study, or stay here and work. In recent years our immigration policies have become so hostile to these students, it’s turning people away from studying in the U.S. or coming to the U.S. for conferences. Conferences moving to different countries. This executive order doesn’t address that. It’s not surprising but that would be an essential part of any meaningful move to make the U.S. more of a leader in AI or in any science area.”

### AT: AI CP---NIST

#### CP is unethical — NIST doesn’t have ethical approaches to standards.

Schwab 19 — Katharine Schwab, Deputy editor of fast company’s technology section, 2019 (“7 problems with Trump’s ‘American AI’ Initiative,” *Fast Company*, February 12th, Available Online at <https://www.fastcompany.com/90305421/7-problems-with-trumps-american-ai-initiative>, Accessed 07-23-2022)

ITS APPROACH TO AI ETHICS IS ALL WRONG

Another element of the technical standard proposal is “Setting AI Governance Standards,” including “Federal agencies will foster public trust in AI systems by establishing guidance for AI development and use across different types of technology and industrial sectors.” In the same section, the order states that the National Institute of Standards and Technology (NIST), a government agency, will “lead the development of appropriate technical standards for reliable, robust, trustworthy, secure, portable, and interoperable AI systems.”

But for Os Keyes, University of Washington researcher who focuses on the impact of data science and AI on trans people, that’s a big problem:

“For an organization to produce ethical guidelines or ethical regulations, it needs two things: first expertise, and second, a degree of independence and power from organizations that have their own interests in what algorithmic systems that they’re allowed to make. In terms of ethics expertise, NIST really doesn’t have any. They’ve been engaged in [testing and evaluating] AI systems, like facial recognition, for literally decades. But their work rarely considers the ethical considerations of what’s being done. I’ve never seen any indication they have ethicists on staff or any indication they intend to have one.

“NIST isn’t independent…. They’re funded [in part] by the FBI. NIST isn’t just a government standards organization–it’s part of the Department of Commerce. Its job is to create standards with an eye to how they can enable the American free market and U.S. companies to flourish.

“So in the case of AI, what people are worried about is two things: the first is that it will enable an authoritarian government dystopia, and the second is it will enable a corporate surveillance and monetization dystopia. To give the job of preventing those things to NIST is to give it to an organization which takes funding from government law enforcement agencies that promote control and authoritarianism, and an organization whose remit is to promote and boost the degree to which monetization happens and to which corporate entities and private sector concerns play a role in American society.

“I think the result is going to be something that won’t constrain government from doing whatever it wants… and it’s not going to constrain other entities from doing whatever they want.”

After this story was published, NIST clarified that it “collaborates with other agencies and receives some funding from them for specific programs and projects but is independent of those agencies.” The executive order explicitly charges NIST with working on technical standards and not matters of ethics or morality. Of course, the way AI works technically is fundamentally tied to questions of ethics, given that these algorithms often use biased datasets.

### AT: AI CP---R&D Spending

#### Increasing R&D in all aspects is bad.

Heney 20 — Paul Heney, writer for R&D world, 2020 (“Current R&D challenges,” *R&D World*, May 1st, Available Online at <https://www.rdworldonline.com/current-rd-challenges/>, Accessed 07-23-2022)

Technology growth in the R&D environment appears to be continuous and without much letup or increase in the rate of change. According to the respondents to R&D World magazine’s 2020 Global R&D Funding Forecast reader survey, performed in September 2019, most researchers have seen significant technology changes over the past year (September 2018 to September 2019). 89% of the survey respondents experienced technology growth in their industry, while only 6% saw a slowdown in their industry’s technology growth. The rate of technology change is likely accelerating, but the acceleration rate is remaining close to the same each year we collect data for our R&D Funding Forecasts.

To collect data on the trends in R&D performance for this report, the editors of R&D World magazine create and deploy annual electronic reader surveys. Responses for last year’s 2019 R&D Funding Forecast resembled survey results collected for this report — within 1% of each other. To create these reports, three surveys are deployed annually, generally with about two to three weeks separating them. Each survey has about twenty distinctive questions. For the 2020 Funding Forecast, the editors received more than 2,100 responses, which is definitely statistically significant, and the results are considered reliable.

A review of the responses from R&D World magazine’s reader surveys reveals respondents’ over-riding concerns with costs. Operating costs, capital costs, materials costs, production costs, staffing costs — but always costs. It is clear that reliable cost prediction and reduction are both important. If an R&D project is late, costs will be larger as well.

A classic, but extreme, example concerns one of the largest R&D projects ever created — the James Webb Space Telescope (JWST) being developed by NASA, the European Space Agency (ESA) and the Canadian Space Agency (CSA). Originally designed as the Next Generation Space Telescope in 1996 and as a replacement for the NASA/ESA developed Hubble Space Telescope, the JWST was originally scheduled to launch in 2007. JWST is billed as one of the most technically complex satellites ever and will be situated at the Earth’s Lagrangian point (L2) 1.5 million miles from its surface. Following 14 years of multiple technical delays, the telescope now is scheduled to launch in March 2021 following a 2018 official project review. It’s estimated final cost is now close to $10 billion, 25 times more than its original estimate.

Other R&D challenges brought out by R&D World magazine’s surveys include: funding sources, the rapid pace of technological change, new technologies and sociological issues, technical staffing shortages, aging infrastructures, inflation and its effects on increasing costs, global competition, economic disruptions and corporate pressures to improve performance.

R&D managers say it is more difficult to find skilled R&D staff than it was even 12 months ago. In 2019, about 65% of survey respondents found it difficult to find skilled R&D staff. In 2020, that figure has risen to 71%. Part of the issue is that the overall U.S. unemployment rate in August 2018 was 3.9%. In August 2019, when the latest Funding Forecast survey deployed, the unemployment rate had dropped to 3.5%, where it still remains and is forecast to continue for the foreseeable future.

Part of the staffing shortage relief in the past for R&D managers was the ability to hire skilled immigrants. MS and PhD-qualified personnel could be hired on as interns in many high-technology positions, especially in U.S. government labs. That option has been diminished on several fronts, as immigration laws have become more restrictive, especially for selective countries in the Middle East and South East Asia.

And while the rules are increasingly restrictive on who can enter the U.S., the actual process for those immigrants has become more complex and time-consuming. The overall approval process has lengthened from several months to now often more than a year. The complexity of it all discourages potential immigrants, some of whom decide not to pursue a position in the U.S. and either apply to enter another country or just stay where they are.

In particular, many Asian students studying in U.S. universities have historically found positions within the U.S. This scenario has also changed. Many now retrun to their homeland following graduation where they are well received. Additionally, foreign students increasingly find that their own country’s academic institutions have improved substantially over the past five to ten years to a point where they are now competitive with U.S. academic institutions. And there are jobs for them at home when they finish.

Chinese academia is also actively recruiting professor-level teachers and researchers from U.S. academic institutions along with substantial incentives to move. In China, these U.S. professionals can teach, perform research (with much less work to get funded than in the U.S.) and become more and faster recognized for their scientific accomplishments.

Net, U.S. R&D managers have an increasingly smaller skilled R&D worker pool to draw from than they have in the past. The forecast also is not dramatically positive for the foreseeable future.

These statistical trends also show up in the expectations that U.S. research managers see in their immediate R&D plans. The overall U.S. economy has been surprisingly strong for more than 10 years and is expected to continue expanding into 2020. This expansion contrasts with the rest of the world where economic growth is slowing and even stalling. China’s automotive sector, for example, has shrunk over the past six months with some Chinese companies, including automotive dealerships, now threatened with closure because of reduced demand. Foreign automotive companies in China, such as General Motors and Ford Motor Co., are not immune to these events and their sales as well have declined.

The continuing U.S.-China trade disputes throughout 2019 has only exacerbated this situation with little “light seen at the end of the tunnel.” And a smaller or shrinking economy also has the effect of smaller or shrinking R&D budgets as well.

Nevertheless, with a growing U.S. economy and despite the specter of a shrinking U.S. job force, R&D managers continue to be optimistic. They expect to grow their R&D staffs in 2020. In 2019, about 45% of the survey respondents expected to add personnel while 10% expected to make cuts. But 50% of R&D managers now expect to increase their R&D staffs in 2020 while less than 8% expect to cut them.

One of the 2020 Global R&D Funding Forecast survey questions queried researchers about the difficulty of creating a 2020 R&D budget. Some 52% of the respondents said budgeting was more difficult in 2020 than in 2017. Only 13% of respondents felt budgeting was easier now than three years ago. We found the same sentiment in responses submitted in last year’s (2019) R&D Funding Forecast.

The factors making R&D budgets more difficult to create than in the past include accounting for expected R&D staffing shortages which, as noted earlier, is likely to be slightly more severe in 2020 than it was in 2019. Continuing high technology advances also complicate the creation of budgets. Artificial intelligence technologies continue to be more complex, as do autonomous implementations. This is especially true in the automotive industry and in other transportation modes, include aircraft. Autonomous aircraft, however, are even further down the road than driverless automotive and trucking systems. Interestingly, there has been no discussion of AI-assisted R&D budget creation in the literature but likely could be a future topic.

Further complicating the creation of R&D budgets for 2020 is the continuing slowdown of the overall global economy. The International Monetary Fund’s (IMF’s) October global economic forecast pegs the U.S. economy to grow by about 2.2%, slower than 2018’s 2.5% growth. This deacceleration creates more caution in committing to numerous R&D investments.

## AT: Animal Biotech CP

### AT: Animal Biotech CP

#### Animal Biotech causes animal abuse — that’s net worse and illegal.

Lowe 16 — Derek Lowe, worked for several major pharmaceutical companies, holds a PhD from Duke in organic chemistry, 2016 (“Trouble at Santa Cruz Biotechnology,” *Science . Org*, May 23rd, Available Online at https://www.science.org/content/blog-post/trouble-santa-cruz-biotechnology, Accessed 07-23-2022)

The commercial antibody market is already a mess, although that's not a new development, but it's gotten messier. Santa Cruz Biotech, one of the big suppliers, is getting out of a big part of the business. Actually, "being forced out of the business through their own actions" is probably a better description. The company has been hit with a $3.5 million dollar fine over its treatment of its goats and rabbits, and has to give up its license under the Animal Welfare Act. That means they can continue with mice, rats, and chickens, but the rabbit and goat antibody production is now shut down.

The USDA had found evidence of mistreatment at the company's facilities in California, and (in a bizarre development) also found an entire goat facility that the company had not been reporting. The current settlement includes the "neither admits nor denies" language about the company's culpability, but you don't give up a big piece of your business and agree to the largest animal-welfare fine in USDA history if you think you have a good case. You also don't suddenly cause 4,000 animals to vanish right before an inspection, which is what apparently happened a few months ago

Using animals in biopharma research is still unavoidable (go find another way to make antibodies, for example). It's true that monoclonal antibodies are produced in cell culture, but that process still begins by injecting a mouse. Meanwhile, polyclonal antibodies, of the sort that Santa Cruz was producing, use animals directly for production. You inject a mouse, or a rabbit, or a goat (or what have you) with your antigen of choice, let their immune system reaction to it, and draw blood to harvest the resulting antibodies. Animal care and use committees come in because all of these steps can be run humanely, or not so humanely. In addition to basic standards for keeping lab animals, there are regulations about how strongly you can challenge their immune systems, how often you can draw blood (and how much), and so on, and Santa Cruz appears to have been accused of violations up and down the list.

As human beings, we have a responsibility to treat our research animals as befits a species that can understand the consequences of its own actions. Losing Santa Cruz Biotechnology's rabbit and goat production is going to disrupt the work of a number of research labs around the world, and not in that hot, happenin' Silicon Valley sense of the word. But it still sounds like a fair trade. There's enough pain and suffering in this world already - creating more of it just because you can't be bothered is not an acceptable way for human beings to act, not towards animals and not towards other humans.

## AT: Baltic War CP

### AT: Suwalki CP

#### NATO action in the Baltics angers Russia---Previous Western action proves

Carpenter 22, Ted Galen, senior fellow in defense and foreign policy studies at the Cato Institute, is the author of 12 books on international affairs, 2-28-2022, "Many predicted Nato expansion would lead to war. Those warnings were ignored," <https://www.theguardian.com/commentisfree/2022/feb/28/nato-expansion-war-russia-ukraine> //BigSasher

The following year, the Kremlin demonstrated that its discontent with Nato’s continuing incursions into Russia’s security zone had moved beyond verbal objections. Moscow exploited a foolish provocation by Georgia’s pro‐​western government to launch a military offensive that brought Russian troops to the outskirts of the capital. Thereafter, Russia permanently detached two secessionist‐​minded Georgian regions and put them under effective Russian control.

Western (especially US) leaders continued to blow through red warning light after a red warning light, however. The Obama administration’s shockingly arrogant meddling in Ukraine’s internal political affairs in 2013 and 2014 to help demonstrators overthrow Ukraine’s elected, pro‐​Russia president was the single most brazen provocation, and it caused tensions to spike. Moscow immediately responded by seizing and annexing Crimea, and a new cold war was underway with a vengeance.

Could the Ukraine crisis have been avoided?

Events during the past few months constituted the last chance to avoid a hot war in eastern Europe. Putin demanded that Nato provide guarantees on several security issues. Specifically, the Kremlin wanted binding assurances that the alliance would reduce the scope of its growing military presence in eastern Europe and would never offer membership to Ukraine. He backed up those demands with a massive military buildup on Ukraine’s borders.

The Biden administration’s response to Russia’s quest for meaningful western concessions and security guarantees was tepid and evasive. Putin then clearly decided to escalate matters. Washington’s attempt to make Ukraine a Nato political and military pawn (even absent the country’s formal membership in the alliance) may end up costing the Ukrainian people dearly.

The Ukraine tragedy

History will show that Washington’s treatment of Russia in the decades following the demise of the Soviet Union was a policy blunder of epic proportions. It was entirely predictable that Nato expansion would ultimately lead to a tragic, perhaps violent, breach of relations with Moscow. Perceptive analysts warned of the likely consequences, but those warnings went unheeded. We are now paying the price for the US foreign policy establishment’s myopia and arrogance.

### AT: BALTBAT CP

#### BALTBAT implementation is impossible

Vaiksnoras 2, Vitalijus, 2000-2002, Major General of the Lithuanian Armed Forces and Lithuanian Military Representative to NATO and EU, “The Role of Baltic Defence Co-operation for the Security of Estonia, Latvia and Lithuania,” No Publication, <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.216.2581&rep=rep1&type=pdf> //BigSasher

The difficulties in the implementation of the BALTBAT project could hardly be overestimated. The Baltic countries have set themselves a task to create a military unit meeting the highest international standards, while having at the same time to create their military structures from scratch. There was a **lack of practically everything** except for the political will **among** the leadership of the three **Baltic countries** and enthusiasm on the part of the three fledgling defence establishments.

Of course, such problems as the scarcity of resources and of the lack of adequately trained military personnel in Estonia, Latvia and Lithuania were well known before the launch of the project. It was only in the light of firm determination of the defence leadership in the Baltic states and prospects for substantial support from a number of Western countries that the task looked feasible. The problem, which was clearly underestimated, was the fact that the **implementation of the BALTBAT** project was **affecti**ng a number of **institutions in the Baltic** **s**tates beyond their military structures. Those often were unready and sometimes unwilling to co-operate in such a complex multinational project, especially as appropriate legal framework was lacking. So many things the Baltic states had to do for the first time in their history. In particular, the project implementation was often obstructed by lengthy procedures for border crossings between the three Baltic countries, paper work related to military transit, taxation of various training materials designated for BALTBAT, cost-sharing arrangements, and others. This was often causing frustration among the supporting countries as well as the BALTBAT soldiers. And as the project was of such a high political visibility, information on all the practical difficulties was immediately reaching the policy level and was forcing the BALTBAT Steering Group and other senior political bodies to get involved into micro management of the project.

## AT: Biodiversity CP

### AT: Biodiversity CP

#### National Strategies are riddled with problems

Katharina Rogalla et.al, 11-21-2018, Legal Expert at The International Centre for Antimicrobial Resistance Solutions, "Improving collaboration in the implementation of global biodiversity conventions," Society for Conservation Biology, [https://conbio-onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/cobi.13252 //](https://conbio-onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/cobi.13252%20//) CROSSINGS BY

* National Focal Points = NFP
* National Biodiversity Strategy and Action Plans = NBSAPs
* Convention on Biological Diversity = CBD

Despite the overall positive attitude from NFP toward the role of the Strategic Plan for Biodiversity 2011–2020 as a streamlining mechanism, 80% of survey respondents suggested there were opportunities to further improve cooperation in implementing the biodiversity-related conventions. **Challenges impeding progress included** the following: **location of NFPs for different conventions in different government ministries and agencies, which reduces collaboration; lack of cooperation mechanisms among NFPs and other key stakeholders involved in the implementation of the conventions linked to regulatory barriers or weak collaboration among state agencies; general lack of knowledge of how to implement the Strategic Plan for Biodiversity and NBSAPs; and insufficient resources for NFPs to fully address all their responsibilities.** Respondents recognized that there are limits to the degree that conventions can collaborate on all issues, given the different mandates of the various conventions (e.g., to conserve migratory species throughout their range [CMS] or to ensure the conservation and wise use of wetlands [Ramsar Convention]).

These challenges illustrate the simple fact that cross-convention planning through the NBSAP process does not and cannot replace planning processes for the implementation of conventions other than the CBD. Instead, the engagement in the NBSAP process is added to the list of responsibilities of NFPs from other biodiversity-related conventions. **There is therefore the likelihood that the NBSAP process is perceived as of lower priority than the obligations** directly **related to objectives of each individual convention,** including the development of convention-specific implementation strategies and plans.

## AT: Bioethics CP

### AT: Bioethics CP

#### The counterplan has limitations and can’t spill up.

Eman and Dankar 1NC author 2008 — Khaled El Emam, Children's Hospital of Eastern Ontario Research Institute; Fida Kamal Dankar, Children's Hospital of Eastern Ontario Research Institute, 2008 (“Protecting Privacy Using k-Anonymity,” *J am Med*, October, Available Online at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2528029/?tool=pmcentrez, Accessed 07-13-2022)

Limitations

We limited our simulations to quasi-identifiers that have been demonstrated to be useful for re-identification attacks using public and semi-public data sources. There is evidence that information loss becomes unacceptably large as the number of quasi-identifiers increases, even for small values of k. 103 Therefore, had we used more quasi-identifiers, the information loss effects that we have shown would have been more pronounced.

There are other approaches that have been proposed for achieving k-anonymity that we did not consider, for example, local recoding. 104-107 With local recoding, observations may have different and overlapping response intervals. For instance, one observation may have an age of 27 recoded to the interval 20–29, and another observation may have an age of 27 recoded to the interval 25–35. This makes any data analysis of the k-anonymized data set more complex than having the same recoding intervals for all observations, and precludes the use of common and generally accepted statistical modeling techniques. Our implementation of k-anonymity used global recoding instead, and this ensures that response intervals are the same across all observations.

## AT: Bioterrorism CP

### AT: Bioterrorism CP

#### We can’t make vaccines for everything — decks solvency.

McNeil 18 — Donald G. McNeil Jr., science and health reporter specializing in plagues and pestilences, 2018 (“Why Don’t We Have Vaccines Against Everything?,” *New York Times*, November 19th, Available Online at https://www.nytimes.com/2018/11/19/health/vaccines-poverty.html, Accessed 07-23-2022)

Vaccines are among the most ingenious of inventions, and among the most maddening.

Some global killers, like smallpox and polio, have been totally or nearly eradicated by products made with methods dating back to Louis Pasteur. Others, like malaria and H.I.V., utterly frustrate scientists to this day, despite astonishing new weapons like gene-editing.

We have a vaccine for Ebola that protects nearly 100 percent of its recipients, but we are lucky to get a routine flu shot that works half that well.

We have children’s vaccines against measles, mumps, rubella, diphtheria, whooping cough, tetanus, chickenpox, polio, hepatitis A and B, rotavirus, pneumococcus, haemophilus influenzae and meningococcal disease.

They have changed our expectations of mortality — and of parenthood. In 17th century England, one-third of all children died before age 15. Today, thanks largely to those vaccines, less than 1 percent of English children do.

In tropical countries, there are vaccines against yellow fever, cholera, Japanese encephalitis, meningitis A, typhoid, dengue and rabies. But there is still — despite 30 years of effort — no AIDS vaccine.

There is no universal flu vaccine. There are no vaccines with long-lasting protection against malaria or tuberculosis.

None for parasites like Chagas, elephantiasis, hookworm or liver flukes. None for some viral threats that could become pandemic, like Nipah, Lassa and Middle East Respiratory Syndrome.

None for some that already have, including Lyme, West Nile, Zika and hepatitis C.

None for respiratory syncytial virus, which kills infants, nor even for the dozens of causes of common colds.

A Taste for Cannibalism?

Vaccines are among the world’s greatest medical advances, like clean water, soap, bleach, sewage systems and antibiotics. In a rational world — one where budgets are built on lives saved per dollar — spending on vaccine research would rival that on defense research.

And progress would be as rapid. When Louis Pasteur was born, soldiers carried muskets. Now, a Taliban fighter can be killed by a drone flown from a base in Arizona, but vulnerable Americans still have to rely on a flu-shot technology invented in 1931: growing vaccine in chicken eggs.

And as with weaponry, fear changes everything. In epidemiologically quiet times, the anti-vaccine lobby sows doubts; when Ebola or pandemic flu strikes, Americans clamor for protection.

There are two obstacles to faster progress, said Dr. Gregory A. Poland, director of the vaccine research group at the Mayo Clinic. “One is scientific, and one is embarrassing,” he said.

The embarrassing part is the lack of investment. It takes 10 years and more than $1 billion to develop a vaccine — a small fortune for a medical advance but a pittance for a weapons system.

While defense research is driven by one mega-customer, the Pentagon, vaccine researchers face a confusing hodgepodge of potential backers.

Private industry largely pursues high-priced vaccines for American children, militaries and adventure tourists. Potential bioweapons like anthrax, plague and rabbit fever attract bioterrorism funds.

But vaccines meant to protect only poor people in faraway countries usually must wait for donor governments and philanthropies like the Bill and Melinda Gates Foundation and the Wellcome Trust, even though we know these plagues cross borders.

11 Things We’d Really Like to Know

And a few we’d rather not discuss

The scientific obstacles, though more intractable, are relatively rare.

Many pathogens are genetically farther apart than rhinoceroses and bees: A defense against a horn does not protect against a sting, and vice versa.

Most vaccines work by creating antibodies — Y-shaped proteins — that block the disease agent’s own proteins.

While viruses have only handful of target proteins, bacteria have up to 6,000 and parasites even more, noted Dr. Paul A. Offit, director of vaccine education at the Children’s Hospital of Philadelphia.

And even some smallish viruses, including H.I.V., flu and hepatitis C, mutate so rapidly that their surfaces change shape before antibodies can lock onto them.

As a rule, if a disease normally leaves even a few survivors who are completely disease-free and immune for life, a vaccine against that disease is possible. “Natural infection is the mother of all vaccines,” said Dr. Anthony S. Fauci, director of the National Institute of Allergy and Infectious Diseases.

Smallpox meets the criteria; H.I.V., malaria and tuberculosis do not. H.I.V. mutates as fast in one day as flu does in a year; it also survives by splicing its DNA into the very immune cells that hunt it.

TB bacteria can survive even when “walled in” by white blood cells.

And malaria, a shape-shifting parasite, never triggers lifetime immunity. People who survive repeated bouts get less sick each time, but that immunity disappears if they move out of the malarial region. If they return, the first mosquito bite may kill them.

Other diseases are complex, with many subtypes. For example, Pneumovax 23, the anti-pneumonia shot given to middle-aged people, negates 23 strains of one bacterium.

Nonetheless, many diseases now rampaging at large are relatively easy targets, according to interviews with half a dozen experts. They could be beaten with vaccines if the world committed more money.

Lengthy testing, though expensive, is crucial. Vaccines can have dangerous hidden flaws. A 2007 H.I.V. vaccine candidate appeared to increase infection risk among some gay men, though it remains unclear why.

Earlier this year, the use of a new dengue vaccine was restricted to people who had earlier dengue infections because it may have triggered worse outcomes in some people who got dengue after receiving the vaccine.

The relatively easy targets, experts said, include M.E.R.S., Nipah, Lassa, respiratory syncytial virus, Lyme disease, West Nile, Zika and the bacteria that cause strep throat and heart disease.

The first three, not coincidentally, are the first targets of the Coalition for Epidemic Preparedness Innovations, which was launched with $500 million at last year’s World Economic Forum in Davos, Switzerland.

Thus far, the coalition has raised about $630 million, but its ambitious plans — including DNA and RNA platforms that will cut vaccine-making time to weeks instead of months — will require billions of dollars.

Recent advances in a new tuberculosis vaccine and a new use for an old one have encouraged experts.

“If you’d asked me 18 months ago whether a TB vaccine was possible, I’d have said no,” said Dr. Penny Heaton, chief executive officer of the new Bill and Melinda Gates Medical Research Institute. “But I think the field is now very promising.”

A Lyme vaccine was licensed in 1998 but withdrawn four years later in what has been called “a public health fiasco” after rumors, lawsuits and alarmist media reports scared off customers. Now, with Lyme infecting an estimated 300,000 Americans a year, an improved vaccine is in the works.

Dr. Peter J. Hotez, director of the Texas Children’s Hospital Center for Vaccine Development, has vaccines against hookworm and schistosomiasis, a waterborne liver fluke, in clinical trials and is working on eight others.

Some candidate vaccines rely on startling mechanisms for defeating the dizzyingly complex parasites — including injecting humans with a gene that produces an antibody that destroys a worm’s gut when it sucks blood.

But, like all the other projects in the works, that one needs more money — and not just from the usual suspects (the United States, Britain and the Gates Foundation).

“In this multi-trillion-dollar economy,” Dr. Hotez said, “it’s a little discouraging that we can’t raise the funding.”

## AT: China CP

### AT: China CP

#### Backfires

Ben Wolfgang 20, covers the Pentagon, military and foreign affairs for The Washington Times, 'Hotline' between U.S., China feared as strategic attack tool, AP NEWS, 8-5-2020, https://apnews.com/article/foreign-policy-china-archive-mark-esper-cold-war-7a6aac96de971f69f1e41099ab132b88/shppp

In 21st century conflict, even the crisis hotline could become a weapon of war.

There are growing fears among foreign policy specialists and military and intelligence officials that any new crisis communication systems with China updated, tactical-level versions of the cliched “red phone” between Washington and Moscow at the height of the Cold War could themselves become strategic tools of attack or deception.

While the U.S. already has a nuclear hotline with China, along with a so-called “space hotline” to avoid satellite collisions or other catastrophes in orbit, the Pentagon over the past two decades has made a concerted effort to beef up regular military-to-military communications with the People’s Liberation Army (PLA).

U.S. officials in the Pacific, military sources said, routinely hold video calls with their Chinese counterparts, and Defense Secretary Mark Esper and Joint Chiefs of Staff Chairman Gen. Mark A. Milley have made it a priority to develop rapport with top officers in Beijing even as much of the Trump administration is pressing a more hawkish line with Beijing.

At the same time, there’s been a growing push for more direct, immediate communication avenues that could prove vital in a potential crisis between the two nuclear superpowers. The possibility of such a crisis, miscalculation or inadvertent encounter came into sharp focus over the Fourth of July weekend when both militaries held major naval drills in the same region of the South China Sea.

But military insiders caution that seemingly helpful communication mechanisms may introduce an entirely new danger to already tense situations and, in certain scenarios, could actually represent a threat to U.S. security.

“There are those within the government who have long advocated for establishing communications channels with the PLA at the operational levels of command, in the belief this would help avert a conflict, especially for cases of accidents at sea or in the air,” retired Navy Capt. James Fanell, former director of intelligence for the U.S. Pacific Fleet, told The Washington Times. “I am not sure how effective such a communications channel would be, as [China] may try and make us dependent upon such a protocol but then in the midst of a crisis fail to answer the other end of the line.”

Indeed, specialists warn and military sources acknowledge that if such avenues were put in place, Beijing could potentially exploit them during an offensive in the South China Sea or some other hostile act. If U.S. officials expect to be able to reach their Chinese counterparts during the crucial early moments of a military confrontation, analysts warn, Washington could lose precious minutes frantically to reach PLA leaders who have no intention of responding.

Even more ominously, there’s mounting evidence that the Chinese or Russian militaries may be capable of quite literally faking their way through a crisis hotline call, perhaps giving the Pentagon a false sense of security and preserving the element of surprise.

“I think we need more than hotlines. ... In the era of hacking, spoofing and soon deep fakes, hearing somebody on the other side of the call give you happy talk won’t necessarily resolve a crisis anyway,” said Michael O’Hanlon, senior fellow and director of research in foreign policy at the Brookings Institution.

Hotlines “can really only be effective in many cases if the two parties to a call have developed some kind of potentially begrudging respect of each other,” he continued. “Otherwise, hotlines can just be vehicles for propaganda and deception, and do nothing to resolve a crisis. They could even contribute to intensifying it.”

A last resort

In most instances, the term “hotline” refers not to a physical landline but to communications at the highest levels of government or the military including conversations between heads of state. The U.S. and the Soviet Union, for example, set up a direct hotline in the aftermath of 1962′s Cuban Missile Crisis.

The U.S. employed that channel to talk to the Kremlin immediately after the 1963 assassination of President Kennedy, and the channel was subsequently used by numerous presidents, according to data compiled by the Arms Control Association.

Today, Russia and China have their own bilateral nuclear hotline, as do India and Pakistan. North Korea and South Korea also have their own channel for use during military emergencies, though Pyongyang reportedly has often gone dark and stopped responding to calls during tense moments. India and China earlier this year resolved previous disagreements and agreed to set up their own military hotline, though it’s unclear if it was of any benefit during recent border standoffs between the two nations.

Outside of the nuclear hotline, the U.S. has regular military communications with Russia, particularly in places such as Syria, where both nations have an active troop presence. The Pentagon has said it employs regular “deconfliction” protocols there to ensure there are no accidents or miscalculations.

Since the Clinton administration, the U.S. has had its own direct nuclear hotline with Beijing, to be used in the event of a major crisis.

But such high-level communications aren’t the proper avenue to discuss specific military exercises or potential confrontations. In those circumstances, the responsibility falls to the Pentagon and its commanders in the field to build on groundwork laid by American diplomats.

Defense Department officials told The Times that both the U.S. and China helped develop the “Code for Unplanned Encounters at Sea,” a set of rules and procedures designed to help prevent an escalation of tensions between navies. The two nations also have signed formal rules on air safety and maritime encounters, setting up common terms and references for both countries to employ in an incident.

As part of the 1998 Military Maritime Consultative Agreement, U.S. and Chinese officials meet twice a year “to discuss how to develop maritime and aviation safety and professionalism” and to review any incidents over the past year, Pentagon officials said.

But it’s less clear exactly how direct communication between the two militaries would play out in a real-world crisis and whether that communication would be enough to halt escalation.

In 2009, for example, the USS Impeccable was shadowed by five Chinese vessels during a mission in the South China Sea. Military sources familiar with that incident told The Times it took a complex series of phone calls from U.S. Command in the Pacific to the American Embassy in Beijing, then to the Chinese Foreign Ministry and ultimately the PLA before the situation was resolved.

In other instances, Chinese military officials have failed to properly warn the U.S. and other nations of military exercises in proximity to their ships, such as a 2013 incident in which the USS Cowpens nearly collided with Chinese warships. In extreme scenarios where death or destruction appears imminent, officials said, the navies can hail one another on international frequencies.

Moving forward, specialists say it’s more important than ever that military leaders establish fully functional lines of communication especially given the strained state of relations between Washington and Beijing. Over just the past several weeks, the countries have closed consulates and expelled journalists in a diplomatic tit-for-tat that has ratcheted up tensions and sparked fears of conflict.

“The proper operation of hotlines and other crisis management mechanisms are needed most when bilateral relations are poor and, therefore, the chances of misperceptions and conflict escalation are high,” said Patricia M. Kim, a senior policy analyst with the China Program at the U.S. Institute of Peace.

## AT: Econ CP

### AT: Econ CP

#### Education is being decked now---no chance for reform

Berkshire and Schneider 22, Jennifer C. and Jack, 3-21-2022, Ms. Berkshire, a journalist, and Mr. Schneider, a professor at the University of Massachusetts Lowell, have written extensively about public education. "If You Think Republicans Are Overplaying Schools, You Aren’t Paying Attention," NY Times, <https://www.nytimes.com/2022/03/21/opinion/democrats-public-education-culture-wars.html> //BigSasher

Today, as the middle class falls further behind the wealthy, the belief in education as the sole remedy for economic inequality appears more and more misguided. And yet, because Democrats have spent the past 30 years framing schooling as the surest route to the good life, any **attempt to make our education system fairer** is **met with** fierce **resistance** from affluent liberals **worried that Democratic reforms might threaten their carefully laid plans to help their children get ahead.**

In California, plans to place less emphasis on calculus in an effort to address persistent racial and socioeconomic disparities in math achievement have spawned furious backlash. So, too, did the announcement last fall that New York City schools would be winding down their gifted and talented program, which has been widely criticized for exacerbating segregation — an announcement that Mayor Eric Adams has begun to walk back.

Mr. Youngkin was one of the first to recognize that these anxieties could be used for political gain, and he carefully tailored his messaging to parents from both affluent families and the conservative movement. In his appeals to the Republican base, he railed against critical race theory and claimed that allies of George Soros had inserted “operatives” on local school boards. To centrist parents, he pledged to undo admissions policy changes aimed at bolstering diversity at Virginia’s prestigious Thomas Jefferson High School for Science and Technology, where graduates regularly go on to attend Ivy League universities.

These promises seem to have worked. A recent focus group conducted by a Democratic polling firm showed that education was the top issue cited by Joe Biden supporters who had voted or considered voting for Mr. Youngkin. Participants referred to an array of complaints about education, including a sense that the focus on race and social justice in Virginia’s schools had gone too far, eclipsing core academic subjects. Similar charges echoed through the San Francisco school board election last month as Asian American voters, furious over changes to the admissions process at a highly selective high school, galvanized a movement to oust three school board members.

#### Inflation is at a record high---there’s no hope for small businesses

Rosenbaum 22, Eric, 2-14-2022, Senior Editor and Reporter for CNBC, “A new inflation reading shows the small business tipping point has been reached,” CNBC, <https://www.cnbc.com/2022/02/14/inflation-economic-shock-complete-as-main-street-tipping-point-reached.html> //BigSasher

Inflation has taken hold of Main Street, with an increasing number of small business owners saying it will not relent over the next six months and raising prices to offset increases in the costs of supplies, according to the latest CNBC|SurveyMonkey Small Business Survey. President Biden’s approval rating is underwater, and though the small business community skews conservative and the vast majority of liberals surveyed continue to support Biden, support among Democrats ticked down this quarter, and confidence in the Federal Reserve’s ability to control inflation is low. The overall CNBC|SurveyMonkey Small Business Confidence Index score continues to hover around all-time lows, though it remained unchanged from Q4 2021. The latest Consumer Price Index reading, the highest in four decades, isn’t the only sign that [inflation is extending](https://www.cnbc.com/2022/02/10/january-2022-cpi-inflation-rises-7point5percent-over-the-past-year-even-more-than-expected.html) rather than giving up its hold over the U.S. economy in 2022. An increasing number of American small businesses say they are now passing on higher costs to customers, or soon will be forced to make that decision. While the 74% of small business owners who say they are experiencing rising costs of supplies is virtually unchanged from Q4 2021, according to a new CNBC/SurveyMonkey Small Business Survey, the number of businesses passing on costs to customers has risen to 47% in the first quarter, up from 39% in Q4 2021. And another 32% indicate they will have to raise prices soon if inflation persists. Sticky inflation is their expectation. Over eighty percent of small business owners expect inflation to still be a problem six months from now (55% say that is “very likely”), according to the [CNBC|SurveyMonkey data](https://www.surveymonkey.com/curiosity/cnbc-small-business-q1-2022/). The Main Street concerns about inflation are connected to the small business outlook on the supply chain, with 75% saying these issues are likely to be a problem six months from now. And there is a lack of faith in policymakers, with 71% of small business owners not confident in the Federal Reserve’s ability to control inflation. The CNBC/SurveyMonkey online poll was conducted January 24-30, 2022 among a national sample of 2,227 self-identified small business owners. “The underlying problem with inflation is that there’s no end in sight,” said Laura Wronski, senior manager of research science at [Momentive](https://www.cnbc.com/quotes/MNTV), which conducts the survey for CNBC. “We’ve become accustomed to rising and falling Covid waves, and businesses have had the time to rewrite their playbooks to accommodate. But **no one knows how quickly or to what degree inflation will continue to rise, so that unpredictability is inducing some unease**,” she said, with the lack of faith in the Fed adding to the uncertainty. “I don’t think it is getting better. It has gotten worse,” said Michelle Pusateri, owner of San Francisco-based Nana Joes Granola. Nana Joes Granola witnessed a boom in business during Covid as demand for packaged goods skyrocketed, but the business situation has flipped, with the hyper-growth from earlier in the pandemic now overwhelmed by supply chain and pricing issues and its profit margins being squeezed. Nana Joes Granola stocked up on ingredients and bought them at higher volumes to get lower pricing as demand outstripped supply and logistics issues worsened. The loading up on inventory is “more of a stopgap right now,” Pusateri said, but she expects it will probably become a long-term business issue. Her firm held $94,000 of inventory at the end of 2019, but by the end of last year, that had risen to $327,000. “I think more and more businesses will have to sit on more inventory,” Pusateri said. In multiple ways, small business owners have lost leverage with suppliers. Large buyers are favored in transactions, and smaller buyers are no longer able to order in smaller batches (e.g. half-pallets) or rely on contract pricing. “Lots of ingredients are in high demand, meaning farmers and vendors and brokers can name their price. They can wait until the last highest bidder,” said Pusateri, who is a member of the Goldman Sachs 10,000 Small Businesses Voices community. Among that Main Street sample, 84% indicated in [a recent survey](https://www.goldmansachs.com/citizenship/10000-small-businesses/US/infographics/small-businesses-on-the-brink/index.html) that inflation has gotten worse for them since September, and only 13% see supply chain issues subsiding over the first half of 2022. Nana Joes Granola’s main ingredient, oats, has seen a huge spike in price, and Pusateri does not expect any downward pricing pressure given the current level of supply and demand. It’s not just an increase in input costs, but the magnitude of the increase which is walloping smaller companies. Eric Groves, co-founder and CEO at online small business platform Alignable, which has been [tracking the impact of inflation](https://www.alignable.com/forum/alignable-road-to-recovery-report-january-2022), pointed to the percentage of businesses that indicate they are seeing the highest level of cost increases. Overall, 78% of small businesses say their costs are above pre-pandemic levels, but the largest block of small businesses (29%) say they are seeing price hikes of 25% or more for their business inputs. All of the headlines about inflation will make it easier for small business owners to increase costs and not have customers react as negatively as they might expect, but while over 50% of businesses are passing along the cost increases to customers, only 9% tell Alignable they can do this at a level where it is above breakeven for them. “Costs have gone up more than their ability to pass it on down, and that’s what is critical to recovery,” Groves said. “That’s where the feeling of stress is coming from. It’s the squeezing of margins, not just revenue ... what’s going in their pocket,” he added. It is a fraught situation for small businesses trying to figure out how much they can afford to charge without risking a decline in customer numbers and loss of recurring revenue, with many small businesses still not all the way back from Covid’s shock. Alignable’s data finds roughly 35%-37% of businesses saying that 90% or more of their customers from the pre-Covid period have returned. Small business owners tend to be optimistic by nature, but Alignable’s data shows them more pessimistic now about their own recovery timelines. Last June, small business owners expected revenue to be back at pre-Covid levels midway through 2022. Now that has been pushed back by a full year to mid-2023. Pusateri says inflation is beginning to eat into demand for her company’s granola, which is priced at the premium end of the product category. “People are starting to look at what they are spending on. For us, it’s more of people starting to really look at pocketbooks,” she said. NFIB’s [most recent quarterly survey](https://www.nfib.com/surveys/small-business-economic-trends/) found the percentage of small business owners having to increase prices rising to over 60%, the highest reading in the NFIB data since Q4 1974. “They are getting squeezed by supply chain disruptions and inflation and workforce shortages and already had to reinvent themselves a few times over in the past few years, and are running out of options,” said Kevin Kuhlmann, who leads the NFIB’s government relations team. “They are continuing to adapt ... but you can only increase prices so much before you might see a loss,” he said.  Nana Joes Granola accessed a Covid economic injury disaster loan from the Small Business Administration to fund its higher level of inventory buying, but that financing program ended in 2021, and there is no indication the federal government will reinstate it. Pusateri said she is now being forced to contemplate business loans or taking on investors, a move she has not had to make previously. “There aren’t many policy options for issues like inflation and the supply chain,” Kuhlmann said. And even if inflation is tamed, that does not mean prices will go down. “It’s sort of a new normal,” he said. “You want to slow down price increases. It’s frustrating business owners.” Small business does tend to be a lagging rather than a leading indicator for the economy, but the growing worries on Main Street are “a worrisome indication that inflation will be more persistent,” said Mark Zandi, chief economist of Moody’s Analytics. “Their pricing decisions tend to lag their bigger competitors, so if small businesses are raising prices more aggressively it could signal inflation becoming more endemic,” Zandi said. And since small businesses do not tend to think of themselves as having pricing power over the long-term, if they are “becoming more emboldened” it is an indication that inflationary pressures are broader-based, he added. The CNBC/SurveyMonkey Small Business Confidence Index score continues to hover around all-time lows, holding at 44 out of 100, which was unchanged from Q4 2021 and nearly identical to the all-time low score of 43 from a year ago. Overall, the business outlook is mixed, with 46% of Main Street businesses saying they expect revenue to increase in the next 12 months, according to the CNBC|SurveyMonkey data. Politics is a factor, with only 33% of business owners saying conditions are “good,” equal to the 33% of business owners who say they support President Biden. The percentage of Democrats who expressed support for Biden remains very high, at 83%, but did decline this quarter by six percentage points. Just under half (49%) of Democratic small business owners described conditions as good. A majority of Democrats expect inflation to still be a problem six months from now (67%) but that is considerably less than the 92% of Republicans who see inflation sticking around. And Democrats are much more likely to believe the Fed can control inflation, at 61%, versus 11% of Republicans surveyed. Certain sectors within the small business community that are more exposed to the global supply chain are facing greater pressures, and there are positive indicators across the business landscape. As a whole, companies are doing a good job of passing through costs to customers with corporate profit margins as wide as they’ve ever been back to World War II, but the benefits of pricing power are accruing more to the largest corporations. Small businesses do not typically have high cash reserve levels — according to Alignable it is on average 34 days of cash on hand — leading to a situation in which any kind of financial hit is very difficult to recover from. “So as they are trying to build back to recovery from Covid, every little bit of extra margin they can eke out is critical, and with cost increases and the inability to pass along, we will see more and more businesses struggling with that,” Groves said. A key measure of business health, business-to-business payment transactions, isn’t showing any signs of stress, with even companies of 500 employees or less paying bills on time. “At least so far, they are managing,” Zandi said. Small businesses sentiment, similar to consumer sentiment, tends to be reactive and based on the most recent information or anecdote rather than longer-term forecasting, which means that current gas and fuel prices, which can be major inputs for small businesses, can lead to a sharper shift in sentiment in the short-term. On Monday, the Federal Reserve Bank of New York released an inflation survey that showed [the first decline among Americans’ inflation expectations](https://www.newyorkfed.org/newsevents/news/research/2022/20220214) in over a year, though still near a record level. But Zandi said if nothing else, the latest data from Main Street is “proof positive we have a problem.” Pusateri described herself as “a lot less confident now” after having made it through Covid, and even having seen hyper-growth during the earlier part of the pandemic. “I thought getting through 2020, ‘oh my god, we did it.’ We were still profitable. And then, all of a sudden, I couldn’t find ingredients.” Nana Joes Granola went from 135% profit growth during the packaged foods boom to currently operating at less than breakeven in a pricing environment hitting it from all sides. In addition to the supply issues, wage inflation and lack of leverage as a buyer, freight charges across the country have risen and the company has had to change its free shipping policy for its direct consumer business. “We’re getting steamrolled over. Everywhere I look getting price increases,” Pusateri said.  The financial market and economists including Zandi expect inflation will moderate later in 2022, but if it doesn’t happen soon, he said, “the small business owners will be right.” “I don’t think inflation is going away any time soon,” Pusateri said. “We will be stuck in this.”

## AT: Food Insecurity CP

### AT: Food Insecurity CP

#### The UNITED STATES food is already secure — the counter plan doesn’t solve for the rest of the world.

USDA 20 — USDA, 2020 (“Food Security Status of U.S. Households in 2020,”*USDA*, Available Online at https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/key-statistics-graphics/#:~:text=Food%20Insecurity%20(map)-,Food%20Security%20Status%20of%20U.S.%20Households%20in%202020,from%2089.5%20percent%20in%202019., Accessed 07-23-2022)

Food Security Status of U.S. Households in 2020

Food secure—These households had access, at all times, to enough food for an active, healthy life for all household members.

89.5 percent (116.7 million) of U.S. households were food secure throughout 2020.

Unchanged from 89.5 percent in 2019.

U.S. households by food security status, 2020

Embed this chart

Download higher resolution chart (3190 pixels by 2552, 150 dpi)

Download chart data in Excel format.

Food insecure—At times during the year, these households were uncertain of having, or unable to acquire, enough food to meet the needs of all their members because they had insufficient money or other resources for food. Food-insecure households include those with low food security and very low food security.

10.5 percent (13.8 million) of U.S. households were food insecure at some time during 2020.

Unchanged from 10.5 percent in 2019.

## AT: Grid CP

### AT: Grid CP

#### Open source is dangerous

Carder 22[James, Chief Security Officer at LogRhythm, Open Source Code: The Next Major Wave of Cyberattacks, 2/21/2022, <https://www.darkreading.com/vulnerabilities-threats/open-source-code-the-next-major-wave-of-cyberattacks>]

Open source software is ubiquitous. It has become an unequaled driver of technological innovation because organizations that use it don't have to reinvent the wheel for common software components.

However, the ubiquity of [open source](https://www.darkreading.com/edge-articles/security-of-open-source-components-requires-more-collaborative-efforts) software also presents a significant security risk, as it opens the door for vulnerabilities to be introduced (intentionally or inadvertently) to the consumers of open source software products. The recent race to address major vulnerabilities in the widely used Log4j code library is the biggest sign yet that risks within the open source software environment must be addressed.

The Open Source Appeal for Cybercriminals  
The open source attack method is appealing to bad actors because it can be widespread and highly effective. Attackers can use various methods to obfuscate malicious changes contributed to open source projects, and the rigor in reviewing code for security implications can vary widely across projects. Without stringent controls in place to detect these malicious changes, they may go unnoticed until after they've been distributed and included in software across numerous companies.

Attacks on open source code can vary in size and the entities they affect. For example, last July, researchers found [nine vulnerabilities affecting three open source projects](https://thehackernews.com/2021/07/several-bugs-found-in-3-open-source.html) — EspoCRM, Pimcore, and Akaunting — which are frequently leveraged by small and midsize businesses. What's more, the 2017 Equifax data breach, which affected the personal data of [147 million people](https://www.ftc.gov/enforcement/cases-proceedings/refunds/equifax-data-breach-settlement) as a result of a vulnerability in the organization's open source code, is a clear example of how vulnerabilities can be exploited by bad actors and create damaging effects throughout.

## AT: Meltdowns CP

### AT: Meltdowns CP---No Solvency

#### SMR’s fail disastrously

Arjun Makhijani, 3-25-2021, president of the Institute for Energy and Environmental Research, "Why Small Modular Nuclear Reactors Won’t Help Counter the Climate Crisis," Environmental Working Group, [https://www.ewg.org/news-insights/news/why-small-modular-nuclear-reactors-wont-help-counter-climate-crisis //](https://www.ewg.org/news-insights/news/why-small-modular-nuclear-reactors-wont-help-counter-climate-crisis%20//) CROSSINGS BY

Small modular nuclear reactors, or SMRs, are designed to generate less than 300 megawatts of electricity – several times less than typical reactors, which have a range of 1,000 to 1,600 MW. While the individual standardized modules would be small, plans typically call for several modules to be installed at a single power generation site.

The nuclear industry and the U. S. Department of Energy are promoting the development of SMRs, supposedly to head off the most severe impacts of climate change. But are SMRs a practical and realistic technology for this purpose?

To answer, two factors are paramount to consider – time and cost. These factors can be used to divide SMRs into two broad categories:

Light water reactors based on the same general technical and design principles as present-day power reactors in the U.S., which in theory could be certified and licensed with less complexity and difficulty.

Designs that use a range of different fuel designs, such as solid balls moving through the reactor core like sand, or molten materials flowing through the core; moderators such as graphite; and coolants such as helium, liquid sodium or molten salts.

On both counts, the prospects for SMRs are poor. Here’s why.

Economics and scale

Nuclear reactors are large because of economies of scale. A reactor that produces three times as much power as an SMR does not need three times as much steel or three times as many workers. This economic penalty for small size was one reason for the early shutdown of many small reactors built in the U.S. in the 1950s and 1960s.

Proponents of SMRs claim that modularity and factory manufacture would compensate for the poorer economics of small reactors. Mass production of reactor components and their manufacture in assembly lines would cut costs. Further, a comparable cost per kilowatt, the argument goes, would mean far lower costs for each small reactor, reducing overall capital requirements for the purchaser.

**The road to such mass manufacturing will be rocky**. **Even with optimistic assumptions about how quickly manufacturers could learn to improve production efficiency and lower cost, thousands of SMRs, which would all be higher priced in comparison to large reactors, would have to be manufactured for the price per kilowatt for an SMR to be comparable to that of a large reactor.**

If history is any guide, the capital cost per kilowatt may not come down at all. At a fleet-wide level, the learning rate in the U.S. and France, the two countries with the highest number of nuclear plants, was negative – newer reactors have been, on the whole, more expensive than earlier ones. And while the cost per SMR will be lower due to much smaller size, several reactors would typically be installed at a single site, raising total project costs for the purchaser again.

Mass manufacturing aspects

If an error in a mass-manufactured reactor were to result in safety problems, the whole lot might have to be recalled, as was the case with the Boeing 737 Max and 787 Dreamliner jetliners. But how does one recall a radioactive reactor? What will happen to an electricity system that relies on factory-made identical reactors that need to be recalled?

These questions haven’t been addressed by the nuclear industry or energy policy makers – indeed, they have not even been posed. Yet recalls are a predictable and consistent feature of mass manufacturing, from smartphones to jet aircraft.

The problem is not merely theoretical.

One of the big economic problems of pressurized water reactors, the design commonly chosen for light water SMRs, including the NuScale design, which has received conditional certification from the Nuclear Regulatory Commission, was the need to prematurely replace the steam generators – the massive, expensive heat exchangers where the high-pressure hot water from the reactor is converted to the steam that drives the turbine-generators. In the last decade, such problems led to the permanent shutdown of two reactors at San Onofre, in Southern California, and one reactor at Crystal River, in Florida.

Several SMR light water designs place steam generators inside the reactor vessel (Figure 1). Replacement would be exceedingly difficult at best; problems with the steam generator could **result in permanent reactor shutdown.**

We have already seen problems with modular construction. It was a central aspect of the design of the Westinghouse AP1000 reactor, yet the AP1000 reactors built in the U.S. and China have had significant construction cost overruns and schedule delays. In 2015, a former member of the Georgia Public Service Commission told The Wall Street Journal, “Modular construction has not worked out to be the solution that the utilities promised.”

The need for mass manufacturing also creates a chicken-and-egg economic problem. Without the factories, SMRs can never hope to achieve the theoretical cost reductions that are at the heart of the strategy to compensate for the lack of economies of scale. But without the cost reductions, there will not be the large number of orders to stimulate the investments needed to set up the supply chain in the first place.

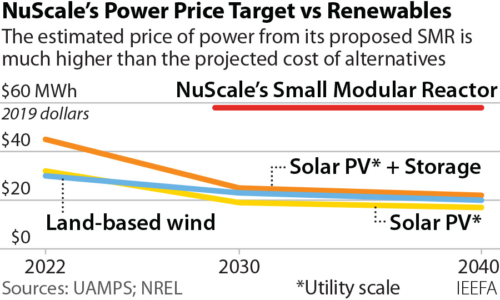
**The track record so far points to the same kind of dismal economic failure for SMRs as their larger cousins**. Figure 2 shows the capital cost escalation for the proposed NuScale reactor and actual costs of two foreign SMRs. As a result, **the total cost of a proposed project in Idaho using the NuScale design has already risen from around $3 billion, in 2015, to $6.1 billion, in 2020, long before any concrete has been poured.**

#### They Fail – assumes their reactor type specifically

David Schlissel, 2-17-2022, IEEFA director of resource planning analysis, "IEEFA U.S.: Small modular reactor “too late, too expensive, too risky and too uncertain”," IEEFA, <https://ieefa.org/articles/ieefa-us-small-modular-reactor-too-late-too-expensive-too-risky-and-too-uncertain> - Crossings BY

A small modular reactor (SMR) that NuScale has been developing since the turn of the century is “too late, too expensive, too risky and too uncertain,” according to [an analysis](http://ieefa.org/wp-content/uploads/2022/02/NuScales-Small-Modular-Reactor_February-2022.pdf) of the project by the Institute for Energy Economics and Financial Analysis.

The first-of-its-kind SMR is a serious financial threat to the member communities of the Utah Associated Municipal Power System that have signed up for a share of its power and to any other communities and utilities thinking about doing so. NuScale has optimistically targeted the cost of power from the new plant at $58 per megawatt-hour (MWh), although some estimates predict costs for the power from new SMRs could reach $200/MWh.



Given that the costs of available renewable sources are falling rapidly and that the SMR wouldn’t generate electricity before 2029, the project should be abandoned, said David Schlissel, IEEFA director of resource planning analysis and the author of the report.

“The company has insisted its costs are firm and that the project will be economical,” Schlissel said. “But based on the track record so far and past trends in nuclear power development, this is **highly unlikely**.”

The risks of the project include:

**Rising Construction Costs**. NuScale claims it can build the SMR for less than $3,000 per kilowatt (kW). No nuclear power plant has been built that cheaply in decades. The U.S. Department of Energy has estimated the cost will exceed $6,800/kW.

**Longer Construction Time**. NuScale says the nuclear construction at the SMR will be completed in less than 36 months. No new reactor has been built in the U.S. in that short a time in 60 years. NuScale said in 2018 that it planned to have its SMR online by 2026. It now won’t generate electricity until mid-2029, at the earliest.

**Operational Performance**. NuScale claims it will run at a 95% capacity factor during its entire life. None of the 93 reactors operating in the U.S. have met that goal. Only three have averaged better than 85% during their first 10 years of operation, and the median capacity factor for all U.S. reactors during these years has been only 67%.

**Higher Costs for Participating Utilities**. The customers of communities and utilities that remain signed up for the project after construction begins will be liable for all of its costs and expenses, regardless of the total and how far above $58/MWh it ends up. They’ll even have to pay if the SMR is damaged or destroyed.

Schlissel said the communities should consider shifting to renewables for their future sources of power. The NuScale estimate of a $58/MWh price is already almost **twice as much as renewable prices**. Utility-scale solar-plus-storage costs are about $45/MWh and falling; wind power costs $30/MWh and are also dropping; and utility-scale solar alone costs are at $32 and falling.

“There are cheaper zero-carbon energy options available now,” said Dennis Wamsted, an IEEFA energy analyst and co-author of the report. “NuScale’s SMR is not needed.”

### AT: Meltdowns CP---SMRs---Baker Recut

#### The Counterplans SMRs aren’t sufficient

Suzanne Hobbs **Baker et al.**, 01-10-2017, Former Visiting Fellow for Nuclear Security,Ryan Fitzpatrick, Director of the Climate and Energy Program, Matt Goldberg, Fellow, " Getting Back in the Game: A Strategy to Boost American Nuclear Exports," Third Way, [https://www.thirdway.org/report/getting-back-in-the-game-a-strategy-to-boost-american-nuclear-exports //](https://www.thirdway.org/report/getting-back-in-the-game-a-strategy-to-boost-american-nuclear-exports%20//) CROSSINGS BY

LWR - Light Water Reactor

Innovation has long been America’s greatest advantage over our global competitors. We win by delivering products that disrupt old markets and open up new ones. **We lose, however, when we rest on previous successes**. From cell phones to solar modules, U.S. industries have pioneered countless high-value technologies that were ultimately replicated by foreign manufacturers who could undercut the cost and overtake the market. We are beginning to see this same pattern play out with the LWR technologies that allowed the U.S. to reap huge financial benefits and shape global standards for decades. If we are going to succeed in this very lucrative market in the long-term, we have to keep inventing better nuclear technologies that consumers will want—and competitors will want to copy.

The good news is, we’re well positioned to deliver these new technologies. Over 50 companies and organizations in the U.S. are working to commercialize advanced nuclear reactor technologies. From a technical perspective, many of our companies are further along than those in China and Russia, though both countries can overtake us if we fail to play our cards right. The federal government can help U.S. innovators maintain their head start by accelerating nuclear research, development and demonstration and helping to scale up deployment of small modular reactors (SMRs).

SMRs have a number of advantages over today’s large GW nuclear reactors. Because of their size (under 300 MW vs. 1,000 MW for today’s reactors), SMRs can be built in a controlled factory setting and installed module-by-module, enhancing the level of construction quality, increasing efficiency, and lowering cost. Their size, versatility, and passive safety features are also attractive to countries with smaller grids and less experience with nuclear power. Taken together, these features make SMRs more useful and easier to finance.

But to get SMRs ready for export abroad, the U.S. must first demonstrate readiness at home. Vendors have to gain experience with licensing and constructing SMRs so that the U.S. nuclear supply chain remains robust. The U.S. Department of Energy (DOE) is essential to this mission and has supported the development of SMR technology through the SMR Licensing Technical Support (LTS) Program. They are now working with companies to accelerate the licensing and siting process. DOE’s SMR development efforts are making great progress, and they should be continued and expanded to assist with manufacturing, assembly, and operation of SMRs at home and for export. A substantial ramp up of federal funding for SMRs beginning in fiscal year 2018 will ensure that U.S. technologies reach the global market ahead of our competitors and lock-in a significant amount of lucrative long-term contracts.

-------THEIR CUTTING ENDS HERE-------

**Beyond SMRs, the federal government must continue to incentivize even more advanced reactors** that can use a variety of fuel types and provide other safety, efficiency, and non- proliferation benefits. This means building on the DOE’s recently established Gateway for Accelerated Innovation in Nuclear (GAIN) initiative, which provides U.S. innovators with test facilities, computational resources, and assistance with licensing. **Congress must also lend its support to nascent efforts at the N**uclear **R**egulatory **C**ommission **to modernize its licensing process**, which is currently not structured to review innovative technologies in a timely manner. Policymakers will need to begin a conversation about how these new designs will be incorporated into international security and non- proliferation protocols. And within the next four years, partnerships between the federal government and private sector innovators will be needed to construct “first-of-a-kind” advanced reactors. Legislation addressing many of these needs moved rapidly through Congress in 2016 with broad bipartisan support. Policymakers should ensure that these legislative solutions make it across the finish line as quickly as possible in the new Congress.

## AT: Russia CP

### AT: Russia CP---Hotlines

#### Fails in practice---Putin won’t use it.

Ajeet Kumar 22, US sets up hotline with Russia to prevent any ‘miscalculation’ over Ukraine crisis: Report, Republic World, 03-05-2022, <https://www.republicworld.com/world-news/russia-ukraine-crisis/us-sets-up-hotline-with-russia-to-prevent-any-miscalculation-over-ukraine-crisis-report-articleshow.html/shppp>

"What we’ve seen repeatedly is that Russia goes through the pretense of diplomacy to distract and continue on its aggressive path," Blinken had told reporters on Wednesday. "If we determine that there are areas that it’s in our interest to continue to pursue that may involve some engagement for Russia, we’ll continue to pursue that,” he said, adding however that “we’re not going to let Russia dictate in any way what’s in our interests and how to pursue it." Irrespective of the US take on Russia a week earlier, the fresh move has shown some ray of hope during this tough time where both countries seem pledged not to abandon their plan without achieving success.

Biden and Putin have not spoken for more than 24 days now

It is worth mentioning the talks between US President Joe Biden and his Russian counterpart Vladimir Putin has not taken place nearly for 24 days. Biden had last spoken to Putin on February 12 where he told the Russian President that "Moscow invasion of Ukraine would produce widespread human suffering and diminish Russia’s standing." Despite the conversation between the two world powers, twelve days later, Russia invaded. According to a report by the Associated Press, nations’ top diplomats — Blinken and Russian Foreign Minister Sergey Lavrov — had last spoken to each other on the eve of the attack. Notably, both the diplomats were scheduled to meet in Geneva, however, Blinken cancelled the trip at the very last moment, saying he did not believe it would be productive. Lavrov replied with a cursory note blaming any lack of productiveness on inflexible American positions, according to U.S. officials.

### AT: Russia CP---NFU

#### **NFU fails —** laundry list

Rebeccah L. Heinrichs 20, senior fellow at Hudson Institute specializing in US national defense policy, Reject 'No First Use' Nuclear Policy, No Publication, 6-30-2020, <https://www.hudson.org/research/16328-reject-no-first-use-nuclear-policy/shppp>

The reality is that every single American president, Democrat and Republican alike, has rejected an NFU declaration because to do so would invite unacceptable risk that could yield catastrophic war—and for no tangible benefit at all.

This is true for four reasons.

First, adopting an NFU policy invites a strategic non-nuclear attack against the American people, our allies and our interests. An NFU declaration broadcasts to America’s enemies that they can proceed with a chemical weapons attack on U.S. forces and their families, can proceed with a biological attack on an American city and can proceed with an overwhelming conventional attack against critical U.S. assets, all without fear of nuclear retaliation. Any would-be enemy could carry out an infinite number of attacks short of a nuclear attack, while the NFU-endorsing U.S. president assures their safety from our nuclear weapon arsenal.

An NFU policy is especially unwise now, while the United States contends with not one, but two major power threats. Both Russia and China are expanding their military capabilities and have acted in ways that demonstrate their willingness to attack sovereign nations and redraw borders.

Of the two, China poses the single greatest threat to America’s national security and way of life. General Secretary Xi Jinping and his Chinese Communist Party (CCP) are now in the midst of a rapid modernization of their military. China has the most diverse missile force on the planet and has launched more ballistic missiles for testing and training than the rest of the world combined. Nor has Beijing neglected its nuclear capabilities—although their efforts are furtive, we know the CCP is investing in a large force, with delivery systems capable of launching nuclear weapons. Director of the Defense Intelligence Agency Lt. General Robert P. Ashley, Jr. said in 2019 that the intelligence community believes China is likely to “at least double the size of its nuclear stockpile in the course of implementing the most rapid expansion and diversification of its nuclear arsenal in China’s history.” The number commonly cited for China’s stockpile is around 300. But it is plausible that there are actually many more than 300, as one highly credible former government official confided to me.

What’s more, China likely has an advanced chemical warfare program. Like its nuclear program, China does not reveal to the United States what, exactly, it does have. But the more we learn about the CCP’s gross abuse of religious minorities, including of the Uyghurs imprisoned in Xinjiang concentration camps, the more our hackles should be raised. Western democracies view any use of chemical weapons as unconscionable, but the evidence shows our enemies do not share this view.

Although the scope of Russia’s economy and the ambitiousness of its national objectives pale in comparison to China’s, Russia still seeks to undermine the United States and our allies wherever it can. Like China, it is investing heavily in its nuclear forces and has repeatedly violated U.S. arms control agreements. To take one particularly abhorrent and brazen example, on August 6, 2018, the Russian government used chemical weapons on British soil in an attempt to assassinate a former Russian spy, eliciting sanctions by the United States.

That brings us to the second reason NFU is a terrible idea. The United States should be working to create more complex calculations for China and Russia—not making their calculations simpler. Every policy decision related to arms control, the make-up and quality of America’s own weapons and our public declarations should be made with one goal in mind: to deter acts of aggression against the United States. The United States must keep our options open, maintain some ambiguity about what we may do and force our enemies to make complex calculations and always doubt whether an act of aggression against the United States would be worth the punitive cost.

Third, our adversaries would hardly restrict themselves if America were to adopt a true NFU policy. In fact, we have reason to believe that many are willing to use nuclear weapons first in a conflict.

Start with Russia. Russian officials have implied their comfort with the use of nuclear weapons in a conventional conflict, have at times threatened nuclear use against purely defensive systems and, in at least one instance, an official stated that the conditions for a Russian nuclear use could as small as a regional, or even a local, conflict. In June 2015, the Obama administration’s deputy secretary of defense, Robert Work, and then-Vice Chairman of the Joint Chiefs of Staff Admiral James Winnefeld informed Congress that “Russian military doctrine includes what some have called an ‘escalate to de-escalate’ strategy—a strategy that purportedly seeks to de-escalate a conventional conflict through coercive threats, including limited nuclear use.” Then-Trump administration Secretary of Defense James Mattis testified to the same concern in 2018.

As for China, the Chinese have purported to embrace NFU. Way back on October 16, 1964, China declared that it will never, at any time or under any circumstances, be the first to use nuclear weapons.” For decades, that was blindly accepted by those who wished to believe it—including NFU proponents in the U.S. But current Commander of U.S. Strategic Command Admiral Richard, when speaking about the Chinese NFU policy, told senators in February 2020, “I could drive a truck through that no first use policy.” He went on to explain that the Chinese nuclear program lacks transparency and fosters distrust. Worse, the CCP’s dubious claims to disputed Chinese territory raises concerns about how, and where, Beijing may employ nuclear weapons. Moreover, the CCP is engaged in a robust disinformation campaign across all areas of its government and society: America should not presume anything but deceit from our number one geopolitical threat.

Finally, adopting an NFU policy would cause allied nations, who have rightly forsworn nuclear weapons and who rely on the American nuclear umbrella, to doubt our assurances. And if allies and partners can no longer rely on our nuclear umbrella, they will develop their own. The result of the nuclear idealists’ efforts, zealous as their mission is to take the world down to zero nuclear weapons, could ironically result in precipitous nuclear proliferation.

President Obama, recipient of the Nobel Peace Prize for, in part, his denuclearization aspirations, eschewed an NFU declaration. Though he was ideologically motivated to pursue the idealist nuclear disarmament agenda, reality and the weight of responsibility to protect the American people won the day. It is inexplicable that his vice president, who has decades of experience grappling with the global threats and has had a front-row seat to these executive decisions, would still hold to the notion that NFU is good policy.

We must see the world as it is. We might wish that other nations will follow our lead and do as we do, but other nations do not hold to our same moral judgments. We should not assume that our adversaries will make the same strategic and operational decisions that we make. The historical evidence shows that they are not inspired by our efforts to de-emphasize nuclear weapons, either by unilaterally moving toward lower numbers or by placing restrictions on testing.

Every American president should keep our options open, maintain strategic ambiguity and reject NFU.

## AT: Space Wars CP

### AT: Space Wars CP

#### NATO is ready for attacks in space

NBC News 21 (6/14/2021, <https://www.nbcnews.com/science/space/nato-nations-ready-jointly-respond-attacks-space-rcna1183>)

“We will make it clear at this summit that, of course, any attack on space capabilities like satellites and so on or attacks from space will or could trigger Article 5,” he said, a few hours before chairing a summit with U.S. President Joe Biden and his counterparts. Around 2,000 satellites orbit the earth, over half operated by NATO countries, ensuring everything from mobile phone and banking services to weather forecasts. Military commanders rely on some of them to navigate, communicate, share intelligence and detect missile launches. In December 2019, NATO leaders declared space to be the alliance’s “fifth domain” of operations, after land, sea, air and cyberspace. Many member countries are concerned about what they say is increasingly aggressive behavior in space by China and Russia.

## AT: Tech Leadership CP

### AT: Tech Leadership CP

#### Increasing AI causes gaps in demographics.

Alonso, Kothari, and Rehman 20 — Cristian Alonso, Economist in the IMF’s Fiscal Affairs Department, Siddharth Kothari, Economist in the IMF’s Asia and Pacific Department, Sidra Rehman, Economist in the IMF’s Middle East and Central Asia Department, 2020 (“How Artificial Intelligence Could Widen the Gap Between Rich and Poor Nations,” *International Monetary Fund Blog*, December 2nd, Available Online at <https://blogs.imf.org/2020/12/02/how-artificial-intelligence-could-widen-the-gap-between-rich-and-poor-nations/>, Accessed 07-23-2022)

Improvements in the productivity of robots drive divergence between advanced and developing countries if robots substitute easily for workers. In addition, those improvements will tend to increase incomes but also increase income inequality, at least during the transition and possibly in the long run for some groups of workers, in both advanced and developing economies.

There is no silver bullet for averting divergence. Given the fast pace of the robot revolution, developing countries need to invest in raising aggregate productivity and skill levels more urgently than ever before, so that their labor force is complemented rather than substituted by robots. Of course, this is easier said than done. In our model, increases in total factor productivity—which account for the many institutional and other fundamental differences between developing and advanced countries not captured by labor and capital inputs—are especially beneficial as they incentivize more robots and physical capital accumulation. Such improvements are always beneficial, but the gains are stronger in the context of the artificial intelligence revolution.

Our findings also underscore the importance of human capital accumulation to prevent divergence and point to potentially different growth dynamics among developing economies with different skill levels. The landscape is likely going to be much more challenging for developing countries which have hoped for high dividends from a much-anticipated demographic transition. The growing youth population in developing countries was hailed by policymakers as possibly a big chance to benefit from a transition of jobs from China as a result of its graduating middle-income status. Our findings show that robots may steal these jobs. Policymakers should act to mitigate those risks. Especially in the face of these new technologically-driven pressures, a drastic shift to rapidly improve productivity gains and invest in education and skills development will capitalize on the much-anticipated demographic transition.

## AT: Ukraine CP

### AT: Ukraine CP

#### A neutral Ukraine is not good

Aron 22[Leon, Leon Aron is the author of Roads to the Temple, Yeltsin, and many other books and essays. He is a senior fellow at the American Enterprise Institute., “A Neutral Ukraine Is a Dangerous Idea”, 4/5/22, <https://www.theatlantic.com/ideas/archive/2022/04/ukraine-neutrality-peace-agreement-finland/629473/>]

But dropping sanctions under that circumstance would be a costly mistake. Unlike the Soviet Union’s rules for Finland during the Cold War, Putin’s conditions for the cessation of hostilities will not end with Ukraine’s neutrality.

After World War II, Moscow allowed Finland to keep its Western-style democracy and market economy in exchange for an implicit but inviolable pledge not to join NATO or Western economic and political bodies. Not coincidentally, Finland entered the European Union only after the fall of the Soviet Union. But relations between Finland and the Soviet Union during the Cold War differed enormously from those between Ukraine and Putin’s Russia today.

Ukraine is immeasurably more important to Russia than Finland was to the Soviet Union. It is central to both Russia’s national identity and the political imperatives of the Putin regime’s survival. Helsinki is not Kyiv, which Putin has extolled as [the birthplace](https://tass.ru/arhiv/548753?utm_source=google.com&utm_medium=organic&utm_campaign=google.com&utm_referrer=google.com) of Russian Christianity and the [mother of Russian cities](https://news.obozrevatel.com/politics/49831-putin-nazval-kiev-materyu-russkih-gorodov.htm). The Ukrainians are the “[same people](https://tass.ru/arhiv/548753?utm_source=google.com&utm_medium=organic&utm_campaign=google.com&utm_referrer=google.com)” as the Russians, Putin claims. They are united, he declared in a [long essay](https://rg.ru/2021/07/12/statia-vladimira-putina-ob-istoricheskom-edinstve-russkih-i-ukraincev.html) published last summer, by the same language and economic ties, and, most important, by the Orthodox faith. The Soviet Union did not view its Finnish neighbors the same way.

Most critically, a democratic, politically stable, economically vibrant, and Western-oriented Ukraine is an existential threat to Putin’s stagnant militarized dictatorship. Why, the Russians will inevitably begin asking sooner or later, are our brethren to the southwest free and growing richer, while we are daily insulted by a repressive government and our incomes continue to decline?

Putin does not need a “neutral” Ukraine; he needs a failed Ukraine. His desire to create one—not to fend off a mythical NATO menace—is what this invasion is all about. Beyond a promise that Ukraine not ally militarily with the West, Russia will demand its neighbor’s “demilitarization”—that is, disarmament, which will leave Ukraine with a rump armed forces, shorn of modern weapons. Putin will also require the recognition of Crimea as part of Russia and of Donetsk and Luhansk as “independent” states—in reality, Russian protectorates inside Ukraine.

Thus far, Zelensky has held out against these assaults on his country’s sovereignty by proposing a 15-year period of negotiations over Crimea and by insisting on discussing the status of Donetsk and Luhansk [directly with Putin](https://www.wsj.com/articles/ukraine-and-russia-hold-talks-as-zelensky-criticizes-west-on-sanctions-arms-11648549561). But how long can the Ukrainian president persevere as Russian invaders keep killing Ukrainian civilians and destroying his country’s towns and cities? And how long before the West begins to push the Ukrainian president, gently or otherwise, toward a “settlement”?

Above all, the democratic West wants peace, while Putin needs victory. He is well aware of this fundamental disconnect between Moscow’s aims and those of Ukraine’s Western supporters. This is to his enormous advantage. He knows that time is on his side.

Furthermore, as it did in the negotiations over the Minsk II agreement, forced on Ukraine after the Russian military and its Donbas proxies defeated Ukrainian forces in 2015, Moscow will insist that Ukraine fulfill the obligations under peace accords before Russia implements its part of the bargain. But with Moscow having so far rejected any [international mediation](https://jamestown.org/program/russia-smashing-ukraine-into-pax-russica-part-two/), who will certify, for instance, the withdrawal of Russian troops from Ukraine?  If Moscow’s past conduct is an indication, Putin will almost certainly insist on keeping an undefined number of troops as “peacekeepers” and “defenders” of its Donetsk and Luhansk enclaves, just as its “peacekeeping” contingents continue to guard the de facto protectorates that Russia has established in other former Soviet republics: [Transnistria](https://balkaninsight.com/2022/03/11/moldovas-rebel-region-stays-neutral-in-russias-war-on-ukraine/), in Moldova; [South Ossetia and Abkhazia](https://foreignpolicy.com/2020/08/10/russia-invasion-georgia-12-years-no-end-ambassador-david-bakradze-interview/), in Georgia.

Most important, who will guarantee Russia’s compliance—or compel it if need be? Zelensky’s wish list of potential enforcers has variously included Great Britain, Canada, France, Germany, Israel, Poland, and Turkey. Yet given the ferocity and abandon that Russia has demonstrated, along with Putin’s [threat](https://www.nytimes.com/2022/02/24/opinion/ukraine-putin-russia-times-opinion-writers.html) to meet any intervention with a reaction the “likes of which you have never seen in history”—a transparent hint at [using nuclear weapons](https://www.theatlantic.com/ideas/archive/2022/03/putin-nuclear-weapons-system-presidential-power/627058/)—these countries have responded [tepidly at best](https://www.wsj.com/articles/ukraine-proposal-for-nato-style-security-guarantee-greeted-with-skepticism-11648683375) to Zelensky’s invitation to go to war with Russia if it violates a peace deal with Ukraine.

Without an international security guarantee for Ukraine, is there any doubt that Russia will interpret a peace agreement as the right to meddle aggressively in Ukraine’s politics and seek to reorient the Ukrainian economy toward Russia?

The [invasion](https://www.theatlantic.com/category/russias-invasion-ukraine/), with its wanton assault on Ukrainian cities and industrial base and massacre of Ukrainians, is likely just the first step in Putin’s long-term systematic demoralization and depredation of its neighbor. The ultimate aim is submitting the country to Russian control.

Of course, a truce stopping Russia’s barbaric onslaught might seem worth almost any concessions forced on Kyiv by Moscow. But the West should stop indulging the false hope of “Finlandization” and see the potential armistice for what it is: not a lasting peace that would preserve much of Ukraine’s independence, but rather only a temporary cease-fire in Putin’s long war to end a sovereign Ukraine. Acknowledging this reality is essential to thwarting this plan.

## AT: Warming CP

### AT: Warming CP

#### Nah that stuff sucks!

Lauren 1NC Sommer 22, Vacuuming carbon from the air could help stop climate change. Not everyone agrees, NPR.org, 5-2-2022, <https://www.npr.org/2022/05/02/1095097566/carbon-dioxide-removal-climate-emissions/shppp>

Option 3: Pull it out of the air with big machines

Last year, the largest carbon removal project of its kind started up in Iceland. The Orca plant, run by the Swiss company Climeworks, is essentially a carbon vacuum. Fans pull in air, the carbon is captured by a special material and then it's pumped underground into geologic formations where it mineralizes, remaining trapped.

Other "direct air capture" plants, as they're known, are in development in the U.S. But most are still pilot projects. The technology is expensive and requires a lot of energy. One analysis shows that capturing a ton of carbon this way takes almost as much energy as burning 100 gallons of gasoline, which produces a ton of carbon. If the energy used isn't renewable, it would add more heat-trapping gases to the atmosphere.

[THEIR CARD ENDS]

Oh, and capturing emissions from fossil fuels doesn't count

Some power plants that burn fossil fuels like coal and natural gas are also working on capturing their carbon emissions and then permanently storing them underground. That helps keep new emissions from reaching the atmosphere, but it doesn't lower that overall amount of greenhouse gases already emitted. Fossil fuels hold loads of carbon that used to be buried underground, so trapping those emissions only neutralizes themselves and doesn't help offset emissions from other sources.

So, how much carbon removal is needed?

It all depends on how fast humans can reduce their use of fossil fuels now. But the sooner concentrations of greenhouse gases fall in the atmosphere, the faster the trend of rapidly warming temperatures can be stopped.

By midcentury, carbon removal may need to be scaled up to 10 billion tons of carbon per year, according to a report from the National Academies of Science, Engineering and Medicine. Right now, direct air capture plants are just sequestering 0.01 million tons.

The recent report from the IPCC published overall estimates of how much carbon dioxide removal might be needed, but those numbers were removed due to inconsistencies in how land-based emissions are calculated among different countries. Still, through the end of the century, the report found up to 1 trillion tons of carbon dioxide may need to be removed through bioenergy and direct air capture alone.

What are the downsides of carbon removal?

Cost looms large for carbon capture. The Biden administration recently set a goal of getting carbon removal to below $100 per metric ton within a decade. Currently, capturing carbon directly from the air with technology can cost six or seven times that. And no one is really sure who will pay for it.

Carbon capture projects could also have a **big land impact**, requiring **large industrial facilities** that transport carbon underground, a big concern for environmental justice communities who already bear a heavier burden of living near industry. Demand for bioenergy crops could displace both people and ecosystems that are key to biodiversity.

Some climate activists also worry that focusing on unproven technologies now will dissuade world governments from rapidly cutting their fossil fuel use. They say oil and gas companies are making the case that fossil fuels can keep operating with carbon removal technologies, though that will likely take decades or longer to get established.

"This is influencing many industrial countries to kick the can down the road and make it seem as if we don't need to act urgently and unequivocally right now because later there will be this technology," says Genevieve Guenther, founder of the climate advocacy group End Climate Silence and affiliate faculty at The New School. "It's a new form of climate denial."

No matter the path that countries choose on climate change, the IPCC report emphasizes that carbon dioxide removal will never be the main strategy to combat climate change. Cutting emissions is.

"There is a certain newness factor from carbon dioxide removal and it gets a lot of attention," says Oliver Geden, senior fellow at the German Institute for International and Security Affairs and an author of the recent IPCC report. "But still, it should not be the priority of what we're doing. It should not be the thing we're focusing on. The focus needs to be on reducing emissions and carbon dioxide removal is only a complement to that."