#### This doc contains 1NCs for some of the off-case positions I read on this topic.

## Counterplans

### CP---Asteroids

#### The United States federal government and the Russian Federation should

#### ---establish a policy of using nuclear Intercontinental Ballistic Missiles only to defend against asteroids.

#### ---cooperatively reduce nuclear ICBM arsenals to the minimum amount needed for NEO deflection, and eliminate all other nuclear weapons

#### ---submit to IAEA and United Nations monitoring for compliance

#### ---end all nuclear testing, research, and development

#### ---establish joint launch vehicles and mission infrastructure for NEO deflection.

#### All other states should eliminate their nuclear arsenals.

#### Scrapping ICBMs makes asteroid deflection impossible – they’re the only thing that can do it

Amanda Buchanan 16, Assistant Astronomer @ Primland, "Is Blowing up an Asteroid with a Bomb Really a Good Idea?", Futurism, https://futurism.com/blowing-asteroid-bomb-really-good-idea

To clarify, ICBMs are the long-range nukes that the USSR and USA had pointed at each other during the Cold War (in fact, they still have some pointed at each other). Russian scientists argue that typical rockets are not good candidates for seizing asteroids because they require too much lead time to meet an asteroid that might be detected only days before impact. And true enough, typical payload rockets take several days to fuel. On the other hand, ICBMs can be launched at a moment’s notice.

#### Asteroids cause extinction – only US-Russia cooperation can solve.

Kaveh Afrasiabi 17. Kaveh L. Afrasiabi, Ph.D. is an Iranian American political scientist and author specializing in Iran’s foreign and nuclear affairs, and author of several books, US-Russia And The Asteroid Threat – OpEd, April 13, https://www.eurasiareview.com/13042017-us-russia-and-the-asteroid-threat-oped/

US Secretary of State Rex Tillerson has just finished his visit in Moscow to discuss Syria and the threat of terrorism and other related issues with the Russian officials, but conspicuously absent from the agenda of his visit is the real and clear danger posed by the threat from space, that is, the asteroids, one of which is due to brush past earth on Wednesday, April 19. In fact, Russia and US have become allies against the asteroid threat since the signing of an anti-asteroid agreement in 2013, initiated by the then energy secretary and scientist Ernst Muniz. This agreement calls for cooperation on research on asteroid defense, raising the prospect of a US-Russia nuclear cooperation, given the potential feasibility of nukes in deflecting or destroying an incoming asteroid — for good reason. The asteroid due for a close flyby next week at a speed of some 60,000 miles per hour is over one mile long and capable of releasing the equivalent of almost 2000 Hiroshima bombs; if it hits the earth, it would cause massive tsunamis and giant fireballs wiping out a good chunk of humanity. In a twist of irony, the NASA officials have reassured us that there is “zero chance” of earth’s collision by this giant asteroid and, yet simultaneously, brand it as a “potentially hazardous object” since it is considered a “near-earth” object and also because of a small uncertainty about its size and orbit, i.e., its path’s trajectory in space, which has its own version of air pockets that can affect an asteroid’s direction, just as its collision with another asteroid can do so, as was the case with the meteor that exploded 27 miles about the ground in Russia in 2014, causing extensive damage and came by undetected from the Sun’s direction; this new one is apparently 60 times bigger, and was detected only 2011. Clearly, humanity is at risk by the asteroid threat and inaction is not an option. World’s scientists including some NASA scientists such as Joseph Nuth have recently lamented our planetary lack of adequate defence against this threat, which has been completely overshadowed by humanity’s other priorities, which pale in comparison when considering the fact that our species survival depends on an effective anti-asteroid defence — that may require the use of nuclear weapons. Yet, despite some feeble initiatives to track and monitor the asteroids, NASA had admitted that some ten percent of the incoming asteroids, i.e., over 10,000, are still not covered by their system, which requires a great deal more funding and human resources, such as increased number of observation points around the world. What is more, the present efforts in asteroid prevention are still in the stage of infancy and initial testing, basically proceeding at snail speed, again mainly due to the woefully inadequate resources committed to these projects, decried by the world’s scientists, some of whom are adamant about the need for nuclear-ready space missions as part of a contingency plan vis-à-vis any asteroid on a collision course with our vulnerable planet. This is one of several options studied at the moment, all of which are still on paper and, on the whole, out of sync with the urgency of the matter that calls for a massive allocation of new resources that, in turn, can even boost the economy by producing new jobs. Hence, it is only logical that US and Russia, which have also collaborated in promoting a UN-based asteroid information network, put aside their present cold war differences and enhance their cooperation for the sake of planetary survival. It is in the vital national interests of both nations to do so, given the common concern about the asteroid threat, that eclipses any human threat such as terrorism by a huge margin. This problem is, unfortunately, sidelined due to the preoccupation with geopolitical considerations, pointing at humanity’s folly.

#### Joint launch vehicles and mission infrastructure can solve.

Kirill **Benediktov 13**. Benediktov, Writer and member of the editorial board of the website Terra America, “The Asteroid-Comet Danger and Planetary Defense - A View from Russia”, April 13th, <https://schillerinstitute.com/media/kirill-benediktov-the-asteroid-comet-danger-and-planetary-defense-a-view-from-russia/>

It should be noted that Russia definitely has something to offer in the creation of a global system of planetary defense. I am referring mainly to the Citadel system, developed at Lavochkin (Figure 9). This system was worked out “on paper” more than a dozen years ago; it was assumed then that it would take no more than 7-8 years to implement the hardware. The political decision to create the Citadel Planetary Defense System (PDS) was not made at that time, however, perhaps because it would have required effective cooperation among different countries and space agencies. The Citadel PDS is a complex, layered system, but with fairly simple basic elements. Moreover, all its major elements (or their prototypes) were already developed in the Soviet Union. These include many types of rocket and space technology, nuclear weapons, means of communication, navigation, and control, etc. Now we have a unique opportunity to use these tools, many of which were developed for military purposes, not for destruction, but to protect humanity from dangerous celestial bodies. To prevent a collision of dangerous celestial bodies with Earth, the plan is to use interception, based on the infrastructure for space flights (space launch complexes, means of control, etc.). It will use, inclusively, special reconnaissance satellites and interceptor spacecraft capable of acting upon the dangerous celestial bodies. Reconnaissance spacecraft are a small class of apparatuses, such as the American Clementine, created on the basis of SDI technology. The light weight of the reconnaissance spacecraft will allow them to accelerate to high speed and thus reach a dangerous celestial body faster than a heavy interceptor. During the flight to the object, they ascertain its characteristics and transfer the data to ground control, to refine the interception plan and its effect on the dangerous space body. After that, the necessary commands are communicated to the interceptor spacecraft, which maneuvers closer to the object and impacts it for the purpose of deflecting it from its Earth-bound trajectory or destroying it. Experience acquired during efforts to create missile defense may be useful for this. Kinetic impact or a nuclear explosion will be used against the dangerous object. It is proposed that the basis of the planetary defense system will be the Citadel-1 operational reaction echelon, intended for protection against objects of less than 100 m in diameter—the type that most often collide with Earth. Due to their small size, their detection will be possible in the range of several days to several months before collision. This places severe restrictions on the timing to ready the interceptors, primarily the launch vehicles. A Launch Vehicle Available Currently these requirements are met by the Russian-Ukrainian launch vehicle (LV) Dnepr (a conversion of the RS-20 intercontinental ballistic missile, code-named SS-18 by NATO) and the Zenit LV. The time required for preparing to launch—from a few minutes with the Dnepr to 1.5 hours with the Zenit—makes them the only ones in the world that could be used in the operational reaction echelon. The Russian-made launch vehicles have quite large capacities: if an interceptor is launched using the Zenit LV, the mass of a nuclear device delivered to the asteroid can be about 1,500 kg. The power of such a nuclear device would be no less than 1.5 megatons, which could destroy a stony asteroid [S-type asteroid] with a diameter of several hundred meters. If several blocks were docked in Earth orbit, the power of the nuclear device, and therefore the size of object to be destroyed, could be substantially increased. Initially it was assumed that the basic spacecraft for creating reconnaissance satellites and interceptors could be vehicles such as the Mars-96 and Phobos-Grunt, developed at the Lavochkin bureau. However, quite a number of failures have plagued vehicles made by Lavochkin, significantly reducing the probability that the Citadel system will be built by the Russian space industry alone. Probably the best option would be combined missions, whereby Russia would provide the launch vehicles, and the spacecraft would be built by NASA and the ESA.

### CP---Consult ICJ

#### Resolved: Nuclear states shall

#### sign the Treaty on the Prohibition of Nuclear Weapons

#### seek a binding advisory opinion from the International Court of Justice concerning applicability of the obligation to disarm established under the NPT's disarmament treaty to the question of whether countries bound by it are obligated to disarm. The countries should ask that the case take priority, and will not enact the plan unless the ICJ finds the treaty to be an issue requiring action.

#### The ICJ will rule in favor of the plan – it’s consistent with precedent from a landmark 1996 decision

**Burroughs ’16** (Burroughs, John. “Arms Control Today.” Looking Back: The 1996 Advisory Opinion of the International Court of Justice, Arms Control Association, 2016, [www.armscontrol.org/ACT/2016\_07/Features/Looking-Back-The-1996-Advisory-Opinion-of-the-International-Court-of-Justice](http://www.armscontrol.org/ACT/2016_07/Features/Looking-Back-The-1996-Advisory-Opinion-of-the-International-Court-of-Justice).) //ZL

The 1996 advisory opinion of the International Court of Justice (ICJ) was the culmination of a decades-long debate on the legality of nuclear weapons. In recent years, it has shaped how international law is invoked by the initiative focused on the humanitarian impacts of nuclear weapons use and served as a foundation for the nuclear disarmament cases brought by the Marshall Islands in the court. The legality of use of nuclear weapons had been considered by the UN General Assembly since 1961, when the body adopted Resolution 1653 by a divided vote.[1](https://www.armscontrol.org/ACT/2016_07/Features/Looking-Back-The-1996-Advisory-Opinion-of-the-International-Court-of-Justice#note01) The resolution declared that such use “is contrary to the rules of international law and to the laws of humanity.” But the General Assembly’s 1994 resolution[2](https://www.armscontrol.org/ACT/2016_07/Features/Looking-Back-The-1996-Advisory-Opinion-of-the-International-Court-of-Justice#note02) requesting the ICJ “urgently to render” an advisory opinion on the matter set in motion an entirely different, extraordinary process. The General Assembly asked the court to opine on the following question: “Is the threat or use of nuclear weapons in any circumstance permitted under international law?” This put the issue before the judicial branch of the United Nations, the highest court in the world on questions of international law. Several nuclear-weapon states chose to defend the lawfulness of using nuclear weapons in extended arguments to the court. Russia, the United Kingdom, and the United States argued that although nuclear arms, like other weapons, are subject to the law of armed conflict, whether their use would be lawful or unlawful would depend on the circumstances. France contended that absent a specific prohibition, the weapons may be employed in the exercise of the right of self-defense. States not reliant on nuclear weapons, plus Australia, a country closely aligned with a nuclear-armed state, argued that the effects of nuclear explosions are inherently uncontrollable and indiscriminate and that the use of such weapons is therefore unlawful in all circumstances.[3](https://www.armscontrol.org/ACT/2016_07/Features/Looking-Back-The-1996-Advisory-Opinion-of-the-International-Court-of-Justice#note03) Over two weeks of dramatic hearings in November 1995, 22 states made oral arguments, most after also submitting written arguments, and another 23 made written submissions only. Altogether, 45 states participated, the largest number to do so in ICJ proceedings to that date. Civil society also played a role. More than 700 groups worldwide had joined together in the World Court Project to support the General Assembly’s request for an opinion and to publicize the initiative. Release of the Opinion The court deliberated for an unusually long period of time before delivering its opinion on July 8, 1996.[4](https://www.armscontrol.org/ACT/2016_07/Features/Looking-Back-The-1996-Advisory-Opinion-of-the-International-Court-of-Justice#note04) For advocates of the illegality of threat or use of nuclear arms sitting in the Peace Palace courtroom in The Hague and listening to the court’s president, Mohammed Bedjaoui, read the opinion, the experience was something of a roller coaster ride. A positive early signal was the observation that the “destructive power of nuclear weapons cannot be contained in either space or time” and the acknowledgement of “the unique characteristics of nuclear weapons, and in particular their destructive capacity, their capacity to cause untold human suffering, and their ability to cause damage to generations to come.” Toward the end of the opinion, Bedjaoui read the following key finding: [Under] the principles and rules of law applicable in armed conflict—at the heart of which is the overriding consideration of humanity…methods and means of warfare, which would preclude any distinction between civilian and military targets, or which would result in unnecessary suffering to combatants, are prohibited. In view of the unique characteristics of nuclear weapons…the use of such weapons in fact seems scarcely reconcilable with respect for such requirements. Then he continued, reading a finding that was baffling at the time and has not become any less so in the two decades since then: [T]he Court cannot lose sight of the fundamental right of every State to survival, and thus its right to resort to self-defence, in accordance with Article 51 of the [UN] Charter, when its survival is at stake. Nor can it ignore the…“policy of deterrence.” Accordingly, in view of the present state of international law viewed as a whole…and of the elements of fact at its disposal, the Court is led to observe that it cannot reach a definitive conclusion as to the legality or illegality of the use of nuclear weapons by a State in an extreme circumstance of self-defence, in which its very survival would be at stake. One of the several formal conclusions, each adopted by a vote of the judges, in reply to the General Assembly’s question joined the “general” illegality of the threat or use of nuclear weapons under the law of armed conflict with the court’s uncertainty regarding the extreme circumstance of self-defense.[5](https://www.armscontrol.org/ACT/2016_07/Features/Looking-Back-The-1996-Advisory-Opinion-of-the-International-Court-of-Justice#note05) Because a judge had died shortly before the hearings, the court had 14 members instead of the normal 15. The judges’ votes on the conclusion were evenly split, 7-7; it was considered adopted due to the positive vote of Bedjaoui. Yet, the tie vote is misleading. In powerful dissents, three of the seven judges who voted against the conclusion maintained that the threat or use of nuclear weapons is unlawful in all circumstances.[6](https://www.armscontrol.org/ACT/2016_07/Features/Looking-Back-The-1996-Advisory-Opinion-of-the-International-Court-of-Justice#note06) Thus, 10 of the 14 judges took the position that such threat or use is at least generally unlawful. At the close of the reading of the opinion, Bedjaoui unexpectedly turned to a matter not raised by the General Assembly’s request. Given the “eminently difficult” legal issues posed by nuclear weapons, the court underlined the importance of Article VI of the nuclear Nonproliferation Treaty (NPT),[7](https://www.armscontrol.org/ACT/2016_07/Features/Looking-Back-The-1996-Advisory-Opinion-of-the-International-Court-of-Justice#note07) explained its meaning, and observed that fulfillment of the nuclear disarmament obligation “remains without any doubt an objective of vital importance to the whole of the international community today.” All judges voted for the resulting formal conclusion: “There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.”

#### Receiving a ruling that runs against current US international policy boosts ICJ credibility – i.e. ruling that nuclear disarmament is necessary

Murphy ‘09 Professor of Law, George Washington University (Sean, “The United States and the International Court of Justice: Coping with Antinomies,” in THE UNITED STATES AND INTERNATIONAL COURTS AND TRIBUNALS) //ZL

The formal means for mediating antimonies have been largely unchanged since the inception of the Court: the Court has jurisdiction over many disputes, but that jurisdiction is circumscribed (as recognized in Yugoslavia’s Legality of Use of Force cases); the judges reflect the global community, but also the major powers; etc. Yet, the Court may have entered a phase where it is more likely to resist the constraints on its power contained within those formal means and less likely to attempt to reconcile antinomies. Although only states may appear before the Court, the Court now finds that a non-state entity (Palestine) may do so if a dispute is submitted in the guise of an advisory opinion. While its jurisdiction is circumscribed, the Court is comfortable engaging in an extended review of the legality of the use of military force by the United States based on a treaty that the Court has found was not violated. While the Vienna Convention on Consular Relations, and other relevant treaties, contain no provisions regarding the effect of violations of the Convention upon national court proceedings, the Court sees no difficulty in determining that U.S. courts must engage in further judicial review of criminal convictions and sentences, trumping local procedural rules. One gets the impression that the Court —fifty years after its creation— is tired of some of the formal constraints that applied earlier in its life and —looking around at the robustness of dispute resolution in other international fora— is **ready to expand** the reach of its power. Moreover, it may be that some of the informal means for mediating antimonies have been lost in the past twenty years. While the Court’s concern with its reputation and legitimacy in the first thirty years of its existence served as important political constraint in the Court’s relationship with all states, including the United States, over the past twenty years that same concern has lead to several clashes with the United States foremost, but also the UK and France. Having stood up to the United States in the Nicaragua case, the Court became a hero to the **states of the developing** world, and ushered in a period of increased activity on its docket. Of the cases filed before the International Court since its inception, approximately forty percent were filed in the last fifteen years.167 Thus, while from 1947 to 1989, the Court received on its docket approximately two cases per year, after 1990 the Court received more than three cases per year. The U.S. withdrawal from the Court’s compulsory jurisdiction has far from crippled the Court; arguably, it has enhanced the Court’s stature as a place of authority in interstate relations unbeholden to the major powers. For the Court, the lesson may be not to tread lightly with respect to the United States but, rather, to tread heavily unless doing so would be viewed generally as bias. In its foreign policies, contemporary America appears to be going a different route than much of the world, even its former close allies in Europe. The consequence is that **the judges of the ICJ now reflect predominantly the** views of states with whom the United **S**tates **often disagrees**. Perhaps this reflects success in the prescription for the Court made by Richard Falk in his 1986 book, Reviving the World Court.168 Falk argued for the Court to turn away from what he viewed as Anglo-American and West European ways of thinking, and move more toward reflecting the viewpoints associated with non-Western legal traditions (including, at that time, Marxist outlooks on law). Arguably, this is now what has happened, which has strengthened the Court’s position among most states of the world, but seriously alienated the United States. The antinomies identified in Part II are unlikely to be resolved through the further development of formal or informal techniques for mediation. While the United States is not happy with the decisions being rendered by the Court, there is no support in the global community for altering the formal mechanisms by which the Court operates. If the United States saw concrete benefits in being more closely associated with the Court, it might look for ways to improve relationships, but for the world’s premier superpower the benefits appear slim while the costs appear quite high. Consequently, the United States may take steps to further remove itself from the reach of the ICJ’s jurisdiction, through terminating some or all of the outstanding treaties that provide for the Court’s jurisdiction. In the near term, U.S. policymakers will seek to avoid any involvement in matters before the ICJ, while the Court may well welcome opportunities to speak to the legality of U.S. actions.

#### Ruling solves – watershed moment allows ICJ to reclaim legitimacy – legitimacy’s at an all time low.

**Jumat ’18** (Jumat, Wayne J. Credibility Of International Court Of Justice On Trial As Bolivia Takes On Chile – Analysis. UNISA, 2018, [www.igd.org.za/research/infocus/11135-credibility-of-international-court-of-justice-on-trial-as-bolivia-takes-on-chile-analysis](http://www.igd.org.za/research/infocus/11135-credibility-of-international-court-of-justice-on-trial-as-bolivia-takes-on-chile-analysis).) //ZL

The prevalent tensions between Bolivia and Chile, cemented by the colonial administration of the region, have been agitated by the lack of diplomatic efforts by these two states and a lack of an authoritative, responsible and legitimate global institution that can deliver a ruling or a resolution to this longstanding dispute around Bolivia’s sovereign access to the sea. Additionally the posturing that characterises the positions of the two states involved further makes an agreement as well as a court ruling difficult to pass, particularly in the face of state sovereignty and the subservience of international law. The case brought to the International Court of Justice (ICJ), the United Nations’ (UN) primary judicial branch, by Bolivia can signify a significant turning point or watershed moment for the ICJ, or it could just be another blot on the record of the ICJ’s jurisdictional affectivity and legitimacy. Furthermore, as the ICJ’s jurisdiction is in question, this case provides it with a unique opportunity to provide new and innovative solutions to persistent problems, as well as the chance to gain global recognition for its role as a legitimate global institution of justice. The ICJ should thus take this opportunity to carry out its responsibilities of delivering justice in cases brought to it, and the Bolivian-Chilean dispute may serve to add to the legitimacy that global institutions of law and justice dearly need. The ICJ has had numerous cases that ultimately affected its credibility and legitimacy as a global judicial institution, such as Nicaragua vs. the USA. Part of the ICJ’s predicament is the lack of an ICJ enforcement agency and part of it is State Sovereignty, therefore the case has arisen whereby it up to the United Nations Security Council (UNSC) to enforce the decisions taken by the ICJ. What the Court does have is a group of fifteen judges of different nationalities elected by the UN General Assembly and the UNSC. The Court also has a dual role: to settle the legal disputes submitted to it by signatory States, and to give advisory opinions on legal questions referred to it by duly authorized global organs and agencies, in accordance with international law.

#### ICJ credibility solves global stability.

Davis ‘16 (Christiana, Poli Sci Professor @ Princeton, Protecting Trade By Legalizing Political Disputes: Why Countries Bring Cases to the International Court of Justice) //ZL

Over the last seventy years, three broad trends have characterized international politics: an increase in economic interdependence between states, a growing number of international institutions, and a decrease in interstate war. Deepening exchanges between countries make states more vulnerable to disruptions in ongoing cooperation (Keohane and Nye, 1977). This vulnerability creates a demand for international institutions to constrain powerful states and preserve cooperative outcomes. As interdependence and institutionalized cooperation increase, they may be linked to a decrease in war (Mansfield and Pevehouse, 2000; Russett and Oneal, 2001). A significant body of literature tests the relationship between bilateral trade and conflict, with mixed findings.1 Studies also show correlation between membership in international organizations and avoidance of conflict.2 But despite substantial work on this topic, the relationship between economic interdependence, institutions, and conflict remains ambiguous. How does economic interdependence shape political relations between states? In this paper, we examine the impact of economic interdependence on dispute resolution. More specifically, we ask whether trade increases the probability that countries will use the International Court of Justice (ICJ). The ICJ is one of the oldest international courts: established by the Charter of the United Nations in 1945, it began work the following year. Its long history and jurisdiction over many types of disputes make it ideal for analyzing how trade ties affect a country’s decision to seek third party mediation. We find that trade dependence creates demand for the ICJ. As countries develop stronger trading relationships, they are increasingly willing to settle disputes through the Court. This demonstrates a new pathway through which economic interdependence fosters peaceful relations – it encourages states to use legalized forms of dispute settlement. Whereas bilateral mediation efforts often remain secret, when a state files a complaint with the ICJ, it sends a public signal of its peaceful intentions to both governments and economic actors. Through our study of ICJ adjudication, we test how economic interdependence shapes the use of institutions as part of conflict management strategies. At first glance, it seems surprising that countries ever use legal venues to solve disputes. A court cannot change the underlying power distribution between states. Realist theory suggests that international law has no independent power in international affairs. Indeed, the ICJ seems to have been designed with this perspective in mind. For the ICJ to hear a case, both parties to a dispute must either have accepted the jurisdiction of the Court or have agreed to submit the specific dispute to the Court for a judgment. Even after the Court hears a case, states can essentially ignore its ruling since it cannot enforce its judgment. Why would a state bother to file a case under these circumstances? Yet despite these limitations, governments have turned to the ICJ for third-party dispute resolution on a range of issues including territorial claims, political asylum, and environmental damage. Ninety-two countries ranging widely in income and military capacity have participated in 134 ICJ cases since the Court’s inception in 1946. While this represents a small number relative to the total number of economic disputes addressed in the WTO or investment arbitration bodies, it nonetheless constitutes an important area of cooperation. Moreover, if one considers the frequency of usage given a potential dispute, the ICJ record looks strong. For example, perhaps the most common reason that states file cases at the ICJ is due to territorial disputes. Over the period from 1960 to 2000, Huth, Croco and Appel (2011) document 82 unique territorial disputes, and countries filed cases at the ICJ relating to 18 of them – a surprising 22 percent frequency when comparing filed cases to identified potential cases. The ICJ is a significant venue for interstate disputes, forming a key component in the legal structure of the international system. We argue that states use the ICJ to protect trade flows. Intense political disputes create uncertainty, which can depress trade flows. Legal action isolates the problem, minimizing the potential adverse effects on trade flows. Although delegating to an international court is not without costs – states incur high legal fees and risk the possibility of an unfavorable court ruling – these costs are offset by the economic gains from protecting an important trading relationship. Some disputes, of course, have such high stakes that political or strategic costs outweigh all other considerations, just as some trading relationships are so essential that even major disputes will not disrupt ties. On average, however, we argue that governments with higher trade dependence are more likely to decide that gambling on a court decision makes them better off than risking spill-over to trade. Surprisingly, with the exception of studies about economic policy disputes, research on international adjudication has given scarce attention to the role of economic interests. Instead, scholars have emphasized the importance of domestic political institutions, which encourage states engaged in territorial disputes to pursue adjudication as a means to overcome veto players or avoid blame (Simmons, 2002; Allee and Huth, 2006a). Others examine the legal context within a country or specific to the dispute. Mitchell and Powell (2011), for example, pay careful attention to how states view the law, arguing that domestic legal tradition shapes ICJ usage rates. Huth, Croco and Appel (2011) offer a different legal argument, suggesting that the strength of the legal claim shapes a country’s decision to delegate dispute settlement to a legal venue. These theories offer compelling insights, but ignore economic relations. Our theory aims to fill this gap by highlighting the connection between trade and international adjudication. More broadly, understanding the conditions that lead countries to initiate legal action will inform theories about bargaining strategies and conflict behavior (Fang, 2010; Chapman and Wolford, 2010). We assess the empirical implications of our argument through a comprehensive analysis of ICJ filing decisions, and we also revisit research on territorial disputes. We analyze the filing pattern observable in data on more than 190 countries from 1960 to 2013.3 We use several different approaches to identify potential disputes, modeling country characteristics that are associated with the dispute generating process. We first select a politically-relevant sample of countries that are likely to have frequent interaction as neighbors or great powers. Second, we use matching techniques to prune the politically-relevant sample of dyads to a subset with similar propensities for trade. We test our theory by estimating how trade dependence, measured as bilateral trade share of total trade for a potential applicant, changes the likelihood that a state files an ICJ case against its trade partner. Using a logistic regression, we estimate the effect of trade dependence on the probability of filing in a pooled cross-section time series analysis. We also apply conditional logit estimation to focus on variation in selection of respondents among those states that file an ICJ case. The conditional logit estimation helps to control for unobserved variables that may shape a state’s propensity to file cases. Our results show that higher trade dependence increases a country’s likelihood of filing a case against a trade partner. This relationship holds when we examine different sets of potential disputes and control for key variables like contiguity and power asymmetry. We also analyze how trade dependence reduces the likelihood that states use military force to resolve territorial disputes. Data on territorial disputes allows us to examine potential cases where military action looms large as an option for resolving a dispute (Huth, Croco and Appel, 2011). We find that trade dependence shapes a state’s selection of strategy, lowering the likelihood of militarized action. Examining ICJ adjudication and territorial disputes helps to alleviate the concern that an unobservable dyadic measure of political relations generates a spurious relationship between trade and peace.4 By focusing on dispute resolution strategies, we gain insight into an important mechanism by which interdependence changes political relations. Our results demonstrate that trading states are more likely to work out their problems in court and are less likely to exchange fire We argue that countries turn to an international court in order to protect trade flows under conditions of strong economic interdependence. This argument is built on two key assumptions. First, states believe that an international dispute over territory, fishing rights, or another salient issue could harm trade. Second, states view international adjudication as an effective way to end the dispute. Each point merits further discussion as the building blocks for our theory about the economic rationale for turning to law. Given the risk of harm to economic relations and the potential for courts to contribute to conflict resolution, states with high trade value vested in a relationship will be more willing to undertake costly litigation. Extensive debate exists about the relationship between conflict and trade. The premise that conflict disrupts trade is central to the theory of commercial peace. Russett and Oneal (2001) draw on the work of philosopher Immanuel Kant to argue that interdependence deters conflict by raising its costs. According to this line of reasoning, war interrupts trade while peace promotes stable commerce, leading states to calculate that gains of peace are significant compared to the costs of war. Other perspectives focus on the informational role of interdependence to lower uncertainty between states (Reed, 2003). Gartzke, Li and Boehmer (2001) contend economic interdependence allows states to signal their resolve through their willingness to bear economic costs from confrontation.5 A host of empirical studies support the idea that conflict reduces trade (Keshk, Reuveny and Pollins, 2004; Long, 2008). Several potential channels connect trade and conflict, including direct damage to infrastructure and transportation resulting from actual conflict, sanctions policies, and informal discrimination by governments or private actors. In a comprehensive study of data from 1870 - 1997, Glick and Taylor (2010) find that the effect of war on trade is significant and persistent. The negative impact of conflict also extends to foreign direct investment (e.g. Lee and Mitchell, 2012). The negative relationship is not limited to full scale war. Several studies demonstrate that political tensions may also suppress trade (Pollins, 1989; Fuchs and Klann, 2013). In an analysis of the period from 1950 to 1995, Simmons (2005) finds that territorial disputes have a sizable negative impact on trade even in the absence of militarized action. Others suggest states anticipate the potential adverse impact of conflict on trade, and therefore trade less to begin with if they think that war is likely. In such a scenario, the marginal economic costs of war should be insufficient to change a state’s calculation for going to war (Barbieri, 2002; Morrow, 1999). Gowa and Hicks (forthcoming) contend that trade is largely diverted through third party channels, which compensates for having less direct trade with the adversary. In this paper, we assume that leaders and business constituencies on average believe that conflict damages trade relations. Political conflict could lead governments to adopt sanctions against an adversary or to restrict financial flows, and violence is likely to disrupt trading routes and slow the movement of goods from one country to another. Substitution through third parties could alleviate the harm, but this would still increase trade costs. The expected harm to trade underlies the motivation for states to pursue resolution of disputes. When states want to resolve an interstate dispute, why would they choose adjudication rather than negotiations, economic sanctions, or militarized action? In some cases, the decision follows an episode of military conflict as part of an effort to normalize relations. Such a decision may be taken in the immediate aftermath of a conflict or decades later, after a long process of normalization. Indonesia and Malaysia, for example, jointly submitted their territorial dispute over the Sipadan and Ligitan islands to the ICJ in 1998 after three decades of efforts to improve relations following an unofficial war between the countries in the 1960s. In other cases, countries may turn to a legal venue to prevent a problem from ever reaching the stage that could produce serious political tensions or threats of force. Adjudication reshapes the context of diplomatic negotiations. In most disputes, governments pursue negotiations first and only resort to international adjudication when diplomatic avenues have stalled. Initiating legal action reduces outside options as states agree to submit the matter to court proceedings. By taking this step, governments signal both their willingness to forgo the use of force, and their priority to resolve the dispute in a public process. After filing, negotiations often continue alongside the legal procedures, but participants have more information that the matter will neither escalate into violence nor disappear through neglect. The literature offers three broad types of explanations for why states might choose to pursue adjudication: legitimacy, informational benefits, and domestic obstacles to settlement. At the systemic level, international norms have developed to support peaceful conflict resolution over war; these norms are likely to influence the calculations of some states about how to settle disputes. Finnemore and Sikkink (1998) contend that rule of law has come to shape the identity of states, which forms a meta-belief affecting views about appropriate action in both the domestic and international spheres. When international law has been established through fair procedures and offers coherent principles, it forms a legitimate source of authority in international affairs that generates an independent “compliance pull” on state behavior (Franck, 1990). International courts combine both legitimacy and authority as they help states solve specific disputes about how to interpret international law; the growing role for international courts in international affairs represents an important trend (Alter, 2014; Alter, Helfer and Madsen, 2015). This significance of the ICJ is supported by findings that the Court has a relatively high level of compliance with its rulings (Schulte, 2004; Mitchell and Hensel, 2007; Llamzon, 2007; Johns, 2011). Legal settlement can help states coordinate policies and produce more cooperative outcomes through the provision of information. A court ruling offers a focal point amidst uncertainty about how to interpret the terms of an agreement (Ginsburg and McAdams, 2004; Huth, Croco and Appel, 2011). As the recordkeeper of past actions, courts support systems of tit-for-tat and reputational enforcement (Milgrom, North and Weingast, 1990; Carrubba, 2005; Mitchell and Hensel, 2007). In these informational theories of courts, states may comply with court rulings in the absence of coercive measures or the threat of sanctions because the reputational costs of non-compliance are too high. Rather than simply interpret law, courts matter because they coordinate expectations about enforcement and engage the attention of third parties (Johns, 2011). In their empirical analysis of territorial disputes, Huth, Croco and Appel (2011) find that strong legal claims significantly increase the likelihood that leaders will negotiate resolutions to their disputes and avoid conflict. International courts also offer a way for states to frame settlement in a way that appeals to domestic audiences (Fang, 2008). Simmons notes that even when the same deal could be reached in negotiations or through a court decision, a negotiated settlement could be viewed as sign of weakness while a legal resolution would be seen as positive cooperation beneficial for future interactions (Simmons, 2002, p. 834). This dynamic occurs because “domestic groups will find it more attractive to make concessions to a disinterested institution than to a political adversary” (Simmons, 2002, p. 834). In research on several prominent ICJ cases, Fischer (1982) emphasizes the Court has helped governments to save face. Consequently, those governments unable to reach agreements over domestic opposition may find it easier to do so with the involvement of third party ruling. Allee and Huth (2006a) further extend this argument to show that governments with higher levels of domestic political constraints are more likely to choose adjudication over negotiation for settling territorial disputes. Domestic political constraints also increase the probability of filing complaints at the WTO (Davis, 2012).

### CP---India NFU

#### Counterplan: The Republic of India should commit to a] a binding nuclear No First Use doctrine b] rejection of tactical nuclear weapons and associated warfighting techniques, and clarify this policy in a public defense white paper. The Islamic Republic of Pakistan should publicly eliminate their nuclear arsenals.

#### Counterplan solves ambiguity and usage pressures.

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However, Indian security will **be best attained**, and its foreign-policy goals best supported, through **stronger adherence** to its existing credible minimum-deterrence approach. Following the **ambiguity pathway** will generate greater risk of **responsive arms-race** behavior from Pakistan and potentially even China. This will threaten to entrap India in a continuing quest for deterrent credibility, but one now defined by achieving absolute certainty of nuclear punishment against adversaries, and delivered through numerical force parity or supremacy rather than through minimalist risk of retaliation with a small, survivable nuclear force. This alternative ambiguity option would also run counter to several core Indian foreign-policy goals, including obtaining international support for Indian permanent membership in the UN Security Council and the Nuclear Suppliers Group, and for greater Indian power projection within the immediate South Asian territorial neighborhood and the broader Indo-Pacific region. A major element of India’s strategy to achieve these goals includes reassuring partners and other states of its inherent restraint through statements and practice, and drawing a contrast with the more destabilizing and provocative strategic behavior of Pakistan and China. India’s selection of the ambiguity option would thus significantly undermine these foreign-policy goals. This article therefore argues that India should strengthen its adherence to credible minimum deterrence through corrective policy actions addressing each of the four issue areas. First, issuing a clear, official statement of India’s NFU policy and recessed deterrence posture, in the form of a national-security strategy, defense white paper, or nuclear posture review, would **settle the** Indian domestic and international **debate** regarding India’s potential **transition away from these tenets of minimum deterrence.** Second, this statement would also include an unambiguous rejection of **tactical nuclear weapons** and associated **nuclear-war-fighting concepts**, and would limit the officials authorized to comment on nuclear policy to those at the senior-most levels of policy making, such as the prime minister, national security advisor, and the Cabinet Committee on Security speaking unanimously. The DRDO and other subordinate defense agencies would be prohibited from issuing public remarks on nuclear policy, reducing the counterproductive doctrinal and force posturing ambiguity that results from their frequent interventions.

#### Solves the aff.

Rajagopalan '19 (Rajesh Rajagopalan; Rajesh Rajagopalan is Professor in International Politics at Centre for International Politics, Organization and Disarmament, School of International Studies. He has a PhD from the City University of New York (1998). Previously, he was Senior Fellow at the Observer Research Foundation, New Delhi, and Research Fellow at the Institute for Defence Studies and Analyses, New Delhi. He also served as Deputy Secretary in the National Security Council Secretariat, Government of India (2000-2001). He has taught at Hunter College, Brooklyn College, and Queens College of the City University of New York. His areas of research interest are international relations theory, military doctrines, and nuclear weapons and disarmament; 8-30-2019; "The strategic logic of the No First Use nuclear doctrine"; https://www.orfonline.org/expert-speak/strategic-logic-no-first-use-nuclear-doctrine-54911/, ORF, accessed 4-10-2020; JPark)

Nothing could be farther from the truth. Far from being any of these, India’s NFU policy was a result of the lessons that India’s key strategic thinkers learned in the long decades they spent thinking about the global experience with nuclear strategy and the implications of this for India’s nuclear policy. It was dictated not by passivity or idealism but a deep **realism**, an understanding of the limited purpose that nuclear weapons can play in the strategy of any nuclear weapon power, but particularly that of one such as India. With the passing of some of the strategic stalwarts who framed the original policy, all that appears to be holding up the policy is bureaucratic muscle-memory. This is insufficient to resist ideological challenges to the policy. It is, thus, time to revisit and reassert the original strategic logic behind NFU. With the passing of some of the strategic stalwarts who framed the original policy, all that appears to be holding up the policy is bureaucratic muscle-memory. To be clear, it is not being suggested that India’s security managers, present or past, have rethought the strategic logic of NFU, which remains the bedrock of India’s nuclear doctrine. If there is a threat to India’s NFU policy, it comes more from the **ideological opposition** it faces, not from any careful reassessment of its strategic logic. The central reason behind India’s NFU was the recognition that nuclear weapons served only a very limited purpose, that of ensuring national survival. The only real threat to such survival was a nuclear attack. Nuclear weapons are unique because unlike any other weapon, they could wreak so much destruction in such a short time that they could potentially end an entire society in an afternoon. The only way to prevent such destruction is to threaten similar destruction on any potential adversary, thus deterring them from pursuing such a course of action. Threatening retaliation is the **only solution** because there is no defence against these weapons. Though there were attempts by deterrence theorists in other parts of the world to consider the use of nuclear weapons for more limited tactical purposes than national survival, most Indian nuclear strategists were rightly skeptical of such possibilities. This drove some of the strongest proponents of India’s nuclear weapon programme to be also deeply critical of the kind of elaborate nuclear doctrines and arsenals being developed by other countries, especially the two Cold War superpowers. It was not a logic that they wanted India to follow because it made little sense for anyone, and definitely not for India. If the primary purpose — indeed, the only purpose — of nuclear weapons was deterrence of other nuclear weapons, then threatening retaliation was the only manner in which these weapons could be used. The threat of retaliation is of course the essence of deterrence: preventing someone from taking an action by threatening to punish them if they did. NFU was the outcome of this strategic logic. (The other corollary was a limited nuclear arsenal). If the primary purpose — indeed, the only purpose — of nuclear weapons was deterrence of other nuclear weapons, then threatening retaliation was the only manner in which these weapons could be used. The threat of retaliation is of course the essence of deterrence: preventing someone from taking an action by threatening to punish them if they did. Retaliation, by definition, could only be for an action that was already taken, in this case, a nuclear attack that has already happened. Deterrence and retaliation automatically meant that there was no logic to using nuclear weapons first: hence, no first use. Additional benefits also accrue from NFU: **tighter political command** over nuclear weapons, a much more **relaxed command and control** regime and a **much safer nuclear** **arsenal**. First use, which is what giving up NFU means, is incompatible with nuclear deterrence of nuclear weapons. First use can have a non-nuclear deterrence purpose but only if a non-nuclear threat to national survival exists or is perceived to exist. Pakistan and Israel are two countries that perceive such non-nuclear threats to national survival. Israel, given the history of the Jewish people, the hostility of its neighbours and its own small size, believes that it faces a non-nuclear but nevertheless existential threat. Pakistan, similarly, has always worried that India never fully reconciled itself to the partition and that it may some day seek to undo it, especially because of the huge conventional military power differential between India and Pakistan. Not surprisingly, Pakistan’s nuclear weapon programme began not as a response to India’s nuclear weapons programme, but as a response to the demonstration of India’s unambiguous conventional military supremacy in December 1971. For both Israel and Pakistan, a first use nuclear doctrine makes sense because of the non-nuclear existential threats they perceive. It goes without saying, of course, that their perception may be unrealistic; it is, equally, irrelevant because states make security choices on the basis of their perceptions. Giving up the NFU presumably frees India to use nuclear weapons first, but under what conditions would India possibly need to use nuclear weapons first? Of the other nuclear powers, only the US and Soviet Cold War first use doctrines makes some sense. Both worried about a surprise attack, and both kept their nuclear forces primed to launch at the first sign of a nuclear attack from the other side. In addition, the US also had extended deterrence commitments to defend its allies against Soviet and Chinese attacks, which required the flexibility to launch a nuclear attack first. There is no such strategic logic for an Indian nuclear first use doctrine. India perceives **neither any existential** **threats** nor fears **surprise nuclear attack** nor has **extended deterrence** commitments. A former Indian defence minister argued that India need not say it has an NFU in order to not bind itself. This is a common misperception: that the NFU limits India’s options. India’s nuclear options are indeed extremely limited but they are limited not because of the NFU but because of the nature of nuclear weapons and the context of India’s strategic needs. This can be made clear if we consider what nuclear options India gains if it were not “bound” by the NFU. Giving up the NFU presumably frees India to use nuclear weapons first, but under what conditions would India possibly need to use nuclear weapons first? Any Indian first use of nuclear weapons against another nuclear power means the certainty of nuclear retaliation. Nothing can prevent such retaliation. And the nature of nuclear weapons means that the consequences of such a retaliation, even if the retaliation is relatively minor one involving a few weapons, will be devastating. This is one reason why nuclear first use makes sense only for countries facing certain death in any case, either from conventional or nuclear threats. Counterforce attacks require perfect intelligence about where the adversary’s nuclear forces are located so that they can be targeted. Not even the world’s most powerful states have such intelligence; and India will pay a heavy cost if even a few weapons of an adversary survives such an assault. This is also why counterforce, which some former Indian officials have mused about, is such a fantasy. The logic of counterforce — attacking the adversary’s nuclear forces instead of soft targets such as cities — is that destroying the adversary’s nuclear forces will prevent an adversary from being able to attack India with nuclear weapons. But counterforce attacks require perfect intelligence about where the adversary’s nuclear forces are located so that they can be targeted. Not even the world’s most powerful states have such intelligence; and India will pay a heavy cost if even a few weapons of an adversary survives such an assault. Counterforce attacks may make some sense in retaliation to an initial nuclear attack, for if nuclear war has already started there might be some sense in trying to limit the damage that can be caused in subsequent waves of attacks. But of course, in such a scenario, counterforce becomes an adjunct to the NFU, not an alternative. The problems of uncertain intelligence, combined with the horrible consequences of a mistake, also limits any attempt to even shave the NFU to adopt options such as Launch-On-Warning or Launch-Under-Attack. In addition to the very short reaction times in the **India-Pakistan theatre** (or even a **Sino-Indian one**), no political leader will order a nuclear attack on the mere suspicion that an enemy nuclear attack is underway. There is also some understandable frustration in India about Pakistan’s adoption of Tactical Nuclear Weapons (TNWs) as well as its recourse to terrorism as a state strategy. While the frustration is understandable, abandoning the NFU will provide little relief. Terrorism and TNWs are both an acknowledgement of Pakistan’s conventional military weakness. Threatening to use Indian nuclear weapons first in response is so disproportionate that it will lack any credibility. Far more credible will be the Indian resolve to employ its conventional military superiority to respond to such threats and demonstrate the emptiness of Pakistan’s escalation threats because that is what these are. Considering both the strategic logic of India’s NFU policy, as well as the futility of abandoning it, leads to the suspicion that such proposals are **ideologically driven short-cuts** to demonstrate Indian “resolve” rather than a careful response to India’s strategic problems. That would be a shame because the NFU policy is **uniquely suited** to India’s circumstances — a **preponderant power** in its neighbourhood that faces **no existential threats**.

### CP---US Cyber PIC

#### Counterplan – States except for the United States federal government ought to eliminate their nuclear arsenals. The United States federal government ought to

#### enact a robust modernization program

#### take arsenals off of hair trigger alert

#### adopt an operational No First Use doctrine with the exception of an infrastructural cyberattack.

#### Solves accidents, cyberattacks, and miscalc.

Wright and Young 18 (David Wright and Stephen Young. Union of Concerned Scientists. “Taking Nuclear Missiles off Hair-Trigger Alert.” 2018 https://www.ucsusa.org/sites/default/files/attach/2015/05/Hair-Trigger-Alert-Policy-Brief.pdf)

Some argue that taking missiles off high alert could be destabilizing: If one country put its missiles back onto hairtrigger alert in a visible way during a crisis, that could lead to a “re-alerting race” between the two countries that could further increase tensions. However, removing the option of launch-on-warning from war plans means there would be no reason to have missiles on prompt-launch status, and therefore no reason to return them to high alert during a crisis. With no need to re-alert, there would be no re-alerting race. Ending launch-on-warning and taking missiles off hair-trigger alert would eliminate the risk of a mistaken launch based on erroneous or misinterpreted warning. It would also essentially eliminate the risk of accidental or unauthorized launches. While security would be most enhanced if both the United States and Russia removed their silo-based missiles from hair-trigger alert, the United States should not wait for Russia to act. Taking U.S. land-based missiles off alert would be in the best interest of the United States: it would reduce the risk of unintended or mistaken U.S. launches, which could lead to a retaliatory strike against the United States. And a U.S. decision to take this step could encourage Russia to reciprocate.

#### US weapons are key to deterring cyberattacks on the grid.

Perkovich ’18 (George; Olivier and Nomellini chair and vice president for studies at the Carnegie Endowment for International Peace, PhD from the University of Virginia, principal adviser to the International Commission on Nuclear Nonproliferation and Disarmament; 1/18/18; “Really? We’re Gonna Nuke Russia for a Cyberattack?”; <https://www.politico.com/magazine/story/2018/01/18/donald-trump-russia-nuclear-cyberattack-216477>; POLITICO; accessed 12/6/18; TV Rct by JPark)

The front page of Tuesday’s New York Times contained an alarming headline: “Pentagon Suggests Countering Devastating Cyberattacks With Nuclear Arms.” The article, by David Sanger and William Broad, reported on a leaked draft of the Trump administration’s Nuclear Posture Review, which determines what the role of nuclear weapons should be. This draft departs from previous posture reviews by broadening the range of attacks that could trigger a massive U.S. retaliation, including with nuclear weapons. Sanger and Broad acknowledge that the draft, which was first published by the Huffington Post, “does not explicitly say that a crippling cyberattack against the United States would be among the extreme circumstances” that would motivate the administration to initiate nuclear war. But, citing former and current officials, Sanger and Broad report that the proposed nuclear doctrine posits this contingency if, in the words of the leaked document, an adversary conducted “non-nuclear strategic attacks … on U.S., allied, or partner civilian population or infrastructure.” In plain English, the Trump team seems to be threatening to nuke anyone who conducts a massively disruptive cyberattack on the power grid or water system of the U.S. or one of its friends. For three reasons, the Trump administration would be wise to reconsider and more carefully calibrate the circumstances under which it would initiate nuclear war. The first reason has to do with the fact that nuclear war would be much more devastating to the United States than would any conceivable cyberattack. Russia and China appear to be the most likely adversaries that in the near term might be able to use cyberweapons to disable significant segments of the U.S. electricity system. Indeed, Russian attackers already did so to Ukraine, in a December 2015 operation that shut down power for approximately 230,000 Ukrainians for up to six hours. That attack, Wired magazine reported last June, may have been a dress rehearsal for a future assault on the U.S. power grid.

#### Collapse of the power grid causes nuclear meltdown – causes extinction **IBT 11** [International Business Times, 2011. “Solar Flare Could Unleash Nuclear Holocaust Across Planet Earth, Forcing Hundreds of Nuclear Power Plants Into Total Meltdowns.” <http://au.ibtimes.com/articles/213249/20110914/solar-flare-could-unleash-nuclear-holocaust-across-planet-earth-forcing-hundreds-of-nuclear-power-pl.htm>)

What happens when there's no electricity? Imagine a world without electricity. Even for just a week. Imagine [New York](http://au.ibtimes.com/topics/detail/456/new-york/) City with no electricity, or Los Angeles, or Sao Paulo. Within 72 hours, most cities around the world will devolve into total chaos, complete with looting, violent crime, and runaway fires. But that's not even the bad news. Even if all the major cities of the world burned to the ground for some other reason, humanity could still recover because it has the farmlands: the soils, the seeds, and the potential to recover, right? And yet the real crisis here stems from the realization that once there is no power grid, all the nuclear power plants of the world suddenly go into "emergency mode" and are forced to rely on their on-site emergency power backups to circulate coolants and prevent nuclear meltdowns from occurring. And yet, as we've already established, these facilities typically have only a few hours of battery power available, followed by perhaps a few days worth of diesel fuel to run their generators (or propane, in some cases). Did I also mention that half the people who work at nuclear power facilities have no idea what they're doing in the first place? Most of the veterans who really know the facilities inside and out have been forced into retirement due to reaching their lifetime limits of on-the-job radiation exposure, so most of the workers at nuclear facilities right now are newbies who really have no clue what they're doing. There are 440 nuclear power plants operating across 30 countries around the world today. There are an additional 250 so-called "research reactors" in existence, making a total of roughly 700 nuclear reactors to be dealt with ([http://www.world-nuclear.org/info/i...](http://www.world-nuclear.org/info/inf01.html)). Now imagine the scenario: You've got a massive solar flare that knocks out the world power grid and destroys the majority of the power grid transformers, thrusting the world into darkness. Cities collapse into chaos and rioting, martial law is quickly declared (but it hardly matters), and every nation in the world is on full emergency. But that doesn't solve the really big problem, which is that you've got 700 nuclear reactors **that can't feed power into the grid** (because all the transformers are blown up) **and yet simultaneously have to be fed a** steady stream **of emergency fuels to run the generators the keep the coolant pumps functioning**. How long does the coolant need to circulate in these facilities to cool the nuclear fuel? Months. This is also the lesson of Fukushima: You can't cool nuclear fuel in mere hours or days. It takes months to bring these nuclear facilities to a state of cold shutdown. And that means **in order to avoid a** multitude of Fukushima-style meltdowns **from occurring around the world, you need** to truck diesel fuel, **generator parts and nuclear plant workers to every nuclear facility on the planet, ON TIME, every time, without fail, for months on end**. Now remember, **this must be done in the middle of the** total chaos breakdown of modern civilization**, where there is** no power, where law enforcement and emergency services are totally overrun, where people are starving because food deliveries have been disrupted, and when looting and violent crime runs rampant in the streets of every major city in the world. Somehow, despite all this, you have to run these diesel fuel caravans to the nuclear power plants and keep the pumps running. Except there's a problem in all this, even if you assume you can somehow work a logistical miracle and actually deliver the diesel fuel to the backup generators on time (which you probably can't). The problem is this: Where do you get diesel fuel? Why refineries will be shut down, too from petroleum refineries. Most people don't realize it, but petroleum refineries run on electricity. Without the power grid, the refineries don't produce a drop of diesel. With no diesel, there are no generators keeping the coolant running in the nuclear power facilities. But wait, you say: Maybe we could just acquire diesel from all the gas stations in the world. Pump it out of the ground, load it into trucks and use that to power the generators, right? Except there are other problems here: How do you pump all that fuel without electricity? How do you acquire all the tires and spare parts needed to keep trucks running if there's no electricity to keep the supply businesses running? How do you maintain a truck delivery infrastructure when the electrical infrastructure is totally wiped out? Some countries might be able to pull it off with some degree of success. With military escorts and the total government control over all fuel supplies, a few nations will be able to keep a few nuclear power facilities from melting down. But here's the real issue: There are 700 nuclear power facilities in the world, remember? Let's suppose that in the aftermath of a massive solar flare, the nations of the world are somehow able to control half of those facilities and nurse them into cold shutdown status. That still leaves roughly 350 nuclear facilities at risk. Now let's suppose half of those are somehow luckily offline and not even functioning when the solar flare hits, so they need no special attention. This is a very optimistic assumption, but that still leaves 175 nuclear power plants where all attempts fail. Let's be outrageously optimistic and suppose that a third of those somehow don't go into a total meltdown by some miracle of God, or some bizarre twist in the laws of physics. So we're still left with 115 nuclear power plants that "go Chernobyl." Fukushima was one power plant. Imagine the devastation of 100+ nuclear power plants, all going into meltdown all at once **across the planet**. It's not the loss of electricity that's the real problem; it's the globaltidal wave of invisible radiation that blankets the planet, permeates the topsoil, irradiates everything that breathes and delivers the final crushing blow to human civilization as we know it today. Because if you have 100 simultaneous global nuclear meltdowns, the tidal wave of radiation will make farming nearly impossible for years. That means no food production for several years in a row. And that, in turn, means anear-totalcollapse of the human population on our planet. How many people can survive an entire year with no food from the farms? Not one in a hundred people. Even beyond that, how many people can essentially live underground and be safe enough from the radiation that they can have viable children and repopulate the planet? It's a very, very small fraction of the total population.

## Disads

### DA---AI Russia

#### **Countries develop nukes out of desperation – aff can’t solve and causes a shift.**

CFR '19 (Council On Foreign Relations; 2019; "South Africa: Why Countries Acquire and Abandon Nuclear Bombs"; https://world101.cfr.org/global-era-issues/nuclear-proliferation/south-africa-why-countries-acquire-and-abandon-nuclear, World101 from the Council on Foreign Relations, accessed 12-20-2019; JPark)

The decision to **develop nuclear weapons** is a complex one. It often depends on how that country’s leaders see their nation’s place in the world. If a country has the necessary resources and technological capabilities to build nuclear weapons, policymakers will typically consider their country’s **domestic politics**, **international relations**, and **national security**: Domestic politics. Leaders who are contemplating a nuclear program weigh the political situation in their countries against desires of competing interest groups like scientists or defense contractors. Even the personal ambitions of political **leaders** can come into play. International relations. On the one hand, countries that possess **nuclear weapons** wield **great influence** with other countries; on the other, pursuing or possessing nuclear weapons can result in economic sanctions against a country. And becoming a pariah on the world stage is a concern for leaders who are considering a nuclear program, especially as countries are increasingly swearing off the use of nuclear weapons. National security. Countries that **feel threatened** by their neighboring **countries**, especially those that are nuclear-armed, might lean toward starting a nuclear weapons program. The desire to **intimidate rivals** often tips the scales too. If you’re a leader considering whether to build up your country’s nuclear arsenal or disarm your existing weapons, the decisions you make might look something like this: South Africa is the only country in the world to have developed and then dismantled its nuclear program. The South African case offers insights into why leaders of a country might seek to acquire nuclear weapons and why they might give those up. Of course, South Africa armed and disarmed in secret, so its exact motivations can be difficult to determine. But declassified documents and official accounts help historians understand what drove the country’s leaders to pursue a nuclear program and what motivated them to give it up less than two decades later. The first National Party government under South African Prime Minister Daniel Francois Malan (seated at center) in 1948. The government established the Atomic Energy Board a year later.

#### Russia will broadly scale up military AI – extinction

Mike Rogers 17, former US Representative from Michigan, chairman of the House Permanent Select Committee on Intelligence, "Artificial intelligence — the arms race we may not be able to control", TheHill, https://thehill.com/opinion/technology/351725-artificial-intelligence-is-the-new-arms-race-we-may-not-be-able-to-control

“Whoever becomes the leader in this sphere will become ruler of the world,” [said](https://www.theverge.com/2017/9/4/16251226/russia-ai-putin-rule-the-world) Vladimir Putin. The sphere the President of Russia is referring to is artificial intelligence (AI) and his comments should give you a moment of pause. Addressing students at the beginning of our Labor Day weekend, Putin remarked “Artificial intelligence is the future, not only for Russia, but for all humankind,” adding, “It comes with colossal opportunities, but also threats that are difficult to predict.” For once, I find myself in agreement with the President of Russia, but just this once. Artificial Intelligence offers incredible promise and peril. Nowhere is this clearer than in the realm of national security. Today un-crewed systems are a fact of modern warfare. Nearly every country is adopting systems where personnel are far removed from the conflict and wage war by remote control. AI [stands](https://www.nytimes.com/2016/10/26/us/pentagon-artificial-intelligence-terminator.html) to sever that ground connection. Imagine a fully autonomous Predator or Reaper drone. Managed by an AI system, the drone could identify targets, determine their legitimacy, and conduct a strike all without human intervention. Indeed, the Ministry of Defence of the United Kingdom issued a press [statement](https://www.theverge.com/2017/9/12/16286580/uk-government-killer-robots-drones-weapons) in September that the country “does not possess fully autonomous weapon systems and has no intention of developing them,” and that its weapons systems “will always be under control as an absolute guarantee of human oversight and authority and accountability.” Let’s think smaller. Imagine a tiny insect-sized drone loaded with explosive. Guided by a [pre-programmed AI](https://www.amazon.com/Life-3-0-Being-Artificial-Intelligence/dp/1101946598), it could hunt down a specific target — a politician, a general, or an opposition figure — determine when to strike, how to strike, and if to strike based on its own learning. Howard Hughes Medical Center [recently](https://qz.com/1000011/scientists-attached-an-electronic-backpack-to-a-genetically-modified-dragonfly-and-turned-it-into-a-drone/) attached a backpack to a genetically modified dragonfly and flew it remotely. These examples are, however, where humans are involved and largely control the left and right limits of AI. Yet, there are examples of AI purposely and independently going beyond programed parameters. Rogue algorithms led to a [flash crash](http://gizmodo.com/rogue-algorithm-blamed-for-historic-crash-of-the-britis-1787523587) of the British Pound. In 2016, in-game AIs created super AIs weapons and [hunted down](http://www.kotaku.co.uk/2016/06/03/elites-ai-created-super-weapons-and-started-hunting-players-skynet-is-here) human players, and AIs have [created](https://www.forbes.com/sites/tonybradley/2017/07/31/facebook-ai-creates-its-own-language-in-creepy-preview-of-our-potential-future/#1cf69787292c) their own languages that were indecipherable to humans. AIs proved more effective than their human counterparts in producing and catching users in spear phishing programs. Not only did the AIs create more content, they successfully [captured](https://www.blackhat.com/docs/us-16/materials/us-16-Seymour-Tully-Weaponizing-Data-Science-For-Social-Engineering-Automated-E2E-Spear-Phishing-On-Twitter.pdf) more users with their deception. While seemingly simple and low stakes in nature, extrapolate these scenarios into more significant and risky areas and the consequences become much greater. Cybersecurity is no different. Today we are focused on the hackers, trolls, and cyber criminals (officially sanctioned and otherwise) who seek to penetrate our networks, steal our intellectual property, and leave behind malicious code for activation in the event of a conflict. Replace the individual with an AI and imagine how fast hacking takes place; networks against networks, at machine speed all without a human in the loop. Sound far-fetched? It’s not. In 2016, the Defense Advanced Research Projects Agency held an AI on AI capture the flag contest called the [Cyber Grand Challenge](https://www.youtube.com/watch?v=qSgYu3w3DMM) at the DEF CON event. AI networks against AI networks. In August of this year the founders of 116 AI and robotics companies signed a letter petitioning the United Nations [to ban](https://www.theverge.com/2017/8/21/16177828/killer-robots-ban-elon-musk-un-petition) lethal autonomous systems. Signatories to this letter included Google DeepMind’s co-founder Mustafa Suleyman and Elon Musk who, in response to Putin’s quote [tweeted](https://twitter.com/elonmusk/status/904638455761612800), “Competition for AI superiority at national level most likely cause of WW3 imo (sic)”. AI is not some far off future challenge. It is a challenge today and one with which we must grapple. I am in favor of fielding any system that enhances our national security, but we must have an open and honest conversation about the implications of AI, the consequences of which we do not, and may not, fully understand. This is not a new type of bullet or missile. This is a potentially fully autonomous system that even with human oversight and guidance will make its own decisions on the battlefield and in cyberspace. How can we ensure that the system does not escape our control? How can we prevent such systems from falling into the hands of terrorists or insurgents? Who controls the source code? How and can we build in so-called impenetrable kill switches? AI and AI-like systems are slowly being introduced into our arsenal. Our adversaries, China, Russia, and others are also introducing AI systems into their arsenals as well. Implementation is happening faster than our ability to fully comprehend the consequences. Putin’s new call spells out a new arms race. Rushing to AI weapon systems without guiding principles is a dangerous. It risks an escalation that we do not fully understand and may not be able to control. The cost of limiting AI intelligence being weaponized [could vastly exceed](https://www.belfercenter.org/sites/default/files/files/publication/AI%20NatSec%20-%20final.pdf) all of our nuclear proliferation efforts to date. More troubling, the consequences of failure are equally existential.

#### Greatest existential risk

Martin Talks 16, has twenty years’ experience in the digital technology and communications sectors, runs the company Matomico, a consultancy that helps companies and organisations with digital transformation and innovation initiatives, and aims to demystify the world of advanced technology, also cites Stephen Hawking, Bill Gates, and Elon Musk, “A Marketer’s Guide to Artificial Intelligence”, March 2016

“Success in creating AI would be the biggest event in human history,” said Stephewn Hawking in The Independent in 2014. “Unfortunately, it might also be the last, unless we learn how to avoid the risks.”11 In an interview with the BBC he added: “Humans, limited by slow biological evolution, couldn’t compete and would be superseded by AI.”12 Elon Musk called AI “our greatest existential threat” in a 2014 interview with MIT students at the AeroAstro Centennial Symposium. “I’m increasingly inclined to think that there should be some regulatory oversight, maybe at the national and international level, just to make sure that we don’t do something very foolish.”13 Musk has invested in a number of AI technologies through startups including DeepMind, acquired by Google for the rumoured sum of $400m (£285m) in 201414, and claims this is as a means to “just keep an eye on what’s going on with artificial intelligence”15. Bill Gates has also expressed concerns about AI. During a Q&A session on Reddit in January 2015, Gates said: “I am in the camp that is concerned about super intelligence. First the machines will do a lot of jobs for us and not be super intelligent. That should be positive if we manage it well. A few decades after that though the intelligence is strong enough to be a concern. I agree with Elon Musk and some others on this and don’t understand why some people are not concerned.”16 In July 2015, Stephen Hawking, Musk and more than 1,000 AI and robotics researchers signed a letter asking for a ban on AI warfare, warning of the potential for rampant destruction at the hands of autonomous weapon systems, which can select and engage targets without human intervention. “AI technology has reached a point where the deployment of such systems is — practically if not legally — feasible within years, not decades, and the stakes are high: autonomous weapons have been described as the third revolution in warfare, after gunpowder and nuclear arms,” the letter said.

### DA---CBW

#### Aff causes a shift to chemical and biological weapons – empirics and economic theory prove.

Narang '16 (Neil Narang; Neil Narang is an Associate Professor in the Department of Political Science and Co-Director of the Global Security hub in the Orfalea Center at the University of California, Santa Barbara. In 2015-2016, he served as a Senior Advisor in the Office of the Secretary of Defense on a Council on Foreign Relations International Affairs Fellowship. He is currently a research scholar and steering committee member at the University of California Institute for Global Conflict and Cooperation (IGCC), faculty affiliate at the Stanford University Center for International Security and Cooperation (CISAC), affiliated researcher at the Centre for Conflict Development and Peacebuilding (CCDP) at the Graduate Institute, Geneva, and Term Member of the Council on Foreign Relations. Narang specializes in international relations, with a focus on issues of international security and conflict management. Specifically, his research explores the role of signaling under uncertainty in situations of bargaining and cooperation, particularly as it applies to two substantive domains: (1) crisis bargaining in both interstate and civil war, and (2) cooperation through nuclear and conventional military alliances. His articles have appeared in the Journal of Politics, International Studies Quarterly, Journal of Conflict Resolution, Journal of Peace Research, among others. He received his PhD in Political Science from UCSD and he holds a BA in Molecular Cell Biology and Political Science from the University of California, Berkeley. He has previously been a fellow at the University of Pennsylvania’s Browne Center for International Politics, a nonproliferation policy fellow at the Los Alamos National Laboratory, and a junior faculty fellow and visiting professor at Stanford University’s Center for International Security and Cooperation; 4-1-2016; "All Together Now? Questioning WMDs as a Useful Analytical Unit for Understanding Chemical and Biological Weapons Proliferation"; https://www.tandfonline.com/doi/abs/10.1080/10736700.2016.1153184, Taylor &amp; Francis, accessed 12-8-2019; JPark)

* NBC = Nuclear/Bio/Chemical weapons

Rather than engage in a theoretical debate comparing the ease of acquisition and destructive potential across NBC weapons, we chose an empirical and inductive approach of **observing historical patterns** in states’ pursuit and acquisition of different WMDs to determine whether states appeared to behave as if these weapons were substitutes or compliments. To do this, we estimated something akin to a cross-elasticity of **demand across WMDs** by measuring the impact of pursuing and possessing any one type of WMD on the risk a state will eventually pursue another type, holding that state’s underlying ‘‘willingness’’ to pursue a WMD (demand) constant. In other words, at any given level of demand—which we approximate using a set of **control** variables that previous research has shown to be correlated with states’ willingness to pursue a nuclear weapon—we tried to estimate the **independent effect** that acquiring one type of weapon would have on the probability that a state will pursue another. To begin, this approach required accurate **historical data** on nuclear, chemical, and biological weapons pursuit and acquisition across time and space. And although there is some emerging consensus around which states pursued and possessed nuclear weapons over time, there was no previously established data on chemical and biological weapons proliferation.15 To compile this data, we relied on six different sources: (1) the Stockholm International Peace Research Institute, (2) the Center for Nonproliferation Studies, (3) Arms Control Association, the (4) Carnegie Endowment for International Peace, (5) the Chemical and Biological Arms Control Institute, and (6) the Stimson Center.16 Fortunately for us, the coding in these six sources were highly correlated. However, they did not always agree on which states pursed or acquired chemical and biological weapons in any given year. Nevertheless, we were able to confirm the **robustness** of our **results** to different sampling rules that required either unanimity across sources, agreement across a majority of sources, or any single source reporting pursuit or possession of a chemical or biological weapon by a state in any particular year. The results of our analyses were telling. Specifically, we found that the underlying demand for NBC weapons appears to be correlated. That is, many of the same **factors** that cause states to “**go nuclear**” also appear to systematically **influence the risk** that states will seek chemical and biological weapons. With respect to the relationship between different weapons of mass destruction, we found that NBC weapons generally appear to function as complements at the pursuit stage: simply initiating pursuit of any one WMD appears to independently increase the risk that a state will seek all three simultaneously, controlling for other factors. Finally, and perhaps most interesting, we found some evidence that WMDs do function as **substitutes** in one important fashion: once states **acquire** nuclear weapons, they appear far less likely to **pursue or** **possess** chemical and biological weapons. That is, the data appears to support the popular notion that chemical and biological weapons function as a “poor man’s atomic bomb,” since acquiring a nuclear weapon appears to **satisfy demand** and reduce the risk of chemical and biological weapons pursuit, but not vice-versa. This last finding is also remarkably consistent with the idea that nuclear weapons acquisition may uniquely entail some prestige. Of course, these results are not without their limitations. First, these are systematic empirical regularities estimated across states in the international system over time. There certainly are, however, important historical cases that do not fit these general patterns well. For example, both the United States and the Soviet Union maintained chemical weapons programs for decades after they acquired nuclear weapons. Second, the pursuit and acquisition of WMDs are relatively rare events, particularly with respect to nuclear weapons. For this reason, some of our findings may be driven by the behavior of only a handful of states, which could limit the applicability of the findings. Finally, our results are only instructive if the historical data under analysis are accurate. However, because WMD programs are notoriously secret, determining which states actively pursue or possess a nuclear, chemical, or biological weapon in any given year is a non-trivial measurement challenge. We were careful to check the **robustness** of our findings to different datasets and different sampling rules, but this still assumes some **independence** **across measurements**. In the end, we emphasized these limitations and encouraged caution in making strong policy inferences based on our results. Misleading Inferences So what inferences—if any—from this research can we draw to the likely impact of deep nuclear reductions on the risk of chemical and biological weapons proliferation? Might policies that limit the supply of nuclear weapons simply shift proliferation risk elsewhere? Even more to the point, could actors increasingly view chemical and biological weapons as the “poor man’s atomic bomb,” in inverse relationship to declining global nuclear stockpiles? The short answer to these questions is that we cannot yet know the likely impact of deep nuclear reductions on chemical and biological weapons proliferation. This is because existing research—including our own study—does not provide the type of empirical evidence needed to forecast these outcomes with any real confidence. To illustrate this, I anticipate four mechanisms through which restrictions in the global supply of nuclear weapons might be posited to increase the risk of chemical and biological weapons proliferation. I then show that each of these inferences is nevertheless unsustainable based on the findings described above. The first inference that one may be tempted to draw from past findings is that a policy focused on achieving reductions in the global nuclear stockpile could cause a rise in chemical and biological weapons proliferation as more states view them as a “poor man’s atomic bomb.” As noted above, our findings suggested that states appear to seek chemical and biological weapons for many of the same reasons as they pursue nuclear weapons. Furthermore, our findings also indicate that states that do not possess nuclear weapons appear to be systematically more likely to pursue chemical and biological weapons than states that do possess them. When combined, it may seem reasonable to suppose that, conditional on some level of demand for one of these types of weapons, reductions in the **global supply of nuclear weapons** could cause some states to **pursue** chemical and biological weapons as “imperfect substitutes” for the **deterrence** and **compellence benefits** of nuclear weapons.

#### Bioweapons cause extinction – mathematically outweighs, even if they win mitigation.

Millett & Snyder-Beattie ‘17. Millett, Ph.D., Senior Research Fellow, Future of Humanity Institute, University of Oxford; and Snyder-Beattie, M.S., Director of Research, Future of Humanity Institute, University of Oxford. 08-01-2017. “Existential Risk and Cost-Effective Biosecurity,” Health Security, 15(4), PubMed

In the decades to come, advanced bioweapons could threaten human existence. Although the probability of human extinction from bioweapons may be low, the expected value of reducing the risk could still be large, since such risks jeopardize the existence of all future generations. We provide an overview of biotechnological extinction risk, make some rough initial estimates for how severe the risks might be, and compare the cost-effectiveness of reducing these extinction-level risks with existing biosecurity work. We find that reducing human extinction risk can be more cost-effective than reducing smaller-scale risks, even when using conservative estimates. This suggests that the risks are not low enough to ignore and that more ought to be done to prevent the worst-case scenarios. How worthwhile is it spending resources to study and mitigate the chance of human extinction from biological risks? The risks of such a catastrophe are presumably low, so a skeptic might argue that addressing such risks would be a waste of scarce resources. In this article, we investigate this position using a cost-effectiveness approach and ultimately conclude that the expected value of reducing these risks is large, especially since such risks jeopardize the existence of all future human lives. Historically, disease events have been responsible for the greatest death tolls on humanity. The 1918 flu was responsible for more than 50 million deaths,1 while smallpox killed perhaps 10 times that many in the 20th century alone.2 The Black Death was responsible for killing over 25% of the European population,3 while other pandemics, such as the plague of Justinian, are thought to have killed 25 million in the 6th century—constituting over 10% of the world's population at the time.4 It is an open question whether a future pandemic could result in outright human extinction or the irreversible collapse of civilization. A skeptic would have many good reasons to think that existential risk from disease is unlikely. Such a disease would need to spread worldwide to remote populations, overcome rare genetic resistances, and evade detection, cures, and countermeasures. Even evolution itself may work in humanity's favor: Virulence and transmission is often a trade-off, and so evolutionary pressures could push against maximally lethal wild-type pathogens.5,6 While these arguments point to a very small risk of human extinction, they do not rule the possibility out entirely. Although rare, there are recorded instances of species going extinct due to disease—primarily in amphibians, but also in 1 mammalian species of rat on Christmas Island.7,8 There are also historical examples of large human populations being almost entirely wiped out by disease, especially when multiple diseases were simultaneously introduced into a population without immunity. The most striking examples of total population collapse include native American tribes exposed to European diseases, such as the Massachusett (86% loss of population), Quiripi-Unquachog (95% loss of population), and the Western Abenaki (which suffered a staggering 98% loss of population).9 In the modern context, no single disease currently exists that combines the worst-case levels of transmissibility, lethality, resistance to countermeasures, and global reach. But many diseases are proof of principle that each worst-case attribute can be realized independently. For example, some diseases exhibit nearly a 100% case fatality ratio in the absence of treatment, such as rabies or septicemic plague. Other diseases have a track record of spreading to virtually every human community worldwide, such as the 1918 flu,10 and seroprevalence studies indicate that other pathogens, such as chickenpox and HSV-1, can successfully reach over 95% of a population.11,12 Under optimal virulence theory, natural evolution would be an unlikely source for pathogens with the highest possible levels of transmissibility, virulence, and global reach. But advances in biotechnology might allow the creation of diseases that combine such traits. Recent controversy has already emerged over a number of scientific experiments that resulted in viruses with enhanced transmissibility, lethality, and/or the ability to overcome therapeutics.13-17 Other experiments demonstrated that mousepox could be modified to have a 100% case fatality rate and render a vaccine ineffective.18 In addition to transmissibility and lethality, studies have shown that other disease traits, such as incubation time, environmental survival, and available vectors, could be modified as well.19-21 Although these experiments had scientific merit and were not conducted with malicious intent, their implications are still worrying. This is especially true given that there is also a long historical track record ofstate-run bioweapon research applying cutting-edge science and technology to design agents not previously seen in nature. The Soviet bioweapons program developed agents with traits such as enhanced virulence, resistance to therapies, greater environmental resilience, increased difficulty to diagnose or treat, and which caused unexpected disease presentations and outcomes.22 Delivery capabilities have also been subject to the cutting edge of technical development, with Canadian, US, and UK bioweapon efforts playing a critical role in developing the discipline of aerobiology.23,24 While there is no evidence of state-run bioweapons programs directly attempting to develop or deploy bioweapons that would pose an existential risk, the logic of deterrence and mutually assured destruction could create such incentives in more unstable political environments or following a breakdown of the Biological Weapons Convention.25 The possibility of a war between great powers could also increase the pressure to use such weapons—during the World Wars, bioweapons were used across multiple continents, with Germany targeting animals in WWI,26 and Japan using plague to cause an epidemic in China during WWII.27 Non-state actors may also pose a risk, especially those with explicitly omnicidal aims. While rare, there are examples. The Aum Shinrikyo cult in Japan sought biological weapons for the express purpose of causing extinction.28 Environmental groups, such as the Gaia Liberation Front, have argued that “we can ensure Gaia's survival only through the extinction of the Humans as a species … we now have the specific technology for doing the job … several different [genetically engineered] viruses could be released”(quoted in ref. 29). Groups such as R.I.S.E. also sought to protect nature by destroying most of humanity with bioweapons.30 Fortunately, to date, non-state actors have lacked the capabilities needed to pose a catastrophic bioweapons threat, but this could change in future decades as biotechnology becomes more accessible and the pool of experienced users grows.31,32 What is the appropriate response to these speculative extinction threats? A balanced biosecurity portfolio might include investments that reduce a mix of proven and speculative risks, but striking this balance is still difficult given the massive uncertainties around the low-probability, high-consequence risks. In this article, we examine the traditional spectrum of biosecurity risks (ie, biocrimes, bioterrorism, and biowarfare) to categorize biothreats by likelihood and impact, expanding the historical analysis to consider even lower-probability, higher-consequence events (catastrophic risks and existential risks). In order to produce reasoned estimates of the likelihood of different categories of biothreats, we bring together relevant data and theory and produce some first-guess estimates of the likelihood of different categories of biothreat, and we use these initial estimates to compare the cost-effectiveness of reducing existential risks with more traditional biosecurity measures. We emphasize that these models are highly uncertain, and their utility lies more in enabling order-of-magnitude comparisons rather than as a precise measure of the true risk. However, even with the most conservative models, we find that reduction of low-probability, high-consequence risks can be more cost-effective, as measured by quality-adjusted life year per dollar, especially when we account for the lives of future generations. This suggests that despite the low probability of such events, society still ought to invest more in preventing the most extreme possible biosecurity catastrophes.

### DA---Space

#### Space war is possible but has avoided escalation.

Clark '18 (Stuart Clark; first class honours degree and a PhD in astrophysics. He is a Fellow of the Royal Astronomical Society and a former Vice Chair of the Association of British Science Writer; 4-1-2018; "‘It’s going to happen’: is the world ready for war in space?"; https://www.theguardian.com/science/2018/apr/15/its-going-to-happen-is-world-ready-for-war-in-space, Guardian, accessed 12-2-2019; JPark)

“It is absolutely **inevitable** that we will see conflict **move into space**,” says Michael Schmitt, professor of public international law and a space war expert at University of Exeter in the United Kingdom. Space has been eyed up as a military asset almost since the beginning of the space race. During the cold war, Russia and America imagined many kinds of space weapon. One in particular was called the Rods from God or the kinetic **bombardment weapon**. It was a kind of unmanned space bomber that carried tungsten rods to drop on unsuspecting enemies. As they fell from orbit, the rods gathered so much speed that they delivered the explosive power of a **nuclear bomb**, but **without** the **radioactive fallout**. However, such systems are hideously expensive, probably outlawed by international treaties and the satellites that carry them are easy targets to shoot down. What has prompted this latest interest in space war is that the means by which one country can attack another in space have changed dramatically. These days, a frontline space war soldier is most likely to be a state-sponsored hacker sitting at a computer terminal sending rogue commands to confuse or shut down an enemy’s satellites. Space war is inevitable because today’s **modern militaries** use space for **everything**, from spy satellites to a soldier on a mountaintop using satnav to figure out exactly where he or she is. “The reliance upon space is truly extraordinary in contemporary conflict,” says Schmitt. And in any war, one side will seek to deprive the other of their ability to function. In this day and age, that means attacking the satellites. In May 2014, the Russians launched a mysterious satellite that was seen to be manoeuvring in orbit. Some thought it was the **Russians** testing a future space weapon because such orbital gymnastics are exactly what would be expected from an attack satellite designed to approach another and put it out of operation. Indeed, the Russians have a history of testing such spacecraft. “The original but larger Russian manoeuvrable military satellite, Polyot, dates to 1963,” says Brian Harvey, a space analyst and author of The Rebirth of the Russian Space Program (Springer). And it is not just the Russians. “The real experts in developing small, manoeuvrable satellites that change orbits and make multiple interceptions are the Chinese in their Shijian series,” he says. The **Chinese** have demonstrated other military space options, too. In 2007, they destroyed one of their own weather satellites using a missile launched from Earth. The FY-1C satellite was at an altitude of 865km and was hit by the missile travelling at 8km/s. The satellite disintegrated into an estimated 150,000 pieces of space debris. Yet Schmitt thinks that any conflict in space is unlikely to start with such brutal measures. “The immediate form would be **cyber-attacks**, either against the satellites or the ground stations that control them. It depends on the nature of the conflict whether you go beyond that,” he says. Although **treaties** already exist that say you can’t put military installations on the moon or weapons of mass destruction into orbit, there is a decidedly **grey area.** Take the Russian and Chinese manoeuvring satellites as an example. Although Harvey says that these particular tests are probably for military purposes, the ability to rendezvous in space is also an essential technique for China to master in order to achieve its ambition of bringing back moon rock samples to Earth. Wörner grapples with such duality on a daily basis. The ESA is mandated to pursue only peaceful space exploration and utilisation. As part of that, it is developing ways of removing old spacecraft and pieces of space debris from orbit. However, critics have pointed out that if a piece of technology can track down and grapple a dead satellite out of orbit, it can do the same with a live one – thus becoming a potential weapon. “Space is different from 50 years ago. Then, it was a race between superpowers; today, it is everything. We all rely on space each and every day,” says Wörner. When we wake up in the morning and look at the weather forecast, when we use a satnav to get somewhere we’ve never been before, when we listen to the radio or make a mobile phone call, when we buy things online, the chances are that these signals are mediated by satellites in some way. The **debris cloud** created by blowing up satellites can easily collide with other satellites, destroying them and triggering a **chain reaction** that could swiftly surround the Earth with **belts of debris**. Orbits would become so unnavigable that our access to space would be **completely blocked**, and the satellites we rely on smashed to smithereens. This nightmare scenario is known as the **Kessler syndrome**. It is clear that if combatants start blowing up each other’s satellites, it risks others not involved in the conflict. “There is a rule in humanitarian law that says that when conducting a military operation you must choose the method that produces the least collateral damage,” says Schmitt. “So blowing up satellites must be operations of last resort – at least I hope so.” But, as yet, there is **no international law** about the creation of space debris. “We need new legal restrictions,” says Wörner, who is putting together a proposal for an ESA programme of space safety and security to safeguard civilian access to space. The agency will develop this proposal over the next 18 months and present it for funding to European science ministers in 2019.

#### Nuclear weapons are necessary for deterring space conflict.

Ferreira '15 (Becky Ferreira; a Canadian writer based in New York. She is a regular contributor to Motherboard/VICE, and has written for Wired, Popular Science, New Scientist, Bike Radar, and Sparknotes, among other publications. She has appeared on the Science Channel series NASA's Unexplained Files; 9-16-2015; "How to Prevent Space War"; https://www.vice.com/en\_us/article/4x3jmw/how-to-prevent-space-war, Vice, accessed 12-3-2019; JPark)

Fortunately, what emerged from all this high-stakes sabre-rattling was the **Outer Space Treaty of 1967**—the foundational document of space law. "There would be **no space law** without the **fear of nukes**," Gabrynowicz told me. "Everybody looked over into the abyss. They saw **what it meant** to place nuclear weapons in space. Think of nuclear bombs producing mushroom clouds raining down from space. Everybody said, 'Nope, we are not going there'." To prevent this horrifying possibility, 89 nations signed the 1967 Outer Space Treaty, which unequivocally banned nuclear weapons in space and prohibited weapons of mass destruction, including chemical and biological weapons. With that, the immediate threat of space-down nuclear armageddon was thankfully averted. This is an achievement we should be proud of, even decades later. It is rare for rival nations to agree to back down during an arms race. That the American and Soviet spaceflight communities were able to demonstrate this kind of restraint at the height of the space race set a strong precedent for the preservation of peace beyond Earth. That said, in the decades since 1967, weapons have become **smarter** and **more sophisticated**, and that has affected the nature of potential space warfare. We may have outlawed the big guns—**nukes** and **WMDs**—but these dangers have been **replaced** by an ambient and malignant militarization that stealthily operates between the lines of space law. Take, for example, the dizzyingly complicated problems sparked by dual-use technologies such as anti-satellite (ASAT) weapons. It may seem like a no-brainer to simply outlaw the launch of any satellite that can damage other spacecraft, but as it turns out, **hundreds of satellites** could fit this description. What looks like a benign mission to clear up space debris on paper could end up being an ASAT project in disguise. "ASATs have always been kind of like the Achilles heel of the arms control regime," said Gabrynowicz. "DARPA, the Air Force, and the Department of Defense have been stressing how important it is to deal with debris. And they're right. It is important to deal with debris. But it can go either way." In other words, the same technologies that can help us service malfunctioning satellites or cut down on debris can also be used to **tamper** with other satellites, or **create more debris** by shooting spacecraft down. Suspiciously enough, military leaders from the US, Russia, and China have been **particularly invested** in developing these kinds of dual-use technologies for outer space, and occasionally, they will demonstrate their capabilities. In 2007, for example, the Chinese space agency performed a "**kinetic kill**" on one of its own satellites by shooting it down with a ground missile. "It caused a **massive amount of debris** in high levels of space where it can do major amounts of harm," Gabrynowicz said. "To this day, they have never officially said what they did or why they did it." This subtle and insidious militarization of space is creeping into space exploration at the seams, **escalating tensions** between major spacefaring nations. In contrast to city-blasting bombs of yesteryear, space warfare is now deployed through changeling machines that purport to uphold off-Earth peace while holding proverbial knives at their backs. "We need to wrap our heads around the idea that space may not always be a peaceful domain and respond accordingly." Policing this kind of arms race is a legal nightmare, but that hasn't stopped people from trying. Over the summer, for example, European Union diplomats convened a meeting between major spacefaring nations, held at the United Nations (though it bears mentioning that it was not an officially sanctioned UN meeting). The goal was to discuss implementing the EU's proposed non-legally binding Code of Conduct for Outer Space Activities, which aims to keep space militarization in check. While the drafted code of conduct doesn't have the fangs of a legally binding treaty, the EU reasoned it would at least advance the conversation, and provide some kind of safeguard against rampant armament. "If something is not legally binding, then it has the effect of **peer pressure**," Gabrynowicz explained. "The question becomes: is it more politically advantageous to break away, or is it disadvantageous? It's a **very nebulous** case." "At the same time, if the alternative to a nonbinding agreement is nothing," she added, "you may take a much weaker agreement, because it gives you something. It's all a very **calculated**, **sophisticated** analysis based on so many factors." Alas, the gathered diplomats, representing over 100 countries, couldn't come to an agreement about the terms for the code of conduct. One of the major stumbling blocks for the negotiations was the firm US position that the code explicitly grant all nations the right to self defense—a stance that some see as a tacit loophole for amping up American military domination of space.

#### Space war causes ecological collapse and extinction.

Scheer ‘15 Robert degree in economics, he studied as a fellow at the Maxwell School of Syracuse University, and then did further economics graduate work at the Center for Chinese Studies at UC Berkeley. Scheer has also been a Poynter fellow at Yale University,[9] and was a fellow in arms control at Stanford University, the same post once held by United States Secretary of State Condoleezza Rice Los Angeles Times staff writer, reposted by Holloway. 09-18-15. “Offensive Laser Space Weapons.” The Area 51 Blog. http://thearea51blog.blogspot.com/2015/09/offensive-laser-space-weapons.html

Many advocates of the "Star Wars" defense systems hope lasers fired down from space stations or shot up from the Earth and reflected off space-based mirrors onto targets below may one day be part of a defensive shield against enemy missiles. But new analysis suggests that high-intensity laser light from such weapons could also be used offensively to unleash massive firestorms, possibly producing an environmental disaster similar to a "nuclear winter." Non-Nuclear Armageddon The study, which was produced by R&D Associates, an influential defense think tank based in Marina del Rey, cites data indicating that, "in a matter of hours, a laser defense system powerful enough to cope with the ballistic missile threat can also destroy the enemy's major cities by fire. The attack would proceed city by city, the attack time for each city being only a matter of minutes. Not nuclear destruction, but Armageddon all the same." Lasers "have the potential of initiating massive urban fires and even of destroying the enemy's major cities by fire in a matter of hours," according to the article by Caroline L. Herzenberg, a government physicist at the Argonne National Laboratory near Chicago. "Such mass fires might be expected to generate smoke in amounts comparable to the amounts generated in some major nuclear exchange scenarios," the article in the current issue of Physics and Society, a publication of the American Physical Society, warned. This could cause "a climatic catastrophe similar to 'nuclear winter,'" a reference to the disastrous lowering of the Earth's temperature many scientists believe would result from a nuclear war. The R&D study does not mention a "nuclear winter" but does stress that lasers are not intrinsically defensive weapons and can be used offensively to start massive fires. "The lasers can be employed in a manner not contemplated by the (Strategic Defense Initiative)," caution Albert L. Latter and Ernest A. Martinelli, who wrote the eight-page R&D Associates study and are highly regarded advocates of a stronger U.S. defense. "Specifically, they can be targeted against the same entities they were designed to protect: the cities. "After spending hundreds of billions of dollars, we would be back where we started from: deterrence by retaliation. Our cities would be hostage to lasers instead of nuclear weapons," the report said. President Reagan has offered ultimately to share "Star Wars" technology with the Soviet Union. But the R&D Associates report suggests that such weapons in the hands of the Soviets might prove menacing: "A Soviet laser weapon system . . . powerful enough to defend against the U.S. ballistic missile threat can incinerate our cities without warning on a time scale of minutes-per-city; minutes to hours for the whole country. To deter such an attack, the U.S. could only threaten to retaliate." The authors suggested that laser weapons might also be used against Soviet conventional forces. "For those who have advocated limited nuclear options against the Soviet Union itself, limited laser options would produce less collateral damage and be just as effective otherwise," they wrote. The danger of laser-induced fires had not been much noticed by critics or proponents of the Strategic Defense Initiative until the appearance of the article and the R&D study. When asked to comment, a Strategic Defense Initiative spokeswoman stated on a non-attribution basis after checking with other officials that "lasers could start fires." But she added that "this is not a problem that we are addressing at this time. It is not the intention of (the Strategic Defense Initiative) to start fires. This is an anti-ballistic (missile) program." She denied also that lasers designed for defense could be used as offensive weapons. "They would have to be designed differently to cause fires," she said. However, in an interview Friday, Herzenberg, the author of the physics magazine article, responded that "all you need is to dump enough energy on something and, if it's flammable, it will go up. The free electron laser, the excimer laser, and the deuterium fluoride chemical laser (which are the subjects of current research) all can go through the atmosphere and cause fires." The free electron laser is being developed at the Lawrence Livermore National Laboratory here. However, lab spokesman Norris Smith said that "the lab will have no comment" on the matter. Theodore A. Postol, until recently adviser on nuclear weapons to the chief of naval operations and an expert on the implications of firestorms, said: "If you were attempting to set fires with an optical laser that was already sufficiently powerful to attack hardened ICBM boosters, there is no question that such a device could also be used to create mass fires of enormous scale and ferocity—mass urban fires potentially larger and more intense than those created by the great incendiary raids on Hamburg and Dresden in World War II."

### DA---CCP

#### Power centralization has secured Xi’s leadership and CCP authority.

Tiezzi ’19 (Shannon; Editor-in-Chief at The Diplomat, former research associate at the U.S.-China Policy Foundation, A.M. from Harvard University; 7/10/19; “Xi Jinping Continues His Quest for Absolute Party Control”; <https://thediplomat.com/2019/07/xi-jinping-continues-his-quest-for-absolute-party-control/>; The Diplomat; accessed 9/2/19; TV)

“Party, government, military, civilian, and academic; east, west, south, north, and center, the Party leads everything.” So declared the Chinese Communist Party (CCP) after its 19th National Congress in October 2017. While more attention was paid to CCP General Secretary and Chinese President Xi Jinping’s enshrinement in the Party constitution at the same meeting, the return to a Mao-era mantra of absolute CCP control was even more telling about the Party’s vision for China going forward. Under Deng Xiaoping, the CCP limited its leadership “mainly” to “politics, ideology, and the organization.” There was more of an effort to separate out Party and state functions, although in practice of course the division was strictly limited. Since the 1990s, the top posts of Party and state have been held by the same individual, and it’s no secret that the CCP’s Politburo Standing Committee is the real nexus of power in China. Now under Xi, the trend toward some, albeit limited, separation of Party and state was reversed. Xi has made it his central mission to consolidate CCP control once again, and not only over the state apparatus but over every sector from entertainment and technology to religion and education. And Xi and the CCP still want more. The third plenary session of the CCP Central Committee, held in March 2018, concluded that “the current function and structure of Party and state institutions are not completely suitable … for modernizing China’s system and capacity for governance.” The solution? “To carry out the reform, it is essential to take strengthening the Party’s overall leadership as the overarching principle…” To that end, the plenum communique recommended “promoting coordinated actions and resultant forces among the people’s congresses, governments, political advisory bodies, and supervisory, judicial and prosecutorial organs, people’s organizations, enterprises, public institutions, and social organizations under the unified leadership of the CPC” (using the acronym for the Communist Party of China). All reforms to China’s legislative, advisory, and judicial bodies were first and foremost aimed to “strengthen the CPC leadership” so that “orders are executed without fail.” On July 5, Xi spoke before a meeting of Chinese Party leaders, military leaders, and bureaucrats to evaluate the progress made on the 2018 plenum’s goals. Xi noted that implementation has been largely effective: “the reform has systematically enhanced the Party’s leadership.” “In just over a year, the tasks of reform laid out at the third plenary session of the 19th CPC Central Committee have been accomplished on the whole,” Xi declared. That makes for an interesting comparison with the third plenary session of the 18th CCP Central Committee, held back in 2013. That session’s communique, which laid out a blueprint for economic reform and opening, remains largely unfulfilled nearly six years after the fact. The contrast is a clear sign of where Xi’s priorities lie. Despite expressing general satisfaction with the political reforms to date, Xi listed “priorities for the future,” including “To perfect the system through which the Party exercises leadership over major tasks and to strictly enforce political discipline and rules” and “To enhance the coordination between Party and government institutions.” On July 9, just a few days later, Xi attended yet another meeting to drive home the importance of CCP leadership, this time focusing on the importance of Party building in CCP and state institutions alike. Central institutions “should actively respond to what the CPC Central Committee advocates, implement what it decides, and stop what it forbids,” Xi said, according to Xinhua. It’s clear that Xi’s determination to expand CCP leadership remains intact; it’s also clear, however, that this is a work in progress – thus the need for repeated meetings stressing the importance of obedience to central Party leadership.

#### Multilateral disarmament undercuts CCP legitimacy.

Kim '18 (Patricia M. Kim; Patricia M. Kim is a senior policy analyst with the China Program at the U.S. Institute of Peace. Her areas of expertise include Chinese foreign policy, U.S.-China relations, and East Asian security issues. Dr. Kim's current research portfolio includes topics ranging from U.S.-China strategic competition, China's policies toward the Korean Peninsula and U.S.-ROK alliance issues, to China-Africa relations. She is currently the project director of the China-Red Sea Senior Study Group at USIP which examines China's activities and influence in the Middle East and the Horn of Africa. Previously, Dr. Kim was a Stanton Nuclear Security Fellow at the Council on Foreign Relations, International Security Program Research Fellow at the Harvard Kennedy School of Government's Belfer Center for Science and International Affairs, and Postdoctoral Fellow at the Princeton-Harvard China and the World Program at Princeton University. She is currently a term member of the Council on Foreign Relations. Dr. Kim’s writing has been featured in publications such as Foreign Affairs, Foreign Policy, International Security, The South China Morning Post, and The Washington Post. She has testified before the House Permanent Select Committee on Intelligence and the House Foreign Affairs Subcommittee on Terrorism, Nonproliferation, and Trade. Patricia received her PhD from the Department of Politics at Princeton University and her BA with highest distinction in political science and Asian studies from the University of California, Berkeley. She is fluent in Mandarin Chinese and Korean, and proficient in Japanese; 6-21-2018; "Chinese Perceptions on Nuclear Weapons, Arms Control, and Nonproliferation"; https://www.cfr.org/report/chinese-perceptions-nuclear-weapons-arms-control-and-nonproliferation, Council on Foreign Relations, accessed 12-9-2019; JPark)

On June 21, 2018, Patricia Kim testified before the House Foreign Affairs Subcommittee on Terrorism, Nonproliferation, and Trade. She discussed China’s nuclear doctrine, which has traditionally focused on maintaining a minimum deterrent and “no first use” policy, as well as China’s current nuclear modernization efforts, which involve increasing its nuclear arsenal at a modest rate and strengthening the survivability and retaliatory capabilities of its nuclear forces. Kim also discussed why the prospects for arms control negotiations with China **remain dim** given Beijing’s reluctance to **embrace transparency** based on its insecurities about its relatively minimal nuclear arsenal, as well as its insistence that Washington and Moscow **first commit** to significant arms reductions before asking China to restrict its own weapons. Finally, Kim discussed China’s record on nonproliferation, pointing out that while **Beijing** no longer seems to directly assist the nuclear programs of other states as it did in the past, it has not fully lived up to its **commitments** to **nonproliferation**, with lax enforcement of export controls and proliferation-related sanctions. Based on these observations of China’s nuclear doctrine and modernization efforts and its stance on arms control and nonproliferation, Kim suggested the following policy recommendations for the United States: Engage in bilateral confidence building and avoid spurring an action-reaction dynamic. China’s nuclear force modernization will largely be influenced by the United States’ own efforts to modernize its nuclear forces. As such, the United States should seek to engage in high-level dialogues with China to clarify each other’s nuclear policies, doctrine and capabilities, and to engage in confidence building measures to reduce the prospects of an action-reaction arms race that will not only be destabilizing for the world, but also highly costly for U.S. citizens. Strengthen alliances and the credibility of the United States’ security commitments. China will continue to **modernize** its **nuclear forces** into the foreseeable **future** in order to maintain minimum deterrent capabilities in the nuclear realm and as part of its larger campaign to **strengthen** its **military capabilities**. In the midst of China’s military expansion, it is vital the United States reassures its allies, especially in East Asia, of the credibility of its security commitments by clarifying and reinforcing its security assurances, conducting joint exercises to strengthen joint capabilities and interoperability, and resolving disputes with allies in a discreet and cooperative manner. Leverage China’s desire for stability and its growing international profile and interests to encourage its active participation in nonproliferation efforts. Chinese President **Xi** Jinping has set **several** ambitious **goals** to develop China into a **world** class **power** by **2049**. None of these goals can be achieved if China is **beset with chaos** and instability due to war, for instance, stemming from a nuclear crisis on the Korean Peninsula. Furthermore, as more and more Chinese assets and citizens move abroad, they will also become increasingly vulnerable to nuclear terrorism and other proliferation-related instability. U.S. leaders should leverage China’s need for stability and its desire to **protect** its **growing interests** to encourage Beijing to do more to curb nuclear proliferation. Set a leading tone on arms control. The United States’ most recent Nuclear Posture Review announced that it would introduce two new types of nuclear weapons in light of the growing threat from China and Russia, among other actors. As a responsible great power, the United States should lead the charge against introducing new nuclear weapons, work to raise the threshold for nuclear conflict, and continue to rally its counterparts to work toward reducing and ultimately ridding the world of nuclear weapons.

#### CCP stability is key to anti-climate change leadership.

Zhang '17 (Chris Zhang; Chris Zhang, originally from China, now works as a New York-based sustainability adviser. He studied international affairs at Fudan University in Shanghai and is a keen observer of political corruption and environmental standards in China; 11-15-2017; "Can Red China Really Be the World’s New Green Leader?"; https://thediplomat.com/2017/11/can-red-china-really-be-the-worlds-new-green-leader/, No Publication, accessed 12-9-2019; JPark)

Chinese President Xi Jinping has used China’s 19th National Congress not just to anoint himself the Great Helmsman but also to firmly enshrine **environmental protection** in the country’s development path. The resolution of the CCP’s Central Committee report, published at the end of the Congress, specifically seeks to “promote **green development**, solve prominent environmental problems” and “work to develop a new model of modernization with humans developing in harmony with nature.” While this might sound like vacuous newspeak, the sad fact of the matter is that in the absence of U.S. leadership, Beijing’s policies are likely to **set** the **global agenda**. All year long, Xi has been scoring points with the international community almost exclusively through discursive acts, namely showing up and saying the right things. As a vocal defender of the Paris Climate Agreement, Xi secured more supporters after he chastised Trump for withdrawing the United States from the accord. One week after the American withdrawal, Beijing hosted a high-level international forum for energy ministers. During the meeting, Chinese energy officials assured that China’s Paris Agreement **targets would be met** on, or before, the target date and delivered a presentation on the value of clean **renewable energy** sources **over** coal or natural gas. Not only was Xi able to promote his support for global cooperation on environmental issues unabatedly; it also helped to position himself as the international community’s **counterweight to Trump**’s brash and toxic brand of leadership. China – the largest energy consumer and the world’s biggest polluter – has rebranded itself as the global **steward** of **green initiatives**. While the United States relaxes restrictions on coal-fired power generation, China is betting big on the long-term benefits of solar power. After doubling the number of solar panels in 2016, China’s overall solar power capacity is now **twice** as large as that of the United States. In southern China, decommissioned coal mines are turned into **solar farms**. Meanwhile, in Anhui province, an enormous floating solar power installation was built atop a lake created by an abandoned mine. Since 2014, the country has slashed its coal usage and dramatically reduced its carbon footprint. China’s CO2 emissions for 2017 will mark the fourth consecutive year of declining emissions. But China’s new role is also represented by the fact that Xi is not afraid to spend **serious money** on making “**Green China**” a long-term reality. China’s National Energy Agency (NEA) pledged a **2.5 trillion-yuan** ($361 billion) investment into clean energy generation. While such investments are impressive, they also speak to mounting public pressures on the CCP leadership to transition to renewable technologies and enact more robust environmental regulations.

#### Warming causes extinction – most accurate models prove

Torres ‘16 (Phil, affiliate scholar at the Institute for Ethics and Emerging Technologies founder of the X-Risks Institute “We’re Speeding Toward a Climate Change Catastrophe...and That Makes 2016 the Most Important Election Year in a Generation”, 4/101/6 http://www.alternet.org/environment/were-speeding-toward-climate-change-catastropheand-makes-2016-most-important-election)

But nuclear terrorism probably isn’t the most significant risk that the 45th president of the United States will have to confront. Rather, this title goes to the ongoing, slow-motion catastrophe of anthropogenic climate change — a phenomenon that threatens not just the future prosperity of the U.S., but the survival of the entire global village. The fact is that climate change will result in a range of catastrophic consequences, including extreme heat waves, the spread of infectious disease, megadroughts, coastal flooding, desertification, food supply disruptions, widespread biodiveristy loss (e.g., the sixth mass extinction), mass migrations, social unrest and political instability — to name just a few. And multiple high-ranking U.S. officials have affirmed a causal connection between climate change and terrorism. For example, John Brennan, the current Director of the CIA, recently stated that “the impact of climate change” is one of the “deeper causes of this rising instability” in countries like Syria, Iraq, Ukraine, Yemen and Libya. Similarly, Chuck Hagel, the former secretary of defense, describes climate change as a “threat multiplier” that “has the potential to exacerbate many of the challenges we are dealing with today — from infectious disease to terrorism.” And the Department of Defense notes in a 2015 report that “Global climate change will aggravate problems such as poverty, social tensions, environmental degradation, ineffectual leadership and weak political institutions that threaten stability in a number of countries.” Consider some recent data that underline the fact that climate change is a “clear and present danger.” As of this writing, the hottest month on record was last February. It completely “obliterated” the previous “all-time global temperature record” set by — take a guess — January 2016. And January 2016 beat the previous records set by October, November and December 2015. Similarly, the hottest 16 years on record have all occurred since 2000, with only a single exception (1998). The current record-holder is 2015, followed by 2014, 2010 and 2013, but it appears that 2016 could be even hotter than 2015. This being said, climate change isn’t just a “present” danger with implications for human well-being this century. As a 2016 paper published in Nature points out, the fossil fuels that we’re burning right now could affect future generations for up to 10,000 years. We are, in other words, “imposing adverse changes on more humans than have ever existed.” To quote the study, co-authored by more than 20 scientists from around the world, at length: “The next few decades offer a brief window of opportunity to minimize large-scale and potentially catastrophic climate change that will extend longer than the entire history of human civilization thus far. Policy decisions made during this window are likely to result in changes to Earth’s climate system measured in millennia rather than human lifespans, with associated socioeconomic and ecological impacts that will exacerbate the risks and damages to society and ecosystems that are projected for the twenty-first century and propagate into the future for many thousands of years.”