# 1AC R3 Wake v Wyoming PS

## 1AC – Harvard

### Plan

#### Plan: The United States federal government should prohibit the refusal to license climate mitigation and adaptation technologies as an anticompetitive business practice.

### Solvency

#### The SQ denies antitrust remedies for patent abuse

Gunderson 14 [Adam, practicing attorney at the Gunderson Law Group, “Protecting the Environment by Addressing Market Failure in Intellectual Property Law: Why Compulsory Licensing of Green Technologies Might Make Sense in the United States: A Balancing Approach,” *BYU Law Review* 2014.3, p.679-81, JCR]

Concern over patent suppression is not hypothetical. There have been a number of documented cases in which this phenomenon has taken place. In each case, patent suppression has been a means of hindering the progress of new technologies. Inasmuch as patent law is authorized under the Constitution in order to “promote the progress science and the useful arts,” patent suppression—whereby patent holders purposefully acquire patents only to prohibit their use or development—is contrary to that purpose and represents a clear abuse of that law. This section briefly explores a few examples of patent suppression and explains how the current legal framework of intellectual property [IP] and antitrust law is generally insufficient to stop the abuse. Perhaps one of the most well-known examples of patent suppression was brought to the forefront of public attention by the film Who Killed the Electric Car. 42 This documentary details the development and eventual suppression of battery technology capable of powering zero-emission automobiles.43 According to the documentary, General Motors acquired a small battery technology company, Ovonics—which had made tremendous advances in battery technology—and began to develop an electric car that would eventually be named the EV-1.44 When California’s political climate and the looming threats of burdensome regulations made GM nervous about the timing of the technology’s release, Texaco (which was soon after acquired by Chevron) stepped in and purchased the rights to the battery technology in order to suppress it.45 Another example occurred in the light bulb industry in the early 1900s.46 General Electric, which had a large stake in the incandescent light bulb industry, purchased the patent for a moreefficient fluorescent light bulb.47 In order to maximize its profits for the incandescent light bulbs, General Electric sat on the patent for the fluorescent lights, refusing to either bring the technology to market itself or to license the technology to other market participants.48 Not until Sylvania, another electronics company, successfully marketed a similar technology did General Electric begin to use its patented florescent light bulb technology.49 Bell Telephone also implemented patent suppression techniques in order to preserve the status quo.50 A 1920s investigation by the federal government found that Bell Telephone had purchased and suppressed over 3,000 patents.51 Bell had developed a practice of acquiring patents for the sole purpose of keeping those technologies out of the hands of their competitors.52 The law regarding patent suppression has not always been clear and while it appears that antitrust remedies may be available as a means of preventing some instances of patent suppression, such remedies are still not generally available.53 In 1886, a federal district court held that a patent holder could only be guaranteed legal protection of its patent if the holder was actually using the patented technology.54 However, in 1908, the U.S. Supreme Court held that patent non-use does not foreclose the patent holder’s right to protection under the law.55 With the birth of antitrust law, new remedies became available to stop anticompetitive behavior through which powerful companies tried to eliminate competition.56 While it may appear that patent suppression would fall into this category of behavior, courts have demonstrated an unwillingness to apply antitrust remedies to cases of patent suppression.57 For example, in SCM v. Xerox, the Supreme Court held that so long as a patent is acquired legally, it is not a violation of antitrust law to use the patent to the “full extent allowed under patent law,” which includes preventing third parties from using a technology, even when the patent holder itself is not using the patented technology.58 The holding of this case has been followed in subsequent decisions and is still good law.59 Thus, despite the similarities between patent suppression and those problems generally meant to be addressed by antitrust laws, it seems that antitrust law by itself is insufficient to stop patent suppression.

#### Federal action on climate patent monopolization is a prereq to innovation and development

Cayton 20 [Samuel, Adjunct Prof at Seattle Univ School of Law, legal intern at the Media Law Group, “The ‘Green Patent Paradox’ and Fair Use: The Intellectual Property Solution to Fight Climate Change,” *Seattle Journal of Technology, Environmental & Innovation Law* 11.1, p.239-45, JCR]

Congress has the constitutional authority to create laws that advance the development of technology through patents.197 Therefore, the optimal step to promote the use of green patents is to pass a federal law that provides a defense to patent infringement for green technology. While fair use is not codified in any form within Title 35 of the U.S. Code, Congress has enacted patent provisions tailored for specific purposes that involve loosening patent protection for the rightsholder.198 For instance, the Patent Act permits infringement where secondary use is part of a process to obtain approval of a new drug from the Federal Drug Administration.199 Additionally, the Act limits a patentee’s ability to recover damages when a patented invention is used in a medical or surgical procedure.200 These statutory exceptions to patent infringement reflect the notion that American society values technologies that provide a public health benefit, even if it is at the expense of a patent holder’s right to exclude.201 To ensure that the policy motives around green technology in the American industries are captured, Congress should engage in extensive fact-finding through congressional hearings and research. A bill from either chamber should incorporate the international consensus that climate change is a global threat to the planet that also has the potential to jeopardize public health.202 It should also make clear that climate change is anthropogenic and has accelerated in part due to environmentally hazardous industrialization.203 Furthermore, the bill should capture factual findings that touch on the following: that technological innovation plays a vital role in mitigating the effects of climate change;204 that a mass expansion of environmentally sustainable technology is needed to substitute the environmentally hazardous technologies;205 and that altering the U.S. patent law is a necessary action to promote this expansion.206 These findings should also qualify that patent holders’ incentives are equally important to the development of an environmentally sustainable economy.207 The elements of fair use in the law should not only be specific enough to guide the courts in their analysis of whether the secondary user is privileged as a fair user of a green patent but also general enough to provide a working template for courts to use in infringement suits. Even if Congress does not implement a fair use doctrine for green patents–a probable scenario given its current state of dysfunction–the federal court system is also authorized to intervene on its own. Two justifications permit the courts to allow fair use in patent law: first, fair use in copyright law was originally judicially created208 before Congress codified it,209 and, second, federal courts have already ruled on patent infringement cases with outcomes that favor continued use by second-comers as seen in eBay and Paice. 210 Whether or not the primary authority comes from the legislature, courts should undergo the following analysis in its fair use defense: (1) Does the patent at issue cover a field of green technology? The first part of the analysis requires courts to determine whether the patent at issue covers environmental sustainability or protection. To properly guide their analysis, the courts would benefit from having Congress enumerate a non-exhaustive list of industries that can utilize a fair use defense, such as alternative energies, fuel-efficiency, GHG and pollution reductions, and so on. Nevertheless, courts are equally capable of making their own determination. (2) If the patent covers green technology, and the second-comer infringes on its use, is that user privileged as a fair user? Under this prong, the court will assess several considerations regarding the patent regime, much like Dean Emerita O’Rourke’s aforementioned proposal. However, the factors for this green patent fair use proposal will be tailored to capture the considerations of green technology industries. Although Congress should enumerate these factors into the law, the court can further develop and define them: (1) the market potential; (2) the patentee’s developments; (3) the purpose and nature of the secondary use; and (4) the interests of the patentee and industry. First, the court should consider the potential market impact of the patented technology at issue. To adequately assess this factor, experts in technological fields can testify in federal infringement suits and make reasonable valuations of the patented technology’s capabilities in the market. This judicial assessment can reveal the untapped potential that may justify secondary use. Second, the court should evaluate the patentee’s developments of each patent. This part of the test will determine whether the patentee is sitting on the patent or whether they are capitalizing on its potential found in factor one. This step in the test aims to remedy the concerns around the Green Patent Paradox by determining whether the patent holder is making the best use of the patent. If the patentee has no intention of using their patent to fill the market demand, then this factor would weigh strongly in favor of its fair use. Third, the court should look at the purpose and nature of the second-comer’s advance on the technology. This factor combines two of Dean Emerita O’Rourke’s factors211 and prompts the court to look at the secondary use itself. However, this part of the test is more tailored to the innovations in green technology. Ultimately, the crux of this factor is determining whether the secondary user’s use of the technology is meant to provide positive results for the sustainability market. For example, using lucrative solar panel technology that achieves an environmentally beneficial purpose can be deemed fairer than using an eco-friendly pet product that may be in a smaller potential market. Additionally, if the secondary user is mainly striving to achieve a particular sustainability standard for their innovative pursuit, rather than directly compete with the patent holder in the market, then this factor would weigh in favor of secondary use. Finally, the court should analyze whether permitting secondary use would drastically impact the interests of the patent holder or the green technology industry at large. Here, a court should consider the incentives, resources, and commercial interests of the patentee as well as the interests of the relevant green technology industries. If the patent holder has a legitimate reason to hold onto their patent rights, this factor would weigh strongly in favor of excluding the second-comer from using the technology without a license. Otherwise, this factor should be equally weighed together with the other three factors. (3) If the secondary user is a fair user, does justice require compensation for the patent holder? Because the second part of this proposal imposes a heightened standard against the patentee’s incentives, court-ordered royalties should remain an option much like Dean Emerita O’Rourke’s proposal.212 This part of the test recognizes that the fair use assessment is binary: secondary use of the green patent is either allowed or not allowed. Thus, awarding a modest, reasonable amount of royalties can offset any grievances that may arise if the patentee loses their exclusive right over the green patent at issue. Because the four factors in the second prong of this proposal are more strictly applied against the patent holder, rather than imposing the same four factors as Dean Emerita O’Rourke proposes, the court should instead determine on its own whether royalties should be awarded. However, depending on the capital and resources of the secondary user, these royalties should be limited so as not to chill the subsequent implementation of the green technology. B. Further Considerations This technology-specific proposal is designed to speed the process of implementing green technology in the U.S. while still recognizing that the patent scheme is inherently designed to promote innovation. Once secondary users are permitted to use patented green technology, they can actively work toward bringing the U.S. into a sustainable economy without fear of infringement action. Ultimately, the issues raised by the Green Patent Paradox would be resolved by this proposal, which seeks to streamline and advance outside innovation while ensuring patent holders arer sufficiently compensated. However, with any proposal, several considerations remain to be addressed. 1. The Patentee’s Rights Although this proposal directly addresses concerns surrounding the climate crisis, it must be acknowledged that many scholars are skeptical of both the expansion of patent rights beyond the patentee and the impact it would have on the patent incentive scheme.213 Patentees in the field of green technology have a particular incentive to hold onto their rights, especially companies with larger carbon footprints.214 Moreover, fair use of patented green technologies, unlike certain transformative uses of copyrighted works, would almost always be for commercial purposes. However, the overarching goal of this proposal is to change the dynamics within the green technology industry. As Dean Emerita O’Rourke points out, fair use would promote standard-setting whereby companies can set their own guidelines regarding the allocation of their intellectual property based on reasonable terms.215 Moreover, it would serve as a bargaining chip for licensing, which can reduce the royalty rate for second-comers.216 Hence, as this proposal promotes sharing within the private sector, companies can work together toward the common goal of combatting climate change. Another consideration involves whether to allow fair use if the patentee specifically refuses to license their patent to the infringer. In copyright law, a fair user of copyrighted work is still allowed to go forward with their derivative creation, regardless of whether the rightsholder denied that user permission.217 In recognition of the existential threat posed by the climate crisis, patent law should follow suit and bypass this potential concern. As previously mentioned, a patentee’s reasoning behind the refusal to license can be considered in the assessment of fair use or whether ongoing royalties should be awarded. 2. Implementation Additionally, even with fair use in patent law, the ITC’s independence from the federal judiciary remains a concern for expanding green technology to the market. Because of its independence, it is unknown whether it would incorporate fair use into its investigations, and thus, a plaintiff who loses in court may still use this alternate forum to preclude secondary use.218 To prevent a patent holder from utilizing other avenues to curb secondary use, this proposal will include guidelines on congressional action that would help establish boundaries on what the ITC can investigate regarding green technology. While it conducts its investigations, the ITC should recognize the global threat of climate change. Furthermore, because patents and trade secrets can protect the same subject matter,219 a prospective inventor could seek trade secret protection for their intellectual property to avoid the prospect of fair use by others.220 Thus, rather than apply for a patent, an inventor or company that invents a novel green technology could employ security measures to keep their idea secret and, in effect, the schematics of the invention would never reach public view and society would not benefit. However, trade secrets have their downsides as they can be difficult to enforce and risk losing their protections if others utilize the same idea.221 Additionally, from an investor’s perspective, the value of a patent is more tangible than the value of a trade secret.222 This realization is an important distinction given that green technology is a capital-intensive industry.223 Moreover, inventors in green technology industries can benefit from having their works made public because in the long run because public access “can support the diffusion and adaptation of existing green technologies that are in the public domain.”224 Lastly, concerns around timing need to be addressed. If Congress does not codify this proposal and leaves any developments to the courts, expansions of green technology will not accelerate at a necessary rate. Instead, a judicially created fair use doctrine for patent law may merely provide incremental change to green patents at best as it would only develop case-by-case through individual lawsuits.225 Regardless of whether federal institutions will initiate this proposal, industries at large should still strive to advance green technology at a rapid pace. Although inventors and entrepreneurs risk becoming defendants to patent infringement suits, eBay remains a shield for their technologies’ continued development.226 Eventually, the climate crisis’s growing threat will pressure the U.S. to tolerate transfers of patented green technology so that such technologies receive their highest and best use at the lowest cost to the patent holders and other users The world faces an imminent threat from climate change that requires drastic structural attention. The U.S. has always led the world in promoting and preserving global security, but political gridlock within the nation could stall the massive changes to steer the world in the right direction. Fortunately, the private sector has an equally important role and duty in the pursuit to reform various industries. However, while industry and entrepreneurship can further develop necessary green technology, a comprehensive transformation in the U.S. patent regime must take place in order to fix the inherent issues around secondary innovations. The Green Patent Paradox demonstrates that the patent system impedes innovation by allowing rights’ holders to sit on their patent rights further slowing the transition to an environmentally sustainable economy. Although eBay is a victory in that it helps encourage continued use of other patent holder’s green patents, the ITC functions as a loophole for patent holders who want to halt secondary users or pressure them to take unwanted licensing agreements. The public and private sectors have both revealed possible solutions in the wake of the climate crisis. While the public sector can fix the patent regime through various means, these solutions either have substantial barriers to becoming reality or pose implementation issues that inhibit inventor incentives. Even with goodwill gestures from large companies, not all businesses are positioned to donate their intellectual property. The doctrine of fair use does not exist in patent law under conceivable rationales even though many viable justifications support its application. However, the lurking effects of the climate crisis demonstrate the societal need to implement a system that tolerates secondary uses of patented green technologies.

#### The innovation disad doesn’t apply to new areas of research like climate tech – patent accessibility is key

Bernardini 21 [Jessica, JD from Lewis & Clark Law School, works at the small business legal clinic at the Patent Program at Lewis & Clark Law School, registered Professional Engineer and engineering consultant with focus on renewable energy development, “Leveraging Mandatory Licensing Under the Clean Air Act – A Novel Framework to Domestic Reduction of Greenhouse Gases,” *Environmental Law* 51.1, p.324-8, JCR]

The use of compulsory licensing would be especially valuable for forcing a patentee to work a patent in an area that is relatively new. Opponents of compulsory licensing believe it will reduce incentive for innovation and encourage inventors to maintain their knowledge as a trade secret rather than disclose through patents.153 And while obtaining a patent requires sufficient disclosure so that a “person having ordinary skill in the art” may practice the patent, disclosure (without actual reduction to practice and use in the industry) of newer technologies, such as carbon capture, is not as useful as it is for more established technologies. Consequently, in areas of newer technology, innovation is stifled when there is no practicing of the technology, which allows innovators to understand how the technology works.154 Especially in the case of newer technologies, compulsory licensing would actually support innovation by forcing the technology’s real-world application, thereby allowing other innovators to improve upon the technology. While the EPA has significant discretion in selecting a BSER, no existing precedent allows the EPA to establish regulations on the sole basis that a patent exists but has not been demonstrated to be technologically feasible, on even a very small scale. Therefore, the absence of a working requirement under the Patent Act jeopardizes the EPA’s ability to regulate GHGs.155 The Mandatory Licensing provision provides authority for the EPA to pursue mandatory licensing of patented technologies necessary to achieve emissions standards. Invocation of the provision does not require a showing that the patented technology has been adequately demonstrated.156 However, to establish the emission standards in the first place, the technology used to achieve the standards must have been adequately demonstrated (i.e. worked and put into practice even in some small fashion).157 If a technology has not been adequately demonstrated, it should not be considered by the EPA to be part of an emission reduction system.158 In this instance, a general compulsory licensing provision under the Patent Act would help work technologies, show them to be technologically feasible, and ultimately allow the EPA to consider them as part of a BSER. Opponents to compulsory licensing argue that it is unnecessary to invoke compulsory licensing to mitigate non-working of patents because inventors of useful inventions will want to recoup their investments and will do so through working or licensing of the patent.159 However, this argument fails to take into consideration that some entities will not want the patent to be put into use. When a patent is subject to use as part of an environmental regulation, its use would adequately demonstrate the patented material and make it readily available. Therefore, regulated entities would rather have these categories of patents suppressed in an attempt to avoid potential environmental regulation. Patent suppression by fossil-fuel companies has already occurred, as discovered by state prosecutors.160 The prosecutors were looking into whether fossil-fuel companies misled their investors by making statements dispelling climate change and the impacts that it would ultimately have on the companies’ viability.161 These investigations led to the discovery that these same companies patented carbon-capture technologies and never put them into use, suppressing them since the 1960’s.162 The non-working of patented carbon-capture technology is already occurring, possibly to keep patented technologies from EPA consideration. For example, Exxon has the highest number of patented carbon-capture technologies and is funneling millions into research,163 yet it does not operate any plant in the U.S. with large-scale carbon-capture. It is obvious that, with no regulatory driver to reduce carbon dioxide emissions and require the installation of carbon-capture technologies, industry will not utilize these technologies in the absence of a compliance threshold. The proposed framework provides a regulatory driver to implement the technologies. The emission threshold would deter patent suppression, and if not, then the second step of the framework— mandatory licensing—prevents suppression. Under the second step, the EPA would threaten to step in and require licensing of those technologies if industry was not willing to provide reasonable licenses to others in the industry. Refusal to license patents after the enactment of the new emission standards could have a detrimental effect on industry’s ability to comply with the strict standards. Once emission standards are in effect, patentees could reasonably license their patents to other industry participants without government intrusion or proceed to practice monopolistic market power. A refusal to license a patent could mean a unilateral outright refusal, or that restrictions on the patent use are unreasonable or the price to license is so prohibitive that it equates to an outright refusal.164 In the U.S., a refusal to license typically will not lead to a finding of monopolization unless there is a finding that the refusal is completely unrelated to the patent.165 It is unlikely that court-mandated compulsory licensing will be used to require licensing solely to address refusal to license or the use of monopolistic pricing. In Verizon Communications v. Law Offices of Curtis V. Trinko,166 the Supreme Court emphasized that “[t]he opportunity to charge monopoly prices . . . induces risk taking that produces innovation and economic growth.”167 Furthermore, monopolistic power alone is not unlawful, but rather it needs to be “accompanied by an element of anticompetitive conduct.”168 However, the Court goes on to clarify that, while the right to refuse to license with other firms may be allowed, it “does not mean that the right is unqualified.”169 Because the threshold for finding anticompetitive behavior by a patentee is quite high, it may be necessary to resort to statutorily authorized compulsory licensing to overcome monopolistic behavior and establish reasonable and fair licensing agreements. In addition to a refusal to license existing carbon-capture technologies, another opportunity exists for patent holders to further monopolize the market when existing patent holders build upon existing carbon-capture technologies. For example, companies are investing in research and development for scaling up and integrating carbon-capture into plant design, as opposed to retrofitting, and developing more integrated approaches to carbon-capture utilization.170 The ability to build upon existing patented technologies with no willingness to license (or work) these technologies is troublesome because these improvements will result in new patents which will be valid for up to another twenty years, the critical time period necessary for deployment of technologies that reduce emissions contributing to climate change.171 Even though statutory compulsory licensing has never been invoked by the government, some individuals contemplate the threat of compulsory licensing when considering the cost of their innovation.172 Their concern is that the government will step in before they can recoup their research and development costs. The potential negative effect of compulsory licensing on the incentives for innovation could be outweighed by the positive impact on innovation for an industry as a whole, particularly in the context of climate change action.173 The potential threat of compulsory licensing alone may be enough to encourage entities to license on more flexible terms to avoid governmental intrusion.174

#### If the federal government doesn’t act, the states will – and it will destabilize the entire patent system.

Mazur 07 [Tanya, attorney specializing in intellectual property law, winner of the Southern California Rising Star award in Intellectual Property Litigation, “Free for the ‘Taking’: Why States Should Not Be Able to Invoke Sovereign Immunity in Patent Infringement Disputes,” *The George Washington Law Review* 75.2, p.398-9, JCR]

There is a crisis looming on America’s horizon, whether in the form of bioterrorism, an avian flu pandemic, or the bankrupting of the federal government due to the aging population’s need for health care. All of these crises demand widespread access to patented inventions, such as pharmaceuticals, to prevent the enormous suffering of Americans. Emergency situations, such as the flu pandemic, will require production of patented products on a scale so massive that it would require circumventing a patent’s normal protections.2 Even the aging baby boomer population’s need for access to low-cost prescription drugs through programs like Medicare could be considered an emergency situation.3 Never before has the health and well-being of our nation been so inexorably linked to patented inventions. In recent years, Congress has attempted to address the coming crises and has proposed a number of changes to the patent laws; these changes, however, have failed to provide adequate solutions.4 States, therefore, are becoming increasingly proactive with regard to their residents’ needs in these crisis situations and are beginning to look to a loophole created by the Eleventh Amendment that exists in the patent laws.5 This loophole threatens to destabilize the United States’ incredibly successful patent system and the hundreds of years of technological innovation this system has provided to the nation.6 This Note examines the delicate balance between the public’s need for ready access to patented goods and the patent protections necessary to promote innovation, within the framework of the present patent system. Also discussed in this Note are problems that result from the approaches to patent “takings” and compulsory licensing that states and local governments have begun to employ. This Note proposes a vital amendment to the patent laws that would alleviate the aforementioned crises while still encouraging innovation and protecting the basic tenets of the patent system. Furthermore, this Note advocates that state sovereign immunity in patent cases be abrogated to curtail states’ abilities to impose compulsory licenses upon patent holders. By allowing only Congress to wield the power to extract compulsory licenses, rather than state or local governments or officers or appointees of the executive branch of the federal government, this proposal protects the sanctity and stability of the patent system. This protection furthers the aims of the Constitution and fosters the progress of the useful arts and sciences. In cases of national emergency, however, Congress would retain the authority to implement takings or compulsory licensing of patents.

### TRIPS

#### ‘Refusal to license’ has kept climate tech out of the hands of developing countries

Qin 18 [Dong, Assoc Prof at Nanjing Univ of Information Science & Technology, “After Paris: Do we need an international agreement on green compulsory licensing?” in *The Implementation of the Paris Agreement on Climate Change*, ed. Vesselin Popovski, p.183-7, JCR]

This patent suppression behaviour has many negative impacts on technology research, development and diffusion. For example, many patentees build patent thickets, which are thick patent webs consisting of various related and overlapping patents, so that their competitors will have much more trouble researching and developing new technologies. Facing patent thickets, firms can require access to dozens, hundreds or even thousands of patents to produce just one commercial product20. The most troublesome quality of a thicket is the risk that one may not be able to conclusively determine that all of the patents have already been read on a product or service21. Relevant patents can pop up and catch even sophisticated manufacturers by surprise22. Addressing this awkward situation, the Secretary General of the United Nations pointed out that the rise of strategic patenting and a series of legislative changes to expand monopoly rights had led to a very complex system of patents, which was increasingly geared to support the rights of incumbent large firms over new, smaller, innovative firms23. Additionally, the system in many countries had moved from its original objective of stimulating innovation through the provision of incentives to innovators, to preventing new domestic and foreign market entrants24. In many green industries, core technologies have already been monopolized by a few large companies. For example, the technologies in hybrid vehicles are very important for developing countries in reducing greenhouse gases under the Paris Agreement. However, more than 90% of patents in hybrid vehicles belong to companies in the United States, Germany and Japan25. It is very difficult for developing countries to get access to these technologies at affordable prices. In the field of LED, a kind of low-carbon light, some companies in developed countries monopolize most of the core technologies and never permit companies in developing countries to use their patents. Because of patent suppression, the technology gap between developing countries and developed countries keeps widening. On the one hand, patenting rates for clean energy technologies have increased faster than for other sectors, at a rate of about 20% per year since the adoption of the Kyoto Protocol by the United Nations Framework Convention on Climate Change, in 199726. On the other hand, most green technology patents continue to be controlled by only a few developed countries. According to statistics provided by the Secretary-General of the UN, six developed countries, including Japan, the United States, Germany, the Republic of Korea, the UK and France, account for almost 80% of all patent applications in clean energy technology27. Some other statistics show that developing countries own too few high-value inventions in the field of climate change technology. Taking China and Brazil as examples, the former owns only 2.3% high-value inventions in the field of climate change technology and the latter owns only 0.2%. Although green patent suppression is now very serious and has become an important barrier to technology transfer, it is not right to jump to the conclusion that the governments of parties to the UNFCCC are devoid of political willingness to deal with it. On the contrary, these governments have already shown some resolve on removing barriers to the international transfer of green technology. Article 4, para. 5, of the UNFCCC states that the developed countries shall take all practicable steps to promote, facilitate and finance the transfer of environmentally sound technologies to other parties, particularly developing countries, to enable them to implement the provisions of the Convention. Article 5 of the UNFCCC also states that the parties shall support international and intergovernmental efforts to strengthen national technical research capacities and capabilities, particularly in developing countries. Moreover, Article 10 of the Kyoto Protocol also rules that all parties shall take all practicable steps to promote, facilitate and finance the transfer of environmentally sound technologies pertinent to climate change, in particular to developing countries. The parties of the UNFCCC tried to develop more detailed plans to promote the international transfer of green technologies after the signing of the Kyoto Protocol in 1997. For example, the Conference of the Parties, on its seventh session held in Marrakesh from 29 October to 10 November 2001, made the decision on development and transfer of technologies (Decision 4/ CP.7)29. According to this decision, the parties would establish an expert group on technology transfer, the objective of which was enhancing the implementation of Article 4, para. 5, of the Convention, including, inter alia, by analysing and identifying ways to facilitate and advance technology-transfer activities. The decision also decided to urge developed country parties to provide technical assistance through existing bilateral and multilateral co-operative programmes. The decision even provided a framework for meaningful and effective actions to enhance the implementation of Article 4, para. 5, of the Convention30. According to the framework, all parties of the UNFCCC were urged to improve the enabling environments for technology transfer, which focused on government actions, such as fair-trade policies, removal of technical, legal and administrative barriers to technology transfer, sound economic policy, regulatory frameworks and transparency. Although many efforts have been made by the international community to promote international transfer of green technologies, the results are quite disappointing. For example, the Kyoto Protocol created the Clean Development Mechanism (CDM) to help developing countries to contribute to the ultimate objective of UNFCCC. According to Article 12 of the Kyoto Protocol, developing countries will benefit from CDM project activities resulting in certified emission reductions. Other countries that have qualified greenhouse gas reduction obligations may use the certified emission reductions accruing from s project activities to contribute to compliance with part of their own quantified emission limitation and reduction commitment. When the Clean Development Mechanism was designed during the negotiations of the Kyoto Protocol, almost all parties of the UNFCCC expected the mechanism to be a helpful tool in promoting green technology transfer between developed countries and developing countries. In fact, it was estimated that about 26% of the projects in relation to the CDM would involve at least some kind of technology transfer31. However, the results have proved very frustrating. Statistics shows that only 0.6% of projects involved technology transfer and the contribution of the CDM to technology transfer can at best be regarded as minimal32. Of course, the reasons for the frustrating results are many, but undoubtedly one of them is that some entities who own advanced green technologies have strong IP protection tactics, including building patent thickets, so that others have little opportunity to get technologies relating to their CDM projects. Yet another important reason why many efforts of the parties of the UNFCCC have been frustrated is that they only aim to regulate the behaviour of governments rather than the behaviour of patentees. However, the fact is that patentees, rather than governments, have the final say in green technology transfer. The right of patentees to refuse to share their patents with other people is strictly protected by the international intellectual property rights system. According to Article 28 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), where the subject matter of a patent is a product, the owner of the patent has exclusive rights to prevent third parties from the acts of making, using, offering for sale, selling or importing for these purposes that product unless they have the consent of the owner. Where the subject matter of a patent is a process, the owner of the patent has exclusive rights to prevent third parties from the act of using the process unless they have the consent of the owner. Accordingly, the problem of green patent suppression can never be solved if the parties of UNFCCC cannot manage to improve the current IP system. If the owners of green technologies neither use their technologies nor permit others to use their technologies to reduce greenhouse gases, the goal of the Paris Agreement can never be fulfilled. If we want to make the Earth, which is becoming warmer and warmer, safer for us to live, attention should be paid not only to the protection of the private interests of patentees, but also to the protection of public interests.

#### This puts the US in breach of international obligations, which collapses climate treaty implementation globally – IP is the bottleneck

Zhou 19 [Chen, Assist Prof in the Law School of Xiamen Univ, “Can intellectual property rights within climate technology transfer work for the UNFCCC and the Paris Agreement?” *International Environmental Agreements: Politics, Law and Economics* 19.1, p.108-10, JCR]

Climate change is a well-researched issue both scientifically and in terms of legal scholarship. It is widely recognized that technological solutions play an important role in climate mitigation and adaptation. Due to historical and practical reasons, relevant technologies are distributing unevenly across the world.1 To combat climate change, the wide and rapid diffusion of such technologies is in the global self-interest (Watal 2010: 14). There is evidence that technology transfers increase the incentives for participation in multinational environment agreements (MEAs) (Shephard 2007: 10548). In the context of climate change, the United Nation Framework Convention on Climate Change (UNFCCC 1992) requires industrialized countries to facilitate technology transfers to developing countries to enable them to minimize their emissions of greenhouse gas emissions (GHGs). The 2015 Paris Agreement (Paris Agreement 2015) emphasizes this once more as it further commits the Parties to strengthening cooperation on climate technology. However, in reality, state-of-the-art climate mitigation and adaptation technologies are not being automatically transferred through business-as-usual practices where traditional legal protection of intellectual property (IP) operates under the Climate regime. In the light of the growing urgency of climate risks and damage and the emerging recognition of the potential violation of human rights, it is critical to examine what is the key bottleneck to technology transfer and how this can be addressed. Hence, this article explores how IP laws can be used by climate change policymakers in the post-Paris era to enhance technology transfer. To capture the entire picture, I use a statutory perspective to summarize and analyse the UNFCCC (see Sect. 2) and the WTO (see Sect. 3), the legal setting in which climate technology transfers operate, and explore possible solutions to situate IP in the context of climate change. In the context of climate change, technology transfer is predominantly regulated by the UNFCCC. Designed as a broad framework to comprehensively deal with the climate crisis, the UNFCCC has, since 1992, endeavoured to reduce GHG emissions through a range of solutions.2 As early as 1992, the UNFCCC shed light on technology as a solution by framing technology development and transfer as an essential international assistance tool. Two core articles were laid down to facilitate technology transfer: Article 4.5 and Article 4.7. Article 4.5 is cited as a classic clause and has been placed at the heart of the technology transfer commitment system.3 It obliges the developed country Parties of the UNFCCC (Annex I countries) to commit to technology transfer in order to fulfill the principle of common but differentiated responsibilities and respective capabilities. This principle aimed at substantive equity, international solidarity and assistance. To further confirm this commitment, Article 4.7, known as the conditionality clause, made the fulfilment of the developing countries’ commitments conditional on actions taken by developed countries.4 Under this Article, the developing country Parties could suspend the Convention’s implementation if the developed country Parties did not provide technology transfer and financial assistance. Therefore, it can be said that the conditionality clause makes technology transfer absolutely indispensable for the effective implementation of climate change agreements. A violation of the provisions on technology transfer might consequently constitute a material breach and would conflict with the purpose and objective of the Convention (Verhoosel 1998: 66).

#### The US leverages the WTO/TRIPS Agreement to block patent access – application of antitrust allows legal triggering of compulsory licensing

Ni 15 [Kuei-Jung, Prof of Law at the National Chiao Tung University School of Law’s Institute of Technology Law, “Legal Aspects (Barriers) of Granting Compulsory Licenses for Clean Technologies in Light of WTO/TRIPS Rules: Promise or Mirage?” *World Trade Review* 14.4, p.708-17, JCR]

The concept of developing countries granting themselves compulsory licenses and gaining access to climate-related technologies was an unwelcome, or even disturbing, proposal for developed countries and their resident companies who hold the IPRs for these technologies.32 They disagreed with the statement that an IPR constitutes a barrier to technology transfer and instead argued that poor IPR enforcement and high tariffs on environmental products should be blamed for the stalemate on transfers.33 On the basis of various promising instances in which Western companies have transferred clean technologies to and deployed them in emerging markets, Lane remains skeptical of the rhetoric that claims IPRs to be an obstacle to technology transfer and dissimilation.34 Thus far, the compulsory licensing of clean technologies seems not to have occurred, despite strong appeals by developing countries for the use of this mechanism. Although the UNFCCC does not have applicable rules specifically pertaining to the use of compulsory licenses per se, the WTO/TRIPS forum appears eligible to govern them, especially regarding the negotiation of a new agenda and law enforcement. The UNFCCC is the major global forum through which developing countries have consistently proposed using compulsory licenses as one means, among others, of gaining access to clean technologies. However, the climate regime does not specify any binding rules or disciplines for regulating the application of such a measure. Instead, the WTO/TRIPS is the competent regime governing the use by national authorities.35 In effect, all WTO members must guarantee that their national laws and measures relating to compulsory licenses are in compliance with the TRIPS obligations in question.36 During the mid-1990s, under the threat of economic sanctions resulting from US Section 301, the GATT Uruguay Round negotiations finally resulted in crafting comprehensive and multilateral protection for IPRs, which operates with an effective dispute settlement mechanism.37 The effectiveness of the TRIPS Agreement represents a triumph for developed countries, particularly the US, which have long called for strong global IP protection. The TRIPS Agreement specifies a minimum threshold of IP protection and enforcement by WTO members.38 To balance the rights of IP owners, most of whom are from developed nations, with the interests of general users and developing countries and to pursue members’ legitimate public objectives, certain measures limiting the prerogatives of IP owners are permissible, especially regarding their monopoly rights. A patentee may prevent others from using a patented technology before the patent expires.39 However, Article 30 of the TRIPS Agreement provides for exceptions to this right. In addition, patentees who are not using the patent themselves may authorize others to make use of their protected subject matter by voluntarily signing a licensing agreement.40 The freedom of contract that individuals and firms have in choosing their partners and deciding the content of deals would be constrained by the governmental authorization of compulsory licenses to other users. Article 31 of the TRIPS Agreement specifies the rules for implementing such licenses.41 An analysis of the structure of Article 31 of the TRIPS Agreement indicates that the provision does not explicitly provide grounds on which compulsory licenses can be based but simply specifies the 12 conditions with which WTO members ought to comply. All conditions are obligatory. Although the incorporation of compulsory licenses into the TRIPS Agreement is part of a balancing act for countering the predominant power of patentees, such a move should not be interpreted merely for the convenience of developing countries.43 The use of compulsory licenses is not intended to be a ‘free lunch’ because the challenges associated with observing the requirements are quite severe and the costs of implementing the collateral duties may be relatively high. The following sections first examine whether a new declaration or similar document is likely to be finalized to underpin developing countries’ proposal. The focus is then on the legal challenges in, and obstacles to, complying with the TRIPS obligations with reference to the compulsory licensing of Philips CD-R patents, which can serve as a benchmark practice. In response to the HIV/AIDS health crises affecting many developing countries, the WTO adopted the Declaration on TRIPS Agreement and Public Health at its 2001 Fourth Ministerial Conference in Doha. The conclusion of the agreement exemplified how the global IP regime can support, rather than hinder, access to the affordable medicines, most of which are covered by IPRs. Regardless of its legal status,44 the Declaration provides developing countries with powerful leverage and flexibility when interpreting and implementing their TRIPS obligations. The flexibilities elaborated by the Declaration consist of compulsory licenses. First, the right to grant compulsory licenses and the freedom to determine the grounds on which to do so are recognized.45 Second, the Declaration confirms the right of WTO members to define the circumstances that constitute a national emergency and explicitly equates public health crises to national emergencies.46 Third, because many members have insufficient manufacturing capacities, the Declaration requested that the TRIPS Council sort out a solution that makes compulsory licenses more effective for these countries.47 Overall, the flexible approach streamlines the compulsory licensing with a view to promoting access to essential drugs. The Doha’s position on global IP enforcement presents an opportunity for balancing private property rights with other societal values, such as human rights and environmental protection. The mandate on IP and public health signals that multilateral trade negotiations and law-making processes can accommodate the interests of developing countries when their demands are on strong moral and legal grounds. The successful experience in Doha provides momentum for developing countries to pursue other similar goals. Although the appeal for adopting a TRIPS declaration on IP and climate-related technologies seems acceptable, at least morally, the feasibility of concluding a similar text as for public health, especially in the WTO community, remains in doubt. From the perspective of international politics, the WTO members’ lack of political will to earnestly negotiate seems unchanged.48 In addition, as opposed to the mandate of the Doha Declaration, most free trade agreements (FTAs) concluded by the US after 2001 have constrained the use of compulsory licenses.49 The prevalence of alleged TRIPS-plus arrangements in US-initiated FTAs heralds greater difficulties ahead for adopting a new declaration on TRIPS-related social concerns at the WTO. Without the support of the US, it would be difficult to achieve a result that facilitates access to climate-related technologies in multilateral trade negotiations. Discrepancies between access to medicine and access to clean technologies and their products may create obstacles for constructing a new declaration. The possible discrepancies can be divided into three parts (Table 1). First, accessing patented drugs appears unaffordable for the public in developing countries, but whether climate-related technologies are too expensive is uncertain. Second, regarding emergency levels, there are strong moral and legal grounds for protecting people from public health crises by, among other approaches, using compulsory licenses as flexibly as possible. Without access to essential drugs, millions of people could die. However, climate change, despite its considerable impact on human society, is a gradual process and not an emergency similar to that of HIV/AIDS.50 In addition, the effective use of compulsory licenses depends on the presence of a competitive local production capacity. Given the relative infancy of climate-related technologies,51 manufacturing capacities for these products may be more insufficient or entirely absent in many developing countries. This limitation could make granting compulsory licenses less fruitful.52 By comparing the distinctive features of pharmaceutical and clean technologies, McManis and Contreras emphasize that market and patent coverage factors may considerably diminish the effects of green compulsory licensing as opposed to that of essential medicines.53 Thus, they are skeptical that ‘an international accord modeled on the Doha Declaration is achievable or desirable in the area of clean technologies’. 54 The authority to grant compulsory licenses lies with governments but is subject to a number of conditions that each WTO member is required to observe. The requirements, listed under Article 31 of the TRIPS Agreement, impose strict discipline on the members and provide competent national authorities with limited discretion. Observing the obligations is a twofold task: first, national authorities must determine the grounds on which such licenses are granted; second, they must fulfill each of the listed conditions, which begin with an appeal for granting the licenses in question and end on their termination. Article 31 does not explicitly regulate the right of members to stipulate the grounds for resorting to a compulsory license, nor does it provide definite parameters for determining the scope of the grounds, apart from the grounds for semiconductor technology.55 Such an omission causes ambiguity concerning the legality of the grounds chosen by national authorities under the TRIPS Agreement. During the Uruguay Round negotiations, most developed countries, including the US, favored a restrictive approach allowing only for matters of anti-trust, public non-commercial use, and national emergencies to legally trigger such licenses.56 In contrast, developing nations argued for an open approach under which there would not be any constraints regarding setting the grounds. In the end, the proposal to limit the grounds for issuing a compulsory license was not adopted. Instead, the final text on compulsory licenses focused on procedural matters and the substantial conditions to be observed.57The TRIPS preparatory work may support the assertion that the drafters had no definite intention of limiting the scope of the grounds.58 Subsequent developments regarding the interpretation of the TRIPS Agreement, particularly evident in the 2001 Doha Declaration, endorse the views of developing countries. However, the controversy regarding the legal status of the Doha text persists, and no judicial decisions have yet been made by the WTO relating to its legal authority. The US considers the Declaration to be a political statement that lacks any binding power on WTO members.59 By contrast, because the Declaration was adopted by consensus, developing countries claim that it represents a genuine and legitimate expectation among WTO members. Despite this disagreement, many academics consider the Declaration as a subsequent agreement that facilitates the interpretation of the TRIPS provisions in question.60 Irrespective of its function for treaty interpretation, debate continues regarding whether the Doha document can shape fields beyond the contexts of IP and public health. Countries in the midst of public health crises may encounter fewer challenges when availing themselves of the TRIPS flexibilities; however, when addressing situations that do not clearly represent public emergencies or that lack nearly uniform public support, a government’s selection of grounds may be severely questioned. Certain grounds specified in the patent laws of many developing countries are applied to balance the prerogatives of patent owners, such as their refusal to deal, failure to produce locally, and failure to obtain licenses under reasonable terms.61 The legality of invoking such grounds appears quite controversial. De Carvalho is strongly skeptical of the contention that countries are free to decide any grounds or can grant licenses on frivolous grounds.62 Considering that the use of compulsory licenses constitutes an exception to the normal exercise of patent rights, he argues that the grounds should be confined to exceptional or critical situations, such as national emergencies and public non-commercial use.63 According to de Carvalho’s argument, compulsory licenses should not be pursued to remedy individual benefit at the expense of eroding patentees’ right to license voluntarily (i.e., ‘say no to third parties’).64 Therefore, commercial disputes between licensees and patent owners, such as disputes over a refusal to license or failure to reach reasonable commercial deals, should not constitute a sufficient cause.65 After a Taiwanese business failed, after a considerable amount of time, to obtain licensing under reasonable commercial terms and conditions from Philips, the Taiwan Intellectual Property Office (TIPO) decided to grant compulsory licenses of the Philips CD-R patents to the local company. The action incited the critical complaints of both the patentee and the EC. The CD-R technologies and correlated patents were owned by Philips, which had acquired patent protection from the Taiwan Intellectual Property Office (TIPO) during the late 1980s.66 By the 1990s, CD-R production in Taiwan had increased considerably, with most production being licensed by Philips.67 However, Gigastorage, a Taiwanese CD-R manufacturer, was unable to reach a licensing deal with the patentee because of a disagreement over royalty rates. TIPO reviewed the appeal of Gigastorage for compulsory licensing of Philips’ five patents and determined the situation facing Gigastorage matched the grounds in question. TIPO’s interpretation as to what amounted to a reasonable commercial term was mainly subject to alleged suitable royalty rates. After reviewing the opinions and findings of public officials and professional institutions, TIPO concluded that Philips’ offer was not a fair and reasonable royalty arrangement.68 Because Gigastorage had spent almost a year engaging in negotiations with Philips, TIPO was satisfied that the period of negotiations had been considerable. In July 2004, according to Taiwan’s Patent Act,69 the decision of TIPO to grant the compulsory licenses was rendered.70 The EC protested that the reason used for triggering the compulsory licenses was a violation of the TRIPS agreement. The EC’s argument was largely based on a textual analysis and was offered with a view to preserving the patentee’s right to license voluntarily. First, the EC argued that Taiwan’s granting of compulsory licenses based on a failure to reach reasonable terms would diminish the protection extended to patent holders and that this effect conflicted with the essence of Article 28 of the TRIPS Agreement. In analyzing Article 28, the EC contended that the provision bestows on patent owners a freedom to license, which inherently carries with it a right to refuse to negotiate.71 Furthermore, the EC emphasized that Article 28 does not obligate patentees to engage in a licensing agreement but rather clearly states that patent owners have a right to do so.72 Second, the alleged ‘failure to obtain reasonable commercial terms’ was strictly categorized by the EC as a procedural condition as opposed to a substantial condition, which is one of the grounds for granting compulsory licenses. Because such a condition is explicitly specified in the first sentence of paragraph (b) of Article 31 as a procedural rule to be observed prior to an authorization of compulsory licenses, the EC insisted that it fell outside of what might be considered substantial grounds. The second sentence of the same paragraph stipulates that the obligation of WTO members to obtain licenses (voluntarily) under reasonable commercial terms in advance may be waived in the event of a national emergency or for public non-commercial use. According to paragraph (k), the members’ obligation to observe such conditions can also be waived when addressing an anti-trust situation. Reading the text restrictively, the EC insisted that Article 31 embodies the intent to distinguish such procedural elements from substantial grounds.73 Thus, the EC concluded that Taiwan’s allowance of Gigastorage’s failure to obtain licenses under reasonable commercial terms as grounds for issuing compulsory licenses was illegitimate. Climate change is a grave global concern; however, as mentioned previously, it may not, in terms of national emergencies, be universally recognized as equivalent to a global public health crisis because it affects countries differently and the problem persists over a long time frame. Some nations, such as small Micronesian island states, are obviously more vulnerable to the effects of climate change, whereas particularly well-developed countries can prove more resilient and adaptive to the challenges. Thus, most developed countries may not be persuaded by the arguments of developing countries and rising powers such as China and India, which attempt to equate the threat of climate change with more immediate national emergencies. Of course, the restrictive European approach toward establishing convincing grounds is open to dispute. In addition, whether a refusal to license or intransigence in negotiations on the part of rights holders constitutes sufficient reason to grant compulsory licenses remains controversial. It has been observed that the practice of refusing licensing for climate-related technologies may grow more common as companies find it profitable to invest in the technologies and ‘thus seek to maintain their competitive advantage’. 74 As tensions between developing countries (including their local companies) and climate-related technology owners increase, undercutting those IP rights by resorting to compulsory licenses under the guise of mitigating global warming will certainly provoke serious complaints from the governments of developed countries. Developed countries will not always ignore the granting of compulsory licenses on technologies critical to their industries and may opt for further legal action. The challenges to Taiwan’s authorization of the use of the Philips CD-R patents, as mentioned previously, could have become an international litigation brought to the WTO mainly because the format of the EC’s trade barrier report nearly constituted a complaint submitted to the WTO. More importantly, the proceedings that occurred both locally and internationally as a whole provide a vivid example of how difficult it is for a WTO member to satisfy the requirements for issuing compulsory licenses under the TRIPS Agreement.

#### The US stance generates massive political tension – countries will impose their own antitrust laws, leading to regulatory uncertainty and trade retaliation

Sarnoff & Chon 18 [Joshua, Prof of Law at Depaul College of Law, served as a Distinguished Scholar at the US Patent and Trademark Office, Margaret, Prof for the Pursuit of Justice at the Seattle Univ School of Law, “Innovation Law and Policy Choices for Climate Change-Related Public-Private Partnerships,” *The Cambridge Handbook of Public-Private Partnerships, Intellectual Property Governance, and Sustainable Development*, eds Margaret Chon et al, p.265-7, JCR]

As stated earlier, many people and institutions have recognized the unequal technology transfer framework for climate change and energy innovation. To address these concerns, numerous changes, some highly controversial, have been proposed to the global patent regime.130 These include: broad, categorical exclusions of environmentally sound or climate friendly technologies from the patent system; and regulation of licensing and market behaviors, including compulsory licensing, antitrust scrutiny, and price controls.131 These direct means of regulating prices and competition will remain legally available to governments that hope to induce – but may be forced to compel – more favorable licensing and pricing practices than would voluntarily occur.132

\*\*\*Begin Note 132\*\*\*

Concerns over IP rights and climate change technologies have already caused significant political tensions. At an earlier stage of international negotiations, the UNFCCC Ad Hoc Working Group on Long-term Cooperative Action (WG-LCA) considered various proposals that had been suggested by some countries in the South. These measures would have placed significant restrictions on the traditional operation of the patent system. The measures ranged from requiring patent pooling and royalty free compulsory licensing to excluding green technologies entirely from patenting – even retroactively revoking existing patent rights. See, e.g., Ad Hoc Working Group on Long-Term Cooperative Action Under the Convention, Ideas and proposals on the elements contained in paragraph 1 of the Bali Action Plan, 23 UNFCCC (2009); Ad Hoc Working Group on Long-Term Cooperative Action Under the Convention, Report of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention on its Seventh Session, UNFCCC Doc. No. FCCC/AWGLCA/2009/14, 156 (2009).

\*\*\*End Note 132\*\*\*

Although further amendment of the WTO Agreement on Trade Related Aspects of Intellectual Property (TRIPS Agreement) – as has been discussed by the United Nations Secretariat133 – is a theoretical possibility, consensus for adopting amendments in the short term is highly unlikely. Without such treaty amendments, countries (particularly those in the developing South) may seek to make greater use of existing TRIPS Agreement flexibilities to tailor their patent doctrines to assure access and to lower costs. They may adopt exclusions from patent eligibility, exceptions to patent rights, and alternatives to private licensing (such as a global technology pool). They also may expand access to publicly funded technologies to better promote technology development, transfer, and use.134 These options may provide greater ex ante predictability “in accessing technologies and [may] further enable much-needed research and development for local adaptation and dissemination, which would further reduce the cost of the technologies.” 135 Governments addressing private refusals to license patented technologies or high prices for access to those technologies may regulate such conduct directly, by adopting compulsory licenses or by imposing price control regulations.136 Alternatively, they may regulate such conduct indirectly, by treating restrictive or costly licensing as a competition violation (for example, as an abuse of dominant position) or by treating the patents themselves as essential facilities (that is, as products or services that are considered competitive necessities and for which access also can be required by compulsory licenses).13 Such direct or indirect regulation, moreover, may be largely ineffective in regard to assuring transfers of tacit knowledge.138 Both direct and indirect approaches to regulating access and prices will be highly controversial, and may threaten substantial trade retaliation or may prompt withholding by businesses of technology and foreign investment. Compulsory licensing, price regulation, and antitrust treatment have been repeatedly resisted by the United States and (somewhat less so) by other developed countries, particularly in foreign markets where the countries do not bear the costs but reap the benefits of technology exports.139 The developing South may be unwilling to resist such trade pressures, even if the threats and trade sanctions would be found illegal under WTO rules.140 These legal and political constraints bring us to proposals discussed in the next Part of this chapter, which emphasize private sector, voluntary initiatives to increase access and technology transfer, within a context of public sector laws and policies that promote innovation and access.

#### Wrecks the green tech market – need consistency to provide regulatory certainty

Choi 20 [Jay, University distinguished Prof in the Dept of Economics at Michigan State Univ, Prof in the School of Economics at Yonsei Univ, “Competition Law and Economics: International cooperation and convergence in competition policy,” in *Competition Law and Economics: Developments, Policies and Enforcement Trends in the US and Korea*, ed Jay Pil Choi et al, JCR]

Thus, it is a welcome development that more countries are adopting competition laws and plan to implement competition policies. For instance, when the International Competition Network (ICN, hereafter) was formed in 2001, only 16 competition agencies from 14 developed countries were participating members. The number now stands at 126 competition agencies from 111 jurisdictions (as of April 26, 2013).1 One of the most noteworthy developments on this front is China’s adoption of the Anti-Monopoly Law (AML), which took effect on August 1, 2008 after more than 10 years of drafting. However, promulgating competition law and setting up a competition agency, however, are not enough. In fact, mushrooming competition agencies in every country may turn out to be counterproductive if competition laws are applied in an inconsistent manner. As the globalization of the world economy entails a growing interdependence among national economies, a nation’s competition policies are no longer confined to domestic firms within the nation’s jurisdiction. With the prominence of multi-national firms, what counts is not the nationalities of firms but the locus of their economic effects. Antitrust authorities often take action against foreign firms if the firms affect competition in their jurisdictions. As a result, it is a distinct possibility that multinational firms may be subject to contradictory policies in the absence of policy harmonization among countries, which may significantly add to the complexity and costs of doing business and severely hamper the proper functioning of the market economy. In this paper, I discuss several issues that arise with “decentralized” enforcement of antitrust across jurisdictions due to the proliferation of independent antitrust authorities. These issues necessitate harmonization and coordination of policies in antitrust enforcement. However, divergence in economic conditions and policy goals in different jurisdictions presents a stumbling block in achieving harmonization in antitrust enforcement. Thankfully, economic analysis has a common methodology that is applicable across national boundaries in the assessment of antitrust enforcement effects. Antitrust law enforcement thus should be effects-based and be guided by the economic model of competition. The rest of the paper is organized as follows. In section II, I discuss potential pitfalls of antitrust proliferation with a focus on enforcement externalities. Section III considers specific enforcement areas in which enforcement externalities pose a serious problem. Section IV considers potential pathways to achieve policy harmonization across jurisdictions. I also briefly comments on the use of economics as a facilitating analytical tool in the harmonization of antitrust enforcement. Concluding remarks are contained in section V. The proliferation and potentially independent implementation of antitrust enforcement across more than a hundred different jurisdictions can lead to a variety of problematic issues, especially when the rules and enforcement procedures vary across jurisdictions. I will discuss some of the most important issues below, which call for harmonization of antitrust rules and cooperation among enforcement agencies. With the globalization of the economy and many multinational firms operating in so many different jurisdictions, the effects of an antitrust enforcement activity in one country is not necessarily confined to the country of enforcement. This often leads to what Geradin (2009) calls the “Strictest Regime Wins” problem and the risk of overregulation. To see the nature of the problem, imagine that there are two independent antitrust authorities in two different countries. Consider a unilateral conduct by a dominant firm such as tying or rebates. Let the effects of such a conduct on national welfare be W1 and W2, in country 1 and country 2, respectively. Such a conduct will be globally efficient if W1 + W2 ≥ 0. However, such a conduct will be prohibited and subject to antitrust enforcement in country i, if Wi < 0, where i = 1, 2. Suppose that a unilateral conduct confined to an individual country is not feasible. Then, the unilateral conduct in question will be allowed only when W1≥ 0 and W2 ≥ 0, 2 which is a more stringent condition to satisfy than W1 + W2 ≥ 0, and may lead to overregulation of unilateral conducts. The shaded areas in Figure 1 represent the overregulated areas. In both areas A and B, the unilateral conduct is globally efficient. However, the antitrust authority in country 1 prohibits such conduct in area A and the antitrust authority in country 2 does the same in area B. The same logic applies to other areas of antitrust enforcement. If we consider enforcement costs, the enforcement externalities can also lead to a collective decision dilemma and the concomitant free-rider problem in antitrust enforcement. To see this, let us now assume that the welfare effects of the unilateral conduct is the same and harmful for both countries, that is, W1 = W2 =W < 0. In addition, assume that there are enforcement costs C. Then, it is optimal to enforce against this conduct in one country as long as 2W + C < 0. There can be two types of inefficiencies. If W + C > 0 and 2W + C < 0, no country is willing to enforce against this conduct unilaterally because the cost of enforcement is not justified although the enforcement is globally efficient. In this case, the only way to enforce against this conduct is to share the enforcement costs between the two countries. If W + C < 0, each country is willing to unilaterally enforce against the conduct, but each country may have incentives to free ride on the other country’s enforcement efforts unless both countries can coordinate. Independent and uncoordinated antitrust enforcement can be a considerable burden for multinational firms operating in many different countries if the antitrust rules differ and/or procedural rules of enforcement vary across countries. Merger proposals may need to satisfy the conditions of the agency with the strictest antitrust rules. The same applies to unilateral conducts. A nightmare scenario may be the case where different agencies require conflicting rules that cannot be satisfied simultaneously. Multiple jurisdictions with independent agencies can also significantly increase the complexity of defense strategies of a firm that is investigated for an alleged antitrust violation. Defense lawyers need to be extra cautious so that a position taken in one country cannot be adversely used against the alleged company in other countries with different rules and procedures. The need to adopt a cohesive defense strategy in the face of many different antitrust rules may severely limit the ability to defend the alleged firms. Language can be another issue. The in-house general counsels of firms investigated for alleged conduct need to formulate coordinated defense strategies in multiple languages without anything being “lost in translation.” There is a broad consensus that the main objective of antitrust enforcement should be the protection of consumers. However, there may be countries that pursue additional or different objectives with antitrust policies, which would certainly create inconsistencies in the policy implementation. For instance, the newly enacted Antitrust Monopoly Law (AML) in China states that one of its objectives is to “promote the socialist market economy.“ Considering the growing importance and influence of the Chinese economy, it may be a concern if the antitrust authority in China actively pursues this objective, even though it is too early to tell. Its merger review also considers among other factors the "effect on the development of the national economy and public interest." It remains to be seen how this consideration will affect actual merger decisions in China. Even in countries where the stated goal of antitrust authorities is purely the protection of consumers, we cannot rule out the possibility that antitrust authorities misuse their power for other purposes or succumb to “regulatory capture,” to which any regulatory agency is susceptible. This possibility is especially worrisome in developing countries where antitrust authorities are not completely independent and usually political appointees. First, there is a concern that antitrust decisions can be used as a disguised protectionist policy. This is especially so in antitrust cases that pit domestic firms against foreign multinational firms and domestic firms have previously been shielded from foreign competition. In such cases, antitrust policy could be enforced in a discriminatory fashion against foreign companies as an instrument of protectionist policy. Second, politically-minded and overzealous enforcement officials may also see high-profile antitrust cases (especially those against foreign multinationals) as a stepping stone that leads to promotion in their bureaucratic or political career. They can use such an opportunity to portray themselves as crusaders who bravely stand against powerful foreign multinationals to protect domestic interests. There could be a race to be the toughest in an attempt to be a relevant player, which can preclude many pro-competitive mergers and single firm conducts. Finally, the lack of uniform antitrust enforcement across jurisdictions raises the possibility of “forum shopping” in the presence of antitrust enforcement externalities. With multiple antitrust authorities in different jurisdictions, competitors of the merging parties or an allegedly dominant firm have incentives to bring the case to the antitrust authority with the most sympathetic ear, which ensures that the strictest antitrust rule is enforced in the global economy. In this section, I focus on three important classes of antitrust enforcement in which enforcement externalities become a problem due to the proliferation of antitrust agencies. If multiple antitrust jurisdictions are in place, enforcement externalities naturally arise in cases of international mergers. The increasingly global nature of business transactions has resulted in a growing number of mergers falling under multiple jurisdictions and corresponding competition authorities. This inevitably invites potential conflicts among competition authorities. For instance, the European Commission can block or force changes to company mergers and takeovers, even when they do not involve any European firms, if they are deemed to adversely affect the competitive landscape in the European market.4 The same applies to US antitrust authorities such as the Department of Justice and the Federal Trade Commission. They routinely take actions against foreign firms if the firms’ actions harm competition and adversely affect consumers in the US market.5 The current situation naturally raises concerns about the potential for intergovernmental disagreements about the effects of antitrust actions. This type of potential conflict is best illustrated by the proposed merger between General Electric (GE) and Honeywell, which was approved in the U.S., but blocked by the European Commission.6 With the proliferation of antitrust authorities that enforce merger regulations, this type of conflict can only be magnified. As of 2001, the American Bar Association identified 46 international merger notification requirements.7 China is now an active player in this area. For instance, the Anti-Monopoly Bureau of the Ministry of Commerce (“MOFCOM”) reviews the filing of “concentration of operators” under the AML and recently denied the acquisition of Huiyuan by Coca-Cola by claiming that Coca-Cola would have the ability to transmit its dominant position in the soda soft beverage market into the juice beverage market. 8 The proliferation of decentralized antitrust enforcement agencies implies that any merger between large multinational firms that have a presence in any of these countries needs to notify and receive approvals without any single exception; any veto from any of these countries can torpedo the proposed merger. The problem with the current regime without any harmonization of policies is that any international merger will essentially be determined by the least permissive agency without any considerations of its effect on consumers in other jurisdictions. This decision mechanism is likely to be inefficient, and the degree of inefficiency will be exacerbated as more agencies are involved, since the view reflected in the decision would be the one most extreme. This is true even if all antitrust agencies pursue the same economic goal (either social or consumer welfare maximization) without any political considerations and the effects of mergers are uniform across jurisdictions. If we consider the outcome of each investigation as an independent estimate of the effects of the proposed merger, the best estimate in the statistical sense would be the average view unless there is any systematic bias in the evaluation process. With the current system, however, the merger enforcement would be driven by the first order statistic, i.e., by the competition authority with the most pessimistic view about the proposed merger. Even if there is no uncertainty in the evaluation of the effects of mergers, there could be conflicts if the effects of mergers are not uniform across jurisdictions. Suppose that there is a proposed merger that affects two countries, 1 and 2. The welfare impacts of the merger on each country are given by W1 and W2. As discussed above, the merger is globally efficient if and only if W1 + W2 ≥ 0. However, the merger will be approved if and only if W1≥ 0 and W2 ≥ 0 under the current system. The latter condition is more stringent than the former condition, which implies that efficient mergers can be blocked since each agent ignores external effects. Once again, the scope of this type of inefficiency certainly increases as more agencies are involved. The issue of externalities also arises in the context of single firm conduct. As in the merger cases, the decision of one agency may have positive or negative impacts on consumers in other jurisdictions. If a country has no antitrust enforcement, other countries’ enforcement against unilateral conduct can have positive effects on the country’s welfare. However, if the country also has an active enforcement agency and deeds a firm’s unilateral conduct efficient and welfare-enhancing, other countries’ enforcements against the same conduct can eliminate efficiency-enhancing business practice by the firm, leading to overregulation. Recent examples in which the U.S. antitrust agencies and the EC made divergent decisions include the British Airways conditional rebate case. In the US, the rebate scheme used by British Airways was deemed to be permissible but the same conduct was condemned to be anticompetitive by the EC.9 Intel was another case in which the conduct was deemed lawful in the US, but condemned to be anticompetitive in Europe and Korea. The Microsoft case is another example in which the company was subject to allegations of antitrust violations in multiple jurisdictions and faced different remedies that are not necessarily consistent. In antitrust cases that involve intellectual property rights [IPRs], additional issues may arise. As an example, consider the case of compulsory licensing as an antitrust remedy to solve an interoperability problem.10 When an “essential facility” is a physical property, the access can be limited to a particular geographic area. Thus, the issue of different antitrust approaches can be confined to the areas of dissonance without affecting others. In contrast, if the essential facility is intellectual property, limiting the use of the property in other areas or related fields may be difficult. To use the example of the Microsoft case in Europe, it would be impractical to enforce that the interoperability information shared with third party vendors of Windows server software be limited to the products sold only in Europe. Thus, compulsory licensing enforced in Europe can affect competitive conditions in other areas as well. This also raises the possibility of “forum shopping,” as explained above. With multiple antitrust authorities in different jurisdictions, competitors of the essential facility owner have incentives to bring the case to the antitrust authority with the most sympathetic ear for the competitors. This possibility highlights the need to harmonize competition policies across jurisdictions. There is a near consensus that the first priority of antitrust enforcement should be to combat price fixing, and the economic harms caused by hard core cartels are universally recognized. Thus, there is less conflict in this area among antitrust agencies. In addition, the enforcement in this area usually confers positive benefits on other countries. The main issue in this area is underenforcement rather than over-enforcement. When multinational firms operate in several jurisdictions in the presence of arbitrage opportunities across markets, the sustainability of collusion in one local market can be affected by the existence of collusion in other markets. Consider, for example, the vitamin cartel case of Empagran S.A. v. F. Hoffman-LaRoche. Empagran S.A. of Ecuador and other foreign companies (that purchase and resell vitamins) filed a suit against F. Hoffman-LaRoche of Switzerland and numerous other foreign companies for an alleged international price-fixing conspiracy.11 The case concerned a price-fixing conspiracy that allegedly took place overseas even though the case itself was filed in a US federal district court. The foreign plaintiffs, suing under the U.S. Foreign Trade Antitrust Improvement Act (FTAIA), claimed that "the cartel raised prices around the world in order to keep prices in equilibrium with United States prices in order to avoid a system of arbitrage" and therefore that "the foreign plaintiffs were injured as a direct result of the increases in United States prices even though they bought vitamins abroad." The interdependence of cartel stability across markets leads to potential externalities in antitrust enforcement across jurisdictions with independent antitrust authorities. For instance, cartel detection and desistance in one market can lead to cartel breakdown in other markets, conferring positive externalities. The domino effect may induce each antitrust agency to free ride on other agencies’ enforcement efforts. This calls for cooperation and coordination among antitrust agencies to eliminate a collective decision problem. To understand the nature of the free-rider problem when there are enforcement costs, consider the following simple cartel enforcement game. There are two antitrust agencies that must decide whether or not to spend resources on cartel detection and prosecution. For simplicity, let me assume that the welfare effect of a hardcore cartel on consumers is the same across jurisdictions. Let us denote the welfare loss due to the cartel in each country by L. The cartel should desist, but the agency’s enforcement cost is C. The game can be described by the following matrix (Table 1). Each enforcement agency independently decides whether or not to enforce. We assume that the cartel in both countries can be broken up by enforcement in any one of the two countries due to the domino effect. We further assume that L > C >0, which implies that the cartel enforcement is beneficial in each country if there is no other enforcement agency. There are multiple equilibria in this game, with two asymmetric pure strategy equilibria and one symmetric mixed strategy equilibrium. In the two asymmetric pure strategy equilibria, one agency enforces while the other chooses not to, and the resulting equilibrium is efficient. However, the most natural equilibrium may be the symmetric mixed strategy equilibrium since both agencies are symmetric in this game. Without any coordination and information sharing, the unique, symmetric equilibrium is that each agency enforces with probability p = L C L − . With the symmetric mixed strategy equilibrium, however, we have a coordination failure and the price fixing will continue with probability (1-p)2 . Another source of inefficiency with independent investigations is the possibility of duplicative efforts in the event that both agencies decide to enforce, which occurs with probability p 2 . In this stylized situation, it would be beneficial for both parties to consider the designation of a “lead agency” to eliminate duplication and streamline the process. All the reasons listed above support a more integrated approach in the enforcement of international mergers. In addition, information sharing among antitrust authorities would be a very important tool in the fight against hardcore cartels. Information sharing arrangements would allow antitrust agencies to coordinate their investigative strategies and provide them with access to subjects, evidence, and witnesses that are located outside each country’s borders.12 In previous sections, we pointed out potential perils from the proliferation of antitrust agencies and emphasized the need for policy harmonization and coordination across jurisdictions. It is important not to impose any additional burden on businesses with unnecessary regulatory uncertainty. Different substantive and procedural regimes make conducting businesses with an international locus of effects complex, time consuming, and expensive. Clear and consistent standards across jurisdictions will facilitate global businesses and eliminate any bureaucratic burdens associated with uncertainty. Given this broad consensus on the high desirability of a uniform substantive and procedural antitrust regime, the difficult question is a more practical one of how we can achieve the needed policy harmonization among countries with sovereign rights.

#### Slow growth goes nuclear – drives nationalist tensions, miscalculation, and makes cooperation impossible.

**Landay 17** (Jonathan – Reuters National Security Correspondent, 1/9/17, “U.S. intelligence study warns of growing conflict risk”, <https://www.reuters.com/article/us-usa-intelligence-future-idUSKBN14T1J4>)

WASHINGTON (Reuters) - The risk of conflicts between and within nations will increase over the next five years to levels not seen since the Cold War **as global growth slows**, the post-World War Two order erodes and anti-globalization fuels nationalism, said a U.S. intelligence report released on Monday. “These trends will converge at an unprecedented pace to make governing and cooperation harder and to change the nature of power – fundamentally altering the global landscape,” said “Global Trends: Paradox of Progress,” the sixth in a series of quadrennial studies by the U.S. National Intelligence Council. The findings, published less than two weeks before U.S. President-elect Donald Trump takes office on Jan. 20, outlined factors shaping a “dark and difficult near future,” including a more assertive Russia and China, regional conflicts, terrorism, rising income inequality, climate change and sluggish economic growth. Global Trends reports deliberately avoid analyzing U.S. policies or choices, but the latest study underscored the complex difficulties Trump must address in order to fulfill his vows to improve relations with Russia, level the economic playing field with China, return jobs to the United States and defeat terrorism. The National Intelligence Council comprises the senior U.S. regional and subject-matter intelligence analysts. It oversees the drafting of National Intelligence Estimates, which often synthesize work by all 17 intelligence agencies and are the most comprehensive analytic products of U.S intelligence. The study, which included interviews with academic experts as well as financial and political leaders worldwide, examined political, social, economic and technological trends that the authors project will shape the world from the present to 2035, and their potential impact. ‘INWARD-LOOKING WEST’ It said the threat of terrorism would grow in coming decades as small groups and individuals harnessed “new technologies, ideas and relationships.” Uncertainty about the United States, coupled with an “inward-looking West” and the weakening of international human rights and conflict prevention standards, will encourage China and Russia to challenge American influence, the study added. Those challenges “will stay below the threshold of hot war but bring profound risks of miscalculation,” the study warned. “Overconfidence that material strength can manage escalation will increase the risks of interstate conflict to levels not seen since the Cold War.” While “hot war” may be avoided, differences in values and interests among states and drives for regional dominance “are leading to a spheres of influence world,” it said, The latest Global Trends, the subject of a Washington conference, added that the situation also offered opportunities to governments, societies, groups and individuals to make choices that could bring “more hopeful, secure futures.” “As the paradox of progress implies, the same trends generating near-term risks also can create opportunities for better outcomes over the long term,” the study said. THE HOME FRONT The report also said that while globalization and technological advances had “enriched the richest” and raised billions from poverty, they had also “hollowed out” Western middle classes and ignited backlashes against globalization. Those trends have been compounded by the largest migrant flows in seven decades, which are stoking “nativist, anti-elite impulses.” “Slow growth plus technology-induced disruptions in job markets will threaten poverty reduction and drive tensions within countries in the years to come, fueling the very nationalism that contributes to tension between counties,” it said. The trends shaping the future include contractions in the working-age populations of wealthy countries and expansions in the same group in poorer nations, especially in Africa and South Asia, increasing economic, employment, urbanization and welfare pressures, the study said. The world will also continue to experience weak near-term growth as governments, institutions and businesses struggle to overcome fallout from the Great Recession, the study said. “Major economies will confront shrinking workforces and diminishing productivity gains while recovering from the 2008-09 financial crisis with high debt, weak demand, and doubts about globalization,” said the study. “China will attempt to shift to a consumer-driven economy from its longstanding export and investment focus. Lower growth will threaten poverty reduction in developing counties.” Governance will become more difficult as issues, including global climate change, environmental degradation and health threats demand collective action, the study added, while such cooperation becomes harder.

#### Concessions on IP licensing restores WTO credibility – key to pandemic recovery and ensures developing country transition to green tech

Okonjo-Iweala 21 (Ngozi Okonjo-Iweala, director-general of the World Trade Organization, 3-2-2021, Ngozi Okonjo-Iweala: WTO members must intensify co-operation, Financial Times, <https://www.ft.com/content/0654600f-92cc-47ad-bfe6-561db88f7019>, MAM)

On Monday I became the first woman and the first African to lead the World Trade Organization. Now we must roll up our sleeves and get to work. The WTO already faced acute challenges, and they have been **amplified by Covid-19.** The pandemic has wreaked havoc on the global economy, affecting supply chains and disrupting transport and travel. The crisis has upended trade and economic activities, leading to job losses and reduced incomes around the world. It has erased years of economic gains made by developing countries and even decades of growth in some low income and least-developed countries. There is hope on the horizon. The WTO expects world merchandise trade to rebound strongly this year. The IMF forecasts an 8 per cent growth in global trade volumes in 2021 and a 6 per cent growth in 2022. It estimates global gross domestic product to rebound from falling 4.4 per cent in 2020 to growing 5.5 per cent in 2021. However, for the global economy to return to sustained growth, we must intensify co-operation to ensure equitable and affordable access to vaccines, therapeutics and diagnostics. The WTO can and must play a more forceful role in encouraging members to minimise or remove export restrictions and prohibitions that hinder supply chains for medical goods and equipment. WTO members have a further responsibility to reject vaccine nationalism and protectionism while co-operating on promising new treatments and vaccines. We must find a “third way” on intellectual property that preserves the multilateral rules **that encourage research and innovation while promoting licensing agreements** to help scale-up manufacturing of medical products. Some pharmaceutical companies such as AstraZeneca, Johnson & Johnson and the Serum Institute of India are already doing this. More broadly, WTO members agree that the organisation needs reforms. But a lack of trust means they do not agree on what changes are needed or their sequencing. If we are to restore the WTO's credibility, we must set aside our differences and agree on reforms when trade ministers meet later this year. We must contribute to ocean sustainability by agreeing to eliminate harmful fisheries subsidies which lead to too many vessels chasing too few fish. A robust deal will signal that **the WTO is back** and that it can conclude a multilateral agreement vital for future generations. The WTO cannot afford to stumble over this; the negotiations have been going on for 20 years. This is far too long. Absent an agreement, there will be no fish left over which to argue. The dispute settlement system has been central to the security and predictability of multilateral trade. But it needs reform and ministers need to agree this year on the nature of these reforms and how to make them. The WTO rule book must be updated to take account of 21st-century realities such as the digital economy. The pandemic has accelerated the use of ecommerce, enabling women and small and medium-sized enterprises to participate in international trade. But we must bridge the digital divide that makes some developing countries reluctant to join the ecommerce negotiations. Negotiations among some WTO members on facilitating investment and removing regulatory red tape in services trade have continued fairly intensively despite the pandemic. Participants need to broaden the support for these initiatives and attract interest from developing countries with the aim of concluding talks by the end of the year. More can be done to ensure the WTO addresses the nexus between **trade and climate change**. Members should reactivate and broaden **the negotiations** on environmental goods and services. But climate-related restrictions cannot become disguised restrictions on trade, and we must assist developing countries as they transition to the use of more environmentally friendly technologies. The WTO’s work in new or innovative areas does not mean that we have forgotten traditional topics such as agriculture. Improving market access for export products and dealing with trade-distorting farm subsidies remain of paramount importance to developing and least-developed countries. One area ripe for early agreement involves the removal of export restrictions on farm products purchased for humanitarian purposes by the World Food Programme. Ensuring that government support for state-owned industrial enterprises does not distort competition is also a top priority for many WTO members. The WTO faces numerous tricky challenges, but **they are not insurmountable**. There is hope if we work together in a manner that builds trust and builds bridges.

#### WTO leadership is tanked and risks trade collapse, but now is an opportune moment for recovery – the plan boosts U.S. leadership which solves a litany of existential threats.

Hillman 10/28 (Jennifer Hillman is a senior fellow at the Council on Foreign Relations, a professor at Georgetown Law and a former member of the WTO Appellate Body, Inu Manak is a research fellow at the Cato Institute’s Herbert A. Stiefel Center for Trade Policy Studies, 10-25-2021, The future of world trade depends on US leadership, TheHill, <https://thehill.com/opinion/finance/578057-the-future-of-world-trade-depends-on-us-leadership?rl=1>) MAM

The fate of the world’s leading trade institution hangs in the balance. The World Trade Organization (WTO) has been in a state of sustained, low-burning crisis for nearly five years. And in less than two months, trade ministers will gather in Geneva with the hope of reviving it by concluding negotiations on a wide range of issues. Failure to achieve meaningful results **could hasten the WTO’s slide toward** irrelevance in setting or maintaining the basic rules of international trade. Working in favor of a positive outcome is the energy brought by the new director-general, Dr. Ngozi Okonjo-Iweala, who has been tireless in her efforts to bring countries together to produce substantial agreements by year’s end. But her role as leader of the organization is limited and, in the end, it is the countries that make up the WTO’s membership that ultimately will decide whether the 12th Ministerial Conference (MC 12) will be a success or failure. One country in particular is vital to these efforts. In the past, the United States has played a key role in getting talks across the finish line with a mix of practical solutions and diplomatic persuasion. The concern is that, this time around, the United States so far has fallen short of providing leadership when it is needed most. Ambassador Katherine Tai, the United States’s top trade diplomat, recently made her inaugural visit as United States Trade Representative to the WTO’s home in Geneva, offering welcome words affirming the United States’s commitment to the WTO and outlining key areas needing resolution at MC-12. These included issues related to fighting the COVID-19 pandemic, an agreement to curb massive subsidies that deplete our oceans of fish, and the need to reform the WTO as an institution. The question now is whether the United States will move beyond the right words to do the heavy lifting it will take to bring resolution. Among the difficulties for Ambassador Tai is that the United States is not starting from a position of strength. Her predecessor, Robert Lighthizer, never visited the WTO during his tenure and did little to hide his apparent disdain for the institution. The United States blocked all appointments to the WTO’s Appellate Body, leaving it hamstrung. While both the Trump administration and Ambassador Tai have said much on what the United States believes the Appellate Body has done wrong, neither has offered solutions to fix it. Now is the time for the United States to lead others on a defined, time-limited reform path through agreement at MC-12 to undertake specific reforms of the WTO’s dispute settlement system as part of a larger program to create a more **efficient, effective, transparent and flexible WTO**. When it comes to the trading system making affirmative contributions to fighting the COVID-19 pandemic, the United States is perceived to have poisoned the well by supporting a waiver on intellectual property rules for the production of COVID-19 vaccines, while doing little to ensure that negotiations on the waiver are successful. With only seven weeks until MC-12, the United States must offer solutions to **bridge the gaps** between India, South Africa and others seeking a broad waiver and those such as the European Union (EU) that fear the impact on long-term incentives for research and development, while working for a package that limits restrictions and facilitates trade in medical supplies, vaccines, personal protective equipment (PPE) and their supply chains. And perhaps the most critical of the agreements that must be reached at the MC-12 meeting — a deal to curb subsidies that have resulted in overfishing that depletes fish stocks worldwide — is being blocked by India, which has pushed for blanket exemptions to the rules that would undermine the entire agreement. Complicating matters is a proposal by the United States raising some important concerns on forced labor, which has come late in process and may not belong in a subsidies deal. Pushing for its inclusion may upend cooperation with China, with $7.3 billion in government support for its vast fishing fleet, which is essential for the agreement’s success. Fish are not only important for feeding people and providing jobs, but healthy oceans are also critical to tackling climate change. Whales provide a startling example. A 2019 report in the International Monetary Fund’s Finance and Development magazine noted that, over its lifetime, “each great whale sequesters 33 tons of CO2, on average, taking that carbon out of the atmosphere for centuries. A tree, meanwhile, absorbs only up to 48 pounds of CO2 a year.” A successful fisheries agreement not only would ensure access to viable fishing waters for America’s 39,000 commercial fisherwomen and men and contribute to the fight against climate change, but also would be a powerful demonstration that WTO members are capable of reaching agreements at the intersection of trade, environmental sustainability and development. This is where the United States can step in. By exerting leadership and offering constructive proposals to resolve this and other logjams, the weight of the United States can and must be used to put pressure on India to cooperate. The text of the agreement is nearly complete — the only obstacle that remains is political and it can be overcome if the U.S. steps up to the plate. In the end, the WTO would not have been created, and cannot move forward, without U.S. leadership. For a successful outcome at the WTO this year, the U.S. must learn to lead again.

#### Trade conflict and institutional fallout guarantee nuclear war and deck conflict management.

Dr. Michael F. Oppenheimer 21, Clinical Professor at the Center for Global Affairs at New York University, Senior Consulting Fellow for Scenario Planning at the International Institute for Strategic Studies, Former Executive Vice President at The Futures Group, Member of the Council on Foreign Relations, The Foreign Policy Roundtable at the Carnegie Council on Ethics and International Affairs, and The American Council on Germany, “The Turbulent Future of International Relations”, in The Future of Global Affairs: Managing Discontinuity, Disruption and Destruction, Ed. Ankersen and Sidhu, p. 23-30, recut by MAM

Four structural forces will shape the future of International Relations: globalization (but without liberal rules, institutions, and leadership)1; multipolarity (the end of American hegemony and wider distribution of power among states and non-states2); the strengthening of distinctive, national and subnational identities, as persistent cultural differences are accentuated by the disruptive effects of Western style globalization (what Samuel Huntington called the “non-westernization of IR”3); and secular economic stagnation, a product of longer term global decline in birth rates combined with aging populations.4 These structural forces do not determine everything. Environmental events, global health challenges, internal political developments, policy mistakes, technology breakthroughs or failures, will intersect with structure to define our future. But these four structural forces will impact the way states behave, in the capacity of great powers to manage their differences, and to act collectively to settle, rather than exploit, the inevitable shocks of the next decade.

Some of these structural forces could be managed to promote prosperity and avoid war. Multipolarity (inherently more prone to conflict than other configurations of power, given coordination problems)5 plus globalization can work in a world of prosperity, convergent values, and effective conflict management. The Congress of Vienna system achieved relative peace in Europe over a hundred-year period through informal cooperation among multiple states sharing a fear of populist revolution. It ended decisively in 1914. Contemporary neoliberal institutionalists, such as John Ikenberry, accept multipolarity as our likely future, but are confident that globalization with liberal characteristics can be sustained without American hegemony, arguing that liberal values and practices have been fully accepted by states, global institutions, and private actors as imperative for growth and political legitimacy.6 Divergent values plus multipolarity can work, though at significantly lower levels of economic growth-in an autarchic world of isolated units, a world envisioned by the advocates of decoupling, including the current American president. 7 Divergent values plus globalization can be managed by hegemonic power, exemplified by the decade of the 1990s, when the Washington Consensus, imposed by American leverage exerted through the IMF and other U.S. dominated institutions, overrode national differences, but with real costs to those states undergoing “structural adjustment programs,”8 and ultimately at the cost of global growth, as states—especially in Asia—increased their savings to self insure against future financial crises.9

But all four forces operating simultaneously will produce a future of increasing internal polarization and cross border conflict, diminished economic growth and poverty alleviation, weakened global institutions and norms of behavior, and reduced collective capacity to confront emerging challenges of global warming, accelerating technology change, nuclear weapons innovation and proliferation. As in any effective scenario, this future is clearly visible to any keen observer. We have only to abolish wishful thinking and believe our own eyes.10

Secular Stagnation

This unbrave new world has been emerging for some time, as US power has declined relative to other states, especially China, global liberalism has failed to deliver on its promises, and totalitarian capitalism has proven effective in leveraging globalization for economic growth and political legitimacy while exploiting technology and the state’s coercive powers to maintain internal political control. But this new era was jumpstarted by the world financial crisis of 2007, which revealed the bankruptcy of unregulated market capitalism, weakened faith in US leadership, exacerbated economic deprivation and inequality around the world, ignited growing populism, and undermined international liberal institutions. The skewed distribution of wealth experienced in most developed countries, politically tolerated in periods of growth, became intolerable as growth rates declined. A combination of aging populations, accelerating technology, and global populism/nationalism promises to make this growth decline very difficult to reverse. What Larry Summers and other international political economists have come to call “secular stagnation” increases the likelihood that illiberal globalization, multipolarity, and rising nationalism will define our future. Summers11 has argued that the world is entering a long period of diminishing economic growth. He suggests that secular stagnation “may be the defining macroeconomic challenge of our times.” Julius Probst, in his recent assessment of Summers’ ideas, explains:

…rich countries are ageing as birth rates decline and people live longer. This has pushed down real interest rates because investors think these trends will mean they will make lower returns from investing in future, making them more willing to accept a lower return on government debt as a result.

Other factors that make investors similarly pessimistic include rising global inequality and the slowdown in productivity growth…

This decline in real interest rates matters because economists believe that to overcome an economic downturn, a central bank must drive down the real interest rate to a certain level to encourage more spending and investment… Because real interest rates are so low, Summers and his supporters believe that the rate required to reach full employment is so far into negative territory that it is effectively impossible.

…in the long run, more immigration might be a vital part of curing secular stagnation. Summers also heavily prescribes increased government spending, arguing that it might actually be more prudent than cutting back – especially if the money is spent on infrastructure, education and research and development.

Of course, governments in Europe and the US are instead trying to shut their doors to migrants. And austerity policies have taken their toll on infrastructure and public research. This looks set to ensure that the next recession will be particularly nasty when it comes… Unless governments change course radically, we could be in for a sobering period ahead.12

The rise of nationalism/populism is both cause and effect of this economic outlook. Lower growth will make every aspect of the liberal order more difficult to resuscitate post-Trump. Domestic politics will become more polarized and dysfunctional, as competition for diminishing resources intensifies. International collaboration, ad hoc or through institutions, will become politically toxic. Protectionism, in its multiple forms, will make economic recovery from “secular stagnation” a heavy lift, and the liberal hegemonic leadership and strong institutions that limited the damage of previous downturns, will be unavailable. A clear demonstration of this negative feedback loop is the economic damage being inflicted on the world by Trump’s trade war with China, which— despite the so-called phase one agreement—has predictably escalated from negotiating tactic to imbedded reality, with no end in sight. In a world already suffering from inadequate investment, the uncertainties generated by this confrontation will further curb the investments essential for future growth. Another demonstration of the intersection of structural forces is how populist-motivated controls on immigration (always a weakness in the hyper-globalization narrative) deprives developed countries of Summers’ recommended policy response to secular stagnation, which in a more open world would be a win-win for rich and poor countries alike, increasing wage rates and remittance revenues for the developing countries, replenishing the labor supply for rich countries experiencing low birth rates.

Illiberal Globalization

Economic weakness and rising nationalism (along with multipolarity) will not end globalization, but will profoundly alter its character and greatly reduce its economic and political benefits. Liberal global institutions, under American hegemony, have served multiple purposes, enabling states to improve the quality of international relations and more fully satisfy the needs of their citizens, and provide companies with the legal and institutional stability necessary to manage the inherent risks of global investment. But under present and future conditions these institutions will become the battlegrounds—and the victims—**of geopolitical competition.** The Trump Administration’s frontal attack on multilateralism is but the final nail in the coffin of the Bretton Woods system in trade and finance, which has been in slow but accelerating decline since the end of the Cold War. Future American leadership may embrace renewed collaboration in global trade and finance, macroeconomic management, environmental sustainability and the like, but repairing the damage requires the heroic assumption that America’s own identity has not been fundamentally altered by the Trump era (four years or eight matters here), and by the internal and global forces that enabled his rise. The fact will remain that a sizeable portion of the American electorate, and a monolithically pro- Trump Republican Party, is committed to an illiberal future. And even if the effects are transitory, the causes of weakening global collaboration are structural, not subject to the efforts of some hypothetical future US liberal leadership. It is clear that the US has lost respect among its rivals, and trust among its allies. While its economic and military capacity is still greatly superior to all others, its political dysfunction has diminished its ability to convert this wealth into effective power.13 It will furthermore operate in a future system of diffusing material power, diverging economic and political governance approaches, and rising nationalism. Trump has promoted these forces, but did not invent them, and future US Administrations will struggle to cope with them.

What will illiberal globalization look like? Consider recent events. The instruments of globalization have been weaponized by strong states in pursuit of their geopolitical objectives. This has turned the liberal argument on behalf of globalization on its head. Instead of interdependence as an unstoppable force pushing states toward collaboration and convergence around market-friendly domestic policies, states are exploiting interdependence to inflict harm on their adversaries, and even on their allies. The increasing interaction across national boundaries that globalization entails, now produces not harmonization and cooperation, but friction and escalating trade and investment disputes.14 The Trump Administration is in the lead here, but it is not alone. Trade and investment friction with China is the most obvious and damaging example, precipitated by China’s long failure to conform to the World Trade Organization (WTO) principles, now escalated by President Trump into a trade and currency war disturbingly reminiscent of the 1930s that Bretton Woods was designed to prevent. Financial sanctions against Iran, in violation of US obligations in the Joint Comprehensive Plan Of Action (JCPOA), is another example of the rule of law succumbing to geopolitical competition. Though more mercantilist in intent than geopolitical, US tariffs on steel and aluminum, and their threatened use in automotives, aimed at the EU, Canada, and Japan,15 are equally destructive of the liberal system and of future economic growth, imposed as they are by the author of that system, and will spread to others. And indeed, Japan has used export controls in its escalating conflict with South Korea16 (as did China in imposing controls on rare earth,17 and as the US has done as part of its trade war with China). Inward foreign direct investment restrictions are spreading. The vitality of the WTO is being sapped by its inability to complete the Doha Round, by the proliferation of bilateral and regional agreements, and now by the Trump Administration’s hold on appointments to WTO judicial panels. It should not surprise anyone if, during a second term, Trump formally withdrew the US from the WTO. At a minimum it will become a “dead letter regime.”18

As such measures gain traction, it will become clear to states—and to companies—that a global trading system more responsive to raw power than to law entails escalating risk and diminishing benefits. This will be the end of economic globalization, and its many benefits, as we know it. It represents nothing less than the subordination of economic globalization, a system which many thought obeyed its own logic, to an international politics of zero-sum power competition among multiple actors with divergent interests and values. The costs will be significant: Bloomberg Economics estimates that the cost in lost US GDP in 2019- dollar terms from the trade war with China has reached $134 billion to date and will rise to a total of $316 billion by the end of 2020.19 Economically, the just-in-time, maximally efficient world of global supply chains, driving down costs, incentivizing innovation, spreading investment, integrating new countries and populations into the global system, is being Balkanized. Bilateral and regional deals are proliferating, while global, nondiscriminatory trade agreements are at an end.

Economies of scale will shrink, incentivizing less investment, increasing costs and prices, compromising growth, marginalizing countries whose growth and poverty reduction depended on participation in global supply chains. A world already suffering from excess savings (in the corporate sector, among mostly Asian countries) will respond to heightened risk and uncertainty with further retrenchment. The problem is perfectly captured by Tim Boyle, CEO of Columbia Sportswear, whose supply chain runs through China, reacting to yet another ratcheting up of US tariffs on Chinese imports, most recently on consumer goods:

We move stuff around to take advantage of inexpensive labor. That’s why we’re in Bangladesh. That’s why we’re looking at Africa. We’re putting investment capital to work, to get a return for our shareholders. So, when we make a wager on investment, this is not Vegas. We have to have a reasonable expectation we can get a return. That’s predicated on the rule of law: where can we expect the laws to be enforced, and for the foreseeable future, the rules will be in place? That’s what America used to be.20

The international political effects will be equally damaging. The four structural forces act on each other to produce the more dangerous, less prosperous world projected here. Illiberal globalization represents geopolitical conflict by (at first) physically non-kinetic means. It arises from intensifying competition among powerful states with divergent interests and identities, but in its effects drives down growth and fuels increased nationalism/populism, which further contributes to conflict. Twenty-first-century protectionism represents bottom-up forces arising from economic disruption. But it is also a top-down phenomenon, representing a strategic effort by political leadership to reduce the constraints of interdependence on freedom of geopolitical action, in effect a precursor and enabler of war. This is the disturbing hypothesis of Daniel Drezner, argued in an important May 2019 piece in Reason, titled “Will Today’s Global Trade Wars Lead to World War Three,”21 which examines the pre- World War I period of heightened trade conflict, its contribution to the disaster that followed, and its parallels to the present:

Before the First World War started, powers great and small took a variety of steps to thwart the globalization of the 19th century. Each of these steps made it easier for the key combatants to conceive of a general war. We are beginning to see a similar approach to the globalization of the 21st century. One by one, the economic constraints on military aggression are eroding. And too many have forgotten—or never knew—how this played out a century ago.

…In many ways, 19th century globalization was a victim of its own success. Reduced tariffs and transport costs flooded Europe with inexpensive grains from Russia and the United States. The incomes of landowners in these countries suffered a serious hit, and the Long Depression that ran from 1873 until 1896 generated pressure on European governments to protect against cheap imports.

…The primary lesson to draw from the years before 1914 is not that economic interdependence was a weak constraint on military conflict. It is that, even in a globalized economy, governments can take protectionist actions to reduce their interdependence in anticipation of future wars. In retrospect, the 30 years of tariff hikes, trade wars, and currency conflicts that preceded 1914 were harbingers of the devastation to come. European governments did not necessarily want to ignite a war among the great powers. By reducing their interdependence, however, they made that option conceivable.

…the backlash to globalization that preceded the Great War seems to be reprised in the current moment. Indeed, there are ways in which the current moment is scarier than the pre-1914 era. Back then, the world’s hegemon, the United Kingdom, acted as a brake on economic closure. In 2019, the United States is the protectionist with its foot on the accelerator. The constraints of Sino-American interdependence—what economist Larry Summers once called “the financial balance of terror”—no longer look so binding. And there are far too many hot spots—the Korean peninsula, the South China Sea, Taiwan—where the kindling seems awfully dry.

### Climate

#### Plan key to solve climate change – ‘refusal to license’ is the roadblock to all solutions

Cayton 20 [Samuel, Adjunct Prof at Seattle Univ School of Law, legal intern at the Media Law Group, “The ‘Green Patent Paradox’ and Fair Use: The Intellectual Property Solution to Fight Climate Change,” *Seattle Journal of Technology, Environmental & Innovation Law* 11.1, p.218-22, JCR]

The justification for a patent holder’s right to exclude rests on the principle that it promotes innovation by giving the inventor an incentive to use their invention and benefit the public.30 However, while patent law assumes patent holders will efficiently license their technologies to make the best use of its potential, this notion is not always true.31 Even with the U.S. antitrust system geared toward preventing an entity’s full market control over products, patent grants give the rightsholder the power to exclude others from unauthorized secondary use of that technology.32 Furthermore, the refusal to license is not a defense against patent infringement in a lawsuit.33 If this principle is carried out to its fullest extent, there could be a prohibitive effect on initiatives to combat climate change. Globally, companies have filed numerous green patents at varying rates among specific subsectors.34 While trends show that green patent applications are declining in part because of delays in research and development (R&D) and investment,35 certain technologies such as renewable energy are becoming “more profitable” and “less reliant on government subsidies.”36 Moreover, although the U.S. remains dependent on oil and thus resistant to transforming its energy system,37 these statistics demonstrate significant innovation within green technology. Although the U.S. is now very likely to rejoin the global efforts to combat climate change, the consensus remains that private sector innovation is needed to effectuate the challenges ahead.38 This tension between the rights of the patent holder and the need to use their green technology can be described as the Green Patent Paradox, whereby patented technologies geared toward mitigating the effects of climate change or substituting environmentally hazardous industries may not reach their full potential in part because patentees refrain from licensing their products. Whether a major crisis within the patent regime concerning green technology exists is still too early to determine.39 However, recent suits in federal court foreshadow the prospect of this issue developing in the years to come. With regard to patent reform specifically, progress has been made around the world to actively combat the effects of climate change.40 At the same time, many lawsuits have been filed and argued in federal court concerning secondary and more expansive uses of patented green technology. A patent holder is entitled to relief when a secondary user “makes, uses, offers to sell, or sells” the patented invention regardless of whether the secondary user possesses41 However, the degree to which patentees can gain relief was limited by the Supreme Court in eBay v. MercExchange whereby permanent injunctive relief in patent infringement suits must meet four basic requirements for an injunction.42 A heightened standard for plaintiffs means that secondary uses of patented technologies have a better chance of surviving infringement suits. For commentators as well as secondary users, this decision is seen as a partial victory because the patent infringement gravitated from the old standard which automatically gave injunctive relief to the plaintiff.43 Since eBay, many subsequent green patent infringement cases have come before federal courts, providing mixed signals for future developments of green technology.44 In 1992, Paice LLC, a startup company in the business of hybrid gas-electric vehicles, filed a patent for its developed hybrid technology.45 Paice’s patent application covered the utilization of an electric motor in conjunction with the standard internal combustion engine (ICE) that supplies additional power and transfers torque to the drive wheels of conventional automobiles.46 In 1994, the USPTO granted Patent No. 5,343,970 (“the ‘970 patent”) to Paice.47 One year later, Toyota started developing hybrid gas-electric vehicles in Japan and later launched the Prius in 1997, which was subsequently released to the U.S. in 2000.48 Paice founder, Dr. Alex Severinsky, met with representatives of Toyota USA to demonstrate Paice’s hybrid technology and offer a license agreement; however, Toyota refused because it had “no intention of developing [Paice’s] technology.”49 At subsequent meetings between the parties, Toyota acknowledging Paice’s strong contributions but still refusing its offer to license the patent.50 Thereafter, Paice filed suit against Toyota in the Eastern District of Texas for infringement of the ‘970 patent.51 Pursuant to eBay, the District Court denied permanent injunctive relief for Paice; however, the Court went on to hold that Toyota infringed on the patent rights of Paice and awarded ongoing royalties of $25 per infringing hybrid Toyota vehicle to Paice.52 On appeal, the Federal Circuit Court affirmed the denial of the injunction but remanded on the issue of royalties, holding that the District Court could not allow further use by Toyota without clarifying how to calculate the ongoing royalty.53 On remand, after providing the parties an opportunity to settle on a rate themselves, the District Court raised the ongoing royalties to $98 per hybrid vehicle.54 Paice demonstrates the sheer benefit that eBay has toward resolving the Green Patent Paradox. If Dr. Severinsky had his way, Toyota would not have been able to sell the Prius, Highlander, Lexus RH400h, or other hybrid models in the U.S.55 Given Toyota’s success and leadership in the fuel efficiency market, such a result could have imposed a severe impact on the climate.56 However, given Dr. Severinsky’s zealousness to hold dominion over the hybrid motor, this case also reveals the potential threat of a patent holder not fully utilizing their rights on the rights of valuable green patents. Infringement suits on green patents have also covered alternative energy. In 2002, General Electric (GE) obtained U.S. Patent No. 5,083,039 (the ‘039 patent),57 which covered a “wind turbine mechanism operating at variable speed under different wind condition[s].”58 This advancement was beneficial because U.S. electric companies previously had to adjust wind turbines based on “a standard fixed frequency [of 60Hz].”59 A few years later, GE and Mitsubishi, a Japanese wind turbine manufacturer, engaged in a patent dispute over the ‘039 patent. GE brought an infringement action against Mitsubishi.60 Mitsubishi countered by filing61 a complaint in the Western District of Arkansas, accusing GE of violating antitrust law by dominating the market of variable speed wind turbines.62 These suits illustrate what is considered “the beginning of an arms race for IP in the clean energy industry.”63 While these companies are advocating for what they believe are their rights to use this technology, the need to expand this technology in the pursuit of mitigating the effects of climate change is sidelined. The ‘039 patent is a quality patent that effectively blocked use by other companies wishing to achieve an energy quality standard without proper licensing.64 If a patent of this nature gets into the hands of an entity that sits on their intellectual property rights,65 then the benefits of the green technologies covered will not be imputed on society. While Paice and GE are two major lawsuits in the area of green technology, other forms of patent infringement actions have reached federal court involving a wide variety of green patents.66 For example, one technology that has gained success in the realm of alternative energy is energy-efficient lighting such as light-emitting diodes (LEDs). LEDs are an effective substitute for standard incandescent lightbulbs and are more environmentally friendly; producing more light per watt, emitting particular colors of light without utilizing other color filters, and radiating very little heat.67 Additionally, LEDs are eco-friendly substitutes for technologies such as traffic lights and cell phones.68 Given the potential widespread use of LEDs, patent infringement disputes are inevitable. In 2019 alone, Technical LED Intellectual Property and Lighting Science Group collectively filed nineteen patent infringement lawsuits against other companies, alleging that certain products infringe on their LED patents.69 Additionally, numerous infringement lawsuits have arisen in other green technology sectors such as solar power, batteries, and even eco-friendly pet products.70

#### IPR key to solve climate change – meets stakeholder interests and is necessary to disperse climate tech.

Rosencranz et al 18 [Armin, founder of Jindal Global School of Environment and Sustainability at OP Jindal Global University, Sangram Parab, P. Modi, A. Vora; OP Jindal Global University, January 2018, “Climate Change and the Patent Regime: Are Patents the Answer?” *Journal of Intellectual Property Rights* 23, MAM]

It is almost certain that developing countries desperately need greenhouse gas abatement technology. How will that happen? Clean energy is the answer. To get the technology, they'll need to create it themselves or buy it from the patent-holder. The avenues discussed above aim to enable developing countries to shift to clean energy, and thereby to make our planet a greener and safer place to live in. The advent of clean energy technologies is **inevitable.** The only question that needs to be addressed is **how the government will regulate this transition**. The faster that developing countries implement the transition, the better for everyone involved. How will that happen? Intellectual property laws are the answer. In this article, by comparing the success of IPR in the pharma and technology sectors, it is shown that IPR is the way forward in the energy sector as well. The trinity of patent pools, patent databases and compulsory licensing will ensure that the interests of all stakeholders are met and that clean energy is pushed forward. At the same time, the importance and benefits of providing a legal framework for transactions in this nascent sector; and that maintaining a level of regulation **is essential** to meet the aim of providing clean and environmentally-friendly technology are also highlighted. It may lead to a hope to start a conversation with this article and invite people to explore various strategies and policies to mitigate the effects of climate change. Time is of the essence — polar bears are in the path toward extinction in the North Pole as we speak — and any step taken away from fossil fuels, however small, is the way forward.

#### Aggressive action from the U.S. and China is necessary – patent access fast-tracks the process and gears competition towards solving climate change.

Ladislaw 21 (Sarah Ladislaw is senior vice president and director of the Energy Security and Climate Change Program at the Center for Strategic and International Studies, 1-21-2021, Productive Competition: A Framework for U.S.-China Engagement on Climate Change, CSIS, <https://www.csis.org/analysis/productive-competition-framework-us-china-engagement-climate-change>, MAM)

The United States and China remain two of the most important countries for addressing climate change. They are the largest greenhouse gas emitters globally, though China far surpasses the United States on a national basis, and the United States surpasses China on a per capita basis. They are both significant contributors to the creation of low-carbon energy technology. Here, too, China has surpassed the United States as both a market for clean energy technology and as a manufacturer of those technologies. From a scientific perspective, it is impossible to address climate change and the goal of keeping global temperature rise to less than 2 degrees Celsius above pre-industrial levels without **both China and the U**nited **S**tates taking aggressive action to reduce emissions within the next decade. There is precedent for cooperation between the United States and China on climate change: the partnership between the two during the Obama administration created the global political dynamic that enabled the Paris Agreement. Given the urgency of the task at hand and the diplomatic muscle memory of the Biden administration, it is tempting to once again seek bilateral cooperation between the United States and China as the anchor in a new model of global climate leadership. But times have changed. First, and most importantly, the relationship between China and the United States has grown much more contentious since the end of the Obama administration. Beijing’s economic, technological, and military power has grown along with its ability to assert its distinct agenda on the global stage. It is unclear which issues will take top priority for the Biden administration regarding U.S.-China relations, but there will be many areas where U.S. and Chinese interests will conflict, and even more where the two will regard each other as competitors. Still, some degree of compartmentalization will likely be necessary to manage a contentious but essential relationship. Worsening U.S.-China relations under the new administration will likely have significant repercussions for the climate agenda. Trade disputes, concerns over human rights, and national security concerns could all disrupt clean energy supply chains between the United States and China, not to mention other countries. National security and competitiveness pressure could lead to less collaboration between the U.S. and Chinese scientists and institutions. Second, how we think about the climate challenge is different too. The main goal is no longer to negotiate a global agreement but to deliver on the actions pledged in those agreements. The United States' reentry to the Paris Agreement is a positive first step, and it needs to submit a new pledge of climate action (National Determined Contribution) to the UN Framework Convention on Climate Change. Still, beyond that, the high-stakes items are not about negotiations and agreements. The economic and political atmosphere in which climate change exists is different too. Countries are still reeling from the Covid-19 pandemic. Even before the pandemic, countries were pulling back from one another due to a crisis of confidence in globalization and free trade sparked by inequality-fueled domestic populism. Add to this an unprecedented growth in climate activism in civil society, climate risk awareness in global financial institutions, and pledges to be carbon neutral by countries and significant corporations alike. The result is enormous pressure for actions that deliver economic and climate benefits to domestic constituencies. Europe, China, India, Japan, and the United States, among others, are adopting more industrial strategy-oriented models of climate action that seek to create clean energy economic opportunity as they do emissions reduction. At one point, the vision for reducing greenhouse gas emissions was through a system of globally linked carbon markets and integrated supply chains that would drop the cost of technology. Now countries exist in an uneven playing field consisting of varying approaches to dealing with climate change and rising incentives to compete to extract maximum domestic economic value from their climate investment and policies. This environment might foster less of a tendency toward bilateral cooperation, and instead toward competition. The goal should be to make it a productive competition where players compete to achieve good rather than destructive outcomes. In this case, the United States could challenge China to be the first country to reach net-zero greenhouse gas emissions and to be the top provider of clean energy technology solutions to the world. Others will compete too, of course—formidable challengers like Europe, India, South Korea, and Japan. This productive competition dynamic will still require some elements of cooperation as well as efforts to co-opt China. For example, the United States, China, and other countries should continue to facilitate cross-border collaboration on energy research and development. Here, cooperation among scientists, industries, and sectors is critical. When it comes to research-led innovation, there are no benefits to breaking down scientists and innovators' network, which will deliver the essential breakthroughs we need. The United States and China might also need to agree on some things, like new rules to ensure the multilateral financial, development, and trade systems encourage climate change measures. While concerns over China’s unfair trade practices are indeed valid, the United States should find ways to protect the climate agenda from these ongoing economic tensions. A strategy of working with like-minded countries to pressure China to come on board may be necessary. In the current trade environment, it is quite likely policies to manufacture and deploy clean energy technologies will run into trade barriers (as they have in the past) due to China's massive use of state subsidies to develop technologies and protect domestic industries. One way to avoid this is to **agree to a climate waiver** **under the** World Trade Organization (**WTO**), which would allow countries to subsidize and protect clean energy industries and technologies that help them to meet their climate commitments. Thus far, the European Union, Japan, and the United States have been leading the charge to reign in the Chinese overall state-led economic model using pressure in the WTO. Working within this group to propose a climate waiver to China would allow these countries to remain united on other aspects of their agenda while compelling China to address climate change. The United States might also want to find other ways to co-opt China into doing more positive things for the climate. For example, in the context of Covid-19 debt relief, the United States and other countries could pressure China to restructure existing debt holdings from developing countries into climate-beneficial projects. These so-called debt-for-climate swaps could be similar in format to the debt-for-nature swaps that became popular following the sovereign debt crisis of the 1980s. There may be other ways to co-opt Chinese investment in global infrastructure projects to be greener by granting them recognition for their green performance as part of a multilateral initiative. The first and most important part of this strategy is for the United States to get serious about its clean energy and climate policy and commit to being more competitive. The Biden administration has already pledged to do this as part of its Build Back Better plan, but there is reason to believe both parties in Congress could support some of this agenda. As I wrote in an earlier commentary on the topic, the last remaining bipartisan area of agreement in Washington concerns U.S. competitiveness relative to other countries, particularly China. As the American Council on Competitiveness notes, no matter the measure or sector of the economy, the United States is either newly lagging or weakening its leadership across the board. Before the end of 2020, Congress passed a clean energy innovation package that makes a substantial down payment toward a more competitive U.S. clean energy sector. But more must be done. The final thing to note is that there will likely still be areas where the United States and China simply cannot and will not trust each other. These could be concrete issues like the inclusion of Chinese-made equipment in our critical infrastructure, including the electric power grid. Or significant, principle-related matters like human rights violations in the clean energy supply chain for solar panels. There may be excellent reasons for the United States to confront China on a range of trade or security issues, but **getting tough on China is no substitute for launching a viable U.S. strategy to compete in** the field of **clean energy** technologies. A productive competition strategy means leaning into our instincts to compete with China but in a way that advances shared global interests.

#### Climate change causes extinction – feedback loops make adaptation impossible.

Beard et al. 21 (S.J. Beard; Senior Research Associate and Academic Programme Manager at the Centre for the Study of Existential Risk, S.J. Beard, Lauren Holt, Asaf Tzachor, Luke Kemp, Shahar Avin, Haydn Belfield; Centre for the Study of Existential Risk research associates, Phil Torres of Torres 16; visiting scholar at the Centre for the Study of Existential Risk at Leibniz Universität Hannover, Assessing climate change’s contribution to global catastrophic risk, Futures Volume 127, March 2021, 102673, [https://www.sciencedirect.com/science/article/pii/S0016328720301646#](https://www.sciencedirect.com/science/article/pii/S0016328720301646)!, MAM)

While most of the impacts of climate change so far have fallen within the range of what was experienced during the Holocene, the rate of change is **faster than** in **the Holocene** and we are now beginning to see climate change push **beyond these boundaries**. In the latest edition of the planetary boundaries’ framework, climate change is placed in the zone of increasing risk, implying that while this boundary has been breached, there remains some **potential** for normal functioning and recovery (Steffen et al., 2015). It thus lies between what the authors identify as the ‘safe zone’ and other ‘high risk’ transgressions, such as disruption to the biochemical flows of nitrogen and phosphorus and loss of biosphere integrity. As part of their discussion of BRIHN Baum and Handoh (2014) note that climate change is the planetary boundary for which the risk to humanity has received most meaningful consideration and they suggest that this attention is deserved. Yet little research attention has been paid to climate change’s extreme or catastrophic effects. Kareiva and Carranza (2018) argue that, despite currently falling outside of the area of high risk, climate change has the clear potential to push humanity across a threshold of irreversible loss by “changing major ocean circulation patterns, causing massive sea-level rise, and increasing the frequency and severity of extreme events… that displace people, and ruin economies.” Even if humanity was resilient to each of these individual impacts, a global catastrophe could occur if these impacts were to occur **rapidly and simultaneously**. One scenario that has received comparatively more attention is that of the global climate crossing a tipping point that would trigger environmental feedback loops (such as declining albedo from melting ice or the release of methane from clathrates) and cascading effects (such as shifting rainfall patterns that trigger desertification and soil erosion). After this point, anthropogenic activity may cease to be the main driver of climate change, making it accelerate and become harder to stop (King et al., 2015). Other scenarios can be discerned from the numerous historical cases in which the modest, usually regional, climatic changes experienced during the Holocene have been implicated in the collapse of previous societies, including the Anasazi, the Tiwanaku, the Akkadians, the Western Roman Empire, the lowland Maya, and dozens of others (Diamond, 2005, Fagan, 2008). These provide a precedent for how a changing climate can trigger or contribute to societal breakdown. At present, our understanding of this phenomena is limited, and the IPCC has labelled its findings as “low confidence” due to a lack of understanding of cause and effect and restrictions in historical data (Klein et al., 2014). Further study and cooperation between archaeologists, historians, climate scientists and global catastrophic risk scholars could overcome some of these limitations by identifying how the impacts of climate change translate into social transformation and collapse, and hence what the impacts of more rapid and extreme climatic changes might be. There is also the potential for larger studies into how global climate variations have coincided with collapse and violence at the regional level (Zhang, Chiyung, Chusheng, Yuanqing, & Fung, 2005; Zhang et al., 2006). However, these need to be interpreted and generalized with care given the differences between pre-industrial and modern societies. Societies also have a long history of adapting to, and recovering from, climate change induced collapses (McAnany and Yoffee, 2009). However, there are two reasons to be sceptical that such resilience can be easily extrapolated into the future. First, the relatively stable context of the Holocene, with well-functioning, resilient ecosystems, has greatly assisted recovery, while **anthropogenic climate change** is more rapid, pervasive, global, and severe. Large-scale states did not emerge until the onset of the Holocene (Richerson, Boyd, & Bettinger, 2001), and societies have since remained in a surprisingly narrow climatic niche of roughly 15 mean annual average temperature (Xu, Kohler, Lenton, Svenning, & Scheffer, 2020). A return to agrarian or hunter-gatherer lifestyles could thus have more devastating and long-lasting effects in a world of rapid climate change and ecological disruption (Gowdy, 2020).7 Second, modern human societies may have developed **hidden fragilities that amplify the shocks** posed by climate change (Mannheim 2020) and the complex, tightly-coupled and interdependent nature of our socio-economic systems makes it more likely that the failure of a few key states or industries due to climate change could cascade into a global collapse (Kemp, 2019). A third set of plausible scenarios stem from climate change’s broader environmental impacts. Apart from being a planetary boundary of its own, Steffen et al. (2015) point out that climate change is intimately connected with other planetary boundaries (see Table 1). Climate change is thus identified by the authors as one of two ‘core’ boundaries with the potential “to drive the Earth system into a new state should they be substantially and persistently transgressed.” This transformative potential was elaborated on in subsequent work exploring how the world could be pushed towards a ‘Hothouse Earth’ state, even with anthropogenic temperature rises as low as 2 ◦C (Steffen et al., 2018). The connection between climate change and biosphere integrity (the survival of complex adaptive ecosystems supporting diverse forms of life) is particularly strong. The IPCC is highly confident that climate change is adversely impacting terrestrial ecosystems, contributing to desertification and land degradation in many areas and changing the range, abundance and seasonality of many plant and animal species (Arneth et al., 2019). Similarly, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has reported that climate change is restricting the range of nearly half the world’s threatened mammal species and a quarter of threatened birds, with marine, coastal, and arctic ecosystems worst affected (Diaz et al., 2019). According to one estimate, climate change could cause 15–37 % of all species to become ‘**committed to extinction’** by mid-century (Thomas et al., 2004). Disruption to biosphere integrity can have profound economic and social repercussions, ranging from **loss of ecosystem services and natural resources** to the **destruction of traditional knowledge and livelihoods.** For instance, desertification, which threatens a quarter of Earth’s land area and a fifth of the population, is already estimated to cost developing nations 4–8 % of their GDP (United Nations, 2011). Many other rapid regime shifts involving loss of biosphere integrity have been observed, including shifts in arid vegetation, freshwater eutrophication, and the collapse of fish populations (Amano et al. 2020). There is a theoretical possibility of still more profound regime shifts at the global level (Rocha, Peterson, Bodin, & Levin, 2018). However, the contribution of loss of biosphere integrity to GCR is yet to be assessed. Kareiva and Carranza (2018) argue that it is unlikely to threaten human civilization, due both to a lack of plausible mechanisms for this threat and the fact that “local and regional biodiversity is often staying the same because species from elsewhere replace local losses.” However, in their classification of GCRs, Avin et al. (2018) suggest the potential for ecological collapse to threaten the safety boundaries of multiple critical systems with diverse spread mechanisms at a range of scales, from the biogeochemical and anatomical to the ecological and sociotechnological. Note that both these studies were conducted for largely conceptual purposes and should not be taken as rigorous analyses of this risk, this topic warrants further investigation.

#### Each tenth of a degree matters and saves millions of lives

Aronoff & Denvir 21 [Kate, staff writer at the New Republic, writing fellow at In These Times, Daniel, visiting fellow in International and Public Affairs at Brown Univ, “Capitalism Can’t Fix the Climate Crisis,” *Jacobin*, 08/25/21, <https://jacobinmag.com/2021/08/capitalism-climate-crisis-global-green-new-deal-clean-energy-fossil-fuel-industry>, accessed 08/26/21, JCR]

The text of the Paris Agreement says that warming should be constrained to well below two degrees Celsius. 1.5 degrees is an aspiration. It’s good to understand where that demand comes from; it has been a standing call from the folks in climate-vulnerable countries in the Global South, for whom the difference between 1.5 and 2 degrees is huge. The folks talking about 1.5 degrees have been marching through the halls of UN climate talks, chanting “1.5 to survive,” because for low-lying island states, warming of 1.5 degrees represents an existential threat. Currently we are on track for about 1.1 degrees Celsius of warming. That gives us a punishingly short window in which to meet even two degrees, which is a bit of a fabrication; there’s some debate about where the two-degree target came from. Some people credit that to the economist William Nordhaus, who is not the most reliable source on a lot of these things. But there’s something comforting about a target. There’s something comforting about saying that this thing that is happening is far-off, and that we can potentially avoid it. We have a bit of time, and two degrees gives us more time than 1.5 degrees. Reaching targets has been the popular goal. That’s what you see in the fossil fuel industry assessments. But the conversation about targets can sometimes obscure what’s actually happening. It’s not as if somebody who is living through a hurricane or a natural disaster will say, “Oh no, we’ve hit two degrees Celsius.” The climate crisis is playing out all around us. There’s not a point at which we cross the boundary toward a disastrous future. Every tenth of a degree of warming that we avoid makes an enormous amount of difference, saving on the order of tens of thousands of lives. If we cross 1.5 or even two degrees of warming, it’s not that we should all pack up, go home, and wait to die. There are still millions of lives that can be saved by preventing each additional tenth of a degree of warming.

#### Climate change will exacerbate geopolitical tensions and lead to widespread wars

Busalacchi and Goodman 8/6 (Antonio Busalacchi - president of the University Corporation for Atmospheric Research and former co-chair of the National Research Council’s Committee on National Security Implications of Climate Change for U.S. Naval Forces, Sherri Goodman - senior fellow at the Wilson Center and the Center for Climate & Security and former U.S. deputy under secretary of defense (environmental security), 8-6-2021, Why National Security Agencies Must Analyze Climate Risks, Lawfare, <https://www.lawfareblog.com/why-national-security-agencies-must-analyze-climate-risks>) \*edited for ableist language\*

July marked the initial deadline for the Pentagon and other federal agencies to draw up plans for potential climate risks, under an executive order by President Biden. Such plans are an essential first step, but the greater challenge for national security agencies is to continue to redirect their focus to changing climate conditions that pose a complex, two-pronged threat: **social and political instability overseas and damage to U.S. infrastructure.** Climate change is accelerating geopolitical tensions in many regions of core strategic interest to the United States. Increasingly destructive storms, rising seas and the melting Arctic are fueling global tensions, with nations bracing for mass migrations of displaced people and vying to take advantage of newly accessible natural resources. Changing climate patterns have become a catalyst for internal conflicts and international unrest, with severe droughts playing a role in setting the stage for the Syrian civil war and shrinking lake levels in Lake Chad contributing to widespread violence across the four African nations of the lake’s basin. Even in places where climate change has not sparked conflicts directly, it looms as a threat multiplier, exacerbating competition for food and water and worsening ethnic tensions. The Defense Department highlighted these risks earlier this year in its first climate and environmental security tabletop exercise, known as Elliptic Thunder. Set in East Africa and based on climate, economic and population forecasts, the multiagency exercise highlighted the extent to which climate change can **worsen natural disasters** and **trigger regional instability**, opening the door for strategic rivals and **extremist groups** to gain power. Closer to home, altered weather patterns and warming temperatures are battering military installations across the nation. From the devastating impacts of Hurricane Michael on Tyndall Air Force Base in Florida to the thawing and erosion in Alaska that is undermining the foundations of vital radar facilities, climate change is costing billions of dollars while **degrading U.S. military readiness.** More broadly, coastal surges, floods, heat waves and wildfires are exacting a toll on U.S. transportation networks and energy systems, **threatening supply disruptions** and increasing the cost and complexity of potential defense operations. As climate change becomes a central focus for national security policymakers, scientists are gaining new insights into the complex interconnections of Earth’s climate system. By collaborating with a range of stakeholders, they also are helping to develop actionable projections of climate impacts in specific regions. In one notable breakthrough, for example, a research team drew on the complex interactions of the ocean and atmosphere to demonstrate that changes in Arctic sea ice coverage can be predicted several years in advance. This is critical for U.S. security interests at a time when changing ocean circulation patterns and salinity are affecting how submarines maintain their stealthy features and track Russian and other activity in the warming Arctic. **Russia is taking advantage of a warming climate to rearm in the Arctic,** conducting high-profile military exercises in the region earlier this year and launching increasingly powerful icebreakers while President Vladimir **Putin pledges to reinforce his nation’s presence** in the region. Also looming are growing international tensions over trillions of dollars of natural resources that are becoming more accessible because of retreating sea ice. Looking further into the future, scientists are studying how storms are likely to shift later this century in ways that may lead to widespread flooding or lightning-induced wildfires in parts of North America and overseas regions. This type of research is critical for designing more resilient infrastructure and anticipating shifts in weather patterns that can displace vulnerable populations. To enhance understanding of how the climate is likely to change and the extent to which **reductions in g**reen**h**ouse **g**as **emissions** could **lessen future impacts**, the government must boost funding for science in ways that can support decision-makers. The research and analysis community needs more powerful supercomputers, next-generation observing tools such as advanced satellites and enhanced models of regional climate conditions, along with improvements to such cutting-edge techniques as artificial intelligence. Investments in climate research and analytics will **more than pay for themselves** by producing increasingly detailed and reliable projections of the climate threats the U.S. faces at the regional scale at which decisions are made and conflict arises. This will produce economic benefits as well, with private firms already generating jobs that provide climate risk services to many sectors of the economy, from real estate to banking.

#### Expanding application of compulsory licensing would ensure needed access to environmental tech

Gunderson 14 [Adam, practicing attorney at the Gunderson Law Group, “Protecting the Environment by Addressing Market Failure in Intellectual Property Law: Why Compulsory Licensing of Green Technologies Might Make Sense in the United States: A Balancing Approach,” *BYU Law Review* 2014.3, p.683-4, JCR]

Broadening the application of compulsory licensing laws can help to reduce the suppression of important technologies; it is impossible to completely suppress a technology when the law requires that the holder license it to others. While there are some risks associated with expanding compulsory licensing,70 there are tremendous benefits as well. As discussed previously, the constitutional justification for the protection of a patent is to promote scientific and technological progress.71 Given the pressing nature of many of our environmental problems, progress in this area of science and technology is especially important. Expanding the application of compulsory licensing to include more green technologies will promote scientific and technological progress in solving environmental problems. Specifically, compulsory licensing can promote such progress by: 1) ensuring prompt access to important technologies, 2) increasing the likelihood of future innovation, and 3) decreasing judicial inefficiencies. The most obvious advantage of a compulsory licensing policy is that it ensures that technological advances cannot be suppressed. There is no progress when a patent holder obtains a patent and refuses to use the patented technology. In these instances, progress can be slowed by twenty years or more, as current patent laws give a filed patent a life of twenty years, and that timeline may also be extended for various reasons.72 Given the inherent urgency of solving certain environmental problems (such as climate change), a prolonged suppression of important technology could be detrimental. Any social costs associated with the expansion of compulsory licensing may be worthwhile if society can make swift progress in addressing environmental concerns—ending environmental tragedies decades earlier than otherwise possible.

#### Reliance on public sector funding will be too expensive and controversial. IP licensing and incentives will be key driver of tech adoption

Sarnoff & Chon 18 [Joshua, Prof of Law at Depaul College of Law, served as a Distinguished Scholar at the US Patent and Trademark Office, Margaret, Prof for the Pursuit of Justice at the Seattle Univ School of Law, “Innovation Law and Policy Choices for Climate Change-Related Public-Private Partnerships,” *The Cambridge Handbook of Public-Private Partnerships, Intellectual Property Governance, and Sustainable Development*, eds Margaret Chon et al, p.246-7. JCR]

The Paris Agreement placed substantial emphasis on R&D and technology transfer through private markets, contrary to competing recommendations to rely more on public funding11 and despite the many government alternatives that exist for funding technology development and transfer.12 In particular, governments can play an important role in stimulating innovation and technology transfer. Mechanisms that are available for governments to fund, develop, and transfer innovations include public provision of necessary infrastructure, subsidized research, and prioritized public procurement. All of these options can substitute for, supplement, or support market-driven intellectual property (IP) rights. But there are limits to government resources (particularly at local levels), and the public sector “does not always have the resources required to push through new projects independent of the IP-related costs involved.” 13 Given the political difficulties of committing to massive expenditures as public obligations, the choice to rely primarily on private markets and consequent IP rights to generate the bulk of the committed funding for climate change-related mitigation and adaptation technologies hardly comes as a surprise. Reliance on private sector development and transfer thus will encourage the acquisition of IP rights (of differing kinds, to differing degrees, and in various industries) in the hopes of appropriating greater economic returns. In turn, the costs of climate change mitigation and adaptation measures will depend in part on whether specific climate change technologies are subject to IP rights, on how those rights are licensed, and on what technological substitutes are affordably available.14 For example, widely cited assessments have assumed there would be price constraints on patented climate change technologies because of the availability of ready substitutes for existing technologies, or because of development of incremental rather than breakthrough technologies. But these assumptions may not always hold,15 as climate technologies are very diverse. These assumptions are particularly unlikely to be true if we move to novel geoengineering solutions that have not previously been deployed in markets, such as carbon capture and sequestration technologies or solar climate engineering methods (which include the use of aerosols or marine cloud brightening to increase the Earth’s albedo, i.e., reflectivity).16

# 2AC – R3 – Happy Shirley!

## TRIPS

## Solvency

### A2: Reg Capture

#### Threat of compulsory licensing solves anticompetitive behavior and prevents regulatory capture

Bernardini 21 [Jessica, JD from Lewis & Clark Law School, works at the small business legal clinic at the Patent Program at Lewis & Clark Law School, registered Professional Engineer and engineering consultant with focus on renewable energy development, “Leveraging Mandatory Licensing Under the Clean Air Act – A Novel Framework to Domestic Reduction of Greenhouse Gases,” *Environmental Law* 51.1, p.323-6, JCR]

Part IV evaluates how mandatory licensing of carbon-capture technologies may deter or be used to overcome anticompetitive behavior by patent holders. This is especially important in relation to the proposed framework because many of the entities that will be regulated under the proposed emission standards also hold key patents to carbon-capture technology. Therefore, the use (or even the threat) of compulsory licensing has the potential to eliminate monopolistic behavior by patent holders of critical carbon-capture technology. For example, the threat of compulsory licensing may potentially encourage the formation of patent pools, which has occurred in the past after the threat of government intrusion.149 Also, with the more stringent emissions standards in place by the EPA, regulated entities may not survive without compulsory licensing providing access to these necessary technologies. Part IV begins with analysis of how compulsory licensing has the potential to stop anticompetitive behavior, specifically non-working of patents and refusal to license. The possibility for anticompetitive behavior in the carbon-capture marketplace is high, considering that many of the entities that would be regulated under the proposed emission standard are also those that have patents to carbon-capture technologies and may wish to suppress access to these technologies. This subpart evaluates two potential avenues for patentees to practice anticompetitive behavior—non-working of a patent and a refusal to license—and how the invocation of compulsory licensing, or even the threat of invoking mandatory licensing, would discourage these practices. Patent owners are afforded many IPRs under a patent, including the right to control how the patent is used.150 This includes the option not to use or work the patented process or technology.151 This inaction by the patentee does not put them in violation of the Patent Act because there is no requirement that a patent be worked or practiced after receipt of a patent. Furthermore, while this inaction is not expressly condoned by the courts, it alone is not sufficient to grant an injunction or a finding of anticompetitive behavior.152 If an industry needs a technology and a patentee is not working a patent, compulsory licensing should be utilized to overcome the barrier to accessing the patented technology. Therefore, compulsory licensing can be used to fill the void created in the absence of a working requirement under the Patent Act. The use of compulsory licensing would be especially valuable for forcing a patentee to work a patent in an area that is relatively new. Opponents of compulsory licensing believe it will reduce incentive for innovation and encourage inventors to maintain their knowledge as a trade secret rather than disclose through patents.153 And while obtaining a patent requires sufficient disclosure so that a “person having ordinary skill in the art” may practice the patent, disclosure (without actual reduction to practice and use in the industry) of newer technologies, such as carbon capture, is not as useful as it is for more established technologies. Consequently, in areas of newer technology, innovation is stifled when there is no practicing of the technology, which allows innovators to understand how the technology works.154 Especially in the case of newer technologies, compulsory licensing would actually support innovation by forcing the technology’s real-world application, thereby allowing other innovators to improve upon the technology. While the EPA has significant discretion in selecting a BSER, no existing precedent allows the EPA to establish regulations on the sole basis that a patent exists but has not been demonstrated to be technologically feasible, on even a very small scale. Therefore, the absence of a working requirement under the Patent Act jeopardizes the EPA’s ability to regulate GHGs.155 The Mandatory Licensing provision provides authority for the EPA to pursue mandatory licensing of patented technologies necessary to achieve emissions standards. Invocation of the provision does not require a showing that the patented technology has been adequately demonstrated.156 However, to establish the emission standards in the first place, the technology used to achieve the standards must have been adequately demonstrated (i.e. worked and put into practice even in some small fashion).157 If a technology has not been adequately demonstrated, it should not be considered by the EPA to be part of an emission reduction system.158 In this instance, a general compulsory licensing provision under the Patent Act would help work technologies, show them to be technologically feasible, and ultimately allow the EPA to consider them as part of a BSER. Opponents to compulsory licensing argue that it is unnecessary to invoke compulsory licensing to mitigate non-working of patents because inventors of useful inventions will want to recoup their investments and will do so through working or licensing of the patent.159 However, this argument fails to take into consideration that some entities will not want the patent to be put into use. When a patent is subject to use as part of an environmental regulation, its use would adequately demonstrate the patented material and make it readily available. Therefore, regulated entities would rather have these categories of patents suppressed in an attempt to avoid potential environmental regulation. Patent suppression by fossil-fuel companies has already occurred, as discovered by state prosecutors.160 The prosecutors were looking into whether fossil-fuel companies misled their investors by making statements dispelling climate change and the impacts that it would ultimately have on the companies’ viability.161 These investigations led to the discovery that these same companies patented carbon-capture technologies and never put them into use, suppressing them since the 1960’s.162

## OFF

### 2AC – Cap – V2!

#### There’s a timeframe net benefit to the permutation. Only way to solve climate is to use the technology available.

Aronoff & Denvir 21 [Kate, staff writer at the New Republic, writing fellow at In These Times, Daniel, visiting fellow in International and Public Affairs at Brown Univ, “Capitalism Can’t Fix the Climate Crisis,” *Jacobin*, 08/25/21, <https://jacobinmag.com/2021/08/capitalism-climate-crisis-global-green-new-deal-clean-energy-fossil-fuel-industry>, accessed 08/26/21, JCR]

DD: You write: “My argument in this book is not that capitalism has to end before the world can deal with the climate crisis. Dismantling a centuries-old system of production and distribution, and building a carbon-neutral and worker-owned alternative, is almost certainly not going to happen within the small window of time the world has to avert runaway disaster. The private sector will be a major part of the transition off of fossil fuels. Some people will get rich, and some unseemly actors will be involved. Capitalist production will build solar panels, wind turbines, and electric trains. But whether we deal with climate change or not can’t be held hostage to executives’ ability to turn a profit. To handle this crisis, capitalism will have to be replaced as society’s operating system, setting out goals other than the boundless accumulation of private wealth.” This argument provoked a bit of controversy in the audience a few years back in Chicago when we discussed it on a panel at the Socialism Conference. Both of us would love to live in a socialist world, and we’ve got to continue to fight for one. But why do you think that it’s important for people to understand that we need to deal with climate change before we win an entirely new mode of production? What’s entailed by the conclusion that we need to pursue radical social-democratic reforms on the road to socialism? Is this a theory of how radical social-democratic reforms can lead to socialism? Is it just a reality that the fast-ticking climate clock imposes on us? Or is it some of both? KA: It’s a reality. If the climate crisis were playing out over the course of two hundred, three hundred, or a thousand years, one could have an interesting theoretical debate about whether we should change the system we have and tweak it slightly in order to take on the crisis, or whether we should create an entirely new mode of production and build up a workaround alternative. Unfortunately, we just don’t have that time. The Intergovernmental Panel on Climate Change [IPCC] outlined in its 2018 report on 1.5 degrees Celsius that we had roughly twelve years. That is now nine years in which to rapidly decarbonize the global economy, which is an enormous challenge. In order to meet that ever-shrinking twelve-year window, we have to use the productive system in which we live — which is not my ideal situation, but then again, neither is global warming.

#### 8. Well-regulated capitalism is possible, sustainable, and solves every existential threat – alternatives sacrifice millions to irreversible poverty.

Budolfson 21 (Mark Budolfson, Assistant Professor in the Department of Environmental and Occupational Health and Justice at the Rutgers School for Public Health and Center for Population–Level Bioethics., 5-7-2021, Arguments for Well-Regulated Capitalism, and Implications for Global Ethics, Food, Environment, Climate Change, and Beyond, Cambridge Core, <https://www.cambridge.org/core/journals/ethics-and-international-affairs/article/arguments-for-wellregulated-capitalism-and-implications-for-global-ethics-food-environment-climate-change-and-beyond/96F422D04E171EECDEF77312266AE9DD>) MAM

The Argument for Well-Regulated Capitalism

However, things are more complicated than the arguments above would suggest, and the benefits of capitalism, especially for the world's poorest and most vulnerable people, are in fact myriad and significant. In addition, as we will see in this section, many experts argue that **capitalism is not the fundamental cause** of the previously described problems but rather **an essential component of the best solutions** to them and of the best methods for promoting our goals of health, well-being, and justice.

To see where the defenders of capitalism are coming from, consider an analogy involving a response to a pandemic: if a country administered a rushed and untested vaccine to its population that ended up killing people, we would not say that vaccines were the problem. Instead, the problem would be the flawed and sloppy policies of vaccine implementation. Vaccines might easily remain absolutely essential to the correct response to such a pandemic and could also be essential to promoting health and flourishing, more generally.

The argument is similar with capitalism according to the leading mainstream arguments in favor of it: Capitalism is an essential part of the best society we could have, just like vaccines are an essential part of the best response to a pandemic such as COVID-19. But of course both capitalism and vaccines can be implemented poorly, and can even do harm, especially when combined with other incorrect policy decisions. But **that does not mean** that **we** should **turn against them**—quite the opposite. **Instead, we should embrace them as essential** to the best and most just outcomes for society, and educate ourselves and others on their importance and on how they must be properly designed and implemented with other policies in order to best help us all. In fact, the argument in favor of capitalism is even more dramatic because it claims that much more is at stake than even what is at stake in response to a global pandemic—what is at stake with capitalism is nothing less than whether the world's poorest and most vulnerable billion people **will remain in conditions of poverty and oppression, or** if they will instead finally **gain access to** what is minimally necessary for **basic health and wellbeing** and become increasingly affluent and empowered. The argument in favor of capitalism proceeds as follows:

Premise 1. Development and the past. Over the course of recorded human history, the majority of historical **increases in health, wellbeing, and justice have occurred** in the last two centuries, largely **as a result of societies adopting** or moving toward **capitalism**. Capitalism is a relevant cause of these improvements, in the sense that they could not have happened to such a degree if it were not for capitalism and would not have happened to the same degree **under any alternative** noncapitalist approach to structuring society. The argument in support of this premise relies on observed relationships across societies and centuries between indicators of degree of capitalism, wealth, investments in public goods, and outcomes for health, wellbeing, and justice, together with econometric analysis in support of the conclusion that the best explanation of these correlations and the underlying mechanism is that large increases in health, wellbeing, and justice are largely driven by increasing investments in public goods. The scale of increased wealth necessary to maximize these investments requires capitalism. Thus, as capitalist societies have become dramatically wealthier over the past hundred years (and wealthier than societies with alternative systems), this has allowed larger investments in public goods, which simply has not been possible in a sustained way in societies without the greater wealth that capitalism makes possible. Important investments in public goods include investments in basic medical knowledge, in health and nutrition programs, and in the institutional capacity and know-how to regulate society and capitalism itself. As a result, capitalism is a primary driver of positive outcomes in health and wellbeing (such as increased life expectancy, lowered child and maternal mortality, adequate calories per day, minimized infectious disease rates, a lower percentage and number of people in poverty, and more reported happiness);5 and in justice (such as reduced deaths from war and homicide; higher rankings in human rights indices; the reduced prevalence of racist, sexist, homophobic opinions in surveys; and higher literacy rates).6 These quantifiable positive consequences of global capitalism **dramatically outweigh the negative consequences** (such as deaths from pollution in the course of development), with the result that the net benefits from capitalism in terms of health, wellbeing, and justice have been greater than they would have been under any known noncapitalist approach to structuring society.7

Premise 2. Economics, ethics, and policy. Although capitalism has often been ill-regulated and therefore failed to maximize net benefits for health, wellbeing, and justice, it **can become well-regulated** so that it maximizes these societal goals, by including mechanisms identified by economists and other policy experts that do the following:

**optimally regulate negative effects such as pollution and monopoly power**, and invest in public goods such as education, basic healthcare, and fundamental research including biomedical knowledge (more generally, policies that correct the failures of free markets that economists have long recognized will arise from “externalities” in the absence of regulation);9

ensure equity and distributive justice (for example, via wealth redistribution);10

ensure basic rights, justice, and the rule of law independent of the market (for example, by an independent judiciary, bill of rights, property rights, and redistribution and other legislation to correct historical injustices due to colonialism, racism, and correct current and historical distortions that have prevented markets from being fair);11 and

ensure that there is no alternative way of structuring society that is more efficient or better promotes the equity, justice, and fairness goals outlined above (by allowing free exchange given the regulations mentioned).12

To summarize the implication of the first two premises, well-regulated capitalism is essential to best achieving our ethical goals—which is true even though capitalism has certainly not always been well regulated historically. **Society can still do much better** and remove the large deficits in terms of health, wellbeing, and justice that exist under the current inferior and imperfect versions of capitalism.

#### 9. Preserving competition and innovation within the market economy creates solutions to climate change.

Bosch and Schmidt 19 (Stephan, Institute of Geography, Chair for Human Geography, University of Augsburg, and Matthias, Institute of Geography, Chair for Human Geography, University of Augsburg, “Is the post-fossil era necessarily post-capitalistic? – The robustness and capabilities of green capitalism”, Ecological Economics, Vol. 161, July) DB

Concerning the second dimension of criticism, Section 4 illustrates how the rejection of green capitalism overlooks promising approaches to surmounting the environmental crisis. On the one hand, we argue that in face of the given narrow time slot as well as the prevailing political strategies, it is more realistic and pragmatic to primarily assess the efficiency of market-oriented solutions. Even though in principle we take sufficiency to have the best effectiveness regarding the solution of ecological and social problems, we still do not count on people's willingness to live in greater moderation within due time. On the other hand, we therefore presume that there are no other suitable economic frame conditions for surmounting the crisis than those offered by the capitalist social order. This perspective is based on the assumption that innovations, which above all emanate from thriving economies (Wangler, 2013), are highly relevant for overcoming the environmental crisis. As growth, innovation, and the development of new industries are to be seen as directly related to the export sector as well as the utilisation of comparative advantages (Bathelt and Glückler, 2012), we therefore also strictly object to the concept of autonomy. Moreover, we take innovation and the aspects of growth, entrepreneurship, and democratic processes of negotiation related to it (cf. Gailing et al., 2013; Walter and Gutscher, 2013; Raven et al., 2016), to be essential for the implementation of regenerative energy systems and social welfare (Iversen, 2005; Nasirov et al., 2017). Our presumption that innovations occur more likely and more frequently within a capitalist, than in alternative social orders (e.g. Harris, 2013: socialist markets), is derived from Schumpeter's notion of competitive capitalism, which he distinctly sets apart from trustified capitalism. Competitive capitalism is about fertile destructive impulses emanating from enthusiastic entrepreneurs who are ready to take risks, and act solution-oriented. These impulses may revolutionise the economic process: “This process of Creative Destruction is the essential fact about capitalism” (Schumpeter, 2009). Based on Schumpeter's ‘theory of economic development’ (cf. Herzog and Honneth, 2016; Schumpeter, 1994; Schumpeter, 2009) – which, according to Marques (2008), represents the original idea of innovation-driven capitalism – we analyse capitalism's robustness to the downfall of fossil energy; moreover, we investigate its potential contributions to ecologic sustainability. Yet we want to go beyond Schumpeter's perspective, which fixes on the entrepreneur, and take a closer look at the role of state policy in Section 5. Our argument is that creative entrepreneurs and markets alone will not suffice to specifically and quickly initiate the change of the energy system driven by innovation. We state the thesis that an active role of the state is needed which relies on political continuity when it comes to promoting environmental innovation and creates stable institutional frame conditions. In a last step, we will show that during the deployment of regenerative energy systems, social aspects have hitherto been given too little attention by actors of state and politics and that national objectives were uncoupled from local contexts. To achieve a successful low-carbon transition, these deficits need to be corrected. In principle, this seems possible, as market-economically oriented regenerative energy systems have often been the result of open-minded democratic negotiations. In Section 6, the findings of the study will be summarised. 2. The crisis of fossil energies and capitalism Energy sources are a central element of humankind's materialistic history and elementary changes in the relevance of energy carriers have always led to extensive economic and societal transformations (Bridge et al., 2013). Exemplarily, the drastic increase in productivity during industrialisation cannot be explained without the revolutionary change of the energy system towards fossil fuels (Osterhammel, 2011). Ever since, economic growth is accompanied by an increasing consumption of finite energy resources and non-energetic primary materials (Altvater, 2005). Accordingly, questions of economic development must always be regarded in the context of the energy system, as well as the circulation of energetic and non-energetic crude materials within it (Meadows et al., 2004). Altvater (2007) takes the relationship between humans and nature to be crisis-laden because a limited stock of energy resources within the Earth's thin crust forms the basis of the present economic system. This limitation implied grave consequences for the global ecology. The apparently crisis-laden interrelation of nature and economy is also highlighted in ‘Anthropocene or Capitolocene?’ edited by Moore (2016), in which the impacts of capitalism are regarded as significant enough to be marked as their own geochronological era. The main point of criticism is capitalism's orientation to industrial scaling and quantitative growth (Mathews, 2011), which likely will end abruptly once Earth's limited capacities will have been depleted by the exponential growth of population and economy (Daly, 1995). Yet not only the finiteness of energy carriers, but also the accumulation of extreme meteorological incidents, mass mortality of species, and sea level rise represent impediments of stable economic growth (McCarthy, 2015). The scenarios concerning trends of the world's condition developed by the Club of Rome illustrate that keeping a high wealth level can only be accomplished if a radical change in societal attitude concerning the valuation of growth will take effect (Meadows et al., 2004). Stopping environmental destruction while maintaining the present economic system appears to be impossible, since fossil energy carriers provide globally acting companies with the opportunity to spatially separate production and consumption as well as to externalise the manifold ecological expenses (Chisholm, 1990). Bridge (2010) rates the heated debates about Peak Oil as ecologically motivated forebodings of a new energy order in which the modern industrial nations are going to free themselves of their dependence on oil. For Neomarxist groups, the end of the age of mineral oil even represents an apocalyptic turn of eras during which nature were going to take vengeance on the ecological arrogance of capitalism. According to Bettini and Karaliotas (2013), the narration of Peak Oil thereby attains a symbolism that reaches far beyond mathematical calculations of the scarcity of fossil energy sources, being extended to a general criticism of a system that is exclusively oriented on growth. McCarthy (2015) sees the chance of a post-fossil capitalism especially in the commodification of wind, sunlight, geothermal heat, and waves. This way, nature would again be introduced into the cycle of capital. Van den Bergh (2011) presumes that this may be a practicable approach, perceiving criticism of market economy and capitalism as too radical and warns of one-sidedly problematising growth without simultaneously pointing out realisable alternative ways. He therefore prefers the ‘a-growth-concept’, which assumes a neutral position on growth, trying to create social as well as ecological sustainability by means of pricing policy, environmental agreements, and education initiatives. The commodification of nature, however, is rejected by the degrowth movement, as the comparison of the Montreal Protocol, which is based on regulations (ozone) with the Kyoto Protocol based on trade had shown a greater effectiveness of regulative measures (Kallis, 2011). Concerning the market's capabilities, North (2010) additionally speaks of the neoliberal enthusiasts' mindless faith in technology, who were mistakenly convinced that creative destruction is sufficient to face the societal challenges posed by Peak Oil and the climate crisis. Sarkar and Kern (2008) limit the possibilities of the global community's further development to the two options ‘eco socialism’ or ‘barbarism’. This rhetoric stylises capitalism as the image of the enemy: on the one hand, it represents the cause of the global ecological crisis due to the exploitation of natural resources – and for that reason alone were not to be maintained (Daly, 2005) – while on the other hand not offering a suitable social framework for mastering the crisis (Kallis et al., 2009). Hence, the development of a symbiotic economy (Garcia-Olivares and Sole, 2015) rooted beyond obsessive economic growth (Buch-Hansen, 2018) is promoted. Renewable energies were apt to meet these requirements since they can be developed through collaborative bottom-up mechanisms on a communal level, therefore enabling the decentralisation and democratisation of energy supply (Rifkin, 2013). In fact, this may be an option. However, in the following, we want to demonstrate that capitalism is not only very robust to crises, but is also able to contribute to the solution of the environmental crisis. 3. Robustness of capitalism 3.1. Space-time compression We will now show that the possibility of increasing productivity does not end with the transition to a regenerative energy system, but only needs to be embedded into new logistic-infrastructural contexts. In this, we contradict Altvater (2007), Huber (2009) and North (2010), who claim that capitalism could expand only on the basis of fossil fuels, since, due to the global transportability of oil, gas, and coal, entrepreneurial actions are no longer bound to the local availability of energy resources, but range globally. Furthermore, the usage of fossil energy carriers is not subject to daily or seasonal fluctuations. Transportability and baseload capacity hence lead to space-time compression (Harvey, 1996), as products can be generated in ever shorter intervals of time. Following this logic, the limitation of the fossil resource basis inevitably brings about the end of the capitalistic system. It remains undisputed that energy flow within a solar-based energy system is hard to control (Georgescu-Roegen, 1971). Most forms of renewable energies are intermittent sources, whose contribution to the energy mix are subject to the rhythms of sun, wind, precipitation, and tides (Fares, 2015). Adapting energy production to demand, a fundamental prerequisite of continuous economic growth, thus becomes a major challenge. What Altvater (2007), Huber (2009) and North (2010) actually do not include in their considerations, are the numerous technological innovations for the stabilisation of regenerative energy systems. After all, with biomass and geothermal power, two energy carriers capable of providing base load are at hand (Matek and Gawell, 2015), which may, in the form of regenerative combined power plants, support the weather-dependent energy sources sun and wind (Palensky and Dietrich, 2011; Ramchurn et al., 2011). The numerous energy storage technologies are also important, albeit only few of these have reached industrial maturity. In principle, mechanical, chemical, electrical, or thermal kinds of storage are being discerned (Hadjipaschalis et al., 2009). Compressed air and pumped storage power plants with efficiency levels of up to 80% are especially promising (Anagnostopoulos and Papantonis, 2008). Research is also conducted on the conversion of surplus regenerative power into methane or hydrogen (Jensen et al., 2007), by which the bidirectional operation of the power and gas network is made possible, allowing for transportability as well as baseload capacity within large spatial units. Space-time availability may also be augmented by the development and capacity expansion of high-voltage transmission lines (Walter and Bosch, 2013). Harriss-White and Harriss (2007) have pointed out at an early point, that the existent grids, having been developed following a monopolistic logic, are outdated and incapable of integrating decentrally-produced electricity with strong fluctuations. These deficits, however, are successively being corrected. E.g., Germany's South, which is poor in wind but strong in terms of industry is being provided with direct access to the big wind energy off-shore potentials in the North as well as to the storage power plants in Scandinavia (cf. Fig. 1). The possibilities of intercontinental power transport from regenerative sources have been thoroughly investigated by DLR (2006) and Grossmann et al. (2014). Both energy storage and the development of the power grid thus will successively reverse the present space-time limitations of regenerative energy systems. The two domains, however, are not isolated from one another, but are coordinated via smart grids. Solomon and Krishna (2011) emphasise that smart grids are superbly suitable for the implementation of market-based approaches, so that an innovation-driven mass market for energy efficiency technologies could be anticipated. Smart grids also provide the possibility of no longer designing the mass production of renewable energy technologies on a fossil basis, but by the usage of renewable energy. While the production of the first generation of regenerative technologies was based on fossil energy, in future, the possibilities of energy storage, the almost unlimited energy potential of a solar-based economy, and the combination of both aspects through smart grids will ensure the flexible provision of regenerative energy at every production site without limits of time. Yet in order to optimise the flows of energy and material in smart grids, concepts of closed crude material cycles are needed, which, in the sense of the cradle-to-cradle approach (cf. Section 4), allow the reintroduction of used materials (e.g. old wind power plants made of renewable resources) to the biosphere. Thus, the problem of externalisation of ecological costs can be minimised. Summing up, the increase of productivity and stable economic growth within regenerative energy systems seems possible. Still, it remains to be emphasised that large-scale energy projects also entail negative social consequences. E.g., Yenneti et al. (2016) have shown that the Charanka solar park in Gujarat, India, was erected on areas that the local population's livelihood had depended on for decades. The refuse of access to these areas, as well as the inhabitants' successive dispossession through state measures thus are direct results of the Indian economy's ecological modernisation (Levien, 2013). In this context, Baka (2013) speaks of “energy dispossessions”, a phenomenon which has also been observed with large-scale wind energy parks (Avila, 2018; Cowell, 2010). The socio-material impact of economic modernisation on the local population, whose lives strongly depend on agricultural land use, are often insufficiently respected (Yenneti et al., 2016), so that the dubious impression was given that environmental protection and economic growth based on efficient technologies, competition, and state measures could go with one another without social side effects. Remarkably, the controversial energy mega-projects especially in the global South, are not the cause of the development of new power asymmetries and conflicts, but rather reproduce and harden long-standing social disparities and injustices (Avila, 2018). According to Bradley and Hedrén (2014), a low-carbon transition hence misses its aims if it is only about modernising the energy system without likewise transforming the underlying social structures. 3.2. Crisis as an element of capitalist social order We hold the view that the occurrence of crises in capitalism is not due to it being an ailing, doomed economic order; nor is it a proof of capitalism's ineptitude for meeting ecological challenges. Instead, we deem that crisis is a fundamental element of the capitalist social order that actually provides a chance for readjusting economic processes. Harvey (2011) explains that anything blocking the circulation and accumulation of capital may pose a threat to the capitalist system and induce a fundamental crisis. The finiteness of fossil fuels is a crisis of this kind (McCarthy, 2015). Altvater (2007) is convinced that capitalism will not be able to overcome this crisis; therefore, future technologic progress had to be embedded in a non-fossil, non-capitalist framework. Kallis (2011) also emphasises that the approach to a steady state (cf. Daly, 1991, Daly, 2005) will transform the institutional preconditions of property, work, banking, and distribution to such an extent that in the end, it will be impossible to still identify them as capitalistic. With regard to Kallis' doubts concerning the institutional robustness of capitalism, Schumpeter points out that precisely the ups and downs of industrial development, which are the outcomes of successful innovations' intensifying competition, enable progress (Herzog and Honneth, 2016). As crises therefore represent an immanent part of the capitalist system, an environmental and resources-related crisis caused by the capitalistic process does not provide sufficient evidence to suggest a possible downfall of the capitalistic social order. The crisis might even be taken as proof of an economic cycle, if it is regarded as a period of depression between the dwindling fossil and the emerging regenerative age. Böhm et al. (2012) and McCarthy (2015) confirm that capitalism is capable of overcoming even fundamental crises, actually using these as starting points of its further expansion. Concerning the environmental crisis, Harriss-White and Harriss (2007) also concede that the deployment of renewable energies holds the potential of founding a new form of capitalism that is characterised by a much lower degree of materialistic lavishness. Bettini and Karaliotas (2013) emphasise that from a neo-liberal point of view, the accusation of capitalism bringing about a resources-related and environmental crisis does not at all provoke self-doubts. Rather, it caused the profitable marketing of adequate approaches to solutions in the field of resource depletion and environmental impacts to move into economic focus. Even Altvater (2007) points out that the externalised effects of production and consumption on nature become relevant for companies once they jeopardise profitability and accumulation. In that case, environmental problems and their solutions can actually be made part of capitalist logic. Solomon and Krishna (2011) are convinced that in order to solve the environmental crisis, it were not even necessary to achieve further technologic breakthroughs, as the technologies needed for the remodeling of society towards energy efficiency were already mature and cost-efficient. Even if capitalism might be sufficiently robust, Kallis (2011) still takes the crisis as a chance to break up obstructive social and political lock-ins that have hitherto seemed unalterable and have lead into the crisis. Yet he does not regard the ability of social and political transformation to be inherent in the traits of market, but as a characteristic of a social order orientated towards degrowth. Certainly, Kallis is right in saying that the market is hard to control, making a concerted transformation towards sustainability difficult. Still his criticism only refers to that form of capitalism which Schumpeter characterised as trustified capitalism and which does lead to ecologically problematic lock-in effects. The criticism cannot, however, be applied to competitive capitalism, which generates those basic innovations giving rise to the revolutionary crises described as so fertile by Kallis (2011). Thus, an opportunity is provided for alternative social conditions to be brought about – but within the capitalist social order – and for substantiating these new conditions through further innovations. Innovations may emerge outside of competition and market economy, but will then lack the required frequency and force, as growth represents the most important incentive of innovation (Wangler, 2013). On the other hand, a continuous process of innovation again leads to growth, which may revolutionise the present social conditions, as Schumpeter states (Herzog and Honneth, 2016). Thereby, a new combination of the given means of production within new sites of production emerges, generating new goods, methods, and markets. Productive resources are applied to hitherto untested usages while being withdrawn from those usages they served before (Geels, 2011). What Kallis (2011) terms technological optimism with regard to the ecological innovative power of capitalism, is therefore technological realism in the context of Schumpeter's competitive capitalism. Without doubt, innovative boosts on the part of already established companies are also conceivable and may give rise to the possibility of maintaining trustified capitalism with its ecologically precarious structures. An example hereof is the innovation ‘Carbon Dioxide Capture and Storage’, by which the ecological impact of the emission intensive electrical conversion of coal is being reduced (Benson and Orr, 2008). Technological progress may hence stabilise the existent system of economy and policy that is accountable for the environmental crisis (Bettini and Karaliotas, 2013). In Schumpeter's view, however, the decisive economic order is competitive capitalism, which is characterised by the aggressive economic demeanour of new, innovative enterprises economically challenging the establishment (Herzog and Honneth, 2016). The start-ups of new companies, which are inseparably connected with the processes of innovation, withdraw production goods from the present capitalist system by underbidding, disturbing the former economic balance that is so destructive for nature. Competition is therefore essential for overcoming the environmental crisis. In that respect, the concept of ‘solidary economics’ and its precept of surmounting the allegedly ruthless principle of competition and emancipating oneself from the logic of the markets (Embshoff and Giegold, 2008), is counterproductive, as the renunciation of competition impedes the breakup of crusted economic structures, which thus continue to harm the environment. After all, the big energy providers' strategy was and is to hold on to the fossil-nuclear power plant pool for as long as possible, suppressing alternative concepts of energy supply (Gawel et al., 2012). A radical transformation of the energy system therefore cannot emerge from the existent structures, as Schumpeter assesses (Herzog and Honneth, 2016). Instead, innovative processes emerge outside of the old major companies until proceeding to attack the incumbent regime through the rededication of means of production (Geels, 2011). Innovative marketing strategies of small and middle scale businesses supplanting cumbersome large companies play an essential part especially in the field of renewable energies (Walsh, 2012). In this, competition is a decisive element that cannot easily be superseded. 4. Capabilities of green capitalism A competitive green capitalism develops great creativity by its high rate of innovation, which may also reinvent the relationship between humans and nature. We now want to exemplify how this might be brought about. Schumpeter holds the view that innovation is the result of the capitalistic entrepreneurial spirit, not the other way round (Herzog and Honneth, 2016). Technological and social progress hence are no independent variables materialising out of thin air, but arise from the logic of the capitalist process. Meadows et al. (2004) accept that innovations may relocate the limits of growth, making it possible to maintain the living standard by continuously reducing the consumption of crude materials and energy. However, one of the energy system's prevailing deficits is that depleted or not yet tapped resources are being (re-)obtained based on non-regenerative energy (Schwartzman, 2008), causing capitalistic production to be increasingly energetically inefficient (Murphy and Hall, 2011). Overcoming the energy crisis hence calls for the consideration of thermodynamic principles (Georgescu-Roegen, 1971, Georgescu-Roegen, 1986; Martinez-Alier, 1987). Harriss-White and Harriss (2007) see the deployment of renewable energies as a possibility of limiting the creation of entropy. Kaberger and Mansson (2001) have shown that innovative resources-saving material cycles may be possible and economical if they are based on the usage of the inexhaustible energy of irradiance. What is promising about this approach is that, due to research and development, the utilisation of solar energy becomes more and more efficient and lucrative (Schmid, 2016). Moreover, its inexhaustible potential allows for the exploitation of material resources even from deposits with extremely low crude material density. On a local level, the utilisation of solar energy may actually lead to a reduction of entropy (Ebeling et al., 1998; Kranert and Cord-Landwehr, 2010), as it is the case with the usage of waste heat of solar thermal power plants for the desalination of sea water (DLR, 2007). The integration of these capacities into smart grids and the associated remodeling of every production process to purely regenerative sources have been detailed in Section 3. We further argue that innovation surpasses conceivability. Even Harris (2010) sees a particularly high potential in unpredictable technological innovations to break through economic routine, thus encouraging further entrepreneurs in issuing their own innovations. Capitalism might thereby be provided with the chance to reduce its ecological exploitation. But innovation exceeds strictly technological aspects and may as well comprise social and institutional aspects (Arentsen and Bellekom, 2014). E.g., in the mobility sector, whose pollutant emissions have significantly contributed to the environmental crisis, innovations have led to new features of cargo and passenger transportation. This is illustrated by the example of car sharing as an innovative life style (Prettenthaler and Steininger, 1999) or bicycle-sharing schemes in urban areas (Midgley, 2011). Another representative case is the history of the ozone hole, which Meadows et al. (2004) describe as a history of civil success regarding the correction of a severe overshoot. Quite in the sense of Schumpeter, Meadows et al. (2004) name the ‘industry's creative heads’ as the crucial problem-solving determinant. Through the three innovative boosts ‘better insulation’, ‘reduced toxic substitute materials’, and ‘emission-free alternative substances’, it will be possible to rebuild the original density of the ozone layer by the mid-21st century. Remarkably, this is realised without abandoning the existent economic system. Furthermore, we argue that it is realistic to assume growth-oriented, competitive markets in the future, rather than socio-material conditions beyond them, which, as stated by Van den Bergh (2011) are completely uncertain as of now (e.g. Harris, 2013: socialist markets). We therefore hold the view that it is more pragmatic to design future mass markets in an eco-friendly way. Kallis (2011) rejects the possibility that the wonder of a dematerialised economy might occur, as improvements of efficiency were overcompensated by growing consumption. While dematerialisation may be tantamount to a wonder, researchers still do put effort into adjusting the materialised economy to ecological compatibility. One aspect is the thorough redefinition of nature protection, because nowadays, nature protection is reduced to the attempt of limiting the harmfulness of processes and products (Mulhall and Braungart, 2010). However, due to the potential creation of new mass markets for more eco-friendly and efficient processes or products, this strategy holds the danger of actually augmenting unwanted effects through rebound effects. In this regard, Alcott (2005) points to the Jevon's Paradox which says it is a great error to think that technologic innovations were going to reduce the consumption of resources. Polimeni et al. (2015) name the example of the Green Revolution: the remarkable increase of food production's area efficiency was not at all able to abate the problems of hunger and area consumption, as consequently, the population greatly increased. Likewise, a mass market of efficient and eco-friendly products would again lead to a massive amount of poison and waste, with disposed crude materials hardly being recycled. The ecological costs then would have to be externalised, which Sturm and Vogt (2011) regard as strong evidence of the failure of the market. The core problem hence lies in the fact that products are being produced exclusively for the technosphere (McDonough and Braungart, 2013). E.g., copper is almost universally applicable to and beneficial for technological systems, while in biological systems, this material is extremely poisonous. Thus, the aim must be to design products in a way that makes them equally usable in biosphere, i.e. subsequent to their technical usage. This calls for the development of a combined management of nutrients for techno- and biosphere. Human ways of living, the processes and products they are based on, may thereby be employed for the benefit of nature. The focus must therefore be put on those innovations that break up the present paradigm of environmental protection by realising products that create a useful material connection between techno- and biosphere. An example of this kind of creative destruction is the Austrian company Gugler, the first print shop worldwide that produces printing products free from harmful ingredients and exclusively with substances that can be biologically recycled (Gugler GmbH, 2018). E.g., the accruing sludge is returned to biosphere and the ash of burned printing products can be reused as a fertilizer. These conditions provide the possibility of designing economic activities to be ecologically compatible despite a high resource throughput.

### 2AC – ConCon

1. **ConCon would be a nightmare – damages democracy and the economy – 5 reasons**

Sims and Neurohr 19 (Micah Sims - executive director of the voter-watchdog group Common Cause Pennsylvania, John Neurohr - communications director for the Pennsylvania Budget and Policy Center, a left-leaning think-tank in Harrisburg, 1/30/19, A constitutional convention in the U.S.A? That's a bad idea," pennlive, <https://www.pennlive.com/opinion/2018/07/a_constitutional_convention_in.html>) MAM

The July 4 holiday is a time when we celebrate the birth of this nation, our shared ideals, and our founding principles. More than 230 years ago, the Founding Fathers came together in Philadelphia for the first constitutional convention to turn those shared values and principles into our constitution. Today, a well-funded, highly coordinated national effort is under way to call another constitutional convention. Under this plan, for the first time in U.S. history, states would utilize Article V of the U.S. Constitution to create a convention that would allow a complete overhaul of the Constitution. Supporters of this plan are dangerously close to succeeding. With special interest groups leading the way, activists are just six states short of reaching the constitutionally required 34-state goal. A second constitutional convention poses **unacceptable risks**, particularly in the current polarized political climate. Given how close a new convention might be, it's time to spotlight those risks and sound an alarm for the preservation of our Constitution. Too few Americans are even aware that a constitutional convention can be called through Article V, let alone that the process to call one is well under way and being underwritten by some of the nation's richest individuals. Few know that **there would be no checks on its scope of such a convention.** After years of inactivity, a number of organizations and donors have renewed and intensified efforts to thrust this issue into the spotlight. Pennsylvania voters want a change in state government. There's a really easy way to drive that message home. In just the last three years, the Convention of States resolution has passed in 12 states and has been introduced in 37 states, including Pennsylvania. So, why is this such a bad idea? Well, here are some reasons: **THREAT OF A RUNAWAY CONVENTION**: There is nothing in the Constitution to prevent a constitutional convention from being expanded in scope to issues not raised in convention calls passed by the state legislature. This could lead to a runaway convention, where virtually any part of the Constitution can be changed or eliminated. **INFLUENCE OF SPECIAL INTERESTS**: An Article V convention would open the Constitution to revisions at a time of extreme gerrymandering and polarization amid unlimited political spending. It could allow special interests and the wealthiest Americans to rewrite the rules governing our system of government. **LACK OF CONVENTION RULES**: There are no rules governing constitutional conventions. A convention would be an unpredictable **Pandora's Box**; the last one, in 1787, was called to amend the Articles of Confederation but led to a brand-new constitution. One group advocating for a "Convention of States" is currently promoting the idea of using the process to undo hard-won civil rights and civil liberties advances and undermine basic rights extended throughout history as our nation strove to deliver on the promise of freedom for all and a democracy that works for everyone. **THREAT OF LEGAL DISPUTES**: No judicial, legislative, or executive body would have clear authority to settle disputes about a convention, opening the process to chaos and protracted legal battles that would threaten the functioning of our democracy and economy. **APPLICATION PROCESS UNCERTAINTY**: There is no clear process for how Congress or any other governmental body could, or should, count and add up Article V applications, or if Congress and the states could restrain the convention's mandate based on those applications. POSSIBILITY OF **UNEQUAL REPRESENTATION:** It is unclear how states would choose delegates to a convention, how states and citizens would be represented in a convention, and who would ultimately get to vote on items raised in a convention. More than 230 public interest, civil rights, government reform, labor, environmental, immigration, and constitutional rights organizations have publicly opposed calls for an Article V constitutional convention. We are joining them to raise awareness about why this is so dangerous. What may at first blush sound like a process to better democratize our lawmaking process is, in reality, a potential disaster. We might not always be enamored with our Constitution and how it is applied by the courts but opening it up to attacks from extremists at both ends of the political spectrum is beyond risky--reasonable citizens across the country should oppose this idea

#### LTNB – Congress calls it

Shaw 18 (C. Mitchell Shaw, journalist for The New American, 8-1-2018, "Who’s Behind a Constitutional Convention?," The New American, https://www.thenewamerican.com/print-magazine/item/29820-who-s-behind-a-constitutional-convention)

The devil, though, is in the details. The first — and most obvious — problem with that argument is that Article V does not give state legislatures the power to call a convention. It says, “The Congress … shall call a convention for proposing amendments” subsequent to “the application of the legislatures of two thirds of the several states.” State legislatures apply for a convention, but **Congress calls a convention**. Of course, that means that Congress — a branch of the same federal government the advocates of a convention claim the convention would rein in — has the power (according to Article I, Section 8) to “make all Laws which shall be necessary and proper for carrying into Execution” the convention. That means Congress, not the state legislatures, gets to make the rules for how delegates are chosen, and Congress, not the state legislatures, gets to decide the apportionment of votes. Congress will have much more power over the convention than will the states.

#### Concons are neither binding nor enforceable AND any court ruling trumps.

Jaconelli 5 (Joseph, Professor of Law at University of Manchester; “Do Constitutional Conventions Bind?” 3/1/2005, The Cambridge Law Journal, Nexis Uni via Umich Libraries)//ddv

Constitutional conventions are not enforceable in the courts. Of some of them it cannot even be said that there exists an absolutely uniform record of compliance with the standards that they set. It would, however, be erroneous to take these objections as decisively disposing of the question. It is accepted, for example, that there is an obligation to obey the law, even though the content of that obligation is perforce moral only, and despite the fact that breaches of the law are frequent-both those that are selfishly motivated and those that are grounded on conscientious refusal to obey particular laws. 14 The making of promises, too, generally places the promisor under an obligation. The existence of the obligation remains unaffected by the fact that promises are frequently broken, and only if they happen to comply with the requirements of the law of contract can they be the subject of redress in the courts. This article asks whether constitutional conventions, similarly, impose moral obligations on the governmental actors to conduct themselves in the ways prescribed by those conventions.

II. A source of legal obligation?

1. The Conceptual Gap between Law and Convention

If constitutional conventions formed part of the law-that is to say, if they were enforced by the courts-there would be a clear answer to the question: do they bind? The reasons generally advanced in favor of the obligation to obey the law would apply equally to constitutional conventions. There would, indeed, be no effective difference between the two phenomena. Moreover, from the particular perspective of issues of civil disobedience, constitutional conventions would pose fewer difficulties in practice than do legal rules. Their subjects being political actors, they would not pose situations of conflict between governors and governed that characteristically give rise to issues of obedience to law.

The approach taken by the present article is that, despite the doubts raised from time to time by various writers, there exists a clear conceptual divide between laws and conventions. 15 Within legal systems of the common law family, at any rate, there is a firm dividing line between laws and social rules (of which constitutional conventions form a sub-group). This is reflected in two ways. First, long-standing social norms do not give rise to legal rights and duties that correspond in content to the relevant practices. 16 This was borne out in the dramatic circumstances of the seizure of the American steel mills by President Truman to advance the aims of the Korean War. In Youngstown Sheet and Tube Co. v. Sawyer 17 the United States Supreme Court ruled the seizure to be illegal, rejecting (among other arguments) the submission based on the fact that other Presidents had deemed it right to take possession of private businesses without the authority of the Congress in order to bring an urgent settlement to labour disputes. Secondly, the converse is equally the case. A long-standing failure to invoke legal powers or to enforce legal duties does not detract from the continuing existence of the same powers and duties. In other words, there is no doctrine, in the common law, of desuetude. 18

The conceptual divide between constitutional law and constitutional convention prompts the following questions. When does the presence of the one preclude the existence of the other in regard to the same subject matter? Under what circumstances can the two co-exist? Clearly, it is conventions which provide the more flexible norms of conduct. Colin Munro adds: "… it is at least arguable that conventions should play a larger role in countries with written constitutions; the greater the degree of constitutional rigidity, the greater is the need for the benefits of informal adaptation which conventions bring". 19 Yet, however great the need for adaptation in such constitutions, conventions can supply that element only in the absence of legal regulation of the same subject matter. No role for the application of constitutional conventions is left by legal rules of a duty-imposing nature. The enforcement of the duty in the courts trumps all consideration of conventional rules. 20 Power-conferring legal rules, on the other hand, do permit scope for the play of constitutional conventions. It makes perfect sense to say of the exercise of a governmental function that it is compounded of a legal power (e.g., to veto bills, or to run for office as President) and a conventional duty (e.g., to exercise the veto only in certain circumstances, or to abstain from running for more than a certain number of terms).

1. **Individual actor fiat is a voter**

The counterplan fiats that all delegates vote for the plan – kills solvency deficit ground and specific education

Infinitely regressive – any number of actors becomes legitimate - That spills over – explodes limits – forces the aff to defend against infinite potential options.

### 2AC – BizCon

#### Non-unique: Economic slowdown decks investor confidence.

Carlsson-Szlezak 10/7 (Philipp Carlsson-Szlezak; Boston Consulting Group's Chief Economist and a Managing Director and Partner, Paul Swartz; senior economist and director at Boston Consulting Group, and Martin Reeves, chairman of the BCG Henderson Institute, 10-7-21, 10-7-2021, The U.S. Economic Recovery Is Slowing Down. Don’t Be Alarmed., Harvard Business Review, <https://hbr.org/2021/10/the-u-s-economic-recovery-is-slowing-down-dont-be-alarmed>) MAM \*\*Edited for ableist language\*\*

With a few exceptions, we expect global growth to peak this year, followed by a deceleration next year. The economy is running into additional negative surprises, which are driving uncertainty and fear: Consumer confidence has dipped markedly in recent weeks, while firms’ outlook has dimmed too, as seen in falling PMIs. Inflation, though moderating recently, has not yet fallen back to comfortable levels, while firms are facing bottlenecks in labor and product markets. This is all occurring against the backdrop of the Delta variant, which brings the prospect of waning of vaccine effectiveness, more breakthrough infections, booster shots, and potentially new rounds of restrictions. Adding complexity, all of this is unfolding in that critical stage of the recovery when the ~~crutches~~ [assistance] of policy support fade[s] and the private sector — consumers most of all — have to drive the expansion forward. That hand-off is part and parcel of any recovery, but given the unusual size of stimulus and its withdrawal, the slowdown now happens in a high-risk window. If the hand-off to consumers is successful, we project year-over-year growth will slow from as high as 7% in 2021 to perhaps 2.9% in 2022. What looks like a brutal deceleration, however, is in fact necessary. (The economy should not overheat too much.) Plus the projected 2.9% would leave the U.S. economy still operating comfortably above its trend growth of around 2%, below which an expansion becomes sharply more vulnerable.

#### Non-unique and turn: Patent trolls stifle business investment

Gupta 14 (Krish Gupta, Senior Vice President - Litigation & Intellectual Property · Dell Technologies, 6-26-2014, Patent Trolls Stifle Innovation and Business Investment, Dell Technologies, <https://www.delltechnologies.com/en-us/blog/patent-trolls-stifle-innovation-business-investment/>, MAM)

In late 2013, I had the opportunity to testify before the Judiciary Committee of the United States’ House of Representatives about pending legislation focused on improving the country’s patent system. H.R. 3309, the Innovation Act, was subsequently passed by the U.S. House but was never voted on by the U.S. Senate. The abusive patent litigation that prompted activity in the U.S. Congress continues to stifle many young businesses and affect overall business growth for companies of every size. EMC has a keen interest in seeing that the U.S. patent system is rational, fair, and evenly balanced. We create many innovations and look to the patent system to protect our intellectual property (IP) and the jobs it creates. We currently have more than 4,000 U.S. patents In my 20 years in the field of IP law and licensing, I have seen abusive patent litigation sweep the country – diverting billions of dollars from economic growth and innovation to battling frivolous suits filed by patent assertion entities (PAEs) or “patent trolls.” EMC doesn’t settle frivolous patent suits Since 2005, EMC has been sued by patent trolls over 30 times and we have never been found to have infringed any patents. As a matter of principle we don’t settle frivolous suits, but defending those suits has cost millions and caused business disruption because it requires our employees to shift attention from designing new products and growing the business to sitting in depositions or going to court. For us, a typical PAE suit involves a shell company created solely to file suits. The PAE often sues dozens of companies, including EMC, in separate suits that get consolidated together. This causes each independent company to lose due process rights, and forces it to waste time and money coordinating lawsuits based on unrelated products. Furthermore, patent trolls attempt to pressure us into settling by demanding that thousands of documents and emails be provided pre-trial, most of which are irrelevant to the suit and costly to produce. To get a decision on the merits of a case, we typically have to wait two years, spend millions, and endure massive business disruption. Meanwhile, the PAE has nothing to lose with a steady income stream from defendants who settle along the way. This is often the fate of small and mid-sized companies who do not have the funds or bandwidth to hold their own in the face of this immense pressure. Academics reveal economic impact of PAE activity The Computer & Communications Industry Association commissioned a study by MIT Professor Catherine Tucker. Upon release of her paper, Professor Tucker said: “Some protection of intellectual property can lead to more innovation. However, more patent litigation does not imply more innovation. In fact, it **implies less innovation**. My analysis showed that litigation by patent trolls did not foster entrepreneurial investment at all. It is instead associated with significantly **reduced venture capital investment** in entrepreneurship, preventing startups from developing and suppressing job growth.” Among the economic impacts discovered in Professor Tucker’s research, she found that “frequent patent litigators” (PAEs) led to a loss of at least $8.1 billion in venture capital that would have been otherwise invested in American business enterprises over the course of five years. James E. Bessen, Jennifer Ford & Michael J. Meurer of Boston University School of Law also published a paper concluding that PAEs caused $29 billion in direct costs in 2011 alone. That number does not factor in broader costs, which have been estimated at $80 billion per year Looking forward I believe that patent litigation reform is urgently needed. Litigation initiated by PAEs is exacting a major toll on EMC and other productive companies, both large and small. Failure to act on the abuses of the litigation system has resulted in the problem growing worse, with more industries falling prey to the tactics of the PAEs. Legislation designed to reform our patent system will restore accountability and put balance back into the system, thereby alleviating some of the unfair legal tactics that are used against hardworking companies of all sizes that are the life-blood of the economy. Abusive patent litigation is a costly and rapidly-growing problem that is stifling American innovation and job creation each and every day.

#### Link turn - Demand is high – investors across sectors proves.

Max Chen, writer for ETF Trends, 8-27-2021, Investing in Climate Tech Is Gaining Mainstream Attention, https://www.etftrends.com/esg-channel/investing-in-climate-tech-is-gaining-mainstream-attention/?utm\_source=Yahoo&amp;utm\_medium=referral&amp;utm\_campaign=ReadMore

As environmental, social, and governance investments begin to expand from a niche group into the mainstream, socially responsible programs are now able to attract a wider pool of capital to fund sustainable projects.

“I think some of the extreme weather events are making some things a little more apparent to people," Mike Winterfield, founder and managing partner of Active Impact Investments, told Yahoo Finance Live. “But I think the second thing that's happened is it moved from, say, a group of do-gooders and concerned environmentalists to people who were serious about business and wanted to leverage capitalism sincerely in a way to make this a profitable endeavor, and I think that's when it dragged investors in.”

Venture capital-backed climate technology companies brought in $14.2 billion globally so far during the year that ended June 25, according to PitchBook data. From 2013 to 2019, global annual venture capital funding into **climate tech surged 3,750%** in absolute terms, or three times the rate of VC investment into artificial intelligence for the time period, according to PwC.

“I think there's just a lot of tailwinds for the space,” Winterfield added. “This is where the talent wants to work, when you look at millennials. This is where the regulations are going. This is where consumer behavior and preferences are changing. This is where investor money is flooding. So I would expect in the next 10 years that sustainability will become sort of a big go-to and big growth and performance space in investing.”

Some warned of the cyclical nature of the clean energy technology segment. For example, between 2006 through 2011, Silicon Valley VC firms funneled $25 billion into the clean tech sector, but by 2011, over half of that amount was lost, and new clean tech companies in the following years fell off.

Nevertheless, proponents believe that climate tech is more focused on solving the main drivers of climate change in all sectors. Consequently, climate tech leans toward transport and mobility sectors, with 63% of investments going to those areas, according to PwC. Additionally, climate tech is being supported by consumers and governments, which didn't play that large of a role a decade ago.

“The need is bigger and more urgent than it has ever been before, and [so is] people's understanding of that," Winterfield said.

#### Antitrust increases business confidence and growth broadly

OECD 14, Organization for Economic Cooperation and Development, “Factsheet on how competition policy affects macro-economic outcomes”, OECD, October 2014, https://www.oecd.org/daf/competition/2014-competition-factsheet-iv-en.pdf

Most importantly, it is clear that industries where there is greater competition experience faster productivity growth. This has been confirmed in a wide variety of empirical studies, on an industry-by-industry, or even firm-by-firm, basis. Some studies seek to explain differences in productivity growth between industries using measures of the intensity of competition they face. Others look at the effects of specific pro-competitive interventions, particularly trade liberalisation or the introduction of competition into a previously regulated, monopoly sector (such as electricity).

This finding is not confined to “Western” economies, but emerges from studies of the Japanese and South Korean experiences, as well as from developing countries.

The effects of stronger competition can be felt in sectors other than those in which the competition occurs. In particular, vigorous competition in upstream sectors can ‘cascade’ to improve productivity and employment in downstream sectors and so through the economy more widely.

The main reason seems to be that competition leads to an improvement in allocative efficiency by allowing more efficient firms to enter and gain market share, at the expense of less efficient firms (the so called between-firms effect). Regulations, or anti-competitive behaviour preventing entry and expansion, may therefore be particularly damaging for economic growth. Competition also improves the productive efficiency of firms (the so called within-firms effects), as firms facing competition seem to be better managed. This can even apply in sectors with important social as well as economic outcomes: for example, there is increasing evidence that competition in the provision of healthcare can improve quality outcomes.

There is also evidence that intervening to promote competition will increase innovation. Firms facing competitive rivals innovate more than monopolies (although after such competition a firm may of course end up with a monopoly through a patent). The relationship is not simple: it is possible that moderately competitive markets innovate the most, with both monopoly and highly competitive markets showing weaker innovation. However, as competition policy does not focus on making moderately competitive markets hyper-competitive, but rather on introducing or strengthening competition in markets where it does not work well, this would still imply that most competition policies serve to promote innovation.

Because more competitive markets result in higher productivity growth, policies that lead to markets operating more competitively, such as enforcement of competition law and removal of regulations that hinder competition, will result in faster economic growth.

Is there evidence that pro-competitive policies are effective?

In addition to this evidence that competition promotes growth, there have been studies directly of the effects of competition law itself, and of product market deregulation. Although it is difficult to distinguish the effects of individual policy changes, there are some studies showing that introducing competition law raises productivity. Conversely, the selective suspension of antitrust laws in the USA during the 1930s seems to have delayed recovery.

Many studies of the effect of competition law use international comparisons of different countries’ experiences, to assess whether countries with competition laws (or longer-standing, or more effective competition laws) achieve faster economic growth. The task is a difficult one because of many other factors that affect the overall economic growth rate, including other policies introduced at the same time (e.g. Eastern Europe’s transformation after 1989). Some studies find no effect, but the overwhelming majority of such studies do find a positive effect of competition law on economic growth. Most ascribe this effect to increased productivity, although there may also be an effect on investment, especially in developing countries, perhaps because competition laws boost business confidence and reduce corruption.

#### Link turn - Patent concentration deprives the market of innovation and competition – patent thickets are self-reinforcing

Day and Schuster 19 (Gregory R Day; Assistant Professor at the University of Georgia Terry College of Business and University of Georgia School of Law & W. Michael Schuster, Assistant Professor at the University of Georgia Terry College of Business, 2019, Patent Inequality," Alabama Law Review 71, no. 1 (2019): 115-162, https://heinonline.org/HOL/Page?handle=hein.journals/bamalr71&collection=journals&id=125&startid=&endid=172)

A. **Not All Patents Are Good for Innovation**

Significant debate exists among both practitioners and academics regarding whether the existence of all patents is beneficial for technological (and thus economic) growth. For instance, former FTC Commissioner Maureen K. Ohlhausen unequivocally asserts "that [more] patents materially spur [more] innovation" and lead to "demonstrably superior innovation in IP-intensive industries."'17 3 This sentiment echoes the early work of Simone A. Rose, which asserted that "technological innovation and economic growth" are undercut when patent filings diminish. 174 Absolute positions of this nature are ultimately summed up in the policy stance that "more patents equals more innovation."175 While some empirical work supports this position, 17 6 another body of literature stands in disagreement. 77

Our findings fill a void in the literature by adding an empirical underpinning to these concerns. Patents-a tool meant to encourage innovation-are actually discouraging research **when large portfolios are held in a discrete field.** This is exacerbated by the self-reinforcing nature of the problem; firms respond to patent thickets by propelling their own patenting activities, **which strengthens the thicket**, requiring firms to further propel patenting activities. 178

These determinations are of particular concern given the firm-size specific nature of our conclusions. Firms with substantial patent holdings are unaffected by an upsurge in patents in their field; they continue to spend on R&D. In contrast, those with relatively fewer patents reduce research expenditures in the face of substantial patent holdings. This divergent response to patent thickets initially **deprives the market of new products**, net innovation, and competition. There is, however, a second, less obvious harm from this phenomenon. Discouraging research by nascent firms undermines the creation of potentially ground-breaking technologies that commonly arise from less mature companies (i.e., those owning fewer patents).' 79 Concentrations of patents thus **deprive the public of research** that can both create market competition and introduce particularly important innovations.

Recognizing these shortcomings of the current system, we now propose methods to correct this misalignment. As set forth in the following Subpart, our findings provide necessary empirical backing to proposals to discourage overpatenting and its associated ills.

### 2AC – Court DA

#### No link - The threat of compulsory licensing solves without litigation – prevents building capital.

Tyler 14 [Neil, JD from the Univ of Pennsylvania, MBA from the Wharton School, practicing attorney, “Patent Nonuse and Technology Suppression: The Use of Compulsory Licensing to Promote Progress,” *University of Pennsylvania Law Review* 162, p.469, JCR]

Compulsory licensing should be imposed in only limited circumstances— specifically, where overwhelming hardship to the public outweighs the benefits to the patent holder. The threat and actual imposition of a reasonable and equitable royalty rate can help overcome the high transaction costs, bilateral monopolies, and psychological failures that often prevent parties from reaching agreements.111 Therefore, when patent holders fail to commercialize their intellectual property after a reasonable period of time, such patents should be subject to compulsory licensing for the benefit of society.112 Patentees who are unable or unwilling to acquire the resources necessary to bring the product to market or fail to find a suitable licensee should be subject to the market-forcing mechanism of compulsory licensing. Not only would products that would otherwise be shelved or suppressed for the patent term come to market, but they would presumably be offered at more competitive prices. The mere threat of compulsory licensing for nonuse would likely reduce the incidence of patent suppression and nonworking by persuading entities to overcome conflicts and issue licenses based on their own price valuations.113

#### Multiple big tech cases thump.

Emily **Birnbaum 20**. Emily Birnbaum is a tech policy reporter with Protocol. Her coverage focuses on the U.S. government's attempts to regulate one of the most powerful industries in the world, with a focus on antitrust, privacy and politics. Previously, she worked as a tech policy reporter with The Hill after spending several months as a breaking news reporter. She is a Bethesda, Maryland native and proud Kenyon College alumna.” Which of the Big Tech antitrust lawsuits has the best chance of winning?” Protocol. 12/17/20. https://www.protocol.com/big-tech-antitrust-case-ranking

For the first time ever, there's a real chance that Facebook and Google could be broken up. It's going to be a tough, years-long battle. But the companies are facing existential legal threats as government regulators and state attorneys bring five separate antitrust cases against them: two against Facebook and three against Google. None of the cases will be easy to prove. This is the most aggressive set of antitrust actions by the government in decades, and courts are more skeptical than ever. But the cases make a new era in antitrust enforcement, and anything is possible. Protocol ranked the lawsuits in order of least to most likely to succeed. 4. Texas-led case against Google Legal experts have expressed the most skepticism around the antitrust lawsuit against Google's ad stack dominance from the Texas-led coalition of 10 attorneys general. Some of the complaint's central claims, including alleged collusion between Facebook and Google, are enticing — but it's unclear if the coalition has the goods to back them up. "The Texas case could be a killer case," said Chris Sagers, an antitrust professor at Cleveland-Marshall College of Law. If the states are able to prove a horizontal conspiracy between Google and Facebook to rig the ad tech market, it would amount to a clear violation of Section 1 of the Sherman Act, which prohibits agreements that restrict trade. But Sagers said it's all in the details, and the some of the allegations "seem more ambiguous and subject to interpretation." It's difficult to analyze because so much of the complaint is redacted, particularly the sections about what Google admitted to in internal communications. And Google has already shot down a separate allegation in the suit, which claimed Google gained access to encrypted WhatsApp messages. On the other hand, a court likely won't struggle with the concept that Google has outsized power over all levels of the ad stack, and there's significant public evidence that it engaged in plenty of manipulative behaviors to maintain that control. It's also yet to be seen if any Democrats will join the Texas suit, which will struggle with credibility issues as Texas Attorney General Ken Paxton continues to face allegations of corruption and an ongoing FBI investigation. 3. Colorado- and Nebraska-led case against Google The complaint from the coalition of 35 attorneys general led by Colorado and Nebraska is sweeping and ambitious, with sections detailing Google's exclusionary conduct in search, its efforts to limit the visibility of specialized search engines and its growing dominance in emerging technologies like voice assistants. It's a serious case with broad bipartisan support, and its focus on Google's current efforts to muscle into voice assistants might appeal to a judge looking for ongoing anticompetitive behavior in a dynamic market. "Part of what I suspect these companies are going to argue is, 'What do you mean durable monopoly power? This is a dynamic setting and the moment you slow down, the rest of the world passes you by,'" said William Kovacic, former FTC chairman. "The Colorado complaint is saying, 'It is very competitive and you are using every bit of skill you have to anticipate what those new threats are and to squash them.'" But it's an open question whether antitrust is the best mechanism to rein in self-preferencing, one of the central allegations of the Colorado case. Hal Singer, a managing director at antitrust firm Econ One, has argued that self-preferencing "does not fit into any well-received antitrust paradigm." And even if the laws could be "stretched" to accommodate this type of exclusion, the pace of antitrust litigation is likely far too slow to remedy the harms to innovation, he wrote. It's yet to be seen how a court responds to allegations of self-preferencing as an antitrust violation. The states are arguing that Google restricts the way specialized sites like Yelp and Tripadvisor can advertise, harming their business and giving consumers fewer options. The Nebraska and Colorado-led coalition is planning to consolidate its case with the DOJ's, and a judge will have to consider each allegation

on its own. "This lawsuit seeks to redesign search in ways that would deprive Americans of helpful information and hurt businesses' ability to connect directly with customers," Google said in a statement. "We look forward to making that case in court, while remaining focused on delivering a high-quality search experience for our users." 2. The FTC and state attorneys general bring cases against Facebook The cases against Facebook from the coalition of 48 state attorneys general and the FTC read like a wish list from progressive antitrust activists. The FTC is calling for Facebook to spin off WhatsApp and Instagram while alleging the company has destroyed privacy protections and elbowed out potential competitors in the battle to maintain its position as the biggest social network in the world. What's amazing about the twin cases is that the government could plausibly win, although it will be a steep uphill battle. "You have a monopoly that is acquiring nascent competitive threats," said Maurice Stucke, a former DOJ prosecutor and professor of law at the University of Tennessee. "You have anticompetitive intent, anticompetitive design and internal documents to show how these acquisitions further that anticompetitive design." The FTC and state cases are extremely similar and will likely be consolidated in federal court in Washington, D.C. They both focus on whether Facebook's acquisitions of Instagram and WhatsApp were anticompetitive and whether Facebook has leveraged the power of its APIs to kneecap potential rivals. But the government will likely have to surmount deep skepticism of its market definition: "personal social networking." They'll have to work hard to prove that Facebook exists in its very own marketplace that excludes social media sites like TikTok and YouTube. "If I had shown up at a meeting and announced that Facebook didn't compete with Google, Apple or TikTok, I would have been laughed out of the room," wrote Matt Perault, formerly Facebook's director of public policy, in an op-ed on Thursday. And the court will demand extensive evidence proving that Instagram and WhatsApp could have grown without Facebook's acquisition, a hypothetical situation that might be difficult to substantiate. "Could Instagram have developed without the investment of money and know-how from Facebook?" said Kristen Limarzi, a partner at Gibson, Dunn & Crutcher and former DOJ antitrust official. "I think that's unclear, but that's what the FTC will have to prove." 1. DOJ's case against Google The DOJ's case against Google, which was filed in October alongside a coalition of 11 Republican attorneys general, likely has the best shot at winning simply because it is the least ambitious. The complaint hews as closely to the 1990s Microsoft case as possible — a case that the government won even though it did not ultimately result in Microsoft's breakup. Paralleling the Microsoft case, the DOJ's complaint narrowly targets Google's "exclusionary contracts" with other companies, most prominently its more than $12 billion deal to keep Google as Apple's default search engine. So far, under the Trump administration, the case does not get into broader questions about Google's dominance in search or advertising technology. Legal experts said the DOJ's case alleges clear-cut violations of Section 2 of the Sherman Act, as long as it's able to substantiate its core claims. "It's a plausible Section 2 argument that is pretty well-substantiated, with plausible reasoning and citations to what looks like real evidence," Sagers said. Google has called the case "deeply flawed." "People use Google because they choose to, not because they're forced to," Google's chief legal officer, Kent Walker, said. But the DOJ will try to prove that users hardly have a choice in the matter. The case could benefit from the well-resourced lawyers working against Google, including attorneys with Oracle, AT&T, Microsoft and other top firms, and the open-minded judge it's been assigned to, Amit Mehta. It's still one of the most ambitious antitrust lawsuits to come from the U.S. government in decades, and it will face serious hurdles. Mehta could be skeptical of the DOJ's definition of the relevant market: "general search," which excludes specialized search engines like Amazon or Expedia. And it will be highly fact-specific, meaning the government has to provide extensive evidence proving its allegations.

# 1AR

## CP

### Cp: Circumvention

#### CP is circumvented and ignored

David A. **Strauss**, JD Magna Cum Laude Harvard Law School, Special Counsel to the Senate Judiciary Committee, Member of the Board of Governors of the Chicago Council of Lawyers and is currently Chair of the Board of Trustees of the Laboratory Schools, “The Irrelevance Of Constitutional Amendments, 114 Harv. L. Rev. 1457, 20**01**

In this respect, a mature society might be compared to a long-term contractual agreement. n10 The parties to such contracts often do not rely solely, or even substantially, on the text of the contract to govern their day-to-day relationship; they have developed extratextual understandings. Similarly, in a mature society, **people accept the acts of** legislatures, **courts**, and executive agencies - and the political and nonpolitical acts of their fellow citizens - **even when those acts augment or arguably conflict with the foundational text**. In a newly formed political society, any apparent deviation from the words of a constitution might be seen as revolutionary and might cause the society to break apart; in a mature society, relationships and patterns of trust are so well developed that that does not happen. As a result, by the time an Article V supermajority is galvanized into action, chances are good that much of society has already changed by one of these other means. And if a formal amendment process were unavailable, society would find another way to enforce the change it has determined to make - by legislation and judicial interpretation, or by alterations in social understandings and private sector behavior. The change might not be accomplished as neatly or as decisively; outliers might not be brought into line as quickly, for example. But relatively speaking, that is a detail. Those other institutions - not supermajoritarian constitutional amendments - will be the truly important means of constitutional change. This explains why, when [\*1463] society has changed enough to produce a supermajority in favor of a formal amendment, the amendment is probably unnecessary. One cannot, however, just say simplistically that any set of political forces strong enough to bring about a constitutional amendment is strong enough to change society in some other way, because that is not always true. A supermajority might act, and adopt an amendment, even if society has not fundamentally changed. An amendment might represent a momentary high-water mark of popular sentiment on a question, or an effective effort by an interest group at the height of its power to secure its position. n11 At a later time, many people, even a majority, might decide that the amendment was a mistake - but there it is, entrenched in the Constitution. On these occasions **the formal amendment will be relatively insignificant** for a different reason. When there is no lasting social consensus behind a textual amendment, the change in the text of the Constitution is unlikely to make a lasting difference - at least if it seeks to affect society in an important way - unless society changes in the way that the amendment envisions. Until that happens, **the amendment is likely to be evaded, or interpreted in a way that blunts its effectiveness**. This is, in a sense, the other side of the fact that a mature society has a variety of institutions, in addition to the text of the Constitution, that can affect how the society operates. Those institutions can change society without changing the Constitution; but they can also keep society basically the same - perhaps with some struggle, but still basically the same - even if the text of the Constitution changes. This was, most notoriously, the story of the Fourteenth and, especially, the Fifteenth Amendment. The Fifteenth Amendment was somewhat effective in the short run, but within a generation it had been reduced to a nullity in the South. n12

## DA

### 1AR – Court Capital Not Real

#### Court capital theory is untrue, and forcing particular decisions to save capital undermines legitimacy

Amanda L. Tyler, Associate Professor of Law, George Washington University Law School, November 2006, Stanford Law Review, Vol. 59, No. 2, p. 369-370

Nor does Baker’s reference to the need to avoid “initial policy determination[s]” advance the inquiry a great deal. One could interpret the passage to refer to the importance of declining to review unripe cases. To the extent that the reference was intended to sweep more broadly, it would seem to beg the question at hand.199 Similarly, Baker’s reference to the need to hesitate before using up judicial capital and avoid evincing a “lack of the respect due coordinate branches of government” or “multifarious pronouncements . . . on one question” is also problematic.200 Here, Baker relied most heavily on Bickel in presupposing that the Court should invalidate acts of a coordinate branch only when such an expenditure of its limited capital is likely to yield a result acceptable to the other branches and to the people. The controversial nature of this proposition likely explains the Court’s reluctance to rely expressly on it in subsequent decisions. There are also serious problems with the idea. First, as many commentators have noted, Baker’s concern with deciding cases against the interests of the companion branches “ha[s] the potential for swallowing judicial review entirely.”201 Second, a problem with this “exhaustible capital theory” is the fact that, as Jesse Choper has catalogued, decisions by the Supreme Court are often ignored, at least for a time.202 Does this in turn undercut the Court’s legitimacy? No—instead, this is the natural corollary of the fact that the courts, by design, “have neither FORCE nor WILL but merely judgment.”203 Finally, as one commentator observed even before the Court decided Roe v. Wade,204 “[h]owever controversial the issues avoided in political question cases may have been, they cannot possibly have been more hotly disputed” than any number of important cases that the Court has decided on the merits.205 It strikes me as both misguided and dangerous to suggest that the Court put much stock in the legitimacy capital theory—misguided because occasions for outright disobedience of Court decisions will be rare; dangerous because any theory of abdication based itself on political considerations risks undermining the very respect for the institution of judicial review that the Court should seek to preserve.206