# 1AC (Original)

**WARNING: OLD**

**We affirm that** the United States should increase its use of nuclear energy

## C1: International Influence

#### The US nuclear industry is falling behind on the international market

**Mies 19**

Thomas Graham & Richard Mies, 5-25-2019, "National security stakes of US nuclear energy," The Hill, https://thehill.com/opinion/national-security/445550-national-security-stakes-of-us-nuclear-energy

**Russia and China** have **identified** **nuclear energy as** a **strategic** **export**, to be **leveraged for geopolitical** **influence** as well as for economic gain. According to a recent analysis, Russia is the supplier of more nuclear technology than the next four largest suppliers combined, and China is quickly emerging as a rival. **If the United** **States fails to compete in commercial markets**, **it** **will** **cede** **leadership** to these countries **on nuclear safety, security and nonproliferation**, **as well as foreign** policy **influence**. **As** the **competition** **intensifies** to deliver the next generation of nuclear power technologies, **U.S. nuclear leadership is approaching a** **watershed opportunity**. Simpler, **scalable**, and **less expensive**, small and **advanced reactors are commercially** **attractive** **to** an **expanded range of markets** — particularly in Africa, Asia and the Middle East. **The United States has the world’s best training and development programs**, **unmatched regulatory experience, and multiple** small and **advanced reactor designs**; **we should be** **the** **easy choice** for the next generation of nuclear technology. But early U.S. engagement in these important geopolitical regions is critical. Without it, Russia and China will lock up future nuclear markets through MOUs and other bilateral agreements. And for addressing the national security risks of climate change, nuclear energy is not just an option but a necessity. Developing nations that are planning to meet power and water needs for large and growing populations must have reliable, demonstrated, zero-emission nuclear power in order to meet global climate goals as well. Advanced reactors are integral to these goals.

#### Fortunately, by reigniting and increasing domestic nuclear power we can compete on the global stage

**Mies 19**

Thomas Graham & Richard Mies, 5-25-2019, "National security stakes of US nuclear energy," The Hill, https://thehill.com/opinion/national-security/445550-national-security-stakes-of-us-nuclear-energy

In the United States, nuclear energy is responsible for a fifth of the United States’ total electricity and more than 55 percent of our emissions-free energy, but **the** pace of **domestic** construction of new natural gas plants **far exceeds** the few nuclear plants under development, and the existing **fleet is retiring prematurely** **at an alarming rate**. Which brings us back to the domestic nuclear industry. U.S. global competitiveness and leadership are inextricably linked to a strong domestic nuclear program. **Without** **a healthy** **domestic** **fleet** of plants, **the U.S. supply chain will weaken against international rivals**. **Russia** has **brought six new plants** online in the past five years **and** **has** **six** **more** plants currently **under construction**. In the same period, **China** has **brought** **28 new plants online** **and** **has** **11** others **under construction**. **These** **domestic projects provide** Russia and China with **a robust supply chain**, **an experienced workforce**, **and** **economies of scale that make them** more **competitive** **in bidding on international projects**. **Unless we continue to innovate and build new plants**, **we** **will** **cease** **to be relevant elsewhere**. Even our own domestic energy security is supported by nuclear power. The nuclear plants operating today **are** the most robust elements of U.S. critical infrastructure, offering a level of protection against natural and adversarial threats that is unmatched by other plants. Because the nation’s grid supplies power to 99 percent of U.S. military installations, large scale disruptions affect the nation’s ability to defend itself. **We can regain U.S. leadership** in nuclear energy. **The key steps are to maintain the domestic reactor fleet**, with its reservoir of know-how, **and** to **assist** American entrepreneurs **in developing** **the next generation of the technology**. But the first step is to recognize what is at stake.

#### US market dominance is key to controlling weapon-proliferation

**Graham 19**

Thomas Graham & Richard Mies, 5-25-2019, "National security stakes of US nuclear energy," The Hill, https://thehill.com/opinion/national-security/445550-national-security-stakes-of-us-nuclear-energy

The recent struggles of the U.S. nuclear energy industry may appear to be no more than the usual economic disruption caused by competition among technologies. But from our experience in diplomacy and the armed forces, we understand that a declining domestic civil nuclear industry has other ramifications. **Critical U.S. national security interests are at risk**. We have dedicated our careers to controlling the destructive potential of nuclear weapons. But **since the Atoms for Peace era**, **U.S. leadership in supplying peaceful nuclear energy** technology, equipment, **and fuel to the world has been** important for world development and therefore **critical** **for** **the** **United States** **to** establish and **enforce** **standards for nuclear safety**, **security and nonproliferation**. **But** **in recent decades, the U.S. share** **of** **international** commercial **nuclear** **energy markets has** **diminished**, **and** so **with** **it** has **the United States’** **ability** **to** **influence** global **standards** **in** **peaceful** **nuclear** **energy**. **The critical moment for U.S. leadership** in nuclear energy **is** **when a country is developing** **nuclear** **energy** **for the first time**. **The supplier country and** the **developing country** typically **forge** **a relationship** **that endures** for **the 80- to 100-year life** **of** **the nuclear program**. **Unlike a coal or gas plant**, **nuclear** **reactors need specialized fuel and maintenance**. Once established, **the bilateral commercial** **relationship** is not easily dislodged by a rival nation, **providing** **the supplier** profound and **lasting** **influence** **on** **the partner’s nuclear policies and practices**.

### MPX: Nuclear Catastrophe

#### Non-US reactor deals are beginning to threaten widespread proliferation

**Reynolds 17**

Sam Reynolds, 4-27-2017, "Why the Civil Nuclear Trap Is Part and Parcel of the Belt and Road Strategy," TheDiplomat, https://thediplomat.com/2018/07/why-the-civil-nuclear-trap-is-part-and-parcel-of-the-belt-and-road-strategy/

Since President Xi Jinping announced China’s Belt and Road Initiative (BRI) in 2013, there has been no shortage of speculation on the motivations behind it. While Beijing has extolled the $1 trillion initiative’s benefits — including trade creation, economic development, and renewable energy — it has also repeatedly tried to soft-pedal the BRI’s military strategic implications. **Nuclear power plant** (**NPP**) projects, for example, are not listed on several Chinese government BRI websites. Yet, over the next decade China plans to build 30 reactors in BRI countries, many of which are either not party to global nuclear nonproliferation regimes or lack the regulatory basis for controlling nuclear fuel uses. These projects are certainly part China’s grander energy strategy and paint a clearer, drearier picture of how the initiative might unravel. Developing countries should not be enticed by NPPs, with or without Chinese funding. China is backing them to achieve its own economic and geostrategic goals rather than a public good. Civil nuclear energy presents grave pitfalls in terms of cost, innovation and security that BRI countries cannot and should not afford. Left Off The List The vision statement for **the BRI, issued** by **the Chinese government, states clearly that it will advance nuclear power cooperation, and** the **Belt and Road Energy Cooperation website lists a handful of bilateral nuclear agreements.** Many independent sources like the Carnegie Endowment for International Peace, PricewaterhouseCoopers, and the Stockholm International Peace Research Institute include reactors under the official BRI umbrella. The Chinese National Nuclear Corporation stated that it has already sold eight to seven countries, and is in talks with more than 40 others. Many of them are BRI participants, including Sudan, Kenya, Egypt, Thailand, Malaysia, Turkey, Saudi Arabia, Iran, and the United Kingdom. However, official BRI websites like the Belt and Road Portal, the Belt and Road Forum and the China-Pakistan Economic Corridor (CPEC) database leave out NPP projects. There are a number of reasons why Chinese websites might not list them. **Nuclear technologies are dual-use, meaning that weapons-grade uranium enrichment requires essentially the same technology as enrichment for civil energy purposes** (albeit with many more centrifuges). By leaving nuclear projects officially out of the BRI, China downplays the threat of nuclear weapons proliferation along BRI corridors, binding countries to Beijing via technological cooperation and long-term debt. Another reason is that **China wants to whitewash its violations of nuclear nonproliferation regimes. China is** a **member** of the **Nuclear Suppliers Group, prohibiting** it from **exporting nuclear material to countries like Pakistan, which has not signed the Non-Proliferation Treaty, acceded to full International Atomic Energy Agency (IAEA) safeguards, or decelerated its nuclear weapons program. Yet, Chinese officials** have **stated** their **involvement in six nuclear reactor[s]** projects **there.** A third reason is that **China is building NPPs in scant regulatory environments, regardless of the glaring security risks. Sudan,** which plays **a huge role in** the **BRI, recently signed a framework agreement with China to construct its first** nuclear **reactor. However**, a 2017 study by the Institute for Science and International Security ranked 200 countries based on their ability to limit nuclear trafficking. **Sudan** ranked 194th. Moreover, it **has not signed** the **IAEA Additional Protocol, which significantly improves the organization’s ability to verify** that **nuclear fuel is used only for civil energy purposes. Four countries on Sudan’s porous borders have not signed it either.** These highly irresponsible “geostrategic nuclear exports” are China’s attempt to compete with Russia. Both countries have signed nuclear deals with Iran, Egypt, Sudan and Turkey, and both have looked to dominate nuclear export markets by pushing reactors in places where they do not belong. For Beijing, these projects buy lasting influence in regions supplying raw materials and draw historically pro-Western countries further into the Chinese camp. The Larger Point Although China will continue to promote the benevolent aspects of the BRI, countries along its corridors and elsewhere should not fall victim to the civil nuclear trap. Nuclear energy is too costly, too time-consuming and too risky, especially in light of better alternatives. Instead, developing countries should lead the way towards a secure, low-carbon, low-cost energy future without NPPs. Nuclear advocates argue correctly that nuclear has comparable levelized costs to solar photovoltaics (PV). The irony is that projects regularly go over budget and costs can actually increase the more nuclear experience a country has, contradicting the learning curve phenomenon. Although the French nuclear program was incredibly successful, it demonstrated “negative learning,” wherein costs actually increased for additional projects. (Solar PV and wind costs decreased the fastest with every doubling of experience.) Therefore, innovations and experience in nuclear technology might not lead to cost reductions.

#### Nuclear proliferation creates probable scenarios for nuclear escalation given existential fears over preemptive strikes

**Kroenig 15**

Matthew Kroenig, 1-xx-2015, "(PDF) The History of Proliferation Optimism: Does It Have a Future?," Journal of Strategic Studies, https://www.researchgate.net/publication/273960071\_The\_History\_of\_Proliferation\_Optimism\_Does\_It\_Have\_a\_Future

(*QUALS: Associate Professor and International Relations Field Chair at Georgetown, Nonresident Senior Fellow at Brent Scowcroft Center on International Security)*

The greatest threat posed by the spread of nuclear weapons is nuclear war. **The more states in possession of nuclear weapons, the greater the probability** **that** somewhere, someday, **there will be a catastrophic nuclear war**. To date, nuclear weapons have only been used in warfare once. In 1945, the United States used nuclear weapons on Hiroshima and Nagasaki, bringing World War II to a close. Many analysts point to the 65-plusyear tradition of nuclear non-use as evidence that nuclear weapons are unusable, but it would be naïve to think that nuclear weapons will never be used again simply because they have not been used for some time. After all, analysts in the 1990s argued that worldwide economic downturns like the Great Depression were a thing of the past, only to be surprised by the dotcom bubble bursting later in the decade and the Great Recession of the late 2000s.48 This author, for one, would be surprised if nuclear weapons are not used again sometime in his lifetime. **Before reaching a state of [mutually assured destruction] MAD, new nuclear states go through a transition period in which they lack a secure-second strike capability. In this context, one or both states might believe that it has an incentive to use nuclear weapons first**. For example, if Iran acquires nuclear weapons, neither Iran, nor its nuclear-armed rival, Israel, will have a secure, second-strike capability. Even though it is believed to have a large arsenal, given its small size and lack of strategic depth, Israel might not be confident that it could absorb a nuclear strike and respond with a devastating counterstrike. Similarly, Iran might eventually be able to build a large and survivable nuclear arsenal, but, when it first crosses the nuclear threshold, Tehran will have a small and vulnerable nuclear force. In these pre-MAD situations, there are at least three ways that nuclear war could occur. First, **the state with the nuclear advantage might believe it has a splendid first strike capability**. In a crisis, Israel might, therefore, decide to launch a preventive nuclear strike to disarm Iran’s nuclear capabilities. Indeed, this incentive might be further increased by Israel’s aggressive strategic culture that emphasizes preemptive action. Second, **the state with a small and vulnerable nuclear arsenal**, in this case Iran, **might** feel **use them or lose them pressures**. That is, in a crisis, Iran might decide to strike first rather than risk having its entire nuclear arsenal destroyed. Third, as Thomas Schelling has argued**, [simplified], nuclear war could result due to the reciprocal fear of surprise attack.**49 If there are advantages to striking first, one state might start a nuclear war in the belief that war is inevitable and that it would be better to go first than to go second. Fortunately, there is no historic evidence of this dynamic occurring in a nuclear context, but it is still possible. In an Israeli–Iranian crisis, for example, Israel and Iran might both prefer to avoid a nuclear war, but decide to strike first rather than suffer a devastating first attack from an opponent. **Even in a world of MAD,** however, when both sides have secure, second-strike capabilities, **there is still a risk of nuclear war.** Rational **deterrence theory assumes nuclear-armed states are governed by rational leaders who would not intentionally launch a suicidal nuclear war. This assumption** appearsto have **applied to past** and current **nuclear powers, but there is no guarantee that it will continue to hold** in thefuture**.** Iran’s theocratic government, despite its inflammatory rhetoric, has followed a fairly pragmatic foreign policy since 1979, but it contains leaders who hold millenarian religious worldviews and could one day ascend to power**. We cannot rule out** thepossibility **that, as nuclear weapons continue to spread, some leader somewhere will choose to launch a nuclear war, knowing full well that it could result in self-destruction**. One does not need to resort to irrationality, however, to imagine nuclear war under MAD. Nuclear weapons may deter leaders from intentionally launching full-scale wars, but they do not mean the end of international politics. As was discussed above, nuclear-armed states still have conflicts of interest and leaders still seek to coerce nuclear armed adversaries. Leaders might, therefore, choose to launch a limited nuclear war.50 This strategy might be especially attractive to states in a position of conventional inferiority that might have an incentive to escalate a crisis quickly to the nuclear level. During the Cold War, the United States planned to use nuclear weapons first to stop a Soviet invasion of Western Europe given NATO’s conventional inferiority.51 As Russia’s conventional power has deteriorated since the end of the Cold War, Moscow has come to rely more heavily on nuclear weapons in its military doctrine. Indeed, Russian strategy calls for the use of nuclear weapons early in a conflict (something that most Western strategists would consider to be escalatory) as a way to de-escalate a crisis. Similarly, Pakistan’s military plans for nuclear use in the event of an invasion from conventionally stronger India. And finally, Chinese generals openly talk about the possibility of nuclear use against a US superpower in a possible East Asia contingency. Second, as was also discussed above, leaders can make a ‘threat that leaves something to chance’. 52 They can initiate a nuclear crisis. By playing these risky games of nuclear brinkmanship, states can increase the risk of nuclear war in an attempt to force a less resolved adversary to back down. Historical crises have not resulted in nuclear war, but many of them, including the 1962 Cuban Missile Crisis, have come close. And scholars have documented historical incidents when accidents nearly led to war.53 When we think about future nuclear crisis dyads, such as Iran and Israel, with fewer sources of stability than existed during the Cold War, we can see that there is a real risk that a future crisis could result in a devastating nuclear exchange.

#### Nuclear detonation creates an environmental disaster culminating in extinction

**Robock 11**

Alan Robock, 5-18-2011, “Nuclear winter is a real and present danger”, Department of Environmental Sciences @ Rutgers University, http://www.nature.com/nature/journal/v473/n7347/full/473275a.html

In the 1980s, discussion and debate about the possibility of a 'nuclear winter' helped to end the arms race between the United States and the Soviet Union. As former Soviet president Mikhail Gorbachev said in an interview in 2000: “Models made by Russian and American scientists showed that a **nuclear war would result** **in** **a** nuclear **winter that would be** **extremely destructive to all life on Earth**; the knowledge of that was a great stimulus to us, to people of honour and morality, to act.” As a result, the number of nuclear weapons in the world started to fall, from a peak of about 70,000 in the 1980s to a total of about 22,000 today. In another five years that number could go as low as 5,000, thanks to the New Strategic Arms Reduction Treaty (New START) between the United States and Russia, signed on 8 April 2010. Yet **the environmental** **threat** of nuclear war **has not gone away**. The world **faces** **the prospect of a smaller**, **but still catastrophic, nuclear conflict**. There are now nine nuclear-weapons states. Use of **a fraction of** **the** **global nuclear arsenal** by anyone, from the superpowers to India versus Pakistan, still **presents** **the** **largest** **potential** environmental **danger to the planet** by humans. That threat is being ignored. One reason for this denial is that the prospect of a nuclear war is so horrific on so many levels that most people simply look away. Two further reasons are myths that persist among the general public: that the nuclear winter theory has been disproved, and that nuclear winter is no longer a threat. **These myths need to be debunked**. The term 'nuclear winter', coined by Carl Sagan and his colleagues in a 1983 paper1 in Science, describes the dramatic effects on the climate caused by smoke from fires ignited by nuclear attacks on cities and industrial areas. In the 1980s my colleagues and I calculated, using the best climate models available at the time, that if one-third of the existing arsenal was used, **there** **would** **be** **so much** **smoke** **that** surface **temperatures would plummet** below freezing **around the world for months**, **killing virtually all plants and producing** **worldwide famine.** More people could die in China from starvation than in the nations actively bombing each other. As many countries around the world realized that a superpower nuclear war would be a disaster for them, they pressured the superpowers to end their arms race. Sagan did a good job of summarizing the policy impacts2 in 1984: although weapons were continuing to be built, it would be suicide to use them. The idea of climatic catastrophe was fought against by those who wanted to keep the nuclear-weapon industry alive, or who supported the growth of nuclear arsenals politically3. Scientifically, there was no real debate about the concept, only about the details. In 1986, atmospheric researchers Starley Thompson and Stephen Schneider wrote a piece in Foreign Affairs appraising the theory4 and highlighting what they saw as the patchiness of the effect. They coined the term 'nuclear autumn', noting that it wouldn't be 'winter' everywhere in the aftermath of a nuclear attack. They didn't mean for people to think that it would be all raking leaves and football games, but many members of the public, and some pro-nuclear advocates, preferred to take it that way. The fight over the details of the modelling caused a rift between Sagan and Schneider that never healed. When I bring up the topic of nuclear winter, people invariably tell me that they think the theory has been disproved. But **research continues to support the original concept**. By 2007, models had began to approximate a realistic atmosphere up to 80 kilometres above Earth's surface, including the stratosphere and mesosphere. This enabled me, and my coauthors, to calculate for the first time that smoke particles would be heated by the Sun and lifted into the upper stratosphere, where they would stay for many years5, 6. So the cooling would last for much longer than we originally thought. Dark days Many of those who do accept the nuclear-winter concept think that the scenario applies only to a mass conflict, on a scale no longer conceivable in the modern world. This is also false. **A 'small' nuclear war** between India and Pakistan, with each using 50 Hiroshima-size bombs (far less than 1% of the current arsenal), if dropped on megacity targets in each country **would** **produce climate change unprecedented in recorded human history5**. Five million tonnes of black carbon smoke would be emitted into the upper troposphere from the burning cities, and then be lofted into the stratosphere by the heat of the Sun. Temperatures would be lower than during the 'Little Ice Age' (1400–1850), during which famine killed millions. For several years, growing seasons would be shortened by weeks in the mid-latitudes (see 'A decade of cooling). Brian Toon at the University of Colorado in Boulder, Richard Turco at the University of California, Los Angeles, Georgiy Stenchikov at Rutgers University in New Brunswick, New Jersey, and I, all of whom were **pioneers in nuclear-winter research** in the 1980s, have tried, along with our students, to publicize our results. We have published refereed journal articles, popular pieces in Physics Today and Scientific American, a policy forum in Science, and now this article. But Foreign Affairs and Foreign Policy, perhaps the two most prominent foreign-policy magazines in English, **would not even review articles we submitted**. We have had no luck getting attention from the US government. Toon and I visited the US Congress and gave briefings to congressional staff on the subject two years ago, but nothing happened as a result. The US President's science adviser John Holdren has not responded to our requests — in 2009 and more recently — for consideration of new scientific results in US nuclear policy.

# 1AC (2.0)

**We affirm that** the United States should increase its use of nuclear energy

## C1: International Influence

#### The US is rapidly falling behind on the international market because a lack of domestic industry production

**Mies 19**

Thomas Graham & Richard Mies, 5-25-2019, "National security stakes of US nuclear energy," The Hill, https://thehill.com/opinion/national-security/445550-national-security-stakes-of-us-nuclear-energy

In the United States, nuclear energy is responsible for a fifth of the United States’ total electricity and more than 55 percent of our emissions-free energy, but **the** pace of **domestic** construction of new natural gas plants **far exceeds** the few nuclear plants under development, and the existing **fleet is retiring prematurely** **at an alarming rate**. Which brings us back to the domestic nuclear industry. U.S. global competitiveness and leadership are inextricably linked to a strong domestic nuclear program. **Without** **a healthy** **domestic** **fleet** of plants, **the U.S. supply chain will weaken against international rivals**. **Russia** has **brought six new plants** online in the past five years **and** **has** **six** **more** plants currently **under construction**. In the same period, **China** has **brought** **28 new plants online** **and** **has** **11** others **under construction**. **These** **domestic projects provide** Russia and China with **a robust supply chain**, **an experienced workforce**, **and** **economies of scale that make them** more **competitive** **in bidding on international projects**. **Unless we continue to innovate and build new plants**, **we** **will** **cease** **to be relevant elsewhere**. Even our own domestic energy security is supported by nuclear power. The nuclear plants operating today **are** the most robust elements of U.S. critical infrastructure, offering a level of protection against natural and adversarial threats that is unmatched by other plants. Because the nation’s grid supplies power to 99 percent of U.S. military installations, large scale disruptions affect the nation’s ability to defend itself. **We can regain U.S. leadership** in nuclear energy. **The key steps are to maintain the domestic reactor fleet**, with its reservoir of know-how, **and** to **assist** American entrepreneurs **in developing** **the next generation of the technology**. But the first step is to recognize what is at stake.

#### The US international nuclear industry is declining during a watershed opportunity for global development. Affirming is critical to reigniting the domestic US market that ensures we can compete globally and enforce weapon nonproliferation standards through bilateral trade agreements

**Sukin 16**

Lauren Sukin, 5-19-2016, "How America Can Dominate Global Nuclear Energy," National Interest, https://nationalinterest.org/feature/how-america-can-dominate-global-nuclear-energy-16274

**If the industry can rebound**, **it** **will** **have the opportunity** **to** **seize** **meaningful influence** **in** **the nuclear energy exports market**, for **although** **it** **seems to be falling behind now**, its competitors face critical obstacles as well. Russia’s industry is massively overstretched, suffers from corruption and has regularly seen the actual cost of its projects far exceed proposed costs; the South Korean nuclear industry is still battling the effects of a recent bout of corruption and many of its designs stem from U.S. companies, making it difficult for the nation to engage in independent exporting projects; **China’s** industry has been scrutinized for its safety protocols, and it lacks both exporting experience and government interest in expanding nuclear exports; France’s nuclear exporting companies have fallen on hard economic times and have begun scaling down; Japan's industry faces domestic opposition over exports and is still focused on rebuilding after the Fukushima fallout; while the Canadian nuclear export industry remains comparatively small. And that’s all. **With**out a lot of **competitors**, and with all of them **suffering serious challenges of their own**, **the United States is facing** an **opportunity to seize market share before** its **competitors can rebound from** their **current problems**. The market for nuclear-energy technology is large, though the available providers are scarce. **Today there are** 438 operational nuclear reactors and **five hundred additional proposed plants across the globe**. Nevertheless, current upper-end estimates for global production capacity for whole nuclear reactor units are still low: approximately six to eight units per year, though each plant usually has two or more reactors. **Since** global **demand is notably higher than that capacity**, **the United States could be the one to step in and offer faster construction times for countries that don’t want to wait for Russia [or China]** or South Korea **to finish dozens of other projects before beginning theirs**. This all goes to show that, even if the United States’ competitors are able to resolve their internal problems, there’s still enough unclaimed space in the nuclear-energy market for the United States to expand its current export capacity. (And if other exporters continue to face troubles, the United States could reach even further into the widening global nuclear market). Moreover, interest has picked up the most in areas where U.S. alliances remain strong: namely, Asia. The Far East has twenty-nine nuclear power plants currently under construction, more than twice as many as the next closest region, central and eastern Europe, has under construction. The region coming in third, the Middle East and South Asia, also holds significant potential for U.S. export expansion. While the United States’ relationships in the Middle East are rockier than those in South and East Asia, the possibility of strengthened cooperation in the Middle Eastern nuclear realm could be the key to strengthening security and defense partnerships in the region—if the United States can take advantage of burgeoning interest. Yet the road to become a nuclear exporting powerhouse once again won’t be an easy one—so what’s in it for the United States? To start with, jobs. **A rebuilt U.S. nuclear industry** **would** **provide** jobs for high-skilled labor and be a **significant economic investment**. Estimates from the U.S. Department of Commerce suggest that the size of the international market for nuclear technology and services lies between $500 and $740 billion over the next decade, with five thousand to ten thousand jobs resulting from every $1 billion in U.S. nuclear exports. While financing for nuclear power plants varies from site to site, the burden is generally on the importer to provide public or find private backing for the plant’s costs. In some cases, the exporter will cover capital costs in exchange for control over the plant, allowing the exporter to recoup its investments after the plant begins generating and selling electricity. 0 SECONDS Do You Know What Happened On This Day? Because capital costs are the most significant chunk of a plant’s financing, the shape of the overall energy market has implications for the economic viability of nuclear power; for example, carbon taxes or carbon emissions trading can incentive investment in nuclear power, while high interest rates hurt the nuclear market. **Fortunately, a global pattern** **of low interest rates** and the increasingly possibility of stronger U.S. actions on climate changes might **make** **for a bullish nuclear energy** **market** in the upcoming years, one **that the United States could capitalize on** **if it strengthened** **its industry**. The benefits of nuclear exporters aren’t just domestic, either. Nuclear power plants’ vast benefits for their host countries—comparatively low environmental impact, economically efficient energy production, suitability for powering desalination plants—make nuclear power a worthy industry for additional attention. Nuclear-power **exports** **would** also **provide** **the United States with a leg up** **when it comes** **to proliferation** concerns. First, **U.S. nuclear-energy partners must negotiate 123 agreements**, **which** help **monitor nuclear activities and limit countries’ abilities to develop** **offensive nuclear capabilities**. Second, **the** U.S. nuclear industry has **high safety standards** all along the nuclear supply chain, standards **that other exporters do not** necessarily **meet**. By designing and **exporting** **safer nuclear plants, the** United States **could reduce the global risk of nuclear accidents**. Third, U.S. nuclear exports would allow the United States to utilize scientific diplomacy to build significant and sustainable partnerships throughout the world; these relationships could translate not only to cooperation on additional nonproliferation issues, but on other areas of security and scientific policy as well. **These** **relationships would** also **be essential for nuclear security**, **in** **that the United States could** **serve** a **helpful advisory** role in importing states’ efforts **to build the educational**, **regulatory** **and infrastructural institutions needed to sustain a safe nuclear industry**. Finally, U.S. exporting capabilities would also provide intimate knowledge of international partners’ nuclear-energy industries, giving the United States a potential guidance role in the case of nuclear accidents as well as intelligence that could be useful for nonproliferation activities. Given the many benefits of U.S. nuclear exporters, what can the United States do to build up its industry? The greatest challenge to U.S. nuclear energy exports today is the United States itself, but fortunately, smarter government policy could strengthen the U.S. nuclear industry. For example, strengthening the Export-Import Bank could give nuclear energy exporters more access to financing. U.S. nuclear exporters’ competitors have significant financing from their home governments, in some cases because the nuclear industry is public, and in others because of fairly seamless public-private partnerships. This indicates that U.S. backing of its own nuclear export industry will be essential to ensuring competitiveness.

### MPX: Nuclear Catastrophe

#### Non-US reactor deals are beginning to threaten widespread proliferation

**Reynolds 17**

Sam Reynolds, 4-27-2017, "Why the Civil Nuclear Trap Is Part and Parcel of the Belt and Road Strategy," TheDiplomat, https://thediplomat.com/2018/07/why-the-civil-nuclear-trap-is-part-and-parcel-of-the-belt-and-road-strategy/

Since President Xi Jinping announced China’s Belt and Road Initiative (BRI) in 2013, there has been no shortage of speculation on the motivations behind it. While Beijing has extolled the $1 trillion initiative’s benefits — including trade creation, economic development, and renewable energy — it has also repeatedly tried to soft-pedal the BRI’s military strategic implications. **Nuclear power plant** (**NPP**) projects, for example, are not listed on several Chinese government BRI websites. Yet, over the next decade China plans to build 30 reactors in BRI countries, many of which are either not party to global nuclear nonproliferation regimes or lack the regulatory basis for controlling nuclear fuel uses. These projects are certainly part China’s grander energy strategy and paint a clearer, drearier picture of how the initiative might unravel. Developing countries should not be enticed by NPPs, with or without Chinese funding. China is backing them to achieve its own economic and geostrategic goals rather than a public good. Civil nuclear energy presents grave pitfalls in terms of cost, innovation and security that BRI countries cannot and should not afford. Left Off The List The vision statement for **the BRI, issued** by **the Chinese government, states clearly that it will advance nuclear power cooperation, and** the **Belt and Road Energy Cooperation website lists a handful of bilateral nuclear agreements.** Many independent sources like the Carnegie Endowment for International Peace, PricewaterhouseCoopers, and the Stockholm International Peace Research Institute include reactors under the official BRI umbrella. The Chinese National Nuclear Corporation stated that it has already sold eight to seven countries, and is in talks with more than 40 others. Many of them are BRI participants, including Sudan, Kenya, Egypt, Thailand, Malaysia, Turkey, Saudi Arabia, Iran, and the United Kingdom. However, official BRI websites like the Belt and Road Portal, the Belt and Road Forum and the China-Pakistan Economic Corridor (CPEC) database leave out NPP projects. There are a number of reasons why Chinese websites might not list them. **Nuclear technologies are dual-use, meaning that weapons-grade uranium enrichment requires essentially the same technology as enrichment for civil energy purposes** (albeit with many more centrifuges). By leaving nuclear projects officially out of the BRI, China downplays the threat of nuclear weapons proliferation along BRI corridors, binding countries to Beijing via technological cooperation and long-term debt. Another reason is that **China wants to whitewash its violations of nuclear nonproliferation regimes. China is** a **member** of the **Nuclear Suppliers Group, prohibiting** it from **exporting nuclear material to countries like Pakistan, which has not signed the Non-Proliferation Treaty, acceded to full International Atomic Energy Agency (IAEA) safeguards, or decelerated its nuclear weapons program. Yet, Chinese officials** have **stated** their **involvement in six nuclear reactor[s]** projects **there.** A third reason is that **China is building NPPs in scant regulatory environments, regardless of the glaring security risks. Sudan,** which plays **a huge role in** the **BRI, recently signed a framework agreement with China to construct its first** nuclear **reactor. However**, a 2017 study by the Institute for Science and International Security ranked 200 countries based on their ability to limit nuclear trafficking. **Sudan** ranked 194th. Moreover, it **has not signed** the **IAEA Additional Protocol, which significantly improves the organization’s ability to verify** that **nuclear fuel is used only for civil energy purposes. Four countries on Sudan’s porous borders have not signed it either.** These highly irresponsible “geostrategic nuclear exports” are China’s attempt to compete with Russia. Both countries have signed nuclear deals with Iran, Egypt, Sudan and Turkey, and both have looked to dominate nuclear export markets by pushing reactors in places where they do not belong. For Beijing, these projects buy lasting influence in regions supplying raw materials and draw historically pro-Western countries further into the Chinese camp. The Larger Point Although China will continue to promote the benevolent aspects of the BRI, countries along its corridors and elsewhere should not fall victim to the civil nuclear trap. Nuclear energy is too costly, too time-consuming and too risky, especially in light of better alternatives. Instead, developing countries should lead the way towards a secure, low-carbon, low-cost energy future without NPPs. Nuclear advocates argue correctly that nuclear has comparable levelized costs to solar photovoltaics (PV). The irony is that projects regularly go over budget and costs can actually increase the more nuclear experience a country has, contradicting the learning curve phenomenon. Although the French nuclear program was incredibly successful, it demonstrated “negative learning,” wherein costs actually increased for additional projects. (Solar PV and wind costs decreased the fastest with every doubling of experience.) Therefore, innovations and experience in nuclear technology might not lead to cost reductions.

#### Nuclear proliferation creates probable scenarios for nuclear escalation given existential fears over preemptive strikes

**Kroenig 15**

Matthew Kroenig, 1-xx-2015, "(PDF) The History of Proliferation Optimism: Does It Have a Future?," Journal of Strategic Studies, https://www.researchgate.net/publication/273960071\_The\_History\_of\_Proliferation\_Optimism\_Does\_It\_Have\_a\_Future

(*QUALS: Associate Professor and International Relations Field Chair at Georgetown, Nonresident Senior Fellow at Brent Scowcroft Center on International Security)*

The greatest threat posed by the spread of nuclear weapons is nuclear war. **The more states in possession of nuclear weapons, the greater the probability** **that** somewhere, someday, **there will be a catastrophic nuclear war**. To date, nuclear weapons have only been used in warfare once. In 1945, the United States used nuclear weapons on Hiroshima and Nagasaki, bringing World War II to a close. Many analysts point to the 65-plusyear tradition of nuclear non-use as evidence that nuclear weapons are unusable, but it would be naïve to think that nuclear weapons will never be used again simply because they have not been used for some time. After all, analysts in the 1990s argued that worldwide economic downturns like the Great Depression were a thing of the past, only to be surprised by the dotcom bubble bursting later in the decade and the Great Recession of the late 2000s.48 This author, for one, would be surprised if nuclear weapons are not used again sometime in his lifetime. **Before reaching a state of [mutually assured destruction] MAD, new nuclear states go through a transition period in which they lack a secure-second strike capability. In this context, one or both states might believe that it has an incentive to use nuclear weapons first**. For example, if Iran acquires nuclear weapons, neither Iran, nor its nuclear-armed rival, Israel, will have a secure, second-strike capability. Even though it is believed to have a large arsenal, given its small size and lack of strategic depth, Israel might not be confident that it could absorb a nuclear strike and respond with a devastating counterstrike. Similarly, Iran might eventually be able to build a large and survivable nuclear arsenal, but, when it first crosses the nuclear threshold, Tehran will have a small and vulnerable nuclear force. In these pre-MAD situations, there are at least three ways that nuclear war could occur. First, **the state with the nuclear advantage might believe it has a splendid first strike capability**. In a crisis, Israel might, therefore, decide to launch a preventive nuclear strike to disarm Iran’s nuclear capabilities. Indeed, this incentive might be further increased by Israel’s aggressive strategic culture that emphasizes preemptive action. Second, **the state with a small and vulnerable nuclear arsenal**, in this case Iran, **might** feel **use them or lose them pressures**. That is, in a crisis, Iran might decide to strike first rather than risk having its entire nuclear arsenal destroyed. Third, as Thomas Schelling has argued**, [simplified], nuclear war could result due to the reciprocal fear of surprise attack.**49 If there are advantages to striking first, one state might start a nuclear war in the belief that war is inevitable and that it would be better to go first than to go second. Fortunately, there is no historic evidence of this dynamic occurring in a nuclear context, but it is still possible. In an Israeli–Iranian crisis, for example, Israel and Iran might both prefer to avoid a nuclear war, but decide to strike first rather than suffer a devastating first attack from an opponent.

#### Nuclear detonation creates an environmental catastrophe culminating in extinction

**Robock 11**

Alan Robock, 5-18-2011, “Nuclear winter is a real and present danger”, Department of Environmental Sciences @ Rutgers University, http://www.nature.com/nature/journal/v473/n7347/full/473275a.html

In the 1980s, discussion and debate about the possibility of a 'nuclear winter' helped to end the arms race between the United States and the Soviet Union. As former Soviet president Mikhail Gorbachev said in an interview in 2000: “Models made by Russian and American scientists showed that a **nuclear war would result** **in** **a** nuclear **winter that would be** **extremely destructive to all life on Earth**; the knowledge of that was a great stimulus to us, to people of honour and morality, to act.” As a result, the number of nuclear weapons in the world started to fall, from a peak of about 70,000 in the 1980s to a total of about 22,000 today. In another five years that number could go as low as 5,000, thanks to the New Strategic Arms Reduction Treaty (New START) between the United States and Russia, signed on 8 April 2010. Yet **the environmental** **threat** of nuclear war **has not gone away**. The world **faces** **the prospect of a smaller**, **but still catastrophic, nuclear conflict**. There are now nine nuclear-weapons states. Use of **a fraction of** **the** **global nuclear arsenal** by anyone, from the superpowers to India versus Pakistan, still **presents** **the** **largest** **potential** environmental **danger to the planet** by humans. That threat is being ignored. One reason for this denial is that the prospect of a nuclear war is so horrific on so many levels that most people simply look away. Two further reasons are myths that persist among the general public: that the nuclear winter theory has been disproved, and that nuclear winter is no longer a threat. **These myths need to be debunked**. The term 'nuclear winter', coined by Carl Sagan and his colleagues in a 1983 paper1 in Science, describes the dramatic effects on the climate caused by smoke from fires ignited by nuclear attacks on cities and industrial areas. In the 1980s my colleagues and I calculated, using the best climate models available at the time, that if one-third of the existing arsenal was used, **there** **would** **be** **so much** **smoke** **that** surface **temperatures would plummet** below freezing **around the world for months**, **killing virtually all plants and producing** **worldwide famine.** More people could die in China from starvation than in the nations actively bombing each other. As many countries around the world realized that a superpower nuclear war would be a disaster for them, they pressured the superpowers to end their arms race. Sagan did a good job of summarizing the policy impacts2 in 1984: although weapons were continuing to be built, it would be suicide to use them. The idea of climatic catastrophe was fought against by those who wanted to keep the nuclear-weapon industry alive, or who supported the growth of nuclear arsenals politically3. Scientifically, there was no real debate about the concept, only about the details. In 1986, atmospheric researchers Starley Thompson and Stephen Schneider wrote a piece in Foreign Affairs appraising the theory4 and highlighting what they saw as the patchiness of the effect. They coined the term 'nuclear autumn', noting that it wouldn't be 'winter' everywhere in the aftermath of a nuclear attack. They didn't mean for people to think that it would be all raking leaves and football games, but many members of the public, and some pro-nuclear advocates, preferred to take it that way. The fight over the details of the modelling caused a rift between Sagan and Schneider that never healed. When I bring up the topic of nuclear winter, people invariably tell me that they think the theory has been disproved. But **research continues to support the original concept**. By 2007, models had began to approximate a realistic atmosphere up to 80 kilometres above Earth's surface, including the stratosphere and mesosphere. This enabled me, and my coauthors, to calculate for the first time that smoke particles would be heated by the Sun and lifted into the upper stratosphere, where they would stay for many years5, 6. So the cooling would last for much longer than we originally thought. Dark days Many of those who do accept the nuclear-winter concept think that the scenario applies only to a mass conflict, on a scale no longer conceivable in the modern world. This is also false. **A 'small' nuclear war** between India and Pakistan, with each using 50 Hiroshima-size bombs (far less than 1% of the current arsenal), if dropped on megacity targets in each country **would** **produce climate change unprecedented in recorded human history5**. Five million tonnes of black carbon smoke would be emitted into the upper troposphere from the burning cities, and then be lofted into the stratosphere by the heat of the Sun. Temperatures would be lower than during the 'Little Ice Age' (1400–1850), during which famine killed millions. For several years, growing seasons would be shortened by weeks in the mid-latitudes (see 'A decade of cooling). Brian Toon at the University of Colorado in Boulder, Richard Turco at the University of California, Los Angeles, Georgiy Stenchikov at Rutgers University in New Brunswick, New Jersey, and I, all of whom were **pioneers in nuclear-winter research** in the 1980s, have tried, along with our students, to publicize our results. We have published refereed journal articles, popular pieces in Physics Today and Scientific American, a policy forum in Science, and now this article. But Foreign Affairs and Foreign Policy, perhaps the two most prominent foreign-policy magazines in English, **would not even review articles we submitted**. We have had no luck getting attention from the US government. Toon and I visited the US Congress and gave briefings to congressional staff on the subject two years ago, but nothing happened as a result. The US President's science adviser John Holdren has not responded to our requests — in 2009 and more recently — for consideration of new scientific results in US nuclear policy.

# 2AC

## Overviews

### OV: Prolif (Lay Weighing)

**By driving the US domestic nuclear industry, you create key supply chain leverage that allows US implementation of nuclear to dominate the international market. This would ensure the enforcement of the nonproliferation treaty and increase security regarding dangerous nuclear material. This barrier to proliferation is important for high-risk nations where risk of miscalculation and reciprocal fear of military strikes drive potential nuclear disaster that would trigger a winter killing global agriculture. This famine would destabilize society resulting in more disaster and the potential for extinction. Extinction is such a massive risk that almost any potential action to prevent it is morally imperative**

### OV: Prolif 2.0 (Lay Weighing)

#### By driving the US domestic industry, you create innovation and production capacity to serve the global market during a time where competitors are struggling to meet demand. By reinvigorating

## Frontlines