## 1

#### Bipartisan infrastructure bill passing now but PC is needed – there is no margin for error.

Kapur et al 9/8 [Sahil, Frank Thorp, and Leigh Ann Caldwell; 9/8/21; Sahil Kapur is a national political reporter for NBC News, Frank Thorp V is a producer and off-air reporter covering Congress for NBC News, managing coverage of the Senate, Leigh Ann Caldwell is an NBC News correspondent; “*Democrats plow 'full speed ahead' on sweeping Biden budget, despite tensions*,” <https://www.nbcnews.com/politics/congress/democrats-plow-full-speed-ahead-sweeping-biden-budget-despite-tensions-n1278722>] Justin

WASHINGTON — The top two Democrats said they’re pushing forward with President Joe Biden’s sweeping safety net expansion, as House committees circulate legislative text with hearings scheduled Thursday to start advancing major sections of the bill. “We're moving full speed ahead,” Senate Majority Leader Chuck Schumer told reporters on a call Wednesday. The New York Democrat effectively cast aside calls by Sen. Joe Manchin, D-W.Va., for a “strategic pause” in the process of crafting the bill, as he voiced concerns about inflation and debt in a recent op-ed for the Wall Street Journal. Schumer is navigating demands by Manchin, as well as Sen. Kyrsten Sinema, D-Ariz., to reduce the price tag that Democrats set at a maximum of $3.5 trillion in the budget resolution. “There are some in my caucus who believe $3.5 trillion is too much; there are some in my caucus who believe it's too little,” Schumer said. “We're going to work very hard to have unity, because without unity, we're not going to get anything.” Speaker Nancy Pelosi said Wednesday the House is moving forward at the $3.5 trillion level. But she left open the possibility of a lower final price tag before the bill becomes law, while promising that “we will get the job done” with “a great bill” that honors Biden’s vision. “We will have our negotiations,” Pelosi, D-Calif., said, when asked by NBC News if the House could pass a bill at a lower amount. “I don’t know what the number will be. We are marking at 3.5 [trillion]. ... We will pay for more than half, maybe all of the legislation.” The remarks by Schumer and Pelosi point to a complicated balancing act, facing a broad range of opinions from centrist lawmakers skeptical of the price tag to progressives who believe $3.5 trillion should be the minimum. Democratic leaders are also juggling an aggressive timeline by seeking to ready the bill by Sept. 27 — the self-imposed House deadline to vote on the separate infrastructure bill — to ensure progressives will support the latter. They are betting Manchin can ultimately be won over on the substance of the package. Lawmakers and committees are keeping options open in case the price tag needs to be cut: For instance, they’ve privately discussed setting some provisions to expire sooner. Manchin has been somewhat vague in his demands. He has not specified what price tag he would support or what provisions of the emerging bill he wants to cut. His office did not have a comment when asked those questions Wednesday. In June, he said on ABC's "This Week" that he wants to “make sure we pay for” the bill. A source close to Manchin said he is a big proponent of targeting benefits on the basis of income and capping them so the money reaches people who need it the most — principles he believes are critical for Democrats' proposals on community college subsidies and on home-based care provisions for the disabled and elderly. Manchin also has issues with the climate change proposals in the legislation, the source said. As chairman of the Senate Energy and Natural Resources Committee, Manchin has major influence over the climate provisions. His committee was instructed to write legislation costing $198 billion for a clean electricity payment program, consumer rebates to weatherize and electrify homes, the creation of financing for domestic manufacturing of clean energy and auto supply chain technologies and climate research. “He’s not opposed to the overall bill,” the source said. “He’s going to shape the bill to what he feels is closer to the needs. People shouldn’t read into it more than that.” Senate Budget Chair Bernie Sanders, I-Vt., has said if the safety net package does not pass, the $550 billion bipartisan infrastructure package — which Manchin co-wrote — will fail as well. He told reporters the $3.5 trillion level was too low. “To my mind, this bill, that $3.5 trillion, is already the result of a major, major compromise,” Sanders said. “And at the very least, this bill should contain $3.5 trillion.” Pelosi said slashing the cost would require making difficult policy choices. “We have to talk about: What does it take? Where would you cut?” she asked. “Child care? Family medical leave paid for? Universal pre-K? Home health care?” On Thursday, the House committees on ways and means and education and labor will hold hearings on major portions of the bill they released this week. That includes 12 weeks' paid family and medical leave for all workers; expanding Medicare to cover dental, vision and hearing benefits; universal pre-K for 3- and 4-year-olds; and two years' tuition-free community college. Republicans are unified against the effort, leaving Democrats to pass the bill alone under narrow majorities. The package can bypass a Senate filibuster. Senate Minority Leader Mitch McConnell, R-Ky., said Wednesday that he hopes Manchin and Sinema “will dig in their heels” against some of the tax increases Democrats are eyeing to finance the package. “It comes down to — in the Senate — to two people,” he said. “Either one of them could kill the whole bill. I don't expect that to happen,” he said. “Either one of them could make dramatic changes in it — that could happen. Or either one of them could basically make a few cosmetic changes and throw in the towel.”

#### Aff doesn’t solve but requires negotiations that saps PC.

Pooley 21 [James; Former deputy director general of the United Nations’ World Intellectual Property Organization and a member of the Center for Intellectual Property Understanding; “Drawn-Out Negotiations Over Covid IP Will Blow Back on Biden,” Barron’s; 5/26/21; <https://www.barrons.com/articles/drawn-out-negotiations-over-covid-ip-will-blow-back-on-biden-51621973675>] Justin

The Biden administration recently announced its support for a proposal before the World Trade Organization that would suspend the intellectual property protections on Covid-19 vaccines as guaranteed by the landmark TRIPS Agreement, a global trade pact that took effect in 1995. The decision has sparked furious debate, with supporters arguing that the decision will speed the vaccine rollout in developing countries. The reality, however, is that even if enacted, the IP waiver will have zero short-term impact—but could inflict serious, long-term harm on global economic growth. The myopic nature of the Biden administration’s announcement cannot be overstated. Even if WTO officials decide to waive IP protections at their June meeting, it’ll simply kickstart months of legal negotiations over precisely which drug formulas and technical know-how are undeserving of IP protections. And it’s unthinkable that the Biden administration, or Congress for that matter, would actually force American companies to hand over their most cutting-edge—and closely guarded—secrets. As a result, the inevitable foot-dragging will cause enormous resentment in developing countries. And that’s the real threat of the waiver—precisely because it won’t accomplish either of its short-term goals of improving vaccine access and facilitating tech transfers from rich countries to developing ones. It’ll strengthen calls for more extreme, anti-IP measures down the road. Experts overwhelmingly agree that waiving IP protections alone won’t increase vaccine production. That’s because making a shot is far more complicated than just following a

recipe, and two of the most effective vaccines are based on cutting-edge discoveries using messenger RNA. As Moderna Chief Executive Stephane Bancel said on a recent earnings call, “This is a new technology. You cannot go hire people who know how to make the mRNA. Those people don’t exist. And then even if all those things were available, whoever wants to do mRNA vaccines will have to, you know, buy the machine, invent the manufacturing process, invent creation processes and ethical processes, and then they will have to go run a clinical trial, get the data, get the product approved and scale manufacturing. This doesn’t happen in six or 12 or 18 months.” Anthony Fauci, the president’s chief medical adviser, has echoed that sentiment and emphasized the need for immediate solutions. “Going back and forth, consuming time and lawyers in a legal argument about waivers—that is not the endgame,” he said. “People are dying around the world and we have to get vaccines into their arms in the fastest and most efficient way possible.” Those claiming the waiver poses an immediate, rather than long-term, threat to IP rights also misunderstand what the waiver will—and won’t—do. The waiver petition itself is more akin to a statement of principle than an actual legal document. In fact, it’s only a few pages long. As the Office of the United States Trade Representative has said, “Text-based negotiations at the WTO will take time given the consensus-based nature of the institution and the complexity of the issues involved.” The WTO director-general predicts negotiations will last until early December. That’s a lot of wasted time and effort. The U.S. Trade Representative would be far better off spending the next six months breaking down real trade barriers and helping export our surplus vaccine doses and vaccine ingredients to countries in need.

#### Infrastructure secures the grid against worsening and increasing cyberattacks.

Carney 21 [Chris; 8/6/21; Senior policy advisor at Nossaman LLC, former US Representative, former professor of political science at Penn State University; "*The US Senate Infrastructure Bill: Securing Our Electrical Grid Through P3s and Grants*," JDSupra, <https://www.jdsupra.com/legalnews/the-us-senate-infrastructure-bill-4989100/>] Justin

As we begin to better understand the main components of the Infrastructure Investment and Jobs Act that the US Senate is working to pass this week, it is clear that public-private partnerships ("P3s") are a favored funding mechanism of lawmakers to help offset high costs associated with major infrastructure projects in communities. And while past infrastructure bills have used P3s for more conventional projects, the current bill also calls for P3s to help pay for protecting the US electric grid from cyberattacks. Responding to the increasing number of cyberattacks on our nation’s infrastructure, and given the fragile physical condition of our electrical grid, the Senate included provisions to help state, local and tribal entities harden electrical grids for which they are responsible. Section 40121, Enhancing Grid Security Through Public-Private Partnerships, calls for not only physical protections of electrical grids, but also for enhancing cyber-resilience. This section seeks to encourage the various federal, state and local regulatory authorities, as well as industry participants to engage in a program that audits and assesses the physical security and cybersecurity of utilities, conducts threat assessments to identify and mitigate vulnerabilities, and provides cybersecurity training to utilities. Further, the section calls for strengthening supply chain security, protecting “defense critical” electrical infrastructure and buttressing against a constant barrage of cyberattacks on the grid. In determining the nature of the partnership arrangement, the size of the utility and the area served will be considered, with priority going to utilities with fewer available resources. Section 40122 compliments the previous section as it seeks to incentivize testing of cybersecurity products meant to be used in the energy sector, including SCADA systems, and to find ways to mitigate any vulnerabilities identified by the testing. Intended as a voluntary program, utilities would be offered technical assistance and databases of vulnerabilities and best practices would be created. Section 40123 incentivizes investment in advanced cybersecurity technology to strengthen the security and resiliency of grid systems through rate adjustments that would be studied and approved by the Secretary of Energy and other relevant Commissions, Councils and Associations. Lastly, Section 40124, a long sought-after package of cybersecurity grants for state, local and tribal entities is included in the bill. This section adds language that would enable state, local and tribal bodies to apply for funds to upgrade aging computer equipment and software, particularly related to utilities, as they face growing threats of ransomware, denial of service and other cyberattacks. However, under Section 40126, cybersecurity grants may be tied to meeting various security standards established by the Secretary of Homeland Security, and/or submission of a cybersecurity plan by a grant applicant that shows “maturity” in understanding the cyber threat they face and a sophisticated approach to utilizing the grant. While the final outcome of the Infrastructure Investment and Jobs Act may still be weeks or months away, inclusion of these provisions not only demonstrates a positive step forward for the application of federal P3s and grants generally, they also show that Congress recognizes the seriousness of the cyber threats our electrical grids face. Hopefully, through judicious application of both public-private partnerships and grants, the nation can quickly secure its infrastructure from cyberattacks.

#### Cyberattacks on the grid spiral to all-out nuclear conflict.

Klare 19 [Michael; November 2019; Professor emeritus of peace and world security studies at Hampshire College; “*Cyber Battles, Nuclear Outcomes? Dangerous New Pathways to Escalation*,” Arms Control Association, <https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation>] Justin

Yet another pathway to escalation could arise from a cascading series of cyberstrikes and counterstrikes against vital national infrastructure rather than on military targets. All major powers, along with Iran and North Korea, have developed and deployed cyberweapons designed to disrupt and destroy major elements of an adversary’s key economic systems, such as power grids, financial systems, and transportation networks. As noted, Russia has infiltrated the U.S. electrical grid, and it is widely believed that the United States has done the same in Russia.12 The Pentagon has also devised a plan known as “Nitro Zeus,” intended to immobilize the entire Iranian economy and so force it to capitulate to U.S. demands or, if that approach failed, to pave the way for a crippling air and missile attack.13 The danger here is that economic attacks of this sort, if undertaken during a period of tension and crisis, could lead to an escalating series of tit-for-tat attacks against ever more vital elements of an adversary’s critical infrastructure, producing widespread chaos and harm and eventually leading one side to initiate kinetic attacks on critical military targets, risking the slippery slope to nuclear conflict. For example, a Russian cyberattack on the U.S. power grid could trigger U.S. attacks on Russian energy and financial systems, causing widespread disorder in both countries and generating an impulse for even more devastating attacks. At some point, such attacks “could lead to major conflict and possibly nuclear war.”14

## 2

#### We are on pace to cut emissions by half in 2030 and prevent 2 degree tipping point, but continued biotech innovation is key

**Mcmurry-Health 5-21** Michelle Mcmurry-Heath May 21, 2021, 5-21-2021, "To help solve climate change, look to the biosciences," STAT, <https://www.statnews.com/2021/05/21/climate-change-solutions-from-biosciences/> //Nato

President Biden’s pledge to cut U.S. greenhouse gas emissions in half by 2030 is an admirable and ambitious undertaking. It’s nearly double the goal set by President Obama in 2015. And it establishes the United States as a world leader in battling climate change. But reaching the president’s target in just under 10 years is a monumental task. It’s so big, in fact, that we’ll never get there by government action alone. No amount of vehicle efficiency standards, forest conservation efforts, or gas taxes can [fully solve the problem](https://www.rff.org/publications/issue-briefs/emissions-projections-for-a-trio-of-federal-climate-policies/). We have to science our way out of it. The biosciences, including biotechnology, will play a pivotal role in the fight against climate change. It is already leading the way on several fronts. According to a [report from BIO](https://www.bio.org/sites/default/files/2021-04/Climate%20Report%20Executive%20Summary_FINAL.pdf), the organization I work for, the biotech industry’s green initiatives could mitigate the equivalent of 3 billion tons of carbon dioxide every year by 2030, or [about half](https://www.eia.gov/environment/emissions/carbon/#:~:text=Energy%E2%80%90related%20CO2%20emissions%20in,economy%20declined%204.9%25%20in%202019.) of the country’s annual CO2 emissions. Take food, for example. Food consumption — and production — is central to human existence. Global food production accounts for [one-quarter of greenhouse gas emissions](https://ourworldindata.org/food-ghg-emissions). A recent report from an international team of researchers concluded that even if all other fossil fuel emissions were eliminated, [emissions from food production alone](https://science.sciencemag.org/content/370/6517/705) would prevent us from reaching a key goal of the climate change agreement signed in Paris: preventing the global temperature from [rising more than 2 degrees Celsius](https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement). Halting food production isn’t an option, so biotech companies are helping farmers become part of the climate solution. Take, for example, Boston-based [Joyn Bio](https://joynbio.com/). It is engineering bacteria that pull nitrogen directly from the atmosphere. These microbes then pass the nitrogen to crops like wheat and corn, reducing the need to make, transport, and apply nitrogen fertilizers, which reduces greenhouse gas emissions. Minnesota-based Acceligen is using a technique it calls [precision breeding](https://www.acceligen.com/precision-breeding/) that improves the health of livestock while reducing their waste, greenhouse gas emissions, and water usage. Biotechnology can also help protect food from climate change. As fungal and bacterial infections accelerated by [human-driven environmental disturbances](https://www.nature.com/articles/s41579-019-0222-5) threaten to wipe out Cavendish bananas, [Tropic Biosciences](https://www.tropicbioscience.com/) in the United Kingdom is using CRISPR gene-editing technology to engineer infection-resistant bananas. Companies are also rethinking how food is packaged to reduce plastic pollution and open high-tech paths to broader adoption of biodegradables. This would be a game-changer in the interlinked fight to modulate climate change and protect the oceans. Globally, [100 million tons](https://www.wwf.org.au/news/blogs/plastic-waste-and-climate-change-whats-the-connection#gs.0r1uqu) of plastic are produced every year, [8 million of which ends up in the oceans](https://www.wwf.org.au/news/blogs/plastic-waste-and-climate-change-whats-the-connection#gs.0r1uqu). The production of plastic requires at least 8% of the world’s petroleum. Greenhouse gas emissions from plastic production and incineration [could rise](https://www.wwf.org.au/news/blogs/plastic-waste-and-climate-change-whats-the-connection#gs.0r1uqu) from the current 850 million tons a year to 3 billion tons a year by 2050. And discarded plastic that ends up in the ocean slowly breaks down in sunlight, releasing greenhouse gases and toxic microplastics. Georgia-based [Danimer Scientific](https://danimerscientific.com/) — partnering with the Mars Wrigley candy company — is working on biodegradable packaging that uses plant oils to manufacture “plastic” that dissolves in soil and water. Bioplastics and biopolymers can reduce greenhouse gas emissions reductions by up to [80%](https://www.bio.org/sites/default/files/2021-04/Climate%20Report%20Executive%20Summary_FINAL.pdf) more compared to their petroleum-based counterparts. Fuel is another target for biotechnology. Transportation accounts for the [highest percentage](https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions) of U.S. greenhouse gas emissions. While electric cars are gaining popularity, and the $174 billion allocated to support the transition to electrics in Biden’s American Jobs Plan is important, biofuels — which are [carbon neutral](https://link.springer.com/chapter/10.1007/978-4-431-54895-9_6#:~:text=of%20climate%20change.-,Biofuels%20can%20reduce%20the%20consumption%20of%20fossil%20fuels%20and%20thus,because%20biofuels%20are%20carbon%20neutral.&text=The%20production%20of%20a%20biofuel,material%20for%20making%20liquid%20fuel.) — will be needed to help reduce emissions in transportation and need comparable support. The biotech company [Synthetic Genomics](https://syntheticgenomics.com/algal-cell-factories/#beyond_biofuels), for instance, is utilizing saltwater algae, which convert sunlight and carbon dioxide into biomass, to make sustainable auto fuel. By 2025, 10,000 barrels of the algal biofuel could be produced per day for commercial use. Biofuels will also play an important role in air travel. While flying accounts for less than [3% of global CO2 emissions](https://ourworldindata.org/co2-emissions-from-aviation) a year, on a per-mile calculation it’s the least green form of travel. With the number of air travel passengers expected to double by 2040, the Biden administration is upping the financial incentives — through tax credits — for companies that produce sustainable aircraft fuels. Biotech firms are already stepping up. Companies like [Neste](https://www.neste.us/neste-in-north-america), [Gevo](https://gevo.com/), and [World Energy](https://www.worldenergy.net/products/sustainable-aviation-fuel-saf/) are using everything from algae to used or wasted cooking oil to create sustainable jet fuels. [LanzaTech](https://www.lanzatech.com/) recycles carbon from industrial emissions and other sources and turns it into aviation fuel — and has recently [partnered with other corporations](https://techcrunch.com/2020/06/02/lanzajet-launches-to-make-renewable-jet-fuel-a-reality/) to bring that fuel to market for commercial airline use. With help from biotechnology, the U.S. can achieve the climate change goals outlined by the Biden administration and the Paris Agreement. Human progress and technology got us into this mess. That same ingenuity can help get us out.

#### Climate Patents and Innovation high now and solving Warming but patent waivers set a dangerous precedent for appropriations - the mere threat is sufficient is enough to kill investment.

Brand 5-26, Melissa. “Trips Ip Waiver Could Establish Dangerous Precedent for Climate Change and Other Biotech Sectors.” IPWatchdog.com | Patents & Patent Law, 26 May 2021, www.ipwatchdog.com/2021/05/26/trips-ip-waiver-establish-dangerous-precedent-climate-change-biotech-sectors/id=133964/. //sid

The biotech industry is making remarkable advancestowards climate change solutions, and it is precisely for this reason that it can expect to be in the crosshairs of potential IP waiver discussions. President Biden is correct to refer to climate change as an existential crisis. Yet it does not take too much effort to connect the dots between President Biden’s focus on climate change and his Administration’s recent commitment to waive global IP rights for Covid vaccines (TRIPS IP Waiver). “This is a global health crisis, and the extraordinary circumstances of the COVID-19 pandemic call for extraordinary measures.” If an IP waiver is purportedly necessary to solve the COVID-19 global health crisis (and of course [we dispute this notion](https://www.ipwatchdog.com/2021/04/19/waiving-ip-rights-during-times-of-covid-a-false-good-idea/id=132399/)), can we really feel confident that this or some future Administration will not apply the same logic to the climate crisis? And, without the confidence in the underlying IP for such solutions, what does this mean for U.S. innovation and economic growth? United States Trade Representative (USTR) [Katherine Tai](https://www.ipwatchdog.com/2021/05/05/tai-says-united-states-will-back-india-southafrica-proposal-waive-ip-rights-trips/id=133224/) was subject to questioning along this very line during a recent Senate Finance Committee hearing. And while Ambassador Tai did not affirmatively state that an IP waiver would be in the future for climate change technology, she surely did not assuage the concerns of interested parties. The United States has historically supported robust IP protection. This support is one reason the United States is the center of biotechnology innovation and leading the fight against COVID-19. However, a brief review of the domestic legislation arguably most relevant to this discussion shows just how far the international campaign against IP rights has eroded our normative position. The Clean Air Act, for example, contains a provision allowing for the mandatory licensing of patents covering certain devices for reducing air pollution. Importantly, however, the patent owner is accorded due process and the statute lays out a detailed process regulating the manner in which any such license can be issued, including findings of necessity and that no reasonable alternative method to accomplish the legislated goal exists. Also of critical importance is that the statute requires compensation to the patent holder. Similarly, the Atomic Energy Act contemplates mandatory licensing of patents covering inventions of primary importance in producing or utilizing atomic energy. This statute, too, requires due process, findings of importance to the statutory goals and compensation to the rights holder. A TRIPS IP waiver would operate outside of these types of frameworks. There would be no due process, no particularized findings, no compensationand no recourse. Indeed, the fact that the World Trade Organization (WTO) already has a process under the TRIPS agreement to address public health crises, including the compulsory licensing provisions, with necessary guardrails and compensation, makes quite clear that the waiver would operate as a free for all. Forced Tech Transfer Could Be on The Table When being questioned about the scope of a potential TRIPS IP waiver, Ambassador Tai invoked the proverb “Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.” While this answer suggests primarily that, in times of famine, the Administration would rather give away other people’s fishing rods than share its own plentiful supply of fish (here: actual COVID-19 vaccine stocks), it is apparent that in Ambassador Tai’s view waiving patent rights alone would not help lower- and middle-income countries produce their own vaccines. Rather, they would need to be taught how to make the vaccines and given the biotech industry’s manufacturing know-how, sensitive cell lines, and proprietary cell culture media in order to do so. In other words, Ambassador Tai acknowledged that the scope of the current TRIPS IP waiver discussions includes the concept of forced tech transfer. In the context of climate change, the idea would be that companies who develop successful methods for producing new seed technologies and sustainable biomass**,** reducing greenhouse gases in manufacturing and transportation, capturing and sequestering carbon in soil and products, and more, would be required to turn over their proprietaryknow-how to global competitors. While it is unclear how this concept would work in practice and under the constitutions of certain countries, the suggestion alone could be devastating to voluntary internationalcollaborations. Even if one could assume that the United States could not implement forced tech transfer on its own soil, what about the governments of our international development partners? It is not hard to understand that a U.S.-based company developing climate change technologies would be unenthusiastic about partnering with a company abroad knowing that the foreign country’s government is on track – with the assent of the U.S. government – to change its laws and seize proprietary materials and know-how that had been voluntarily transferred to the local company. Necessary Investment Could Diminish Developing climate change solutions is not an easy endeavor and bad policy positions threaten the likelihood that they will materialize. These products have long lead times from research and development to market introduction, owing not only to a high rate of failure but also rigorous regulatory oversight. Significant investment is required to sustain and drive these challenging and long-enduring endeavors. For example, synthetic biology companies critical to this area of innovation [raised over $1 billion in investment in the second quarter of 2019 alone](https://www.bio.org/sites/default/files/2021-04/Climate%20Report_FINAL.pdf). If investors cannot be confident that IP will be in place to protect important climate change technologies after their long road from bench to market, it is unlikely they will continue to investat the current and required levels**.**

#### Climate change destroys the world.

Specktor 19 [Brandon; writes about the science of everyday life for Live Science, and previously for Reader's Digest magazine, where he served as an editor for five years; "Human Civilization Will Crumble by 2050 If We Don't Stop Climate Change Now, New Paper Claims," livescience, 6/4/19; <https://www.livescience.com/65633-climate-change-dooms-humans-by-2050.html>] Justin

The current climate crisis, they say, is larger and more complex than any humans have ever dealt with before. General climate models — like the one that the [United Nations' Panel on Climate Change](https://www.ipcc.ch/sr15/) (IPCC) used in 2018 to predict that a global temperature increase of 3.6 degrees Fahrenheit (2 degrees Celsius) could put hundreds of millions of people at risk — fail to account for the **sheer complexity of Earth's many interlinked geological processes**; as such, they fail to adequately predict the scale of the potential consequences. The truth, the authors wrote, is probably far worse than any models can fathom. How the world ends What might an accurate worst-case picture of the planet's climate-addled future actually look like, then? The authors provide one particularly grim scenario that begins with world governments "politely ignoring" the advice of scientists and the will of the public to decarbonize the economy (finding alternative energy sources), resulting in a global temperature increase 5.4 F (3 C) by the year 2050. At this point, the world's ice sheets vanish; brutal droughts kill many of the trees in the [Amazon rainforest](https://www.livescience.com/57266-amazon-river.html) (removing one of the world's largest carbon offsets); and the planet plunges into a feedback loop of ever-hotter, ever-deadlier conditions. "Thirty-five percent of the global land area, and **55 percent of the global population, are subject to more than 20 days a year of** [**lethal heat conditions**](https://www.livescience.com/55129-how-heat-waves-kill-so-quickly.html), beyond the threshold of human survivability," the authors hypothesized. Meanwhile, droughts, floods and wildfires regularly ravage the land. Nearly **one-third of the world's land surface turns to desert**. Entire **ecosystems collapse**, beginning with the **planet's coral reefs**, the **rainforest and the Arctic ice sheets.** The world's tropics are hit hardest by these new climate extremes, destroying the region's agriculture and turning more than 1 billion people into refugees. This mass movement of refugees — coupled with [shrinking coastlines](https://www.livescience.com/51990-sea-level-rise-unknowns.html) and severe drops in food and water availability — begin to **stress the fabric of the world's largest nations**, including the United States. Armed conflicts over resources, perhaps culminating in **nuclear war, are likely**. The result, according to the new paper, is "outright chaos" and perhaps "the end of human global civilization as we know it."

## 3

#### CP Text: An international panel of scientists including National Academies and corresponding organizations appointed by the member nations of the World Trade Organization should release a binding ruling to reduce intellectual property protections for COVID-19 medicines.

#### It’s condo

#### They have the jurisdiction to rule over intellectual property and secure science diplomacy.

Hajjar and Greenbaum 18 [David; Dean Emeritus and University Distinguished Professor, and Professor of Biochemistry and Pathology at Weill Cornell Medicine, Cornell University. He is a Fellow of the American Academy of Arts and Sciences, Fellow of the American Association for the Advancement of Sciences, a Jefferson Science Fellow of the National Academies at the U.S. Department of State, and a recent Senior Fellow in Science Policy at the Brookings Institute; Steven; Professor and Chair of the Department of Physics and Astronomy at Hunter College of the City University of New York and a Fellow of the American Physical Society. He was a Jefferson Science Fellow of the National Academies at the U.S. Department of State; “Leveraging Diplomacy for Managing Scientific Challenges,” American Diplomacy; September 18; <https://americandiplomacy.web.unc.edu/2018/09/leveraging-diplomacy-for-managing-scientific-challenges-an-opportunity-to-navigate-the-future-of-science/>] Justin

At the global level, science diplomacy is defined as cooperation among countries in order to solve complex problems through scientific research and education (1). For example, science diplomacy plays an important role in resolving global issues related to the ecosystem (such as clean water, food safety, energy conservation, and preservation of the environment). It also addresses problems related to the healthcare industry. For example, scientists have served at the international level to forge the Middle Eastern Cancer Consortium a decade ago to facilitate better healthcare and improve cancer research in the region. Whether one considers science for diplomacy or diplomacy for science, international science collaborations benefit from allowing science diplomats (broadly defined as science envoys, science attaches, embassy fellows) to help establish positive international relationships between the U.S., Europe, Latin America, Africa or Asia, particularly when proprietary disputes arise (2, 3). These various types of science diplomats already exist; some, like embassy fellows and science envoys, have one-year appointments so their role may be limited, while attaches usually have two or three year appointments that may allow them to be more successful in long, protracted negotiations. In any event, we believe that scientists can play more of a role in advancing international scientific cooperation. A key point addressed here is how to balance security concerns against the need for free exchange of information needed for innovation and growth.

Both the National Science Foundation and the National Institutes of Health are already engaged in supporting American science and strengthening collaborations abroad. Such efforts take advantage of international expertise, facilities, and equipment. Here, we provide a rationale for the use of diplomacy to address scientific challenges. This approach allows some scientists working as diplomats to help manage complex and potentially conflicting situations that arise between scientific communities and their governments. Such issues include managing disputes such as licensing agreements for intellectual property (IP) and providing protection of IP.

International collaborations can not only support but also accelerate the advancement of science. However, collaborations may carry risk if IP is misappropriated for other purposes. International collaborations should have a basis in strategy and specific goals (for example, drug discovery) in order to justify the use of government and/or corporate funds.

About a decade ago, a group of academics from the University of Manchester in the United Kingdom assembled the “Manchester Manifesto,” subtitled “Who Owns Science” (6). This document addressed the lack of alignment between commercial interests, intellectual rights, and credit to the researcher. In our (and commonly held) view, the groups representing these disparate values could benefit from diplomatic mediation. More recently, it has become increasing apparent that managing China as a science and technology superpower represents another challenge for the U.S. Resolution of issues such as ownership of IP, rights to reagents, or use of skilled laboratory personnel from international collaborations may require the efforts of science diplomats. There are few international offices or “guardians” to protect junior and senior scientists in corporate or academic sectors from misuse of reagents or piracy.

China’s failure to respect IP rights, and the resulting piracy, has drawn much attention. The media have also focused on the failure of watchdog government agencies to detect and manage these unwanted activities. Industrial espionage compromises U.S. interests. Moreover, Chinese and Russian hackers have cyberattacked U.S. technology companies, financial institutions, media groups, and defense contractors. In 2018, industrial spying was even reported in a major medical school in New York City where scientists were alleged to have illegally shared research findings with Chinese companies.

The U.S. has a long history of hiring research personnel from other countries to staff its laboratories and industrial R&D centers. These scientists and engineers have made critical contributions to our nation’s well-being and security. These young Chinese and South Asian graduates of U.S. programs a generation ago now staff our research enterprise. However, recent trends in U.S. graduate school applications in science, technology, engineering and mathematics (STEM) reflect a downturn in foreign applicants, particularly from China. It is becoming increasingly apparent that the number of American-born students seeking STEM degrees is not sufficient to satisfy future demands of our high-tech workforce. While our own educational reforms must be augmented, we cannot ignore the need to continue to recruit overseas talent.

We believe that foreign scientists can continue to make critical discoveries in the U. S. provided that their talent is nurtured, developed, and harnessed for the common good. At the same time, American companies cannot hire foreign scientists if they take the ideas they generate in U.S. laboratories back to their home countries without proper credit or permission. If the advancement of science is to succeed, greater diplomatic cooperation is needed to solve and manage proprietary issues for the benefit of all (5, 6).

So, how does one strike the proper balance between security and growth? Science is a universal social enterprise; international conferences lead to friendships and productive collaborations between nations. Given that the U.S. and Chinese governments recognize the need for international communication and collaboration then surely there should be a mechanism for adjudicating anticipated conflicts. One approach would be for government, industrial, and academic stakeholders to form an international panel of scientists and engineers to manage any conflicts of interest between the need to protect proprietary information crucial to a company’s competitive edge, and the need for students and young faculty members to publish their findings. Smaller scale efforts along these lines have recently given rise to unique global partnerships, such as fellowship support by major pharmaceutical companies, which aim to address these conflicts to the benefit of both parties. An added feature of such arrangements is that they often provide corporate financing for research (9). Can this corporate-academic partnership model be adapted to multinational joint R&D efforts while protecting IP? This question falls squarely within the purview of international science diplomacy, whereby science diplomats can establish rules of conduct governing joint global technology development with proper IP protection.

Despite the highly publicized and legitimate piracy allegations against China, at least some data indicates that the Chinese legal system is responding positively to worldwide pressure to honor foreign IP. A 2016 study by Love, Helmers, and Eberhardt, for example, found that between 2006 and 2011, foreign companies brought over 10 percent of patent infringement cases in China, and won over 70 percent of those cases (10). Today, “win rates” average around 80 percent, and “injunction rates,” around 98 percent (10). As Chinese scientists and engineers increasingly enter the top tier of the innovation space, their growing awareness of their own need for IP protection could be a powerful motivating force for the protection of all IP. As stated earlier, science diplomats could catalyze this progress even further by direct negotiations with those parties involved in the conflicts. An obvious flaw in this optimistic outlook is that scientists in the U.S. wield more influence with their government than scientists in China wield with theirs. And to the extent that the Chinese government could be encouraging IP theft, this must be addressed first by those international companies/firms who want to do business with the Chinese. Chinese investments, as well as tech incubators and targeted acquisitions, can enable access to U.S. technologies for commercial development. Although this conveys a level of risk to the developers, it may provide valuable opportunities for U.S. companies as well. In many respects, the extensive engagement and collaboration in innovation between the U.S. and China, often characterized by open exchanges of ideas, talent, and technologies, can be mutually beneficial in enriching and accelerating innovation in both countries.

In summary, we believe that science diplomats could help address the increasingly complex issues that arise between accelerating scientific and engineering advances, and the need to protect national security and corporate IP. We also propose that this might be accomplished by asking the **National Academies to recommend academic, corporate, and government scientific leaders to serve on an international scientific advisory board**, and for the corresponding organizations in other countries to do the same. Access to the free flow of information promotes new knowledge and innovation. A return to a more restrictive intellectual environment is not only harmful to progress, but also nearly impossible to manage in the current internet age. A good place to start would be to engage the newly appointed head of the White House Office of Science and Technology Policy (the Science Advisor to the President of the United States), and working groups within established organizations. These organizations include the American Association for the Advancement of Science (AAAS) or the National Academies of Science, Engineering and Medicine, and corresponding international organizations. What incentive is there for a busy and successful scientist to serve in such capacity? It is the same altruism that motivates us to accept assignments as journal editors, manuscript reviewers, or funding agency panelists for the advancement of science toward the greater good.

#### Enforcement through scientists is effective

Turekian et al 18 [Vaughan, Peter, Teruo, Robert; 1/16/18; “*Science Diplomacy: A Pragmatic Perspective from the Inside*,” Science & Diplomacy, <https://www.sciencediplomacy.org/article/2018/pragmatic-perspective>] Justin

Economic Dimensions

In the twenty-first century, trade and diplomacy are intimately linked and, in many countries, organizationally linked within the same ministries. The World Trade Organization (WTO) system—particularly in areas related to food and agriculture—is heavily dependent on science. Further, the international trade system is underpinned by an array of agreements on phytosanitary13 and other such issues. Many disputes handled through the WTO system have been based on scientific argument, frequently centering on whether the science is being applied properly or else being misused to create a non-tariff barrier.

Correspondingly, trade in advanced technologies and technology-based services is on the rise. Given the global value chain encompassing intellectual property, data, and manufacturing, multiple countries are often involved in developing a single product. In turn, innovative countries seek out one another to achieve synergy toward optimizing such products. At the same time, countries look for advantages regarding the sale and protection of products with a high intellectual component. Thus, recent trade negotiations have been heavily invested in debate and negotiation about intellectual property, copyright, software, and advanced biologics. Scientific input into such negotiations is critical to protect national positions.

#### Solves every existential threat.

Haynes 18—research associate in the Neurobiology Department at Harvard Medical School (Trevor, “Science Diplomacy: Collaboration in a rapidly changing world,” <http://sitn.hms.harvard.edu/flash/2018/science-diplomacy-collaboration-rapidly-changing-world/>, dml) // Re-Cut Justin

Today’s world is extremely interconnected. Most of us take this fact for granted, but its implications cannot be overstated. The rate at which information, resources, and people are able to move from one part of the world to another continues to accelerate at an alarming rate. Undoubtedly, this development has done society immense good. In the last century, global life expectancy has doubled, the percentage of people living in extreme poverty has dropped by about 60%, and world literacy rates have increased by a similar margin. But while these statistics paint a promising picture of human civilization, human progress rests on a fragile foundation of international cooperation; the challenges presented by an interconnected world are immense. War, natural disasters, and economic collapse now exert their effects globally, creating economic and ecological disasters and mass human migrations on an unprecedented scale. And with the US pulling out of major multilateral agreements on trade, climate change mitigation, and denuclearization, you might wonder if our ability to collaborate across borders productively is really up to the task.

Global challenges require global solutions, and global solutions require collaboration between countries both big and small, rich and poor, authoritative and democratic. There are few human enterprises capable of providing continuity across these differences, and as technological solutions are becoming available to some of our most pressing issues, two in particular will be necessary to getting the job done: science and diplomacy. While science has long been utilized as a means to reach political ends—think of British explorer James Cook’s mapping of unexplored continents or the United States’ Manhattan Project—a more formal integration of scientists into the diplomatic process is being undertaken. This effort, which has led to scientists and academics playing a direct role in foreign policy development and international relations, has given birth of a new branch of diplomacy: science diplomacy.

What is science diplomacy?

As both the term and concept of science diplomacy have only recently gained traction in scientific and diplomatic circles, it’s been given a variety of definitions. But common to them all is the focus on applying scientific expertise to an international effort. The focus of these efforts is to solve international problems collaboratively while balancing economic prosperity, environmental protection, and societal wellbeing. The challenge of reaching this balance in the face of a booming global population cannot be understated, but this new branch of diplomacy is already at work and is producing results. International agreements such as the Paris Climate Agreement and the Iran Nuclear Deal are two famous examples, and science diplomacy is also establishing international collaboration in many other important arenas. While these lesser known efforts may not dominate the headlines, they are quietly tackling the global issues of today and preparing us for those of tomorrow.

Natural disasters don’t respect national boundaries (and neither does the aftermath)

In 2013, the number of refugees displaced by natural disasters—hurricanes, droughts, earthquakes—outnumbered those displaced by war. Current projections estimate as many as 1 billion people may be displaced by natural disasters by the year 2050. That would mean 1 in 9 people on the planet displaced and looking for a home. Compare this to the estimated 12 million refugees displaced by the war in Syria, and a frightening picture begins to form. As natural disasters continue to increase in both their frequency and intensity, solutions for mitigating the risk of total catastrophe will be underpinned by science, technology, and the ability of the international community to collaborate. Many organizations are starting to tackle these problems through the use of science diplomacy. The center for Integrated Research on Disaster Risk (IRDR) is composed of ten national committees—a network of government sponsored research institutions across the world in countries ranging the political and economic scale. These working groups have committed to improving disaster-risk-reduction science and technology while providing guidance to policy makers charged with implementing disaster prevention and mitigation strategies.

IRDR is governed by a committee comprising experienced scientists and natural disaster experts. Its members come from all over the world—the US, China, Uganda, Norway, Mexico, Venezuela, and more. The diversity of this organization starts at the top and is crucial to developing comprehensive risk-reduction strategies. Data and insights from countries with varying areas of expertise are being shared and built upon, facilitating more accurate natural disaster forecasting and better strategies for mitigating their destructive power. And by including representatives from countries of varying political and economic power in its leadership, IRDR ensures that its work will consider the needs of the global community at large, rather than just nations with considerable wealth and political standing.

The results of this type of international collaboration speak for themselves. Although humanity is grappling with more natural disasters than ever before, deaths related to these incidents continue to trend downward. Operating outside of the typical political framework that dominates foreign relations, IRDR provides a model for effective collaboration across the geopolitical spectrum in the face of a major global issue.

Explore or Exploit? Managing international spaces

Over the last few decades the polar ice cap that covers much of the Arctic Ocean has been shrinking. So much so, that during the warm season vast areas of previously solid ice have become open waters, creating opportunities for new trade routes and exposing the Arctic’s enormous reserves of oil and natural gas. Depending on your values, this will sound either like an opportunity for huge economic development of the region or the inevitable exploitation of one of the last untouched natural territories on the planet. And if you live there, like the half a million indigenous people who currently do, how this territory is managed will determine where you can live, how (and if) you can make a living, and what the health of the ecosystems that have supported Arctic life for millennia will look like.

Luckily, such a scenario was predicted decades ago. In 1987, Mikhail Gorbachev, then leader of the then Soviet Union, delivered a speech outlining his aspirations for the arctic to be explored rather than exploited—to radically reduce military presence, create a collaborative multinational research effort, cooperate on matters of environmental security, and open up the Northern Sea Route for trade. This speech laid the foundation for the Arctic Council (Figure 1), which is one of the most successful examples of science diplomacy at work. Composed of the eight Arctic nations, including geopolitical rivals US and Russia, and numerous groups of indigenous peoples, the Arctic Council was established to maintain Gorbachev’s vision for the region while giving the indigenous peoples a seat at the negotiating table. The council’s activities are conducted by six scientific and technology-based working groups who conduct research in the area and provide knowledge and recommendations to the council members. As a result of this research, and allowing scientists to take part in the negotiations, the Arctic council has enacted several legally binding agreements regarding the sustainable development and environmental protection of the Arctic Ocean. These agreements have facilitated cooperation on a number of important issues including search and rescue operations, prevention and containment of maritime oil pollution, and, most recently, enhanced data sharing and scientific research collaborations. Against a backdrop of rapidly deteriorating diplomatic relations, the US and Russia have co-chaired task forces that laid the foundation for these agreements, proving to the world that meaningful results can be achieved through the avenue of science diplomacy, regardless of geopolitics.

Science diplomacy going forward

The technical expertise that characterizes science diplomacy will continue to be in demand across many realms of foreign policy. For example, synthetic biology and gene-editing technology continue to factor into matters regarding agriculture and trade. Also, digital currencies, such as bitcoin, have changed the way economists and businesses are approaching markets. Finally, machine learning and artificial intelligence are being used by governments as a means for population control, giving rise to a new type of governance—digital authoritarianism.

While this expertise will be necessary for managing such issues, building international coalitions can’t be done through a purely scientific and technical lens. Convincing others to cooperate means providing them with a convincing argument to do so, and in terms they understand and find compelling. To achieve this, scientists must be trained to communicate their expertise in a way that moves stakeholders in policy discussions to act. This means appealing to motivations they have been largely taught to put to the side—whether they be political, economic, or emotional in nature—without obscuring the data and insights they have to offer.

For our leaders, policy makers, and diplomats to effectively understand issues underpinned by science and technology, experts in these fields must continue to be integrated into the mechanisms of governance. With scientists in the US running for elections in numbers like never before, we can expect this trend to continue. And in the face of a rising wave of nationalism across the world, it is crucial that we do everything we can to foster collaboration. The future of human civilization depends on it.

## Case

### 1NC – Preserve education

#### Reasonability on 1AR shells – 1AR theory is super aff-biased because the 2AR gets to line-by-line every 2NR standard with new answers that never get responded to– reasonability checks 2AR sandbagging by preventing super abusive 1NCs while still giving the 2N a chance.

#### DTA on 1AR shells - They can blow up a blippy 20 second shell to 3 min of the 2AR while I have to split my time and can’t preempt 2AR spin which necessitates judge intervention and means 1AR theory is irresolvable so you shouldn’t stake the round on it.

#### Reject 1ar theory – no 3nr to respond to new 2ar answers to 2n arguments, but the 1ar can answer the 1nc which outweighs

#### Agent counterplans are fair when the 1ac has offense specific to their agent – we don’t moot that ground and it’s a turn to our counterplan

## Circumvention

### 1NC – Circumvention – WTO Jurisdiction

#### The WTO can’t enforce the aff- causes circumvention.

Lamp 19 [Nicholas; Assistant Professor of Law at Queen’s University; “What Just Happened at the WTO? Everything You Need to Know, Brink News,” 12/16/19; <https://www.brinknews.com/what-just-happened-at-the-wto-everything-you-need-to-know/>] Justin

Nicolas Lamp: For the first time since the establishment of the WTO in 1995, the Appellate Body cannot accept any new appeals, and that has knock-on effects on the whole global trade dispute settlement system. When a member appeals a WTO panel report, it goes to the Appellate Body, but if there is no Appellate Body, it means that that panel report will not become binding and will not attain legal force.

The absence of the Appellate Body means that members can now effectively block the dispute settlement proceedings by what has been called appealing panel reports “into the void.”

The WTO panels will continue to function as normal. When a panel issues a report, it will normally be automatically adopted — unless it is appealed. And so, even though the panel is working, the respondent in a dispute now has the option of blocking the adoption of the panel’s report. It can, thereby, shield itself from the legal consequences of a report that finds that the member has acted inconsistently with its WTO obligations.

### 1NC – Different Sectors

#### Companies will just obtain a patent in a different sector.

Thomas 15 [John R; Visiting Scholar, CRS; “Tailoring the Patent System for Specific Industries, Congressional Research Service,” CRS; 2015; <https://crsreports.congress.gov/product/pdf/R/R43264/7>] Justin

In view of the concerns noted above, commentators have gone so far to say that “it has become increasingly difficult to believe that a one-size-fits-all approach to patent law can survive.”75 To the extent the current patent system creates a blanket set of rules that apply comparably to distinct industries, it likely over-encourages innovation in some contexts and under-incentivizes it in others.76 Further, some observers have asserted that the need of firms to identify and access the patented inventions of others may differ among industries.77 As a result, the case can be made that distinct industrial, technological, and market characteristics that exist across the breadth of the U.S. economy compel industry-specific patent statutes. However, others have questioned the wisdom and practicality of such line-drawing.78 The following concerns, among others, have been identified:

• Over its long history, the U.S. patent system has flexibly adapted to new technologies such as biotechnology and computer software. Legislative adoption of technology-specific categories may leave unanticipated, cutting-edge technologies outside the patent system.79

• Defining a specific industry or category of technologies may prove to be a contested proposition.

80 • Over time, new industries may emerge and old industries may consolidate. The dynamic nature of the U.S. economy suggests greater need for legislative oversight within a differentiated patent regime.

81 • Even if an industry or technology remains relatively stable, the innovation environment within it might change. For example, technological or scientific advances might open new possibilities for research and development within hidebound industries—but also increase expense and risk for those firms.

82 • Distinct patent rights among industries or technologies may lead to strategic behavior on behalf of patent applicants. For example, a computer program that controls a fuel injector within an automobile could possibly be identified as either an automobile-related or a computer-related invention.

83 •The legislative effort to enact sector-specific patent laws may provide an opportunity for politically savvy firms to exert more lobbying and political power, at the possible expense of less sophisticated firms.

## Credibility

### 1NC – Top Level

#### 1] No link- the plan is domestically enforced- the mention of the WTO is just to outline what countries enact the aff

#### 2] DAs turn case- any reason why the plan is a bad idea decks credibility- even if the link is perceptions- long term perceptions are dependent on consequences

1AC Meyer. [(David Meyer is the Editor of CEO Daily and a senior writer on Fortune’s European team. Author of the digital rights primer, Control Shift: How Technology Affects You and Your Rights. “The WTO’s survival hinges on the COVID-19 vaccine patent debate, waiver advocates warn,” Fortune, June 18, 2021. <https://fortune.com/2021/06/18/wto-covid-vaccines-patents-waiver-south-africa-trips/>]

If the TRIPS waiver is successful, and people see the WTO as being part of the solution—saving lives and livelihoods—it could create goodwill and momentum to address what are still daunting structural problems."

#### 3] Their evidence proves uniqueness overwhelms the link -WTO is dead-credibility doesn’t matter when it physically can’t resolve

1AC Solís 20 [(Mireya Solís is director of the Center for East Asia Policy Studies, Philip Knight Chair in Japan Studies, and a senior fellow in the Foreign Policy program at Brookings. “The post COVID-19 world: Economic nationalism triumphant?” July 10, 2020. <https://www.brookings.edu/blog/order-from-chaos/2020/07/10/the-post-covid-19-world-economic-nationalism-triumphant/>] TDI

The chances that the World Trade Organization (WTO) can deliver a multilateral round of trade negotiations to slash tariffs across the board and update the trade and investment rulebook are nil. But the WTO has also lost its central role as arbiter of trade disputes among its members. In December 2019, the Appellate Body ceased to function

### **1NC- AT: Trade**

#### 1] 1AC Gonzalez doesn’t have a single warrant for solvency- hold the line

#### 2] US China trade war killed the WTO and proves no solvency for protectionism- card is fire

- new tariffs through loopholes

- not going through dispute resolution

- not enough AB members to rule

- US concern WTO can’t solve and is risky

Bown 19 Chad Bown, 6-13-2019, "The 2018 trade war and the end of dispute settlement as we knew it," VOX Eu, https://voxeu.org/article/2018-trade-war-and-end-dispute-settlement-we-knew-it/SJKS

The US deliberately pushed the WTO to the brink Before turning to a critique of the WTO, I begin with the conventional wisdom. The US provoked a crisis in 2018 with three precisely targeted policy decisions that expertly poked holes in some of the WTO’s weakest spots. First, it imposed new tariffs – which it claimed would not be subject to international review – on nearly $50 billion of steel and aluminium imports. Formally, the US excused its new tariffs by triggering the WTO’s national security exception. The US administration has argued this exception is “self-judging” or “non-justiciable”, meaning that it cannot be questioned or benchmarked against externally verifiable economic evidence, unlike other opt-outs like antidumping or safeguards.2 But denying any outside check could lead to copycat behaviour and a protectionist spiral in which countries ignore even the most basic rules that limit tariffs. The result could be systemic failure. Second, the US retaliated against another WTO member without first going through the formal dispute resolution process. Its tariffs on $250 billion of imports from China came after completing only an internal investigation. WTO rules require a country first win a dispute that requests the partner change its policies. The US could only be authorised to retaliate if China then refused to comply, and even then, the retaliation would be subject to WTO limits. Third, the US initiated a procedure that could end the WTO’s system of resolving disputes. Countries currently have the right to appeal to the WTO’s standing Appellate Body (AB) if they disagree with a preliminary ruling. But the United States has refused to allow the appointment of new AB members as old members’ terms expire. By December 2019, the AB may not have enough members to issue rulings to appeals.3 But if no rulings are issuable, a forward-looking defendant country could simply trigger an appeal, put the legal case into permanent limbo, and eliminate the WTO’s ability to authorise tariff retaliation against countries that fail to comply. Scholars have articulated the extraordinary economic and long-run institutional costs of these and other US policy actions taken in 2017-2018.4 Those costs are of first-order importance but will not be repeated here. Instead, the next sections explore the political-economic concerns with the WTO that may have contributed to these US actions. China’s subsidies demanded US intervention of some form The US imposed national security tariffs in part because of China’s state-driven economic model. In sectors like steel and aluminium, for example, China’s expansion increased from under 20% to over 50% of global production between 2002 and 2017. Yet, even as China’s domestic demand began to slow, production and its already formidable exports continued to increase. China’s subsidies and exports exacerbated three external concerns. Its potential global domination was worrisome on anti-competitiveness grounds because of its history of abusing international market power once acquired.5 Furthermore, US policymakers have become more sensitive to the fact that technology- and trade-induced shocks impose larger-than-expected adjustment costs on domestic communities and labour markets, and that the Chinese system may push ‘its share’ of those costs onto others (Autor et al. 2016).6 Finally, China got caught in US domestic politics. Steel and aluminium firms are geographically concentrated in American swing states, and US policymakers are historically responsive to their economic interests. And the industries’ older, mostly male workers may be part of the other recent US narrative over identity politics (Grossman and Helpman 2018). US national security tariffs arose because others wouldn’t work or had been ruled illegal by the WTO Other US policy options had been taken off the table for a combination of reasons. The US had already emptied some of the WTO toolbox, but to little economic effect. Its use of antidumping tariffs had mostly stopped steel and aluminium imports directly entering from China. But China’s exports to third countries continued to rise – as did US imports from third countries – likely due to trade diversion and potentially trade deflection. But second, the US was unwilling to deploy a nondiscriminatory safeguard tariff – instead of a national security tariff – because earlier attempts had been thwarted by the WTO itself. The AB issued a series of legal rulings condemning US safeguards imposed over 1995-2003, including a 2002 US safeguard on steel.7 The US was also concerned a WTO dispute was too risky and potentially unwinnable The US ruled out a formal dispute to stop Chinese subsidies, the first-best result, out of concern that the WTO was not well-equipped to constrain Chinese-style subsidisation.8 WTO subsidy disciplines can easily capture transparent, direct payments from a government agency to firms. But Chinese subsidies are different and often stem from a nuanced and complex combination of policies. A recent OECD (2019) study of the downstream (finished) aluminium industry is illustrative. Its first key point is that primary aluminium is estimated to make up 75-86% of the cost of downstream products, and primary aluminium has benefited from highly subsidised Chinese coal. But second, China also imposed export restrictions on primary aluminium, implicitly subsidising Chinese downstream firms relative to their foreign competitors. China also rebated value-added taxes to exporters of downstream products without doing the same to primary producers. The combined result was a heavily subsidised downstream, refined aluminium industry. But it is also one that the WTO legal system would have found challenging to address.9

#### 3] 1AC Lake is ­not reverse causal and lacks solvency- no reason why trade rectifies economic competition

#### is speculative and has no warrant

## 1NC – AT India Advantage (TDI)

### 1NC- TL

#### 1] No conflict – their instability ev is from 1 year ago – obviously it would’ve happened if it was so unstable, but since it hasn’t there’s no way it happens now since there’s no brink

#### 2] COVID thumps escalation- 1AC Somos is before the delta variant, India has to worry about managing domestic crises not Kashmir

#### 3] Their evidence literally says its correlation not causation- means the aff doesn’t solve

1AC Somos 20 [Christy Somos is a CTVNews.ca Writer) “COVID-19 has escalated armed conflict in India, Pakistan, Iraq, Libya and the Philippines, study finds,” CTV News, December 17, 2020. <https://www.ctvnews.ca/world/covid-19-has-escalated-armed-conflict-in-india-pakistan-iraq-libya-and-the-philippines-study-finds-1.5236738>] TDI

The ongoing conflict with India saw a rise in armed conflict in Pakistan during the study period – which were unrelated to the pandemic,

### 1NC- AT: Scale Up

#### Pandey is horrible – no countries or list of capabilities – even if it’s a barrier, multiple alt causes –

#### LICs statistically cannot mass produce vaccines.

Newey et al 21 [Sarah Newey*;* Anne Gulland*;* Jennifer Rigby, (GLOBAL HEALTH SECURITY CORRESPONDENTS at the telegraph) *and* Samaan Lateef (Reporting IN INDIA) 6/1/21, Vaccinating the world: the obstacles hindering global rollout – and how to overcome them, Telegraph, <https://www.telegraph.co.uk/global-health/science-and-disease/vaccinating-the-world/>] Justin

Supply is one thing but actually getting shots into arms is a huge undertaking for any country. According to a review of low and middle income countries’ readiness to implement vaccine campaigns conducted by the World Bank, 95 per cent have developed national plans and 82 per cent have worked out which groups should be vaccinated first. However, crucial gaps remain. Only 59 per cent have plans to train vaccinators and less than half (48 per cent) have implemented communications strategies to encourage people to take up vaccines. While low and middle income countries are used to delivering childhood vaccines, so have cold chain systems in place, a mass vaccine campaign for adults is a very different beast, says Mamta Murthi, vice president for human development at the World Bank. “This is a very different population – adults may be at work, at home, they may be unwilling to travel or not be able to come to vaccine centres,” she says.

#### Existing companies solve scale-up, but other companies don’t have the capabilities.

Lowe 21 [Derek; BA from Hendrix College and PhD in organic chemistry from Duke before spending time in Germany on a Humboldt Fellowship on his post-doc. He’s worked for several major pharmaceutical companies since 1989 on drug discovery projects against schizophrenia, Alzheimer’s, diabetes, osteoporosis and other diseases; 2/2/21; Myths of Vaccine Manufacturing; <https://www.science.org/content/blog-post/myths-vaccine-manufacturing>] Justin

Ah, but now we get back to Step Four. As Neubert says, "Welcome to the bottleneck!" Turning a mixture of mRNA and a set of lipids into a well-defined mix of solid nanoparticles with consistent mRNA encapsulation, well, that's the hard part. Moderna appears to be doing this step in-house, although details are scarce, and Pfizer/BioNTech seems to be doing this in Kalamazoo, MI and probably in Europe as well. Everyone is almost certainly having to use some sort of specially-built microfluidics device to get this to happen - I would be extremely surprised to find that it would be feasible without such technology. Microfluidics (a hot area of research for some years now) involves liquid flow through very small channels, allowing for precise mixing and timing on a very small scale. Liquids behave quite differently on that scale than they do when you pour them out of drums or pump them into reactors (which is what we're used to in more traditional drug manufacturing). That's the whole idea. My own guess as to what such a Vaccine Machine involves is a large number of very small reaction chambers, running in parallel, that have equally small and very precisely controlled flows of the mRNA and the various lipid components heading into them. You will have to control the flow rates, the concentrations, the temperature, and who knows what else, and you can be sure that the channel sizes and the size and shape of the mixing chambers are critical as well.

These will be special-purpose bespoke machines, and if you ask other drug companies if they have one sitting around, the answer will be "Of course not". This is not anything close to a traditional drug manufacturing process. And this is the single biggest reason why you cannot simply call up those "dozens" of other companies and ask them to shift their existing production over to making the mRNA vaccines. There are not dozens of companies who make DNA templates on the needed scale. There are definitely not dozens of companies who can make enough RNA. But most importantly, I believe that you can count on one hand the number of facilities who can make the critical lipid nanoparticles. That doesn't mean that you can't build more of the machines, but I would assume that Pfizer, BioNTech, Moderna (and CureVac as well) have largely taken up the production capacity for that sort of expansion as well.

And let's not forget: the rest of the drug industry is already mobilizing. Sanofi, one of the big vaccine players already (and one with their own interest in mRNA) has already announced that they're going to help out Pfizer and BioNTech. But look at the timelines: here's one of the largest, most well-prepared companies that could join in on a vaccine production effort, and they won't have an impact until August. It's not clear what stages Sanofi will be involved in, but bottling and packaging are definitely involved (and there are no details about whether LNP production is). And Novartis has announced a contract to use one of its Swiss location for fill-and-finish as well, with production by mid-year. Bayer is pitching in with CureVac's candidate.

#### The aff ignores insufficient infrastructure, materials, and “know how” needed to expand vaccine supply- even if IPR were waived there’s no scale up

Santos Rutschman 21 Santos Rutschman, Ana (Professor of Law, St. Louis University) and Julia Barnes-Weise (Executive Director of the Global Healthcare Innovation Alliances Accelerator a non-profit organization spun out of a program in Public Policy at Duke University, and a Senior Consultant to the Coalition for Epidemic Preparedness Innovations. She is a lawyer, global health policy consultant, entrepreneur and Certified Licensing Professional). "The COVID-19 Vaccine Patent Waiver: The Wrong Tool for the Right Goal." Bill of Health (2021) (2021)./SJKS

Second, even if all types of legal restrictions on the use of vaccine technology were lifted — or had never existed in the first place — there is simply not enough infrastructure (manufacturing facilities and equipment) nor raw materials (the components needed to manufacture and deliver vaccines) to produce and distribute COVID-19 vaccines as predicted under current waiver proposals. We have long faced a global vaccine manufacturing problem that will not be fully resolved during the current pandemic. In the case of vaccines that need to be kept at ultra-cold temperatures, these problems intensify. One of us (Barnes-Weise) has been involved in the contractual negotiations for the development, manufacturing and transfer of technology related to COVID-19 vaccines. In addition to the informational gaps described above, COVID-19 vaccine manufacturers are most concerned about how well the recipients of the technology transfer will understand and be able to implement such knowledge in making vaccines of the necessary quality. Shortages do not merely affect materials necessary to manufacture vaccines and facilities adequate to manufacture the vaccines; they also affect the availability of personnel qualified to instruct the licensee and recipient of this information. Sending an employee of this caliber out of the original manufacturing site to a partner site risks reducing the capacity of the first site. And remote instruction, necessitated by the pandemic, has its own shortcomings. In relation to the patents on the vaccines themselves, most of the concerns that the vaccine manufacturers express are around the protection of their vaccine platforms for the purposes of making future or non-COVID-19 vaccines. Moderna shared information about its [patents](https://www.modernatx.com/patents) in summer 2020. The manufacturers, as evidenced by the number of licenses to manufacture granted to date, are eager to [find](https://www.reuters.com/article/us-health-coronavirus-lonza-moderna/lonza-gets-licence-to-make-ingredients-for-moderna-vaccine-idUSKBN2B72BB) [partners](https://www.bloomberg.com/news/articles/2021-01-27/sanofi-to-make-millions-of-biontech-pfizer-s-covid-vaccine-doses) with the [capabilities](https://www.fosunpharma.com/en/news/news-details-3801.html) to expand production. It is not to their benefit to produce an inadequate supply of a highly sought-after vaccine. However, even willingness to transfer patented vaccine technology has faced numerous practical hurdles to date: 1) infrastructural limitations; 2) scarcity of raw materials; 3) concerns about licensees having the ability to actually manufacture effective vaccines in light of the infrastructural and product scarcity, even in situations in which there might be no informational gaps. A patent waiver would not address any of the practical concerns currently at the root of tech transfer negotiations involving COVID-19 vaccine technology. Compounding these problems is the fact that, should a waiver be issued, there is no legal mechanism that can compel the transfer of certain types of know-how or trade secrets should a company be unwilling to license its intellectual property — which, again, at this point in the pandemic, is not a problem we have observed. Finally, it is important to keep in mind that a waiver would be temporary: supporters of current waiver proposals should consider what will happen once demand for vaccines begins diminishing and fewer manufacturers remain on the market. Moreover, they should consider the legal and practical uncertainty that a waiver would introduce, as it is unclear how technology transfer between companies would cease (or continue) once the waiver expires.

### 1NC – AT: Impact

#### 1] Downturn won’t cause war – prefer post-COVID evidence

Walt 5/13 (Stephen M. Walt is the Robert and Renée Belfer professor of international relations at Harvard University; 5/13/20; "Will a Global Depression Trigger Another World War?"; *Foreign Policy*; https://foreignpolicy.com/2020/05/13/coronavirus-pandemic-depression-economy-world-war/)

One familiar argument is the so-called diversionary (or “scapegoat”) theory of war. It suggests that leaders who are worried about their popularity at home will try to divert attention from their failures by provoking a crisis with a foreign power and maybe even using force against it. Drawing on this logic, some Americans now worry that President Donald Trump will decide to attack a country like Iran or Venezuela in the run-up to the presidential election and especially if he thinks he’s likely to lose. This outcome strikes me as unlikely, even if one ignores the logical and empirical flaws in the theory itself. War is always a gamble, and should things go badly—even a little bit—it would hammer the last nail in the coffin of Trump’s declining fortunes. Moreover, none of the countries Trump might consider going after pose an imminent threat to U.S. security, and even his staunchest supporters may wonder why he is wasting time and money going after Iran or Venezuela at a moment when thousands of Americans are dying preventable deaths at home. Even a successful military action won’t put Americans back to work, create the sort of testing-and-tracing regime that competent governments around the world have been able to implement already, or hasten the development of a vaccine. The same logic is likely to guide the decisions of other world leaders too. Another familiar folk theory is “military Keynesianism.” War generates a lot of economic demand, and it can sometimes lift depressed economies out of the doldrums and back toward prosperity and full employment. The obvious case in point here is World War II, which did help the U.S economy finally escape the quicksand of the Great Depression. Those who are convinced that great powers go to war primarily to keep Big Business (or the arms industry) happy are naturally drawn to this sort of argument, and they might worry that governments looking at bleak economic forecasts will try to restart their economies through some sort of military adventure. I doubt it. It takes a really big war to generate a significant stimulus, and it is hard to imagine any country launching a large-scale war—with all its attendant risks—at a moment when debt levels are already soaring. More importantly, there are lots of easier and more direct ways to stimulate the economy—infrastructure spending, unemployment insurance, even “helicopter payments”—and launching a war has to be one of the least efficient methods available. The threat of war usually spooks investors too, which any politician with their eye on the stock market would be loath to do. Economic downturns can encourage war in some special circumstances, especially when a war would enable a country facing severe hardships to capture something of immediate and significant value. Saddam Hussein’s decision to seize Kuwait in 1990 fits this model perfectly: The Iraqi economy was in terrible shape after its long war with Iran; unemployment was threatening Saddam’s domestic position; Kuwait’s vast oil riches were a considerable prize; and seizing the lightly armed emirate was exceedingly easy to do. Iraq also owed Kuwait a lot of money, and a hostile takeover by Baghdad would wipe those debts off the books overnight. In this case, Iraq’s parlous economic condition clearly made war more likely. Yet I cannot think of any country in similar circumstances today. Now is hardly the time for Russia to try to grab more of Ukraine—if it even wanted to—or for China to make a play for Taiwan, because the costs of doing so would clearly outweigh the economic benefits. Even conquering an oil-rich country—the sort of greedy acquisitiveness that Trump occasionally hints at—doesn’t look attractive when there’s a vast glut on the market. I might be worried if some weak and defenseless country somehow came to possess the entire global stock of a successful coronavirus vaccine, but that scenario is not even remotely possible. If one takes a longer-term perspective, however, a sustained economic depression could make war more likely by strengthening fascist or xenophobic political movements, fueling protectionism and hypernationalism, and making it more difficult for countries to reach mutually acceptable bargains with each other. The history of the 1930s shows where such trends can lead, although the economic effects of the Depression are hardly the only reason world politics took such a deadly turn in the 1930s. Nationalism, xenophobia, and authoritarian rule were making a comeback well before COVID-19 struck, but the economic misery now occurring in every corner of the world could intensify these trends and leave us in a more war-prone condition when fear of the virus has diminished. On balance, however, I do not think that even the extraordinary economic conditions we are witnessing today are going to have much impact on the likelihood of war. Why? First of all, if depressions were a powerful cause of war, there would be a lot more of the latter. To take one example, the United States has suffered 40 or more recessions since the country was founded, yet it has fought perhaps 20 interstate wars, most of them unrelated to the state of the economy . To paraphrase the economist Paul Samuelson’s famous quip about the stock market, if recessions were a powerful cause of war, they would have predicted “nine out of the last five (or fewer).” Second, states do not start wars unless they believe they will win a quick and relatively cheap victory. As John Mearsheimer showed in his classic book Conventional Deterrence, national leaders avoid war when they are convinced it will be long, bloody, costly, and uncertain. To choose war, political leaders have to convince themselves they can either win a quick, cheap, and decisive victory or achieve some limited objective at low cost. Europe went to war in 1914 with each side believing it would win a rapid and easy victory, and Nazi Germany developed the strategy of blitzkrieg in order to subdue its foes as quickly and cheaply as possible. Iraq attacked Iran in 1980 because Saddam believed the Islamic Republic was in disarray and would be easy to defeat, and George W. Bush invaded Iraq in 2003 convinced the war would be short, successful, and pay for itself.The fact that each of these leaders miscalculated badly does not alter the main point: No matter what a country’s economic condition might be, its leaders will not go to war unless they think they can do so quickly, cheaply, and with a reasonable probability of success. Third, and most important, the primary motivation for most wars is the desire for security, not economic gain. For this reason, the odds of war increase when states believe the long-term balance of power may be shifting against them, when they are convinced that adversaries are unalterably hostile and cannot be accommodated, and when they are confident they can reverse the unfavorable trends and establish a secure position if they act now. The historian A.J.P. Taylor once observed that “every war between Great Powers [between 1848 and 1918] … started as a preventive war, not as a war of conquest,” and that remains true of most wars fought since then. The bottom line: Economic conditions (i.e., a depression) may affect the broader political environment in which decisions for war or peace are made, but they are only one factor among many and rarely the most significant. Even if the COVID-19 pandemic has large, lasting, and negative effects on the world economy—as seems quite likely—it is not likely to affect the probability of war very much, especially in the short term. To be sure, I can’t rule out another powerful cause of war—stupidity—especially when it is so much in evidence in some quarters these days. So there is no guarantee that we won’t see misguided leaders stumbling into another foolish bloodletting. But given that it’s hard to find any rays of sunshine at this particular moment in history, I’m going to hope I’m right about this one

## 1NC – South Africa

### No impact

#### Yeisley –

#### No IL – its about US-Sino competition in Africa – no reason south africa econ matters

#### Mcpherson ev – covid mask mandates etc. solve – manufacturing in big countries are coming back

### 1NC – Trade Secret Deficit

#### Aff fails---trade secrets remain secrets and existing logistical hubs fail.

Banri Ito 21 [(Professor of Economics, Aoyama Gakuin University; Fellow, RIETI), 8/8/21, Impacts of the vaccine intellectual property rights waiver on global supply, <https://voxeu.org/article/impacts-vaccine-intellectual-property-rights-waiver-global-supply>] Justin

Regarding waivers of vaccine patents, there have been some voluntary initiatives. On 8 October, soon after South Africa and India proposed a waiver of the TRIPS agreement on 2 October 2020, Moderna, a US pharmaceutical company, expressed its intention not to exercise its patent rights on its COVID-19 vaccine.1 Although Moderna reached an agreement with South Korean pharmaceutical company Samsung Biologics on consignment production of the vaccine on 22 May 2021, so far there have been very few confirmed cases of efforts to reproduce Moderna's vaccine or of licenses being granted to other companies.

With respect to the COVID-19 vaccines developed by Pfizer (jointly with BioNTech of Germany) and Moderna, it appears that the whole body of relevant technical knowledge has not necessarily been patented but that some of the technical knowledge remains undisclosed as trade secrets. Patenting is only one means of ensuring ‘appropriability’, which refers to a company's capacity to secure profits from its own technological innovation. While patent information may make it possible for outsiders to achieve development results similar to those achieved by the patented technology through a similar method without infringing the patent right, keeping the technology undisclosed as a trade secret or incorporating complex processes into it may be an effective means of ensuring appropriability. Pharmaceuticals can easily be counterfeited through ‘reverse engineering’, which refers to a process in which the active ingredients of a drug are identified as a result of deformulation. Therefore, as a general rule, it is considered important to exclude the risk of counterfeiting through patenting.

While it is not clear how much of the relevant technological knowledge remains unpatented, there are apparently some technical reasons for not obtaining full patent protection. The Pfizer and Moderna vaccines use advanced technology based on messenger RNA (mRNA), representing the first case of practical application of such technology. Although I, a non-expert in this field, will refrain from going into further detail, it is highly likely that those vaccines cannot easily be counterfeited as their production requires complex production processes and unique technology.

Patenting involves public disclosure of technical knowledge, providing information on how to reproduce patented inventions. It has the function of lowering technology trade costs by clarifying property rights on technical knowledge. If the technical knowledge necessary for manufacturing a certain product remains undisclosed as a trade secret, it may not be recorded in a written or other tangible form, and it may become necessary to pass down the technical information as cumulative implicit knowledge. As a result, technology transfer may become difficult.

Perhaps in view of that risk, in April 2021, the World Health Organization (WHO) established a COVID-19 vaccine technology transfer hub as a scheme to promote the sharing of mRNA-based technology. However, there are no media reports to date indicating that technical knowledge has been provided through this scheme.2

### 1NC – Raw Material Turn

#### Prevents distribution---causes vaccine hesitancy.

Newey et al 21 [Sarah Newey*;* Anne Gulland*;* Jennifer Rigby, (GLOBAL HEALTH SECURITY CORRESPONDENTS at the telegraph) *and* Samaan Lateef (Reporting IN INDIA) 6/1/21, Vaccinating the world: the obstacles hindering global rollout – and how to overcome them, Telegraph, <https://www.telegraph.co.uk/global-health/science-and-disease/vaccinating-the-world/>] Justin

[Vaccine hesitancy has also reared its head](https://www.telegraph.co.uk/global-health/science-and-disease/hesitancy-hard-wired-us-indulge-now-peril/), with concerns around rare blood clots linked to the AstraZeneca and J&J vaccines hitting public confidence in Africa. The Democratic Republic of Congo sent 1.3m unwanted doses to countries including Togo and Senegal before they expired in late June, while Malawi destroyed 20,000 unused shots last month as hesitancy hit rollout. “There were some assumptions in the public health community that this is such a bad pandemic... that this will change people’s minds if they were ever hesitant about vaccines,” Prof Heidi Larson, director of the Vaccine Confidence Project, told a Devex event. “Well, it hasn’t really – in fact, the groups and the questioning around vaccines and some of the anti sentiments have actually escalated.” There are also growing concerns that the AstraZeneca and J&J vaccines may be viewed as the “cheap relation” compared to the new mRNA vaccines produced by Pfizer and Moderna. Given the former make up the bulk of Covax’s supply and are far easier to distribute in the developing world, this is a substantial hurdle. “The AstraZeneca row has significantly impacted confidence – not just across Africa, but around the world,” says Dr Ayoade Alakija, co-chair of the Africa Union Vaccine Delivery Alliance. “But there is no choice here [to pick a different vaccine].” However, back in Kumasi, Mr Nyarko says it is supply rather than confidence that is currently undermining his district’s roll out. And with no clear picture on when more shots will arrive, he’s left with few options. “All we can do for now is pray that Ghana can secure another batch,” he says. “We are praying that the UK and Europe will help us.