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The United States Climate Change Policies and COVID-19: Poisoning the Cure

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THE UNITED STATES CLIMATE CHANGE POLICIES AND COVID-19: POISONING THE CURE

Carolina Arlota*

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Abstract

Climate change is complex during the best of times. It is commonly conceptualized as the quintessential global collective action problem: it affects those who do not contribute to it while the benefits of climate change mitigation measures are not restricted to those who pursue such measures. This conceptualization illustrates the high transaction costs involved in domestic policies as well as in international agreements addressing climate change, and it is of academic and practical interest. As such, this Article discusses the current challenges that climate change policies face, focusing on the linkages between the climate change policies of the Trump administration and the COVID-19 pandemic and on the effects of those linkages, both in the United States and globally. Specifically, this Article addresses the Trump administration's attacks on climate science and its deregulatory climate agenda, as well as the United States' withdrawal from the Paris Agreement on Climate Change. In addition, it discusses principles of international law and the challenges related to state liability for environmental harms in the context of the COVID-19 crisis. This Article also assesses how the United States' climate policies are likely to aggravate inequalities both domestically, as well as globally, in the aftermath of the pandemic.

This Article offers several original contributions. First, it provides a unique assessment of how the deregulatory climate policies implemented nationally and internationally by the Trump administration have magnified the COVID-19 crisis. Second, the law and economics methodology used in this Article validates the claim that improving environmental quality is connected to optimizing early regulatory action. Third, this

Article discusses the challenges of state liability for climate harms in the aftermath of the United States' withdrawal from the Paris Agreement and concurrent COVID-19 pandemic. Finally, this Article offers relevant insights for the literature on climate change that are likely to be applicable to critical future situations, whether they are health-related, a global economic crisis, or climate-related emergencies.

Ultimately, this Article concludes that, in the aggregate, all such climate change policies have contributed to increased pollution, including elevated greenhouse gas emissions that have aggravated pre-pandemic inequalities embedded within the United States and among countries. Consequently, the domestic and international policy choices of the Trump administration are worsening the impact of the pandemic, particularly for those in more vulnerable positions, as well as indelibly poisoning the global commons.

Keywords: climate change, climate policy, international environmental law, international law, international energy law, COVID-19, pandemic, deregulation, Trump administration, Paris Agreement, international liability, climate harm, inequality.

I. INTRODUCTION

Climate change is complex during the best of times. It is commonly conceptualized as the quintessential global collective action problem¹: it affects those who do not contribute to it while the benefits of climate change mitigation measures are not restricted to those who pursue such measures.² This conceptualization illustrates the high transaction costs involved in domestic policies, as well as in international agreements addressing climate change, and it is of academic and practical

1. Daniel C. Esty & Anthony L. I. Moffa, *Why Climate Change Collective Action Has Failed and What Needs to be Done Within and Without the Trade Regime*, 15 J. INT'L ECON. L. 777 (2012). Pollution, after all, is the paradigmatic example of the tragedy of the commons. See also Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1245 (1968) ("The rational man finds that his share of the cost of the wastes he discharges into the commons is less than the cost of purifying his wastes before releasing them. Since this is true for everyone, we are locked into a system of 'fouling our own nest,' so long as we behave only as independent, rational, free-enterprises.").

2. MICHAEL J. TREBILCOCK, *DEALING WITH LOSERS: THE POLITICAL ECONOMY OF POLICY TRANSITION* 120 (2014).

interest. As such, this Article discusses the current challenges that climate change policies face, focusing on the linkages between the climate change policies of the Trump administration and the COVID-19 pandemic, and on the effects of those linkages, both in the United States and globally.³ Specifically, this Article addresses the Trump administration's attacks on climate science and its deregulatory climate agenda, as well as the United States' withdrawal from the Paris Agreement. This Article concludes that, in the aggregate, all these climate change policies have contributed to increased pollution, including elevated greenhouse gas ("GHG") emissions that have intensified pre-pandemic inequalities embedded within the United States and among other countries. Consequently, the domestic and international policy choices of the Trump administration are worsening the impact of the pandemic, particularly for those in more vulnerable positions, as well as indelibly poisoning the global commons.

Despite the complexity of climate change, the scientific knowledge outlining broad principles on the topic is uncontested.⁴ Of course this does not, as in any scientific endeavor, abolish all uncertainty.⁵ This uncertainty is further heightened by novelty; the changes that will potentially be caused by climate change have few precedents in the history of the Earth.⁶ Accordingly, predictions are perennially affected by uncertainty, speculation, and lack of information regarding future GHG emissions, the effects of past and future emissions on the climate system, the impact of changes in climate on the physical and biological environment, and how such environmental effects might translate into economic damage.⁷

3. The World Health Organization officially declared COVID-19 a pandemic on March 11, 2020. Tedros Adhanom Ghebreyesus, Dir-Gen., *WHO Director-General's Opening Remarks at the Media Briefing on COVID-19*, WORLD HEALTH ORG. (Mar. 11, 2020), <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>.

4. See Antony Millner et al., *Ambiguity and Climate Policy* 3 (Nat'l Bureau of Econ. Rsch., Working Paper No. 16050, 2010) (highlighting that empirical predictions based on sophisticated models may lead to different forecasts).

5. See generally ANDREW DESSLER & EDWARD A. PARSON, *THE SCIENCE AND POLITICS OF GLOBAL CLIMATE CHANGE: A GUIDE TO THE DEBATE* 1 (2d ed., 2010).

6. *Id.* at 2.

7. INTERAGENCY WORKING GRP. ON SOC. COST OF GREENHOUSE GASES,

Despite potential uncertainties about the precise time-frame and costs involved, the impacts of climate change are estimated to be severe.⁸ These estimations include both market damages (e.g., infrastructure, tourism, increased energy demand, among others) and non-market damages (such as the impact on ecology and cultural values, for instance).⁹

In such a context, climate change presents unique challenges for domestic and international regulation, as it refers primarily to future events,¹⁰ with consequences that require policy coordination and multi-level governance (specifically, at national and international levels).¹¹ Three main factors contribute to the complexity of climate policies. First, human behavior discounts the value of long-term challenges in favor of present gains.¹² Second, the majority of countries in the developed world are democracies based on electoral cycles that tend to reward short-term considerations.¹³ Third, regulatory efforts face additional hurdles because the connection between the risks of climate change (storms, rising sea levels, fires, floods) and climate change itself is not immediate to the public.¹⁴ Therefore, transaction costs for the involved parties are very high, despite the immediate need to enact climate change

TECHNICAL SUPPORT DOCUMENT: TECHNICAL UPDATE OF THE SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS UNDER EXECUTIVE ORDER 12866, 3 (2016). See generally O. Hoegh-Guldberg et al., *The Human Imperative of Stabilizing Global Climate Change at 1.5°C*, 365 SCI. 1 (2019) (contending the immediate need for meaningful climate change policies, as the synergistic nature of climate threats has not been fully assessed and the outcomes are likely to be worse than the sum of the parts).

8. See ERIC A. POSNER & ALAN O. SYKES, *ECONOMIC FOUNDATIONS OF INTERNATIONAL LAW* 230 (2013).

9. Charles Kolstad et al., *Social, Economic, and Ethical Concepts and Methods*, in *CLIMATE CHANGE 2014: MITIGATION OF CLIMATE CHANGE* 212 (Edenhofer et al eds., 2014).

10. See ANTHONY GIDDENS, *THE POLITICS OF CLIMATE CHANGE* 2 (2011).

11. Esty & Moffa, *supra* note 1, at 777.

12. See GIDDENS, *supra* note 10, at 3 (explaining *future discounting*, namely, the idea that humans prefer a small present reward instead of a future large reward). See generally Peter C. Fishburn & Ariel Rubinstein, *Time Preference*, 23 INT'L ECON. REV. 677 (1982) (on present bias and discounting rate).

13. See generally GIDDENS, *supra* note 10, at 2–6.

14. See Cary Coglianese, *Climate Change Necessitates Normative Change*, REGUL. REV. (Jan. 27, 2020), <https://www.theregreview.org/2020/01/27/coglianese-climate-change-necessitates-normative-change/>.

regulation both domestically and under international treaties.¹⁵

Having established the importance of climate regulation in the national and global spheres,¹⁶ this Article investigates the linkages between the deregulatory climate agenda pursued by the Trump administration¹⁷ and the COVID-19 pandemic in both spheres. Starting with the national perspective, this Article discusses particular deregulatory actions either implemented or proposed by the Trump administration that are likely to adversely impact the pandemic and the current climate crisis. The selected policies are the most likely to have significant consequences for these emergencies. Pollution in general, including GHGs, adversely impacts one's immunity and respiratory systems, making individuals more vulnerable to the COVID-19 virus.¹⁸ Hence, attacks on climate science and the following proposed deregulatory policies are examined: directing agencies to neglect GHG emissions and the related grant of license that authorizes construction of pipelines coupled with undue delays in issuing energy regulations, the repeal of the Clean Air Act, the repeal of the Clean Power Plan and related threats to air quality, the flexibilization of the National Environmental Policy Act, the rollback of regulations promoting fuel efficiency, and the relaxation of regulatory standards and overall enforcement during the COVID-19 pandemic.

As for the international sphere, this Article focuses on how the Trump administration has undermined global cooperation

15. See Charles F. Sabel & David G. Victor, *Governing Global Problems Under Uncertainty: Making Bottom-Up Climate Policy Work*, 144 CLIMATIC CHANGE 15, 18 (2017).

16. The need for academic investigation of the Trump administration's climate policies in both spheres is also motivated by the Trump administration deregulatory agenda. After all, President Trump has demonstrated "little enthusiasm either for environmental enforcement or for minority communities." See generally Michael B. Gerrard, *Emergency Exemptions from Environmental Laws*, in LAW IN THE TIME OF COVID-19 88 (Katharina Pistor ed., 2020).

17. Jessica Wentz & Michael B. Gerrard, *Persistent Regulations: A Detailed Assessment of the Trump Administration's Efforts to Repeal Federal Climate Protections*, COLUM. L. SCH. 1, 1 (2019), <https://academiccommons.columbia.edu/doi/10.7916/d8-3dcs-3h21>.

18. See Jason A. Schwartz, *Weakening Our Defenses: How the Trump Administration's Deregulatory Push Has Exacerbated the COVID-19 Pandemic*, N.Y.U. INST. POL'Y INTEGRITY 1, 4 (2020) (<https://policyintegrity.org/publications/detail/weakening-our-defenses> (see also medical references therein)).

on climate matters. The reduction of carbon emissions and GHGs are at the core of the United Nations Framework Convention on Climate Change (“UNFCCC”)¹⁹ and its corollary, the Paris Agreement on Climate Change.²⁰ Both treaties were informed by the best-available scientific knowledge.²¹ Scientific consensus correlates climate change with global warming, of which one human-induced cause is the accumulation of GHGs in the atmosphere.²² Ignoring the severe risks and costs associated with the United States’ withdrawal from the Paris Agreement on Climate Change,²³ the Trump administration decided to

19. See United Nations Framework Convention on Climate Change art. 23, May 9, 1992, 1771 U.N.T.S. 107 [hereinafter UNFCCC]. The UNFCCC entered into force on March 21, 1994. The scientific consensus regarding the existence of climate change and the necessity of mitigation were paramount considerations during UNFCCC negotiations. John Houghton, *Science and International Environmental Policy: The Intergovernmental Panel on Climate Change*, in ENVIRONMENTAL LAW, THE ECONOMY, AND SUSTAINABLE DEVELOPMENT: THE UNITED STATES, THE EUROPEAN UNION AND THE INTERNATIONAL COMMUNITY 355–57 (Richard Revesz et al. eds., 2000).

20. United Nations Paris Agreement art. 2, Dec. 12, 2015, 54113 U.N.T.S. 88 [hereinafter Paris Agreement]. The Paris Agreement, with its goal of reducing GHGs, was negotiated following the legal framework of the UNFCCC, a treaty with 196 state parties to which the Senate gave its advice and consent in 1992. See also HAROLD HONGJU KOH, THE TRUMP ADMINISTRATION AND INTERNATIONAL LAW 39 (2018).

21. See María Pía Carazo, *Contextual Provisions: Preamble and Article 1*, in THE PARIS AGREEMENT ON CLIMATE CHANGE: ANALYSIS AND COMMENTARY 109–10 (Daniel Klein et al. eds., 2017).

22. The scientific community overwhelmingly acknowledges the existence of climate change and that GHG emissions are a primary cause. See Richard S.J. Tol, *Quantifying the Consensus on Anthropogenic Global Warming in the Literature: A Re-Analysis*, 73 ENERGY POL’Y 701 (2014); see also Richard S.J. Tol, *The Elusive Consensus on Climate Change* 8 (U. Sussex Bus. Sch., Working Paper No. 03-2019, 2019) (emphasizing that 97% of scientific studies point to human activity as “the most important factor in climate change since 1950”). The EPA, for instance, acknowledges that the combustion of fossil fuels is likely the human activity that contributes most to the concentration of carbon dioxide in the atmosphere. See *Carbon Dioxide Emissions*, EPA (last updated Sept. 8, 2020), <https://www.epa.gov/ghgemissions/overview-greenhouse-gases#carbon-dioxide>.

23. The costs involved are significant. A recent study on heat-related mortality avoided by lowering current emissions in line with the Paris Agreement found that, with a high degree of confidence and using conservative estimations, the United States would avoid from 70 to 1,980 annual heat-related deaths. See Y.T. Eunice Lo et al., *Increasing Mitigation Ambition to Meet the Paris Agreement’s Temperature Goal Avoids Substantial Heat-Related Mortality in U.S. Cities*, 5 SCI. ADVANCES 1, 4 (2019). According to the EPA, natural disasters in 2017 caused \$306.2 billion in cumulative damages, making the year the most expensive on record. The report also emphasized that

formalize that withdrawal.²⁴ This will lead to increasing GHG emissions and overall pollution,²⁵ thus negatively impacting the mitigating effects of the pandemic.

Aggravating this scenario, the negative environmental effects of the pandemic will be dire, which is contrary to common assumptions. The International Energy Agency (“IEA”) warns that, unless investments are made in cleaner and more resilient energy infrastructure, total emissions may rebound (as they have done after previous economic crashes) to levels higher than before the crisis.²⁶ Corroborating such warnings, a new review of the empirical literature concluded that, despite the temporary reduction of global carbon emissions due to the pandemic,²⁷ benefits for the planet will not be as hoped.²⁸ Another study found that the immediate climate effects of the pandemic-related restrictions are close to negligible, and lasting effects, if any, will be dependent upon the recovery strategy that is adopted in the medium term.²⁹ As carbon dioxide emissions are expected to

climate change is expected to increase the frequency and intensity of such events. See ENV’T PROT. AGENCY, EPA 530-F-19-003, PLANNING FOR NATURAL DISASTER DEBRIS (2019).

24. The United States served notice of the withdrawal on the first date possible under the Paris Agreement. See Lisa Friedman, *Trump Serves Notice to Quit Paris Climate Agreement*, N.Y. TIMES (Nov. 4, 2019), <https://www.nytimes.com/2019/11/04/climate/trump-paris-agreement-climate.html>. The U.S. withdrawal will likely take effect on Nov. 4, 2020. See also Paris Agreement, *supra* note 20, at 28 (outlining the withdrawal mechanism).

25. See Lo et al., *supra* note 23, at 6.

26. See generally *Global Energy Review: 2020*, INT’L ENERGY AGENCY (Apr. 2020), <https://www.iea.org/reports/global-energy-review-2020>.

27. See Corinne Le Quéré et al., *Temporary Reduction in Daily Global CO₂ Emissions During the COVID-19 Forced Confinement*, 10 NATURE CLIMATE CHANGE 647, 652 (2020) (contending that any changes in carbon dioxide emissions are likely temporary because social changes alone, without benefits to wellbeing and supporting infrastructure, will not lead to the deep and sustained reductions needed to achieve net zero emissions).

28. See Andrew Hook et al., *A Systematic Review of the Energy and Climate Impacts of Teleworking*, 15 ENV’T RSCH. LETTERS 1, 2–5 (2020) (explaining that there is much uncertainty about potential savings of teleworking; factors considered are an increase in home energy use and more travels due to the absence of a commute).

29. See Piers M. Forster et al., *Current and Future Global Climate Impacts Resulting from COVID-19*, 10 NATURE CLIMATE CHANGE 913, 918 (2020) (highlighting that without long-term system-wide decarbonization of economies, even globally significant shifts in behavior are insufficient to achieve anything but modest reductions).

quickly rebound,³⁰ the benefits accrued during the pandemic are expected to be superseded by retaliatory pollution.³¹ Moreover, the decline in green energy investments that has been provoked by the pandemic may also contribute to a spike in carbon emissions.³² Pandemic-related cleaning and disinfecting activities are also expected to have negative environmental impacts.³³

In light of the above, this Article offers several original contributions. First, it provides a unique assessment of how the deregulatory climate policies implemented nationally and internationally by the Trump administration have magnified the COVID-19 crisis. Second, the law and economic methodology used in this Article, as applied to the linkages between climate change and the pandemic, validates the claim that improving environmental quality is connected to optimizing early regulatory action.³⁴ Third, this Article discusses the challenges of state liability for climate harms in the aftermath of the United States' withdrawal from the Paris Agreement and concurrent COVID-19 pandemic. Finally, this Article offers relevant insights for the literature on climate change that are likely to be applicable to critical future situations, whether they are health-related, a global economic crisis,³⁵ or climate-related

30. See Le Quéré et al., *supra* note 27, at 652.

31. See Brad Plumer et al., *The Coronavirus and Carbon Emissions*, N.Y. TIMES (Feb. 26, 2020), <https://www.nytimes.com/2020/02/26/climate/nyt-climate-newsletter-coronavirus.html> (noting that in China, previous experience shows that industries have tried to ramp up production to make up for lost output or temporary shutdown, a practice called “retaliatory pollution” by Li Shuo, senior advisor of Greenpeace Asia).

32. See Kevin Dennehy, *Decline in Green Energy Spending Might Offset COVID-Era Emissions Benefits*, YALE SCH. ENV'T (June 22, 2020), <https://environment.yale.edu/news/article/drop-in-green-energy-investments-could-outweigh-silverlining-benefits-of-pandemic>.

33. See Manfred Lenzen et al., *Global Socio-Economic Losses and Environmental Gains From the Coronavirus Pandemic*, 15(7) PLOS ONE 1, 5 (2020).

34. See Michael A. Livermore et al., *Global Cost-Benefit Analysis*, in THE GLOBALIZATION OF COST-BENEFIT ANALYSIS IN ENVIRONMENTAL POLICY 5 (Michael A. Livermore & Richard L. Revesz eds., 2013).

35. See *COVID-19: An Unprecedented Global Health and Economic Crisis*, INT'L ENERGY AGENCY, <https://www.iea.org/topics/covid-19> (last visited Jan. 19, 2021) (contending that, because of the pandemic, global oil and gas markets were facing the unprecedented situation of collapsing demand and an already abundant supply that continues to increase).

emergencies.³⁶

This Article proceeds as follows. Part II focuses on the domestic sphere, analyzing the climate deregulation measures that will likely have an adverse impact on the COVID-19 crisis. Part III analyzes a major deregulatory action that will negatively impact the pandemic: the withdrawal of the United States from the Paris Agreement. It also examines principles of international law and the challenges related to state liability for environmental harms in the context of the COVID-19 crisis. Part IV discusses how the United States' climate policies are likely to aggravate inequalities, both domestic and global, in the aftermath of the pandemic. It examines how these inequalities are similar and then highlights that those who are bearing the major consequences of COVID-19 have already been facing the adverse impacts of climate change. Part V concludes that President Trump's climate policies are not maximizing the wellbeing of the U.S. population and have exacerbated the impact of the pandemic domestically as well as globally. Accordingly, the United States needs an approach to climate change policies that is coherent on both the national and global stages. Ultimately, these policies need to reconcile the maximization of wellbeing and equity, leading to a paradigmatic change; instead of poisoning of the commons, the country will be part of the cure.

II. WORSENING THE COVID-19 CRISIS: AN OVERVIEW OF THE TRUMP ADMINISTRATION'S ATTACKS ON CLIMATE SCIENCE AND DEREGULATORY CLIMATE POLICIES

The deregulatory policies discussed in this Part, whether proposed or implemented, are those most likely to have significantly adverse consequences for the COVID-19 pandemic and current climate crisis. There is growing consensus that cardiovascular and respiratory diseases, cancer, diabetes, asthma, obesity, and chronic neurological disorders, including

36. See Owen Jones, *Why Don't We Treat the Climate Crisis with the Same Urgency as Coronavirus?*, GUARDIAN (Mar. 5, 2020, 6:52 AM), <https://www.theguardian.com/commentisfree/2020/mar/05/governments-coronavirus-urgent-climate-crisis> ("While coronavirus is understandably treated as an imminent danger, the climate crisis is still presented as an abstraction whose consequences are decades away. Unlike an illness, it is harder to visualize how climate breakdown will affect us each as individuals.").

dementia, are aggravating factors for COVID-19.³⁷ Pollution (whether particulate matter, chemical, GHG, or air pollution) increases the likelihood of those diseases, aggravates their symptoms, and expands individual vulnerability to the COVID-19 virus.³⁸

Part II, in addition to discussing attacks on climate science by the Trump administration, examines the following proposed deregulatory policies: (i) the direction to agencies to neglect both GHG emissions and the related grant of license that authorizes construction of pipelines, as well as undue delay of regulation issuance, (ii) the repeal of the Clean Air Act, (iii) the repeal of the Clean Power Plan and related threats to air quality, (iv) the flexibilization of the National Environmental Policy Act, (v) the rollback of regulations promoting fuel efficiency, and (vi) the flexibilization of regulatory standards and overall enforcement during the COVID-19 pandemic. This Part also addresses the use of flawed scientific evidence, as well as the tempering of cost-benefit analysis involved in such major deregulatory climate policies.

This Part is premised on the use of cost-benefit analysis to improve the environment and individual health.³⁹ Cost-benefit analysis aims at the maximization of overall well-being,⁴⁰ and it assumes that rational administrative agencies should work to maximize such wellbeing.⁴¹ This Part further assumes that the actual consideration of costs and benefits is indicative of a reasoned administrative action, i.e., one that is justified rather than arbitrary.⁴² Reasoned decision-making, after all, is a

37. See Schwartz, *supra* note 18, at 4–6.

38. See *id.*

39. This research assumes that, for governments to make good decisions, they must avoid “gut-level decision making” and should not abandon reasoned analysis. RICHARD L. REVESZ & MICHAEL A. LIVERMORE, RETAKING RATIONALITY: HOW COST-BENEFIT ANALYSIS CAN BETTER PROTECT THE ENVIRONMENT AND OUR HEALTH 3 (2008).

40. “Cost-benefit analysis is best defended as a *welfarist* decision procedure. Cost-benefit analysis is justified as a decision procedure to the extent that it advances overall wellbeing—that is, the wellbeing of the public generally, if not necessarily every member of the public—relative to alternative decision procedures, including the null case of doing nothing.” MATTHEW D. ADLER & ERIC A. POSNER, NEW FOUNDATIONS OF COST-BENEFIT ANALYSIS 6 (2006). “Public,” for the purposes of this article, is the U.S. general population.

41. See *id.* at 25.

42. See *Michigan v. EPA*, 576 U.S. 743, 749–53 (2015) (determining that

requisite for any administrative action under the Administrative Procedure Act (“APA”).⁴³ Therefore, deregulation, which involves removing existing regulations in a particular market, needs to be reasoned: where regulatory norms exist, the administration is required to justify their revocation.⁴⁴ Adding interest to the current investigation is the fact that, despite administrative deference, the Trump administration’s success rate is approximately 9%, which is significantly lower than the 66% average.⁴⁵

Having established such premises, this Part turns now to the deregulatory climate policies of the Trump administration⁴⁶ that are most likely to significantly aggravate the COVID-19 pandemic.

consideration of costs is mandatory for executive agencies); *see also* CASS R. SUNSTEIN, *THE COST-BENEFIT REVOLUTION* 3 (2018) (discussing the rise of the cost-benefit state and the trend of judicial decisions requiring cost considerations as indicative of non-arbitrariness); Daniele Bertolini & Carolina Arlota, *Why Michigan v. EPA Requires that the Meaning of the Cost/Rationality Nexus Be Clarified*, 29 *FORDHAM ENV’T L. REV.* 125, 155 (2017) (arguing, *inter alia*, that the United States Supreme Court neglected to consider cost as a relational concept).

43. 5 U.S.C. § 706(2)(A) (mandating courts to invalidate actions found to be “arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with the law”).

44. Jonathan S. Masur & Eric A. Posner, *Chevronizing Around Cost-Benefit Analysis*, 70 *DUKE L.J.* (forthcoming 2021) (manuscript at 3–4) (noting that the Obama-era regulations that President Trump aims to repeal were based on plausible cost-benefit analysis whereas the Trump administration’s deregulatory initiatives actually fail cost-benefit analysis).

45. *Roundup: Trump-Era Agency Policy in the Courts*, N.Y.U. INST. POL’Y INTEGRITY, <https://policyintegrity.org/deregulation-roundup> (last visited Mar. 1, 2021) (regarding agency cases that involve proposed rollbacks). According to the *Roundup*, the administration won eight cases while losing seventy-eight. Thus, this Article infers that the success rate of the Trump administration is 9.3% as of June 2020. Kimberly Strawbridge Robinson, *High Court Rulings Highlight Trump’s Administrative Law Stumbles*, *BLOOMBERG NEWS* (June 19, 2020), <https://news.bloomberglaw.com/us-law-week/high-court-rulings-highlight-trumps-administrative-law-stumbles> (citing the 70% success rate of previous administrations, on average). *See generally* David Zaring, *Reasonable Agencies*, 96 *VA. L. REV.* 135, 177–84 (2010) (arguing that, regardless of the standard of review, courts in the United States are likely to affirm agencies’ actions more than two-thirds of the time).

46. Some of the arguments advanced in section A of Part II appear in a previous work. Carolina Arlota, *How President Trump’s War on Science Undermines Cost-Benefit Analysis of Climate Policies*, 50 *ELR* 10999 (2020).

A. *President Trump's War on Climate Science*

Early in Trump's term in office, renowned scientists censured the administration, claiming that science and objective truth had never been more strained.⁴⁷ Attacks on science, however, are not recent or unique to the United States⁴⁸ nor to this administration.⁴⁹ Despite global attacks,⁵⁰ experts have called the Trump administration's disregard for scientific knowledge "worse than . . . ever."⁵¹ Top governmental administrative positions, including those in the EPA, are occupied by former lobbyists with intimate financial connections to the agencies they are responsible for overseeing.⁵² Studies comparing Trump's administration and previous presidencies have also found evidence of unprecedented behavior, including President Trump's disregard for the findings of the government's own scientists.⁵³ During this administration, the attacks on climate science and related censorship of scientists at the federal level became common and further spread to the state level, with initiatives eventually replicating such actions at all levels of

47. See Jonathan Foley, *The War on Facts Is a War on Democracy*, SCI. AM. BLOG NETWORK (Jan. 25, 2017), <https://blogs.scientificamerican.com/guest-blog/the-war-on-facts-is-a-war-on-democracy/>.

48. See THOMAS O. MCGARITY & WENDY E. WAGNER, *BENDING SCIENCE: HOW SPECIAL INTERESTS CORRUPT PUBLIC HEALTH RESEARCH*, 128–79 (2008) (drawing on public record to describe systematic actions to discredit scientists and their research and examining how scientists have been mistreated).

49. Brad Plumer & Coral Davenport, *Science Under Attack: How Trump Is Sidelining Researchers and Their Work*, N.Y. TIMES (Dec. 28, 2019), <https://www.nytimes.com/2019/12/28/climate/trump-administration-war-on-science.html> (noting that, though previous administrations have disregarded scientific evidence to varying degrees, the scope of such disregard under President Trump is much wider).

50. Riley E. Dunlap & Aaron M. McCright, *Organized Climate Change Denial*, in *THE OXFORD HANDBOOK OF CLIMATE CHANGE AND SOCIETY* 144–45 (John S. Dryzek et al. eds., 2011) (detailing global attacks on science and finding that when "[v]iewed through a broader theoretical lens, climate change denial can be seen as part of a more sweeping effort to defend the modern Western social order, which has been built by an industrial capitalism powered by fossil fuels").

51. The quotes are from Professor Michael Gerrard, who stated, "[t]he disregard for expertise in the federal government is worse than it's ever been." Plumer & Davenport, *supra* note 49.

52. See *id.*

53. Emily Berman & Jacob Carter, *Policy Analysis: Scientific Integrity in Federal Policymaking Under Past and Present Administrations*, 13 J. SCI. POL'Y & GOVERNANCE 1, 2 (2018).

government.⁵⁴

Examples of particular administrative actions that undermine climate science are abound.⁵⁵ Attempts to remove scientific evidence on climate change from the EPA's web page were among the first steps taken by the Trump administration.⁵⁶ In addition, the administration altered the parameters of estimations made by the United States Geological Survey office, eliminating the projected effects of increased carbon dioxide pollution after 2040.⁵⁷ Further examples of administrative fettering of science include the removal of worst-case scenario projections from the National Climate Assessment, an interagency report produced every four years,⁵⁸ and attacks on climate science within the EPA's proposed new rule on science,⁵⁹

54. See, e.g., Sabin Center for Climate Change Law & the Legal Defense Fund, *Silencing Science Tracker*, COLUM. L. SCH., <https://climate.law.columbia.edu/Silencing-Science-Tracker> (last visited Mar. 1, 2021) (displaying, since November 2016, a comprehensive list of actions which may adversely impact science, including measures from federal, state, and local governments as well as their agencies).

55. Arlota, *supra* note 46 (discussing the war on science and how President Trump's attacks undermine cost-benefit analysis).

56. Valerie Volcovici, *Trump Administration Tells EPA to Cut Climate Page from Website: Sources*, REUTERS (Jan. 25, 2017, 10:54 AM), <https://www.reuters.com/article/us-usa-trump-epa-climatechange/trump-administration-tells-epa-to-cut-climate-page-from-website-sources-idUSKBN15906G>.

57. The Trump administration likely chose to do so due to the effects of global warming becoming particularly severe after 2050. See Coral Davenport & Mark Landler, *Trump Administration Hardens Its Attack on Climate Science*, N.Y. TIMES (May 27, 2019), <https://www.nytimes.com/2019/05/27/us/politics/trump-climate-science.html>.

58. Philip B. Duffy (the then-president of the Woods Hole Research Center who served on a National Academy of Sciences panel that reviewed the government's most recent National Climate Assessment) stated: "What we have here is a pretty blatant attempt to politicize the science—to push the science in a direction that's consistent with their politics . . . It reminds me of the Soviet Union." *Id.*

59. For the original proposed rule, see ENVIRONMENTAL PROTECTION AGENCY: SCIENCE ADVISOR PROGRAMS, STRENGTHENING TRANSPARENCY IN REGULATORY SCIENCE PROPOSAL (Mar. 20, 2018), <https://www.epa.gov/osa/strengthening-transparency-regulatory-science>. More recently, an editorial by one of the most prestigious scientific publications called the updated rule's supposed ability to increase transparency misleading and strongly criticized it. Editorial, *The Sustained Undermining of Science by the EPA's Leaders Is a Travesty*, NATURE (May 5, 2020), <https://www.nature.com/articles/d41586-020-01310-y>.

which was overwhelmingly opposed by scientific groups.⁶⁰ Legal experts also vocally opposed these developments: 100 environmental and administrative law professors signed a letter urging the EPA to withdraw this revisited rule, as it does not foster science.⁶¹

B. *Direction of Agencies to Neglect GHG Emissions, Licensing of Pipelines, and Undue Delay of Regulation Issuance*

President Trump directed agencies to review (modify, suspend, or rescind) regulations that may “unduly burden” energy development—including those aimed at reducing GHG emissions.⁶² Likewise, President Trump made previous standards concerning the grant of licenses for pipelines and then-existing state powers in the Clean Water Act much more flexible.⁶³ In addition, President Trump reversed previous decisions by President Obama and ultimately authorized the Dakota Access and Keystone XL oil pipelines.⁶⁴ Litigation ensued and is still ongoing.⁶⁵ Recently, the Dakota Access

60. Lisa Friedman, *Coronavirus Doesn't Slow Trump's Regulatory Rollbacks*, N.Y. TIMES (Mar. 25, 2020), <https://www.nytimes.com/2020/03/25/climate/coronavirus-environmental-regulations-trump.html>.

61. Emmett Inst. on Climate Change & the Env., Comment on Supplemental Notice of Proposed Rulemaking (“SNPRM”)—Strengthening Transparency in Regulatory Science: 85 Fed. Reg. 15396, 1–2 (May 18, 2020), <https://legal-planet.org/wp-content/uploads/2020/05/Law-Prof-EPA-HQ-OA-2018-0259-Comment-FINAL-5-17-20.pdf> (arguing that the EPA lacks the authority to issue such a rule and that the proposal “bears no relationship to widely-accepted principle and procedures of scientific review”); see Climate Science Legal Defense Fund & Sabin Center for Climate Change Law, Comments on the Supplemental Notice of Proposed Rulemaking regarding EPA’s Proposed Strengthening Transparency in Regulatory Science Rule (Docket ID No. EPA-HQ-OA-2018-0259) (May 18, 2020), <https://climate.law.columbia.edu/sites/default/files/content/CSLDF%20Sabin%20Comments%20on%20EPA%20Science%20Transparency%20Rule.pdf>.

62. Exec. Order No. 13783, 82 Fed. Reg. 16,093 (Mar. 31, 2017).

63. Exec. Order No. 13868, 84 Fed. Reg. 15,495 (Apr. 10, 2019).

64. Cat Schuknecht, *Trump Signs Executive Orders in Push to Make It Easier to Build Oil and Gas Pipelines*, NPR (Apr. 11, 2019, 9:48 AM), <https://www.npr.org/2019/04/11/712121425/trump-signs-executive-orders-in-push-to-make-it-easier-to-build-oil-and-gas-pipe>.

65. See, e.g., *N. Plains Res. Council v. U.S. Army Corps of Eng’rs*, No. 20-35412, 2020 U.S. App. LEXIS 16987, at *4 (9th Cir. May 28, 2020) (denying the federal administration’s request to stay a previous decision revoking essential construction permits on wetlands and other bodies of water).

Pipeline has been shut down by a district court, a decision that was motivated by a finding of insufficient environmental review (technically, an environmental impact statement—“EIS”);⁶⁶ on the same day, the Supreme Court of the United States denied the Trump administration and ET Energy authorization to pursue the construction of the Keystone XL pipeline despite the pending legal cases that involve it.⁶⁷

These rulings show how hasty administrative decisions can be costly, both in the realm of carbon emissions and in that of litigation. Market forces, due to the costs of litigation and uncertainty, responded unfavorably to the President’s “drill, baby, drill” approach,⁶⁸ and developers gave up building the Atlantic Coast Pipeline for good.⁶⁹ In spite of such reactions, the combination of the two executive orders shows that the President is directing agencies to focus on potential immediate economic benefits as opposed to giving weight to long-term considerations regarding the economy, health, and the environment. These executive orders are likely to be detrimental to health and the environment across the country and will contribute to a significant increase in GHG emissions. These emissions, in turn, will aggravate the current climate and COVID-19 crises.

Likewise, the delay of additional regulations by the Trump administration’s Department of Energy has contributed to an increase in GHG emissions from power plants, as well as an elevated output of mercury and other harmful pollutants.⁷⁰ The

66. See *Standing Rock Sioux Tribe v. U.S. Army Corps of Eng’rs*, 471 F. Supp. 3d 71, 76–77 (D.D.C. July 6, 2020). The decision is available at: https://earthjustice.org/sites/default/files/files/standing_rock_sioux_tribe_v._a_rmy_corps_of_engineers.pdf. Interestingly, Judge Boasberg weighed economic costs of the decision in light of the environmental concerns, concluding that the merely economic considerations presented by the U.S. Corps of Engineers and Dakota Access were not sufficient to outweigh these concerns. *Id.* at 18–24.

67. See *U.S. Army Corps of Eng’rs v. N. Plains Res. Council*, No. 19A1053, 2020 U.S. LEXIS 3545, at *1 (U.S. July 6, 2020) (order granting partial vacatur and an injunction).

68. The expression was coined at the 2008 Republican National Convention in St. Paul, Minn. by Michael Steele, the former lieutenant governor of Maryland. Josh Kurtz, “Drill, baby, drill!” *Almost Didn’t Happen*, E&E NEWS (Aug. 29, 2012), <https://www.eenews.net/stories/1059969331>.

69. Kevin Dietsch, *Developers Abandon the Atlantic Coast Pipeline for Good*, NRDC (July 6, 2020), <https://www.nrdc.org/experts/nrdc/developers-abandon-atlantic-coast-pipeline-good>.

70. Schwartz, *supra* note 18, at 10–11 (highlighting that the DOE, under

policies, had they not been delayed, could have ameliorated these environmental conditions and saved energy instead of ultimately contributing to the COVID-19 health crisis.

C. *The New Legal Framework of the Clean Air Act*

There are significant flaws in the cost-benefit analysis⁷¹ of the new rule addressing the scope of waters federally regulated under the Clean Air Act.⁷² Among the methodological flaws, the EPA and the Army Corps of Engineers unreasonably fail to estimate the majority of the proposed rule's social harms while grossly undervaluing the few harms listed.⁷³ The refusal of the EPA to enact stricter standards for national ambient quality, despite the recommendations of its own scientists,⁷⁴ neglects the findings of recent scientific studies on the importance of air

President Trump, failed to take actions on several energy efficient standards for consumer and commercial appliances and reversed course on light bulb standards, among others. Similar actions happened at the Department of Transportation and Occupational exposures.).

71. Derrick Z. Jackson, *The EPA's Dirty Water: New Rule Discards Science, Ignores Importance of Wetlands and Tributaries*, UNION OF CONCERNED SCIENTISTS (Apr. 25, 2020, 10:00 AM), <https://blog.ucsusa.org/derrick-jackson/the-epas-dirty-water-new-rule-discards-science-ignores-importance-of-wetlands-and-tributaries> (highlighting that all the major scientific societies and the administration's own Science Advisory Board warned the EPA that the agency did not incorporate the "best available science" on Navigable Waters).

72. The Navigable Waters Protection Rule: Definition of "Waters of the United States," 85 Fed. Reg. 22,250 (Apr. 21, 2020) (to be codified at 33 C.F.R. pt. 328 and 40 C.F.R. pts. 110, 112, 116, 117, 120, 122, 230, 232, 300, 302, 401).

73. Bethany A. Davis Noll et al., *Beneath the Surface: The Concealed Costs of the Clean Water Rule Rollback*, N.Y.U. INST. POL'Y INTEGRITY 6-18 (Apr. 2020), https://policyintegrity.org/files/publications/Clean_Water_Rule_Policy_Report.pdf.

74. EPA'S OFFICE OF AIR QUALITY PLANNING AND STANDARDS (OAQPS), POLICY ASSESSMENT FOR THE REVIEW OF THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR PARTICULATE MATTER, EXTERNAL REVIEW DRAFT (Sept. 5, 2019), https://www.epa.gov/sites/production/files/2019-09/documents/draft_policy_assessment_for_pm_naaqs_09-05-2019.pdf ("[A] conclusion that the current primary PM_{2.5} standards do provide adequate public health protection would place little weight on the broad body of epidemiologic evidence reporting generally positive and statistically significant health effect associations, particularly for PM_{2.5} air quality distributions likely to have been allowed by the current primary standards. . . ."); *id.* at 3-98.

quality to health outcomes during the COVID-19 pandemic.⁷⁵ Under the Clean Air Act,⁷⁶ the EPA must review the criteria every five years.⁷⁷ Amid the COVID-19 pandemic, the EPA announced that it would continue with the same standards for so-called particulate matter (PM_{2.5}) that were determined in 2012.⁷⁸ Importantly, particulate matter has been associated with a higher rate of COVID-19 infection and lethality.⁷⁹

In this delicate scenario, the EPA opted to continue with the 12-µg/m³ standard, despite its own findings that a stricter standard of about 9-µg/m³ would present a risk reduction of 21–27% and save up to approximately 12,150 lives per year.⁸⁰ Public health experts were vocal in opposing the EPA’s decision because it “defies scientific research.”⁸¹ Surely, regarding uncertainties about the science, the statutory standard requiring an “adequate margin of safety” should point to more stringent standards, not the opposite.⁸² This is especially the case in light of the pandemic.

Importantly, in a study published in 2020 (and authored by

75. Xiao Wu et al., *Exposure to Air Pollution and COVID-19 Mortality in the United States: A Nationwide Cross-Sectional Study*, MEDRXIV (Apr. 27, 2020), https://projects.iq.harvard.edu/files/covid-pm/files/pm_and_covid_mortality_med.pdf.

76. 42 U.S.C. § 7408 (determines the establishment, review, and revision of the National Ambient Air Quality Standards—NAAQS).

77. 42 U.S.C. § 7409(d)(1).

78. *EPA Proposes to Retain NAAQS for Particulate Matter*, EPA (Apr. 14, 2020), <https://www.epa.gov/newsreleases/epa-proposes-retain-naaqs-particulate-matter>.

79. Leonardo Setti et al., *Rapid Response: Is There a Plausible Role for Particulate Matter in the Spreading of COVID-19 in Northern Italy?*, BMJ (Apr. 8, 2020), <https://www.bmj.com/content/368/bmj.m1103/rr>.

80. POLICY ASSESSMENT FOR THE REVIEW OF THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR PARTICULATE MATTER, EXTERNAL REVIEW DRAFT, *supra* note 74, at 3–91. The number resulted from calculating 27% of the 45,000 total deaths estimated to occur under the current standard.

81. Coral Davenport, *‘Unbelievable’ Timing: As Coronavirus Rages, Trump Disregards Advice to Tighten Clean Air Rules*, N.Y. TIMES (Dec. 7, 2020), <https://www.nytimes.com/2020/04/14/climate/coronavirus-soot-clean-air-regulations.html>.

82. Seth Jaffe, *EPA Remains the “Anti-Environmental Protection Agency”; Wheeler Refuses to Tighten the PM_{2.5} NAAQS*, L. & ENV’T (Apr. 15, 2020), <https://www.lawandenvironment.com/2020/04/15/epa-remains-the-anti-environmental-protection-agency-wheeler-refuses-to-tighten-the-pm-2-5-naaqs/> (citing *Ethyl Corp. v. EPA*, 541 F.2d 1 (D.C. Cir. 1976) as a landmark case determining that the EPA should be prepared to regulate despite uncertainty if it is to fulfill its mission to protect the public).

the former members of the Clean Air Scientific Advisory Committee), the scientific evidence is conclusive: the EPA's new standard is insufficient and particularly harmful to minorities.⁸³ This, of course, is conspicuously worrisome from a climate-justice standpoint in a moment when the populace of the United States is calling for equality on all fronts. It is also concerning in light of the scientific standard of using the best evidence available, as additional studies have shown that more stringent standards for PM_{2.5} (namely, a 10-µg/m³ standard) would save more than 143,000 lives in a decade.⁸⁴

The EPA's decision to maintain the 2012 standard denies science, imposes high costs upon the wellbeing of the U.S. population, contributes to avoidable deaths, increases air pollution, and favors the conditions in which COVID-19 can aggressively spread and lead to critical outcomes.⁸⁵ A similar effect will be caused by the EPA's proposed rule to regulate carbon GHG emissions from aircraft, which was hurriedly issued to avoid a lawsuit against the EPA for lack of regulation under the Clean Air Act.⁸⁶

D. *The Repeal of the Clean Power Plan and Related Threats to Air Quality*

The Trump administration intends to repeal the Clean Power Plan,⁸⁷ which is crucial to the achievement of U.S.

83. Independent Particulate Matter Review Panel, *The Need for a Tighter Particulate-Matter Air-Quality Standard*, 383 NEW ENG. J. MED. 680, 681–82 (June 10, 2020), <https://www.nejm.org/doi/pdf/10.1056/NEJMsb2011009?articleTools=true>.

84. X. Wu et al., *Evaluating the Impact of Long-Term Exposure to Fine Particulate Matter on Mortality Among the Elderly*, 6 SCI. ADVANCES, 1 (2020).

85. See Damian Carrington, *Is Air Pollution Making the Coronavirus Pandemic Even More Deadly?*, GUARDIAN (May 4, 2020, 2:00 AM), <https://www.theguardian.com/world/2020/may/04/is-air-pollution-making-the-coronavirus-pandemic-even-more-deadly> (highlighting the connection between exposure to air pollution, which damages lungs and hearts, and the increased likelihood of being more severely affected).

86. See Coral Davenport, *E.P.A. Proposes Airplane Emission Standards that Airlines Already Meet*, N.Y. TIMES (July 22, 2020), <https://www.nytimes.com/2020/07/22/climate/airplanes-climate-change.html> (noting that the standards were issued to benefit the U.S. aircraft industry's international sales as the proposed rule adopts a United Nations basic standard from 2016).

87. FACT SHEET: PROPOSAL TO REPEAL THE CLEAN POWER PLAN, EPA

contributions as determined by the Paris Agreement.⁸⁸ This policy decision illustrates another instance of the Trump administration's complete disregard for the totality of costs involved in its deregulatory action.⁸⁹ More specifically, the EPA currently claims that the repeal will save \$33 billion in compliance costs through 2030.⁹⁰ This calculation, however, has been disputed.⁹¹ Other recent changes relating to this cost-benefit analysis are also dubious.⁹² The choice by the EPA to rely on estimations that ignored key health benefits⁹³ has led to recent litigation with the goal of halting rollback of the Clean Power Plan.⁹⁴

A proposed rule that will loosen limits on mercury emissions from power plants will likely have similar effects.⁹⁵ This deregulatory action has also been subject to severe criticism regarding the computation of benefits, with its cost-benefit analysis being specifically condemned.⁹⁶ Accordingly, the

(2017), https://www.epa.gov/sites/production/files/2017-10/documents/fs-proposed-repeal-cpp-final_oct10.pdf?mod=article_inline.

88. Anna McGinn, *Understanding the Paris Agreement*, SCHOLARS STRATEGY NETWORK (Apr. 12, 2019), <https://scholars.org/contribution/understanding-paris-agreement>.

89. NAT'L ACADS. OF SCI., ENG'G & MED., *VALUING CLIMATE DAMAGES: UPDATING ESTIMATION OF THE SOCIAL COST OF CARBON DIOXIDE* 51 (2017) (ebook).

90. EPA, *supra* note 87.

91. NAT'L ACADS. OF SCI., ENG'G & MED., *supra* note 89, at 51 (disputing the administration's focus on domestic contributions instead of considering the global impact of emissions and climate change); *see also* SUNSTEIN, *supra* note 42, at 159 (contending the change from global to domestic emissions is unjustified as "the height of arbitrariness").

92. The EPA's fact sheet acknowledges other changes that differ from the Obama administration, namely: domestic costs are no longer compared to domestic benefits and energy efficiency is no longer viewed as a benefit, but rather as an avoided cost showing "the true magnitude of the CPP's [(Clean Power Plan's)] costs." EPA, *supra* note 87.

93. Dan Farber, *The Flight from Evidence-Based Regulation*, LEGALPLANET (Mar. 19, 2020), <https://legal-planet.org/2020/03/19/the-flight-from-evidence-based-regulation/>.

94. *See, e.g.,* Am. Lung Ass'n v. EPA, 134 F.3d 388 (D.C. Cir. 1998).

95. *See* MEMORANDUM ON COMPLIANCE COST, HAP BENEFITS, AND ANCILLARY CO-POLLUTANT BENEFITS FOR "NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: COAL-AND OIL-FIRED ELECTRIC UTILITY STEAM GENERATING UNITS—RECONSIDERATION OF SUPPLEMENTAL FINDING AND RESIDUAL RISK AND TECHNOLOGY REVIEW," EPA (Dec. 14, 2018), https://www.epa.gov/sites/production/files/2018-12/documents/mats-an-cost-benefit_memo12-2018.pdf.

96. Farber, *supra* note 93.

rollback of the Clean Power Plan and the proposed mercury emission rule are likely to negatively impact both health and the environment, and will specifically contribute to an increase in GHG emissions.

E. *The Flexibilization of the National Environmental Policy Act*

The National Environmental Policy Act (“NEPA”), which was created by the Nixon Administration in 1970, is a foundational law for environmental protection in the United States.⁹⁷ As such, it is perhaps no surprise that it was a target for the deregulatory efforts of the Trump administration; the Council of Environmental Quality, ostensibly aiming at enhancing efficiency and fostering economic growth, proposed to reform NEPA.⁹⁸ A key aspect of NEPA ensures that “unquantified” environmental values are considered throughout the decision-making process, which includes weighing the costs and benefits of every major action that might significantly impact the environment.⁹⁹

Among the main modifications proposed by the Trump administration is elimination of the consideration of cumulative and indirect impacts such as climate change; the proposed rule clearly promotes the usage of expedited decisions at the expense of federal environmental reviews.¹⁰⁰ The proposed rule not only

97. Richard J. Lazarus, *The Greening of America and the Graying of United States Environmental Law: Reflections on Environmental Law’s First Three Decades in the United States*, 20 VA. ENV’T L.J. 75, 76–77 (2001) (emphasizing how environmental-protection law was “essentially nonexistent” in the United States before 1970 and that the NEPA was signed into law on the first day of that year).

98. See Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 1684 (proposed Jan. 10, 2020) (to be codified at 40 C.F.R. pts. 1500, 1501, 1502, 1503, 1504, 1505, 1507, 1508). This proposal was updated on July 16, 2020, when the CEQ issued its final rule maintaining the CEQ previous proposed rule. For the final rule, which as of this writing and until September 14, 2020, is still subject to congressional review. See also Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 43,304 (July 16, 2020) (to be codified at 40 C.F.R. pts. 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1515, 1516, 1517, 1518).

99. 42 U.S.C. § 4332(B).

100. Joseph DeQuarto, *Landmark Environmental Rules Stated for Overhaul*, REGULATORY REV. (Feb. 18, 2020), <https://www.theregreview.org/2020/02/18/dequarto-landmark-environmental->

sets stricter deadlines on the environmental-review process, but also allows private entities to review such decisions in place of federal agencies, and significantly reduces the scope of both federal actions that would trigger review under NEPA and the public-comment process.¹⁰¹ Therefore, the proposed rule can be considered to implement unreasoned modifications that jeopardize policy assessments, as it reduces deadlines and exempts projects from NEPA review, removing significant public participation at a time when the nation is calling for inclusion and equality. The proposed rule is also likely to hasten approval of projects with significant environmental impact, which may contribute to GHG emissions and deteriorate air quality.

F. *The Rollback of Regulations Promoting Fuel Efficiency*

The U.S. EPA's proposed rule on unifying fuel-economy standards¹⁰² has sparked criticism¹⁰³ because it is estimated to cost more than \$400 billion by 2050 and may increase GHGs related to transportation emissions by ten percent.¹⁰⁴ Key industry actors have vowed to follow California's more stringent standards,¹⁰⁵ and have faced investigations by the Justice

rules-slanted-overhaul/.

101. *See id.*

102. *Final Rule: One National Program on Federal Preemption of State Fuel Economy Standards*, EPA (Mar. 31, 2020), <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-one-national-program-federal-preemption-state>.

103. Consumer Reports shows that the proposed rule would be too costly and, significantly, would not offer the security improvements that the president has claimed. *See* Chris Harto et al., *The Un-SAFE Rule: How a Fuel-Economy Rollback Costs Americans Billions in Fuel Savings and Does Not Improve Safety*, CONSUMER REPS. (Aug. 7, 2019), <https://advocacy.consumerreports.org/wp-content/uploads/2019/08/The-Un-SAFE-Rule-How-a-Fuel-Economy-Rollback-Costs-Americans-Billions-in-Fuel-Savings-and-Does-Not-Improve-Safety-2.pdf>.

104. Megan Mahajan, *Trump's Clean Car Rollback Will Cost up to \$400 Billion, Increase Transport Emissions 10%*, FORBES (Aug. 7, 2019, 7:30 AM), <https://www.forbes.com/sites/energyinnovation/2019/08/07/trumps-clean-car-rollback-could-cost-up-to-400-billion-increase-transport-emissions-10/?sh=5446c92e3b46>.

105. Hiroko Tabuchi, *States Sue to Block Trump from Weakening Fuel Economy Rules*, N.Y. TIMES (May 27, 2020), <https://www.nytimes.com/2020/05/27/climate/lawsuit-fuel-economy-climate.html> (emphasizing that the auto industry is split over the measure, but Ford, Honda, BMW, and Volkswagen are against the rollback).

Department, allegedly in retaliation for opposing President Trump.¹⁰⁶ California, twenty-two other states, and the cities of Los Angeles and New York are suing the administration for the revocation of California's standards.¹⁰⁷ The cost-benefit analysis of the Clean Car Standards almost exclusively uses co-benefits to justify the EPA's proposed deregulation.¹⁰⁸ The Clean Car deregulatory measures have also underestimated climate damage through use of an arbitrary calculation of the social cost of carbon.¹⁰⁹

The administration's own estimates acknowledge that the rollback of car standards could range from a \$22 billion net cost for society to net benefits of \$6.4 billion.¹¹⁰ This wide range is the result of using different discount rates: if a three percent discount rate is used (the typical rate used by the federal government), the new rule will be costly; it will have net benefits

106. Catherine Rampell, *Trump is All About Deregulation—Except When It Comes to His Enemies*, WASH. POST (May 28, 2020, 7:28 PM), https://www.washingtonpost.com/opinions/trump-is-all-about-deregulation--except-when-it-comes-to-his-enemies/2020/05/28/dcfb9638-a116-11ea-b5c9-570a91917d8d_story.html (highlighting how the administration has “cook[ed] the books” on its cost-benefit analysis and how the President's deregulatory agenda was never about maximizing the interest of the country but was intended to reward friends and punish enemies).

107. See Complaint for Declaratory and Injunctive Relief, *California v. Chao*, No. 1:19-cv-02826 (D.D.C. Sept. 20, 2019). An additional lawsuit that has been filed by California and thirteen other states challenges the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks,” published at 85 Fed. Reg. 24,174 (Apr. 30, 2020), and “Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles,” published at 83 Fed. Reg. 16,077 (Apr. 13, 2018). See also *California v. Wheeler*, No. 20-1357 (D.C. Cir. Sept. 14, 2020).

108. Richard L. Revesz, *Trump Shows his Cards on Environmental Protections—Or a Lack Thereof*, HILL (Apr. 30, 2020, 6:30 PM), <https://thehill.com/opinion/energy-environment/495457-trump-shows-his-cards-on-environmental-protections-or-lack-thereof>.

109. *Key Economic Errors in the Clean Car Standards Rollback*, N.Y.U. INST. POL'Y INTEGRITY 1, 2 (Apr. 1, 2020), https://policyintegrity.org/files/media/Vehicles_Emissions_Rollback_-_Key_Economic_Errors.pdf (discussing additional faults of the EPA's cost-benefit analysis).

110. See NAT'L HIGHWAY TRAFFIC SAFETY ADMIN. & EPA, FINAL REGULATORY IMPACT ANALYSIS: THE SAFER AFFORDABLE FUEL-EFFICIENT (SAFE) VEHICLES RULE FOR MODEL YEAR 2021-2026 PASSENGER CARS AND LIGHT TRUCKS, (Mar. 30, 2020), https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/final_safe_fria_web_version_200330.pdf (for three and seven percent discount rates, respectively).

only if a seven percent discount rate is used.¹¹¹ Litigation is poised to proceed. The Second Circuit reversed an earlier district-court decision, ruling that the EPA shall disclose the components of its model for the evaluation of GHG vehicle standards.¹¹² The legal system, so far, has been unconvinced by the justifications provided by the administration and are acting as a check on potential threats to environmental protection and increasing GHG emissions.

G. *The Flexibilization of Regulatory Standards and Overall Enforcement during COVID-19*

Another deregulatory measure implemented by the Trump administration that may negatively impact climate change, while neglecting proper cost considerations, is the flexibilization of regulatory standards and enforcement that agencies might consider in order to encourage economic recovery in the aftermath of the COVID-19 pandemic. This deregulatory action, which was implemented by an executive order,¹¹³ appears to grant agencies the discretion to limit enforcement actions to willful violations. If this is the case, this measure is likely to be more difficult to challenge in courts, as it falls within administrative discretion.¹¹⁴

Despite such discretion, litigation is expected to occur. The EPA's initial guidance implementing such flexibilization will be

111. Coral Davenport, *Trump Calls New Fuel Economy Rule a Boon. Some Experts See Steep Costs*, N.Y. TIMES (Mar. 31, 2020), <https://www.nytimes.com/2020/03/31/climate/trump-pollution-rollback.html>.

112. Nat. Res. Def. Council v. EPA, 954 F.3d 150, 157 n.6 (2d Cir. 2020) (noting that the deliberations were already disclosed).

113. Exec. Order No. 13924, 85 Fed. Reg. 31,353 (May 22, 2020). Technically, this Executive Order, which was called the Executive Order on Regulatory Relief to Support Economic Recovery, directs heads of federal agencies to temporarily or permanently relax or remove regulations that may impede economic recovery from the coronavirus pandemic. *Id.*

114. Seth D. Jaffe, *Has President Trump Just Limited Enforcement to Willful Violations?*, MONDAQ, (June 4, 2020), <https://www.mondaq.com/unitedstates/environmental-law/947236/has-president-trump-just-limited-enforcement-to-willful-violations> (defining this order as the most significant deregulatory measure taken by the Trump administration).

short-lived,¹¹⁵ as it is to be terminated by August 31, 2020.¹¹⁶ Nonetheless, the majority of facilities that are impacted by such rollback are likely to report their emissions on the Toxic Release Inventory (“TRI”), a database maintained by the EPA on industrial and federal facilities.¹¹⁷ There are more than 21,800 such facilities nationwide, and, in 2016, more than two-thirds of the U.S. population resided in the same zip code as an operational TRI site.¹¹⁸ A study conducted by scientists at the American University found that, during the rollback, these facilities actually increased pollution, which may have subsequently increased the conditional daily COVID-19 death rate by 10.5% and the case rate by 53.7%.¹¹⁹ Experts have noted that this sector is behaving opportunistically and that the EPA’s guidance regarding factory pollution does not require assessment of the potential impact of increased pollution on public health that is already jeopardized by COVID-19.¹²⁰

Accordingly, the flexibilization of regulatory standards and related enforcement, which was done hastened and in patent disregard of costs, is likely to contribute to the increase of GHG emission and overall pollution. This is the case, as industries and market actors may have taken advantage of the lack of enforcement, interpreting it as a free pass to pollute, in practice.

H. *Contextualizing the Findings of the Previous Sections*

This Section has presented the attacks on climate science that are likely to negatively affect both GHG emissions and the

115. Susan Parker Bodine, *COVID-19 Implications for EPA’s Enforcement and Compliance Assurance Program*, EPA (Mar. 26, 2020), <https://www.epa.gov/sites/production/files/2020-03/documents/oecamemooncovid19implications.pdf>.

116. Susan Parker Bodine, *COVID-19 Implications for EPA’s Enforcement and Compliance Assurance Program: Addendum on Termination*, EPA (June 29, 2020), <https://www.epa.gov/sites/production/files/2020-06/documents/covid19addendumontermination.pdf>.

117. Claudia L. Persico & Kathryn R. Johnson, *The Effects of Increased Pollution on COVID-19 Cases and Deaths* 3 (June 22, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3633446.

118. *Id.*

119. *Id.* at 29.

120. Rena Steinzor, *The Pandemic and Industry Opportunism*, REGULATORY REV. (Apr. 8, 2020), <https://www.theregreview.org/2020/04/08/steinzor-pandemic-industry-opportunism/>.

overall outcomes of COVID-19. Additionally, it has discussed significant deregulatory climate policies that have been proposed by the Trump administration and are likely to negatively impact the environment and public health. On both fronts, it is clear that the deregulatory climate measures proposed by the Trump administration disregard the best available science, including the social cost of carbon, despite being required to consider both.¹²¹ This implementation without proper assessment of science and cost considerations will have significant consequences, not only for the current health and climate crises, but also for the economic crisis that will likely follow the pandemic.

The findings of this Section are coherent with previous work that found consistent disdain for regulatory science throughout the Trump administration.¹²² The President's disdain for science has perhaps never been more evident than in his handling of the COVID-19 pandemic, during which he monopolized briefings by the Centers for Disease Control and Prevention ("CDC") and politicized medical advice in an unprecedented fashion.¹²³ His actions during the pandemic, which often contradict the advice of his own technical experts, have led to both national and international criticism.¹²⁴ Moreover, the Trump administration's deregulatory actions have not only neglected scientific knowledge, but they also are consistently dismissive of best regulatory practices and the

121. See, e.g., OFFICE OF MGMT. & BUDGET, CIRCULAR A-4, "REGULATORY ANALYSIS," (Sept. 17, 2003), <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A4/a-4.pdf>; see also Exec. Order No. 13783, 82 Fed. Reg. 16,095 (Mar. 31, 2017) (requiring consideration of best scientific evidence available and social cost of carbon).

122. See, e.g., Albert C. Lin, *President Trump's War on Regulatory Science*, 43 HARV. ENV'T L. REV. 247, 301–02 (2019).

123. See generally Steve Coll, *The Meaning of Donald Trump's Coronavirus Quackery*, NEW YORKER (Mar. 29, 2020), <https://www.newyorker.com/magazine/2020/04/06/the-meaning-of-donald-trumps-coronavirus-quackery> (describing how the President considered reopening the country by Easter, against the recommendation of health experts, because he thought "it was a beautiful time").

124. See Lisa Friedman & Brad Plumer, *Trump's Response to Virus Reflects a Long Disregard for Science*, N.Y. TIMES (Apr. 28, 2020), <https://www.nytimes.com/2020/04/28/climate/trump-coronavirus-climate-science.html> (including ridicule when the President suggested that injecting disinfectants might be helpful).

normative use of economics.¹²⁵ The administration's deregulatory measures also conflict with the long-held assumption that cost-benefit analysis is an effective method through which to determine the maximization of overall wellbeing.¹²⁶

These findings are also aligned with previous literature, which contends that the administration's policies have discredited cost-benefit analysis, ultimately turning it into a "perversion of a neutral approach to policymaking."¹²⁷ An illustrative example of this trend is the Trump administration's support for coal producers, which has provided incentives for the continued production of a source of energy that is both inefficient and the worst contributor to GHG emissions.¹²⁸

In the aggregate, all of the deregulatory climate actions pursued by the Trump administration and analyzed in this Section will negatively impact air quality and increase GHG emissions. To put these deregulatory measures in perspective: two major actions of the current administration, continuance of the particulate matter standard and the rollback of the Clean Power Plan, could lead to more than 90,000 deaths.¹²⁹ Although this is less than the current death toll of the COVID-19 pandemic in the United States,¹³⁰ the total effect of all the rollbacks pursued by the Trump administration may well surpass the number of deaths caused by the virus. Accordingly,

125. RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 402–03 (7th ed. 2007) (noting that the cost-benefit analysis as a regulatory tool has different meanings that range from the normative use of economics to using the criterion of wealth maximization when evaluating a particular policy).

126. See generally ADLER & POSNER, *supra* note 40, at 62.

127. Rena Steinzor, *Cost-Benefit Analysis According to the Trump Administration*, REGULATORY REV. (July 23, 2019), <https://www.theregreview.org/2019/07/23/steinzor-cost-benefit-analysis-according-trump-administration/>.

128. For information on the carbon impact of coal in relation to other sources, see *infra* Figure 1, in the Appendix.

129. See Dan Farber, *Trump's EPA May Cause as Many U.S. Deaths as the Coronavirus*, LEGALPLANET (Apr. 20, 2020), <https://legal-planet.org/2020/04/20/could-trumps-epa-cause-as-many-american-deaths-as-the-coronavirus/> (arguing that although President Trump's measures are more gradual, deregulation can be as deadly as the pandemic).

130. The official death count in the United States through March 2, 2021, is 513,122. *United States COVID-19 Cases and Deaths by State*, CDC, <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/us-cases-deaths.html> (last visited Mar. 2, 2021).

such climate policies do not maximize wellbeing. Further, they will have a devastating economic impact due to the disregard of valid cost considerations related to the preservation of health and life, to the environment, and to the climate as a whole. The consequences could not be more severe.

III. THE MAIN CONSEQUENCES OF PRESIDENT TRUMP'S CLIMATE POLICIES FOR THE PANDEMIC: AN INTERNATIONAL LAW PERSPECTIVE

As established in Part II, the combination of the Trump administration's attacks on climate science and related deregulatory policies contributes to an increase in pollution, including GHG emissions, that aggravates the consequences of COVID-19. Part III discusses the Trump administration's climate policies in the international arena with a focus upon analysis of a major deregulatory action that will negatively impact the pandemic: the United States' withdrawal from the Paris Agreement. It also examines the withdrawal in the aftermath of the pandemic, focusing on principles of international law and state liability for environmental harms.

This Part is premised upon the negative consequences of the Trump administration's climate policies, especially regarding their impact on the country's Nationally Determined Contribution ("NDC") under the Paris Agreement¹³¹ and GHG emissions.¹³² The original U.S. NDC, which required only that the country continue its trend of reducing carbon emissions,¹³³ received criticism for its relatively timid target.¹³⁴ The Trump

131. See generally Paris Agreement, *supra* note 20, art. 4(2) ("Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.").

132. *Id.* at art. 2(b) (including among the goals of the Agreement: "Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development").

133. See Dana Nuccitelli, *Fact Check: China Pledged Bigger Climate Action than the USA; Republican Leaders Wrong*, GUARDIAN (Nov. 14, 2014, 9:00 AM), <https://www.theguardian.com/environment/climate-consensus-97-per-cent/2014/nov/14/fact-check-china-pledged-bigger-climate-action-republican-leaders-wrong>.

134. See, e.g., Luke Kemp, *Better Out Than In*, 7 NAT. CLIMATE CHANGE 458, 458 (2017).

administration, however, considered the NDC as an obstacle to economic growth, a belief that is illustrated by its repeal of the Clean Power Plan,¹³⁵ which is crucial to achievement of the U.S. NDC.¹³⁶ Though the NDCs are not mandatory targets, this disregard for the country's NDC has raised alarm.¹³⁷ From an international law perspective, NDCs were a minimum expectation, and some experts have been vocal about their insufficiency.¹³⁸ While the United States has formally notified its intent to withdraw from the Paris Agreement,¹³⁹ the country remains a member of the United Nations Framework Convention on Climate Change ("UNFCCC").¹⁴⁰

So far, President Trump and the State Department have not pursued any formal efforts to withdraw from the UNFCCC.¹⁴¹ Hence, the United States should continue to prioritize UNFCCC goals: protecting the climate system, considering climate change when formulating domestic policies, and remaining committed to combating the high concentration of GHGs.¹⁴²

135. See generally EPA, ELECTRIC UTILITY GENERATING UNITS: REPEALING THE CLEAN POWER PLAN: PROPOSAL (2017), https://www.epa.gov/sites/production/files/2017-10/documents/fs-proposed-repeal-cpp-final_oct10.pdf.

136. See generally McGinn, *supra* note 88 (explaining that NDC contributions by the U.S. were based "almost entirely on the Clean Power Plan").

137. NDCs are voluntary targets determined by each country. See generally *The Paris Agreement: Frequently Asked Questions*, U.N. (Sept. 12, 2016), <https://www.un.org/sustainabledevelopment/blog/2016/09/the-paris-agreement-faqs/>.

138. Michael B. Gerrard, *Climate Change and Human Trafficking After the Paris Agreement*, 72 U. MIAMI L. REV. 345, 353–54 (2018).

139. On November 4, 2019, the United States served notice of the withdrawal on the first date possible under the Paris Agreement. Lisa Friedman, *Trump Serves Notice to Quit Paris Climate Agreement*, N.Y. TIMES (Nov. 4, 2019), <https://www.nytimes.com/2019/11/04/climate/trump-paris-agreement-climate.html>.

140. To confirm that the United States remains a party to the UNFCCC treaty, visit United Nations Climate Change, <https://unfccc.int/process/parties-non-party-stakeholders/parties-convention-and-observer-states> (last visited Mar. 2, 2021).

141. Wentz & Gerrard, *supra* note 17, at 63.

142. UNFCCC, *supra* note 19, art. 2-4, at 9–15.

A. *The United States' Withdrawal from Paris is Likely to Negatively Impact the COVID-19 Crisis*

Given the nature of the emissions and amount of pollution that will be caused by the Trump administration's attacks on climate science and deregulatory climate policies, there will be significant impacts beyond U.S. borders. This Section articulates law, economic concepts, and methodologies from an international perspective. It is principled on the notion that "Preventing all harm" "[is not] socially desirable," as it will be "too costly" for all nations.¹⁴³ Accordingly, and because the negative effects of climate change have major consequences for "the environment that fall[] outside the jurisdiction of individual states (and . . . [might not be] owned by any natural or legal person),"¹⁴⁴ law and economics (cost-benefit analysis, in particular) are frequently applied to determine the optimal levels of pollution and to minimize the impact upon people living in affected areas. In this vein, the UNFCCC¹⁴⁵ aims to avoid the dangerous effects of emissions but not to prohibit all emissions (as "the social costs would be too high").¹⁴⁶

The Paris Agreement, often cited as the only effective institutional solution to climate change,¹⁴⁷ also follows these premises. It has been considered a historic breakthrough, as it marked the end of a decade-long stalemate over the full integration of the United States (and developing economies) into

143. Michael Faure & Marjan Peeters, *Liability and Climate Change*, in OXFORD RESEARCH ENCYCLOPEDIA OF CLIMATE SCIENCE 1, 2 (Hans Von Storch ed., 2019).

144. *Id.* at 3.

145. UNFCCC, *supra* note 19, art. 2, at 9, determines the following: "The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that *would prevent dangerous anthropogenic interference with the climate system*. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner." (emphasis added).

146. Faure & Peeters, *supra* note 143, at 3.

147. Mark Cooper, *Governing the Global Climate Commons: The Political Economy of State and Local Action, After the U.S. Flip-Flop on the Paris Agreement*, 118 ENERGY POL'Y 440, 441 (2018).

the climate regime.¹⁴⁸ At this point, a technical note is required: this Article acknowledges, but dismisses, the controversy concerning the legal status of the Paris Agreement under U.S. law,¹⁴⁹ as both the Obama and Trump administrations considered it an executive agreement.¹⁵⁰ Under international law, however, the Paris Agreement is a treaty,¹⁵¹ and the United States is legally bound until the withdrawal becomes effective.¹⁵² The justifications provided by the Trump administration to withdraw from the Paris Agreement do not pass a close-scrutiny test, let alone a comprehensive cost-benefit analysis that

148. Meinhard Doelle, *Assessment of Strengths and Weaknesses, in THE PARIS AGREEMENT ON CLIMATE CHANGE: ANALYSIS AND COMMENTARY* 387 (Daniel Klein et al. eds., 2017) (highlighting the importance of engaging all parties in a global effort to respond effectively to climate change).

149. U.S. domestic law on treaties is not trivial, because the terminology used in international law and U.S. domestic law differs. Under international law, all written international agreements governed by international law are referred to as “treaties,” whereas in U.S. law, only some are labeled as such. According to U.S. law, the president has the power to sign a treaty, but it does not go into effect until it is ratified by two-thirds of the Senate. U.S. CONST. art. II, § 2. Executive agreements are international agreements concluded by the president under independent constitutional authority in his capacity as commander-in-chief, but these agreements are treaties for international law purposes. BARRY E. CARTER ET AL., *INTERNATIONAL LAW* 70 (7th ed. 2018).

150. See generally Daniel Bodansky, *The Legal Character of the Paris Agreement*, 25 REV. EUR. COMP. & INT’L ENV’T L. 142 (2016). The Department of State determined the Paris Agreement did not address substantive legal obligations beyond those stated in its parent treaty, the UNFCCC, *supra* note 19, and concluded there was no need to submit it to the Senate. U.S. DEPT OF STATE, *THE HANDBOOK ON TREATIES AND OTHER INTERNATIONAL AGREEMENTS: THE ROLE OF THE UNITED STATES SENATE* (2001), <https://www.govinfo.gov/content/pkg/CPRT-106SPRT66922/pdf/CPRT-106SPRT66922.pdf>.

151. Under international law, the Paris Agreement is unequivocally a treaty. Vienna Convention on the Law of Treaties art. 2, May 23, 1969, 1155 U.N.T.S. 331 (entered into force Jan. 27, 1980). The United States signed the Paris Agreement on Apr. 22, 2016, and the treaty entered into force on Nov. 4, 2016. Paris Agreement, *supra* note 20, art. 20, at 24; see, e.g., Bodansky, *supra* note 150, at 142; cf. Radoslav S. Dimitrov, *The Paris Agreement on Climate Change: Behind Closed Doors*, GLOB. ENV’T POL. 1, 3 (2016). For purposes of this Article, this controversy is not determinative, because the United States is legally bound to the provisions of the agreement under international law, regardless of domestic determinations. Importantly, “international law makes clear that U.S. presidents cannot simply delete prior signatures from treaties.” KOH, *supra* note 20, at 40.

152. According to the Paris Agreement, there is a three-year minimum period after its entry into force for parties to withdraw. Paris Agreement, *supra* note 20, art. 28, at 25. Hence, the U.S. can only effectively withdraw on November 4, 2020.

considers domestic and international factors.¹⁵³ Cost-benefit analysis theorists have long defended respect for international law.¹⁵⁴ In the case of the Paris Agreement, President Obama clearly understood that regulation (meaning, in this case, commitment to voluntary standards aiming at curbing carbon emissions) has a net benefit.¹⁵⁵

Under President Trump and in sharp contrast, climate science and regulations have been undermined in contemporary U.S. policy. Under his leadership, U.S. policy has assumed that the country is free-riding, though novel research shows that the country will be among those hit the hardest by climate change.¹⁵⁶ This challenge will likely be further magnified by the aftermath of the COVID-19 pandemic, specifically the economic crisis and potential rebound in emissions. Moreover, such climate policies will likely increase the costs of doing business in the country, while removing economic opportunities that would have been generated if the administration had considered climate change and its consequences.¹⁵⁷ Hence, the withdrawal does not maximize welfare; instead, it will almost certainly damage both the United States and the rest of the world.¹⁵⁸

The Paris withdrawal will ultimately enable the United States to emit more pollutants and reduce its mitigation costs

153. For a detailed analysis, see Carolina Arlota, *Does the United States' Withdrawal from the Paris Agreement on Climate Change Pass the Cost-Benefit Analysis Test?*, 41 U. PA. J. INT'L L. 881, 907–34 (2020).

154. JACK L. GOLDSMITH & ERIC A. POSNER, *THE LIMITS OF INTERNATIONAL LAW* 185–86 (2005).

155. *See generally* Barack Obama, *The Irreversible Momentum of Clean Energy*, 355 SCI. 126 (2017) (arguing the Paris Agreement is not a partisan issue, as it fosters the U.S. low emissions economy and its renewable energy industry and employment therein, maintaining U.S. competitiveness while enhancing the country's climate security).

156. Matthew E. Kahn et al., *Long-Term Macroeconomic Effects of Climate Change: A Cross-Country Analysis*, 5–32 (Int'l Monetary Fund, Working Paper 19/215, 2019) (discussing the economic impact, specifically).

157. *See generally* DONALD J. WUEBBLES ET AL., *CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT* (Linda O. Mearns et al. eds., 2017) (arguing that the use of scientific information enabling people to prepare for climate change in advance can provide economic opportunities while proactively managing the risks, diminishing the negative effects and costs of climate change over time).

158. Robert N. Stavins, *Why Trump Pulled the U.S. Out of the Paris Accord and What the Consequences Will Be*, FOREIGN AFFS. (June 5, 2017), <https://www.foreignaffairs.com/articles/2017-06-05/why-trump-pulled-us-out-paris-accord>.

while the country will begin “squeezing other countries’ emission space and raising their mitigation costs.”¹⁵⁹ Game theory suggests that this opportunistic behavior by the Trump administration may lead to U.S. isolation and perhaps even retaliatory actions by other parties to the Paris Agreement.¹⁶⁰ World leaders, after all, will behave to avoid uncertainty and to avert granting opportunities to individual countries (including the United States) to tear apart international agreements.¹⁶¹

Despite its free-riding policies, the weight of the United States on climate leadership remains significant. The overwhelming majority of experts contend that the country’s leadership is crucial to expansion of climate action beyond the Paris Agreement.¹⁶² Moreover, the United States’ withdrawal is perceived as undermining the legitimacy of the Accord and the effectiveness of climate change governance.¹⁶³ This is likely the case, as other countries who are (or will be) willing to commit to more stringent reductions in the upcoming rounds of their NDCs under the Paris Agreement may face increasing local opposition to global action on climate change after the U.S. withdrawal from the Paris Agreement.¹⁶⁴ At the other end of the spectrum,

159. Zhang Hai-Bin et al., *U.S. Withdrawal from the Paris Agreement: Reasons, Impacts, and China’s Response*, 8 ADVANCES CLIMATE CHANGE RSCH. 220, 222 (2017).

160. This argument assumes treaties are evidence of true cooperation among states, rather than representative of interests that coincide. A related argument is that states would find themselves in a repeated prisoner’s dilemma or a coordination game. A situation may also develop that involves the retaliation effect. See Mark A. Chinen, *Game Theory and Customary International Law: A Response to Professors Goldsmith and Posner*, 23 MICH. J. INT’L L. 143, 160–70 (2001).

161. These claims are based on the economic assumptions that, other things being equal, human beings are reluctant to change (status quo bias) and are averse to the consequences of risk. For a renowned study on such concepts, see Daniel Kahneman et al., *Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias*, 5 J. ECON. PERSPS. 193, 197–203 (1991).

162. David G. Victor, *Order from Chaos: America Exits the Climate Stage*, BROOKINGS INST. (June 1, 2017), <https://www.brookings.edu/blog/order-from-chaos/2017/06/01/america-exits-the-climate-stage/>.

163. Hai-Bin et al., *supra* note 159, at 222.

164. Because of the United States’ withdrawal, the European Union, China, and Canada face increased domestic opposition, despite being committed to the Paris Agreement. Emre Peker, *Around the World, Climate Goals Clash with Reality*, WALL ST. J. (Dec. 12, 2018, 3:39 PM), <https://www.wsj.com/articles/around-the-world-climate-goals-clash-with-reality-11544616000>.

the absence of the United States from the climate change arena provides additional incentives for other countries to behave strategically,¹⁶⁵ and to refrain from more ambitious targets in their next NDCs.

Recent actions by the Trump administration in the international sphere, such as the withdrawal from the World Health Organization (“WHO”) amid the coronavirus pandemic¹⁶⁶ and the United States’ obstructionism on environmental actions in the United Nations Summit on Global Climate Negotiations,¹⁶⁷ are the opposite of a constructive leadership approach. Furthermore, the President reiteratively undermines science, a habit that is particularly detrimental in the international sphere where science should foster cooperation among countries to protect the common good.¹⁶⁸ These actions are disturbing because the United States’ constructive leadership is of paramount importance, as the ten years directly after the signing of the Paris Agreement are crucial to achievement of its targets.¹⁶⁹ Nonetheless, due to sudden changes and accompanying uncertainties under President Trump, U.S. leadership in international climate and health matters is eroding.¹⁷⁰ President Trump’s actions against

165. Strategic thinking is defined as determining a particular course of action in relation to the behavior of the counterpart(s) involved. “To illustrate, a player in American football often runs around the right side as a decoy to fool the other team while the player carrying the ball runs around the left side. In contrast, a mountain climber never starts up the south slope as a decoy to fool the mountain while the main party ascends the north slope. Football is strategic and mountain climbing is non-strategic.” ROBERT D. COOTER, *THE STRATEGIC CONSTITUTION* 31 (2000).

166. *Coronavirus: Trump Moves to Pull US Out of World Health Organization*, BBC NEWS (July 7, 2020), <https://www.bbc.com/news/world-us-canada-53327906> (emphasizing that the withdrawal will only be effective on July 6, 2021, based on a 1948 Resolution of the United States Congress).

167. Somini Sengupta, *U.N. Climate Talks End with Few Commitments and a ‘Lost’ Opportunity*, N.Y. TIMES (Dec. 15, 2019), <https://www.nytimes.com/2019/12/15/climate/cop25-un-climate-talks-madrid.html> (noting that the Madrid annual encounter of the Conference of Parties (“COP”) was one of the worst outcomes in the previous twenty-five years).

168. David F. Cavers, *Science and the Law Symposium: Introduction*, 63 MICH. L. REV. 1325, 1329 (1965).

169. Hai-Bin et al., *supra* note 159, at 223.

170. Cooper, *supra* note 147, at 450 (noting that the United States was unable to exert influence at COP 23 and is currently the only U.N. member who is soon to be out of the Paris Agreement).

international treaties jeopardize the whole system of international law and undermine the protection of human dignity, which is, after all, the “ultimate goal” of international law.¹⁷¹

This scenario is particularly concerning not only for the United States’ reputation and leadership position, but also for the stigma that may arise out of such actions, as countries now have to counter the United States’ unfavorable climate policies and fund-damaging withdrawal from the WHO.¹⁷² It will also be against the maximization of overall wellbeing in the United States, as well as globally, because economics improving environmental quality is often connected to increasing marginal costs, which, in practice, means that the first steps are also the most cost-effective.¹⁷³ It is noteworthy that law and economic theorists¹⁷⁴ have argued that increased environmental performance (favored by stronger environmental regulations) leads to increased competitiveness among nations and industries—the so-called Porter hypothesis.¹⁷⁵ Hence, the more a country considers the protection of health and the environment, the more wellbeing maximization occurs.

In light of the discussion presented in this Section, it is clear that the United States’ withdrawal from the Paris Agreement, coupled with the country’s deregulation of climate change measures that allowed for the treaty’s implementation, will contribute to an increase in GHG emissions beyond U.S. borders, as well as to overall adverse climate change impacts. The following Section overviews this withdrawal, focusing on climate change liability in the context of President Trump’s recent claims for China to be held internationally accountable for COVID-19 damages.

171. PATRICIA PARK, INTERNATIONAL LAW FOR ENERGY AND THE ENVIRONMENT 3 (2d ed. 2013).

172. *Coronavirus: Trump Moves to Pull US Out of World Health Organization*, *supra* note 166 (highlighting that the United States’ withdrawal threatens the agency’s financial viability, as the country contributes 15% of the WHO’s budget).

173. Livermore et al., *supra* note 34, at 5.

174. MICHAEL G. FAURE & ROY A. PARTAIN, ENVIRONMENTAL LAW AND ECONOMICS: THEORY AND PRACTICE 229 (2019).

175. Michael E. Porter, *America’s Green Strategy*, 264 SCI. AM. 168 (1991).

B. *The U.S. Withdrawal and Liability in the Wake of the Pandemic: An Overview of International Law Framework*

President Trump has been quite vocal in attributing responsibility for the COVID-19 pandemic to China.¹⁷⁶ Meanwhile, the Trump administration, due to its disdain for science and its political bias, failed to follow the National Security Council's guidance on pandemics (created by President Obama).¹⁷⁷ Importantly, the provisions often cited to establish state responsibility for China's actions, namely Article 1 of the International Law Commission ("ILC") on State Responsibility and customary law,¹⁷⁸ are similar to those for international environmental harm. In this vein, this Section overviews the main arguments around and challenges related to climate change liability that were catalyzed by the U.S. withdrawal from the Paris Agreement.

Such liability is based on various premises. First, from a human rights perspective: international human rights bodies have consistently contended that environmental harms can adversely affect the enjoyment of human rights.¹⁷⁹ The right to life, for instance, can be threatened by natural events attributed to climate change, including floods, storms, droughts, hunger, malnutrition, scarcity of water, and proliferation of tropical diseases like malaria; the right to housing is also threatened by

176. Donald G. McNeil, Jr. & Andrew Jacobs, *Blaming China for the Pandemic, Trump Says the U.S. Will Leave the W.H.O.*, N.Y. TIMES (May 29, 2020), <https://www.nytimes.com/2020/05/29/health/virus-who.html>.

177. See Exec. Office of the President of the United States, *Playbook for Early Response to High-Consequence Emerging Infectious Disease Threats and Biological Incidents* (document not for public distribution, 2016), available at Dan Diamond & Nahal Toosi, *Trump Team Failed to Follow NSC's Pandemic Playbook*, POLITICO (Mar. 25, 2020, 8:00 PM), <https://www.politico.com/news/2020/03/25/trump-coronavirus-national-security-council-149285>.

178. See Henning Lahmann, *Does China Really Owe the World Trillions of Dollars?*, LAWFARE (May 7, 2020, 1:58 PM), <https://www.lawfareblog.com/does-china-really-owe-world-trillions-dollars>. In addition to such provisions, response to the pandemic has specific determinations under Articles 6 and 7 of the 2005 World Health Organization International Health Regulations that require notification of a state within 24 hours of outbreak. *Id.*

179. John H. Knox, *Human Rights Principles and Climate Change*, in THE OXFORD HANDBOOK OF INTERNATIONAL CLIMATE CHANGE LAW 217 (Cinnamon P. Carlarne et al. eds., 2016).

forced misplacement and other environmental factors.¹⁸⁰ “Because climate change is a type of environmental harm,” human rights obligations that are applicable “in the context of environmental harm generally should apply to climate change as well.”¹⁸¹

Second, the climate policies of the Trump administration conflict with principles of international law on climate change. Under the principle of common but differentiated responsibilities and respective capabilities (“CBDRRC”), which refers specifically to how responsibilities are allocated among countries,¹⁸² responsibility for current and historical emissions are of special importance.¹⁸³ The data is clear: the United States is the world leader in cumulative GHG global emissions, having contributed approximately 30% of historical GHG emissions.¹⁸⁴ This principle still binds the United States, since it remains a party to the UNFCCC.¹⁸⁵ Likewise, the principle of intra-and-inter-generational equity, as defined in the first part of Article 3(1) of the UNFCCC,¹⁸⁶ is applicable. It determines rights and obligations regarding the use and enjoyment of natural and cultural resources inherited by the present generation and states that they are to be “passed on to future generations in no worse condition than received.”¹⁸⁷ The legal force of this

180. *Id.* at 219.

181. *Id.* at 220.

182. *See* UNFCCC, *supra* note 19, art. 3(1), at 9. (“The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.”).

183. The principle itself is disputed because different countries may reach different conclusions regarding the optimal level of emission reduction. *See, e.g.,* Esty & Moffa, *supra* note 1, at 778–79.

184. DONALD A. BROWN, AMERICAN HEAT: ETHICAL PROBLEMS WITH THE UNITED STATES’ RESPONSE TO GLOBAL WARMING 156 (2002) (illustrating that the dataset encompasses the years between 1800 to 2002).

185. Confirming that the United States remains a party to the UNFCCC treaty: <https://unfccc.int/process/parties-non-party-stakeholders/parties-convention-and-observer-states>.

186. *See* UNFCCC, *supra* note 19, art. 3(1), at 9 (“The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.”).

187. Catherine Redgwell, *Principles and Emerging Norms in International Law: Intra-and-Inter-Generational Equity*, in THE OXFORD HANDBOOK OF INTERNATIONAL CLIMATE CHANGE LAW 188 (Cinnamon P. Carlarne et al. eds., 2016).

principle is disputed, but it should be considered among the factors that will inform policy decisions regarding climate change in the future.¹⁸⁸ None of these principles and agreements, however, are a priority in the Trump administration's domestic and international agendas.

A similar rationale applies to the precautionary principle. According to its formulation under Article 3(3) of the UNFCCC, parties should take precautionary measures to anticipate, prevent, or minimize the causes of climate change and to mitigate its adverse effects, and a lack of scientific certainty should not be used to postpone measures where threats of serious or irreversible damage exist.¹⁸⁹ Considering the damages of climate change and the fact that, as noted above, the United States remains a party to the UNFCCC, the country should reduce GHG emissions, the impacts of which are notoriously difficult to reverse. For some scholars, precaution is not a binary approach, but instead a spectrum.¹⁹⁰ Nonetheless, an argument could be made that the precautionary principle would at least oblige the United States to meet its NDC's under the Paris Agreement. Further, conscientious accord with the precautionary principle would also largely lead to limited use of old technologies, such as fossil fuels,¹⁹¹ but the Trump administration has not hesitated to support expansion of their use while in power.

The United States' withdrawal from the Paris Agreement violates general principles of international law that require member states "to contribute to the conservation, protection, and restoration of the integrity of the Earth's ecosystem" through good-faith cooperation; and these principles were recently highlighted in a UN Report.¹⁹² These obligations are perfected through the principle of non-regression, which disallows backtracking on environmental protections while advancing, under the principle of progression, increased

188. *See id.* at 195–96.

189. UNFCCC, *supra* note 19, art. 3(3), at 9.

190. Jonathan B. Wiener, *Precaution and Climate Change*, in *THE OXFORD HANDBOOK OF INTERNATIONAL CLIMATE CHANGE LAW* 169 (Cinnamon P. Carlarne et al. eds., 2016).

191. *See id.* at 170.

192. U.N. Secretary-General, *Gaps in International Environmental Law and Environment-Related Instruments: Towards a Global Pact for the Environment*, ¶¶ 16–17, U.N. Doc. A/73/419 (Nov. 30, 2018).

protection in such matters.¹⁹³ Hence, the Trump administration's decision to withdraw from the Paris Agreement, as well as to continue supporting fossil fuels, is not in accord with the principle of non-regression, at the very least.

Having established that the Trump administration's actions are clearly in conflict with international human rights and with multiple international, environmental, and climate law principles, this Section moves next to the challenges involved in international liability for climate harms. A technical note is required at this point: state liability differs from state responsibility insofar as state liability encompasses situations in which no illegal or unlawful conduct has occurred, despite any harm triggered by the conduct.¹⁹⁴ The ILC adopted the Draft Articles on the Responsibility of States for International Wrongful Acts, which addresses the consequences of states' internationally wrongful activities,¹⁹⁵ but there has been no consensus to push toward a formalized convention (or treaty), and no further action has been pursued.¹⁹⁶ Article 1 states that any internationally wrongful act by a state, whether a lapse of international obligation or a serious breach of a mandatory norm of international law, can trigger international consequences for that state.¹⁹⁷

Currently, state responsibility for harm to the international environment is based upon the primary rule of the Trail Smelter arbitration.¹⁹⁸ Under this decision:

193. *Id.* at ¶ 22.

194. Mark A. Drumbl, *Trail Smelter and the International Law Commission's Work on State Responsibility for Internationally Wrongful Acts and State Liability*, in *TRANSBOUNDARY HARM IN INTERNATIONAL LAW: LESSONS FROM THE TRAIL SMELTER ARBITRATION* 87 (Rebecca M. Bratspies & Russell A. Miller ed., 2006).

195. See Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries, Rep. of the Int'l L. Comm'n on Its Fifty-Third Session, U.N. Doc. A/56/10 (2001), reprinted in [2001] 2 Y.B. Int'l L. Comm'n 6, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2) [hereinafter Draft Articles].

196. Drumbl, *supra* note 194, at 87.

197. Draft Articles, *supra* note 195, at 32. The latter addresses reparations of the damages and requires causation between the conduct or omission of the State and such harm. After the ILC adopted such draft articles, some commentators prefer referring to them merely as "Articles."

198. The Trail Smelter Arbitration (1941) involved a Canadian smelter that produced fumes that caused damages in Washington State. The tribunal ruled that the activity of the smelter needed to be reduced and regulated in

No State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence.¹⁹⁹

Accordingly, countries are obligated to refrain from causing transboundary harm.²⁰⁰ This prohibition, as well as the duty to compensate (the “polluter pays” principle),²⁰¹ means that state responsibility is a double-edged sword, and the international regime both assumes harm will occur and encourages prevention of that harm.²⁰²

In this legal regime, the primary rule of the Trail Smelter arbitration case remains pertinent for cases of environmental harm, which includes those arising out of climate change. For instance, it has been contended that the United States’ failure to take meaningful efforts to reduce carbon emissions under the Bush and Trump administrations appear to collide with the main rule established in Trail Smelter.²⁰³ It is noteworthy that the preamble of the UNFCCC²⁰⁴ clearly refers to the principles

accordance with the regime determined in the award. See U.N., Reports of International Arbitration Awards by the United Nations: Trail Smelter Case 1905, 1965 (United States v. Canada, 1941) (2006), http://legal.un.org/riaa/cases/vol_III/1905-1982.pdf [hereinafter Trail Smelter Arbitration].

199. *Id.*

200. *Id.* In addition to the duty to prevent transboundary harm, *Trail Smelter* determined that, under the “polluter pays” principle, the polluting state must compensate for the transboundary harm it caused. Rebecca M. Bratspies & Russell A. Miller, *Transboundary Harm in International Law*, in TRANSBOUNDARY HARM IN INTERNATIONAL LAW: LESSONS FROM THE TRAIL SMELTER ARBITRATION 3 (Rebecca M. Bratspies & Russell A. Miller eds., 2006).

201. Trail Smelter Arbitration, *supra* note 198; Bratspies & Miller, *supra* note 200, at 3–4 (emphasizing the modern declaration of state responsibility for transboundary harm, while criticizing the narrowness of the decision, because the defendant was held liable only if the resulting harm was “of serious economic consequence . . .”) (internal citations omitted).

202. Bratspies & Miller, *supra* note 200, at 9.

203. Dan Farber, *International Liability for Harm: Epidemics and Pollution*, LEGALPLANET (May 12, 2020), <https://legal-planet.org/2020/05/12/international-liability-for-harm-epidemics-and-pollution/> (referring to liability).

204. UNFCCC, *supra* note 19, at Preamble (“States have, in accordance

of the Trail Smelter arbitration in the context of climate change.²⁰⁵ Nonetheless, causation is a major obstacle to the establishment of such international responsibility.²⁰⁶ To the extent that the Trail Smelter decision was between two friendly states, it may be of limited practical relevance for transboundary pollution problems with multiple tortfeasors, as dispute settlement in international law remains largely consensual and apportion of responsibility is very complex in practice.²⁰⁷

Importantly, the 1972 Stockholm Declaration and the 1992 Rio Declaration also obligate countries to avoid causing transboundary harm, although this obligation is not absolute.²⁰⁸ The larger ripples of the Trail Smelter arbitration are evident in wide-ranging requirements that countries undertake due diligence²⁰⁹ and, most importantly, in the adoption of the obligation into customary international law.²¹⁰ However, countries have defined this obligation differently. In the United States, for instance, if the EPA “has reason to believe that any

with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.”).

205. Russell A. Miller, *Surprising Parallels Between Trail Smelter and the Global Climate Change Regime*, in *TRANSBOUNDARY HARM IN INTERNATIONAL LAW: LESSONS FROM THE TRAIL SMELTER ARBITRATION* 167 (Rebecca M. Bratspies & Russell A. Miller eds., 2006).

206. Malgosia Fitzmaurice, *International Responsibility and Liability*, in *THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW* (Daniel Bodansky et al. eds., 2012).

207. Phoebe Okowa, *The Legacy of Trail Smelter in the Field of Transboundary Air Pollution*, in *TRANSBOUNDARY HARM IN INTERNATIONAL LAW: LESSONS FROM THE TRAIL SMELTER ARBITRATION* 195, 202 (Rebecca M. Bratspies & Russell A. Miller eds., 2006).

208. See U.N. Conference on the Human Environment, *Report of the United Nations Conference on the Human Environment*, U.N. Doc. A/CONF.48/14/Rev.1, principle 22 (June 1972); U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I), principle 2 (Aug. 12, 1992).

209. Jesse L. Reynolds, *International Law*, in *CLIMATE ENGINEERING AND THE LAW: REGULATION AND LIABILITY FOR SOLAR RADIATION MANAGEMENT AND CARBON DIOXIDE REMOVAL* 57, 116 (Michael B. Gerrard & Tracy Hester eds., 2018).

210. See *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 1996 I.C.J. 226 (July 8).

air pollutant or pollutants emitted in the United States cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare in a foreign country,” the agency must act.²¹¹

Despite these mandated requirements for agencies toward action, Part II clearly showed the oppositional activities undertaken by the Trump administration. This conflict has persisted despite unequivocal scientific evidence that “[i]t would be worth freeing ourselves from fossil fuels even if global warming didn’t exist,” simply based on the co-benefits of clean air for public health and the environment.²¹² After all, coal is the single largest contributor of carbon dioxide, is responsible for more than one-third of global emissions, and is a major factor that adversely affects public health and biodiversity.²¹³ The same study contends that those local co-benefits are not particularly sensitive to different discount rates, which favors the immediate adoption of policies phasing out coal.²¹⁴

In addition, this Part has illustrated how the United States’ withdrawal from the Paris Agreement is likely to negatively impact the goals of the treaty. Current projections estimate that the United States may now be able to meet its NDCs for 2020,²¹⁵ which became possible mainly due to the suspension of travels caused by the pandemic.²¹⁶ Before the crisis, the UN listed the country as requiring additional action to meet its NDCs.²¹⁷ Currently, the renowned Climate Tracker Action rates United States’ climate policies as “critically insufficient” (the worst

211. 42 U.S.C. § 7415(a).

212. David Roberts, *Air Pollution Is Much Worse than We Thought*, VOX (Aug. 12, 2020, 10:10 AM), <https://www.vox.com/energy-and-environment/2020/8/12/21361498/climate-change-air-pollution-us-india-china-deaths> (noting that, in a recent hearing of the House Committee on Oversight and Reform, Drew Shindell discussed the scientific evidence that air pollution leads to 250,000 deaths per year in the U.S. alone).

213. Sebastian Rauner et al., *Coal-Exit Health and Environmental Damage Reductions Outweigh Economic Impacts*, 10 NATURE CLIMATE CHANGE 308, 308–09 (2020).

214. *See id.* at 311–12.

215. *Country Summary: United States*, CLIMATE ACTION TRACKER (July 30, 2020), <https://climateactiontracker.org/countries/usa/> [hereinafter CAT].

216. *Id.*

217. *Emissions Gap Report 2019*, U.N. ENV’T PROGRAMME (Nov. 2019), <https://www.unenvironment.org/resources/emissions-gap-report-2019> (showing that the United States was the leader in carbon dioxide emissions per capita in 2018).

performance possible under their scale),²¹⁸ and the withdrawal from the Paris Agreement was a determinative factor.

In light of all the arguments addressed in this Section, state liability for international harms caused by climate change is rare, as causation and apportionment are major hurdles to enforcement. That said, caution is highly recommended. President Trump's choice to withdraw from the Paris Agreement mirrors in the international sphere his domestic policy of supporting fossil fuels. These policies are consistently denigrating both the United States' international reputation and undermining its leadership, while increasing GHG emissions and global pollution. These consequences negatively impact the environment and public health of both the United States as well as the global community, further aggravating the adverse impact of the pandemic.

IV. THE UNITED STATES CLIMATE POLICIES AND INEQUALITY IN THE POST-PANDEMIC WORLD

This Part illustrates how the United States' climate policies are likely to aggravate both domestic and global inequalities in the aftermath of the pandemic.²¹⁹ It focuses on the disproportionate impact of climate change on minorities in the United States and in the developing world, examines similarities shared by these inequalities, and investigates how those who are bearing the major consequences of COVID-19 have already begun to face the adverse impacts of climate change. It also addresses the need for regulatory action based on prioritarianism and social resilience on the domestic front. In

218. See CAT, *supra* note 215.

219. Despite focusing on inequalities, this Part does not frame the issue in terms of climate justice; the vast recent literature which targets historical emissions and the related, need to share the burden. These issues are addressed from an international law perspective in Part III, Section B. For specific references on climate change, see, among others: Lukas H. Meyer & Dominic Roser, *Climate Justice and Historical Emissions*, 13 CRITICAL REV. INT. SOC. & POL. PHIL., 229 (2010); Simon Caney, *Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens*, 22 J. POL. PHIL. 125 (2014); Paul Almeida, *Climate Justice and Sustained Transnational Mobilization*, 16 GLOBALIZATIONS 973 (2019). This Article does recommend caution in applying morality-based arguments to the behavior of states, as climate change is a problem due to its harms to people, not to countries. ERIC A. POSNER & DAVID WEISBACH, CLIMATE CHANGE JUSTICE 6 (2010).

the international sphere, cooperation among countries remains a requirement for effective international policies on climate change and response to the pandemic.

Climate change was interfering with economies around the world long before the pandemic. The Intergovernmental Panel on Climate Change estimates with high confidence that extreme events may be more devastating economically than the impact of climate change overall.²²⁰ As the world becomes warmer, rising global sea levels and forced migration due to desertification will intensify competition for energy resources and land.²²¹ The situation is even more dire in developing countries, as economic resources are scarce and adaptation measures are less frequent. In a circular logic, these countries also suffer more from harm related to climate change than those in the developed world.²²² Developed countries not only have more resources but are also located primarily in the Northern Hemisphere where temperatures are likely to be more temperate than those in the Southern Hemisphere.²²³

Climate change has a disproportionate impact in developing nations because they have fewer resources to a changing world.²²⁴ As such, they are more vulnerable to increased temperatures and any related consequences that might negatively affect health, cause illness, incapacitate, or even kill people.²²⁵ This vulnerability decreases productivity and devastates both family unity and related social networks.²²⁶ As the increase in GHGs is among one of the leading causes of climate change, ineffective climate policies (including a less resolute Paris Agreement) increases the likelihood of excessive

220. Kolstad, *supra* note 9, at 212.

221. For a legal discussion about the causes of climate change, see CHRIS WOLD ET AL., CLIMATE CHANGE AND THE LAW 5–31 (2009).

222. POSNER & SYKES, *supra* note 8, at 232.

223. *See id.*; *see also* Kolstad, *supra* note 9, at 213 (finding, with high confidence, that the impact of climate change varies in accordance with the geographical location and level of development, among other factors).

224. Kolstad, *supra* note 9, at 213.

225. Intergovernmental Panel on Climate Change (IPCC), *Global Warming of 1.5°C*, 10–12 (Oct. 2018), https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf (explaining the increase in number of deaths as well as the costs of malnutrition, respiratory conditions, infectious vector-borne diseases, and other public health costs).

226. *Id.* at 20–25 (discussing global predictions of the increase in temperature that the Paris Agreement aims to avoid).

rain, snow, tornadoes, flooding, droughts, tsunamis, famines, and other natural disasters.²²⁷ The UN Security Council recently recognized climate change as a “threat multiplier,” as climate-related risks and conflicts are already a reality for millions of people around the globe, threatening peace and security.²²⁸ Hence, the likelihood that international conflicts will arise out of changes related to climate is also significantly increased. Considering the gap between developed and developing countries, and the urgent need for action on climate matters, the UN enacted the Sustainable Development Goals as part of its 2030 Agenda for Sustainable Development. These goals are meant to serve as an urgent call to action to citizens across the globe.²²⁹

Although all member states adopted the agenda in 2015 and are consequently expected to uphold the Sustainable Development Goals, the United States’ withdrawal from both the WHO and Paris Agreement conflicts with those stated goals. It is noteworthy that the 2030 Agenda and the Sustainable Development Goals are the UN’s roadmaps toward fostering recovery in the aftermath of the pandemic.²³⁰ The adverse impacts of climate change will be magnified at that time as the pandemic will deepen systemic socio-economic vulnerabilities, increase income and wealth gaps, overburden (or decimate) healthcare systems in less-developed countries, and generally contribute to the spread of emerging zoonotic diseases.²³¹

Widening this gap between developed and developing

227. WOLD ET AL., *supra* note 221, at 5–31.

228. *Climate Change Recognized as ‘Threat Multiplier’*, UN Security Council Debates its Impact on Peace, U.N. NEWS (Jan. 25, 2019), <https://news.un.org/en/story/2019/01/1031322> (discussing desertification and food and energy security).

229. Of the seventeen principles, Goal 7 (affordable and clean energy) and Goal 13 (climate action) are particularly relevant to the topic at hand. They demonstrate the need for all countries—developed and developing nations alike—to commit to effective and responsible actions to protect the environment and curb global warming. See *The 17 Goals*, U.N., <https://sdgs.un.org/goals> (last visited Mar. 6, 2021).

230. See Press Release, Secretary-General, ‘We are Only as Strong as the Weakest’, Secretary-General Stresses, at Launch of Economic Report on COVID-19 Pandemic, U.N. Press Release SG/SM/20029 (Mar. 31, 2020) [hereinafter Press Release].

231. Manfred Lenzen et al., *Global Socio-Economic Losses and Environmental Gains from the Coronavirus Pandemic*, PLOS ONE 1, 8–9 (July 9, 2020).

countries is the fact that the developed world is responsible for significantly more pollution. A recent review of the literature highlights that the world's top 10% of income earners are responsible for a range of 25%–43% of environmental impact, while the world's bottom 10% of earners exert only 3–5% of impact.²³² Based on such numbers, the study argues that environmental impact is, to a large extent, caused and driven by the world's richest citizens, with affluent households worldwide being by far the strongest determinant and accelerator of increased environmental and social impacts.²³³

This is even more disturbing if considered in light of the fact that certain segments of the population will feel the effects of climate change and extreme weather much more dramatically than others. The regressive nature of carbon-pricing means that consumers bear the costs and those with lower socioeconomic standing, who spend a greater percentage of their income on non-discretionary goods and services, will suffer more.²³⁴ If it is true that climate change does not impact people in isolation, it certainly affects the less well-off disproportionately and in a vicious cycle.²³⁵ Minorities will be critically affected, as will those living in disadvantaged socioeconomic areas.²³⁶ Native and indigenous peoples whose lifestyles depend upon nature will also experience heightened difficulties.²³⁷ Therefore, the reduction of GHG emissions and effective climate change policies are justified on a distributional basis under prioritarianism, namely, the understanding that regulations should maximize the wellbeing of all, with priority given to those

232. Thomas Wiedmann et al., *Scientists' Warning on Affluence*, 11 NATURE COMM'NS 1, 3 (2020).

233. *See id.*

234. TREBILCOCK, *supra* note 2, at 121.

235. Mark Nuttall, *Environmental Institutions and Governance*, WILEY ONLINE LIBR. (2018), <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118924396.wbiea2284> (contending that climate change does not impact people in isolation but may affect indigenous people more severely).

236. Uma Outka & Elizabeth Kronk Warner, *Reversing Course on Environmental Justice Under the Trump Administration*, 54 WAKE FOREST L. REV. 101, 126 (2019) (discussing the impact of the U.S. withdrawal from an environmental justice perspective).

237. IPCC, *supra* note 225, at 11 (emphasizing, with high confidence, that indigenous peoples, coastal and island populations, and developing world inhabitants would be more exposed to the consequences of climate change).

who are worst off.²³⁸

Prioritarianism can be more effectively achieved if implemented at the highest sphere of governance. Here, the pandemic may provide a helpful analogy for the need for action at the highest levels (both national and global): implementation of a myriad of local policies is costly, complicated, and ultimately inefficient, as they are limited to their geographical location.²³⁹ Subnational units are not well suited for regulatory action on national conduct leading to global externalities.²⁴⁰ Further, subnational entities must consider that carbon-intensive industry, if banned from their region, would simply transfer to less stringent jurisdictions nearby—so-called “leakage.”²⁴¹ Such regulatory efforts may lead to even greater harm,²⁴² such as the hardships that would occur if these jurisdictions were left, due to loss of industry, with less-developed safety nets for their population.

In such a context, the lack of federal climate policies in the United States is negatively affecting the rights of minorities, which is especially concerning now, as the nation is assessing its inherent inequality. It is telling that, under the Trump administration’s response to the COVID-19 pandemic, fossil fuel interests had faster access to stimulus money than many local governments did.²⁴³ The pandemic illustrates the extraordinary damage caused in the absence of an effective national government. For instance, the delayed federal action forced states to compete for ventilators and personal protective equipment, which led to a significant waste of precious time and resources; meanwhile, the President golfed as the pandemic worsened.²⁴⁴ In the global context, it is clear that the “Trump

238. Matthew D. Adler, *Future Generations: A Prioritarian View*, 77 GEO. WASH. L. REV. 1478 (2009).

239. Cary Coglianese & Shana Starobin, *The Legal Risks of Regulating Climate Change at the Subnational Level*, REGULATORY REV. (Sept. 18, 2017), <https://www.theregreview.org/2017/09/18/coglianese-starobin-legal-risks-climate-change-subnational/>.

240. Jonathan B. Wiener, *Think Globally, Act Globally: The Limits of Local Climate Policies*, 155 U. PA. L. REV. 1961, 1962 (2007).

241. Coglianese & Starobin, *supra* note 239.

242. Wiener, *supra* note 240, at 1964.

243. Kate Aronoff, *The Fed Is Bailing Out Polluters While Cities Struggle*, NEW REPUBLIC (June 30, 2020), <https://newrepublic.com/article/158329/fed-bailing-polluters-cities-struggle>.

244. Paige Williams, *Urgent Care from the Army Corps of Engineers*, NEW

administration's chaotic management has left an indelible impression around the world of a country incapable of handling its own crises, let alone anybody else's."²⁴⁵ In the domestic sphere, the Trump administration's response to the pandemic (with its decentralization to state and local governments) has been considered "[s]tructured to [f]ail."²⁴⁶

According to the Centers for Disease Control and Prevention, hospital admissions during the first half of 2020 were, on average, 5.5 times higher for American Indians, 4.4 times higher for Black people, and 4 times higher for Latinos than they were for white Americans.²⁴⁷ Telemedicine itself exacerbates exclusions, as it assumes access to a computer and internet, a basic command of medical literacy, and minimum fluency in the English language. Furthermore, various social determinants of health are plagued by inequity in the United States, including housing availability, access and utilization of healthcare, income, levels of education and exposure to disease due to work function, level of discrimination, and reliance on public transportation; each of these has been a factor in the disproportional impact of COVID-19 in the United States.²⁴⁸ Importantly, traditional environmental justice litigation is unlikely to change this scenario. In fact, though the literature states that human rights law may offer an avenue for redress, claims addressing the disparate impact of policies on minorities in the United States have not succeeded due to the requirement

YORKER (Aug. 3, 2020), <https://www.newyorker.com/magazine/2020/08/03/urgent-care-from-the-army-corps-of-engineers>. New York Governor Cuomo observed that "[w]hen Americans whole concept of life and society was shaken, . . . they needed to see government perform at its best." *Id.*

245. Kevin Rudd, *The Coming Post-COVID Anarchy: The Pandemic Bodes Ill for Both American and Chinese Power—and for the Global Order*, FOREIGN AFFS. (May 6, 2020), <https://www.foreignaffairs.com/articles/united-states/2020-05-06/coming-post-covid-anarchy>.

246. Alejandro E. Camacho & Robert L. Glicksman, *The Trump Administration's Pandemic Response Is Structured to Fail*, REGULATORY REV. (May 19, 2020), <https://www.theregreview.org/2020/05/19/camacho-glicksman-trump-administration-pandemic-response-structured-fail/>.

247. John Larsen et al., *A Just Green Recovery*, RHODIUM GRP. (June 29, 2020), <https://rhg.com/research/a-just-green-recovery/>.

248. *Health Equity Considerations & Racial & Ethnic Minority Groups*, CDC (last updated Feb. 12, 2021), <https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html>.

of intent from regulators.²⁴⁹

Therefore, environmental and international human rights actions are, perhaps more than ever,²⁵⁰ paramount to securing a “fair chance in the race of life” with the path for social resilience being a requirement to guide regulatory action in the country.²⁵¹ In the aftermath of the pandemic, all levels of regulators will have an unprecedented opportunity to reach out, support inclusiveness, and implement social resilience actions, including the creation of jobs and work training, effective distribution of medication, and investments in family care. Research demonstrates that Black, Latino, and Indigenous communities living in the United States have been disproportionately affected by the pandemic, and that those who live in high environmental risk areas are facing more severe impacts.²⁵² The findings conclude that the same communities “that have borne the brunt of the impact of COVID-19 this year have borne the brunt of the impact of air, water, toxic, and hazardous waste pollution for decades prior.”²⁵³

Similar results are expected to occur on the global level, despite data on ethnicity still being a challenge.²⁵⁴ Economic inequality, overcrowded housing, environmental risks, limited availability of healthcare, and bias in access and use of care are

249. See generally Carmen G. Gonzalez, *Environmental Racism, American Exceptionalism, and Cold War Human Rights*, 26 TRANSNAT'L L. & CONTEMP. PROBS. 281, 303–08 (2017).

250. We do note, however, the existence of a climate justice bill with sponsors in the House and Senate. See generally Environmental Justice for All Act, H.R. 5986, 116th Cong. (2020). The bill is based on findings that communities of color, low-income, tribal, and others, including children, elderly, and persons with disabilities, are disproportionately impacted by environmental harms. *Id.*

251. Sidney A. Shapiro & Robert R.M. Verchick, *Inequality, Social Resilience, and the Green Economy*, 86 UMKC L. REV. 1, 4, 28–29 (2018) (discussing the need for social resilience and adaptation to replace social vulnerability and citing the Clean Power Plant as an example of the EPA's regulatory action promoting social resilience when the agency proactively created jobs for coal miners who would otherwise be jobless). See generally H.R. 5986, at 22–27.

252. Larsen et al., *supra* note 247.

253. *Id.*; see also Figure 2, *infra* Appendix.

254. *Disproportionate Impact of COVID-19 on Racial and Ethnic Minorities Needs to be Urgently Addressed –Bachelet*, U.N. OFF. HIGH COMM'R HUM. RTS. (June 2, 2020), <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=25916>.

significant factors in explaining the disproportionate global impact on minorities. Moreover, racial and ethnic minorities are found in higher numbers in some jobs that carry an increased risk, such as the “transport, health, and cleaning sectors.”²⁵⁵ The UN High Commissioner for Human Rights, Michelle Bachelet, remarked that the pandemic exposes “inequalities that have too long been ignored,” despite being obvious.²⁵⁶ The deepening of such vulnerabilities is a concern of the World Health Organization and of other international actors who have accordingly created a system to ensure access to any future vaccines: COVID-19 Vaccines Global Access (“COVAX”).²⁵⁷ However, the question of who will have access to the vaccine still lingers despite the obvious injustice of a potential situation in which health care workers in developing nations do not get access to the vaccine while low-risk people in the developed world do.²⁵⁸

In such a context, the need for international cooperation on climate and health matters has increased. As UN Secretary-General António Guterres remarked, the scale of the crisis requires countries to demonstrate solidarity to the most vulnerable communities and nations.²⁵⁹ The United States’ leadership, however, has been deaf to such pledges, and consequently, has been further diminished by the pandemic.

V. CONCLUSION

This Article analyzes the current challenges that climate change policies face, focusing on the linkages between the

255. *Id.*

256. *Id.* (affirming that “unequal access to healthcare, overcrowded housing and pervasive discrimination make our societies less stable, secure and prosperous”).

257. Kai Kupferschmidt, ‘Vaccine Nationalism’ Threatens Global Plan to Distribute COVID-19 Shots Fairly, AAAS (July 28, 2020, 5:50 PM), <https://www.sciencemag.org/news/2020/07/vaccine-nationalism-threatens-global-plan-distribute-covid-19-shots-fairly>. COVAX aims at investing in twelve vaccines and to ensure early access once a vaccine becomes available. *Id.* Developed countries will still have incentives for signing up to the COVAX, as an insurance policy, in case the vaccines they are producing do not materialize. *Id.* In this scenario, only 20% of the country’s population would have access to the vaccine under COVAX. *Id.*

258. *See id.*

259. *See* Press Release, *supra* note 230.

climate change policies of the Trump administration and the COVID-19 pandemic, and on the effects of those linkages both in the United States and globally. In particular, this Article addresses the Trump administration's attacks on climate science and its deregulatory climate agenda as well as the United States' withdrawal from the Paris Agreement. In addition, it discusses principles of international law and the challenges related to state liability for environmental harms in the context of the COVID-19 crisis. This Article also assesses how the United States' climate policies are likely to aggravate inequalities domestically as well as globally in the aftermath of the pandemic.

Part II focuses on the domestic sphere, analyzing the climate deregulation measures that will likely have an adverse impact on the COVID-19 crisis. In addition to discussing attacks on climate science by the Trump administration, Part II examines the following proposed deregulatory policies: (i) the direction given to agencies to neglect GHG emissions and the related grant of a license that authorizes construction of pipelines as well as undue delay of regulation issuance, (ii) the repeal of the Clean Air Act, (iii) the repeal of the Clean Power Plan and related threats to air quality, (iv) the flexibilization of the National Environmental Policy Act, (v) the rollback of regulations promoting fuel efficiency, and (vi) the flexibilization of regulatory standards and overall enforcement during the COVID-19 pandemic.

Part II finds that such major deregulatory climate policies proposed by the Trump administration on climate matters reiteratively use flawed scientific evidence and temper with cost-benefit analysis. Hence, these deregulatory climate measures disregard the best available science, including the social cost of carbon, despite the administration being required to consider both. To put these deregulatory measures in perspective: the total effect of all the rollbacks pursued by the Trump administration may well surpass the number of deaths caused by the COVID-19 virus. Therefore, such climate policies do not maximize wellbeing. Further, they will have a devastating economic impact due to the disregard of valid cost considerations related to the preservation of health and life, to the environment, and to the climate as a whole.

Part III analyzes a major deregulatory action that will

negatively impact the pandemic: the withdrawal of the United States from the Paris Agreement. It concludes that the United States' reputation and leadership have been jeopardized by the climate policies of the Trump administration. These policies, while assuming free riding, are actually increasing emissions domestically and beyond. This is against the maximization of overall wellbeing in the United States as well as globally because, in economics, improving environmental quality is often connected to increasing marginal costs, which in practice means that the first steps are also the most cost-effective. It is noteworthy that law and economic theorists have contended that increased environmental performance (favored by stronger environmental regulations) leads to increased competitiveness among nations and industries—the Porter hypothesis. Therefore, the more a country considers the protection of health and the environment, the more wellbeing maximization occurs. This, however, is not the case in the United States, as the climate change policies of the Trump administration are stirred in the opposite direction.

Part III also examines principles of international law and the challenges related to state liability for environmental harms in the context of the COVID-19 crisis. It finds that the United States' withdrawal from the Paris Agreement violates general principles of international law, including the principle of non-regression, which disallows backtracking on environmental protections. As for climate liability, Part III finds that the primary rule of the Trail Smelter arbitration case remains pertinent. Nonetheless, state liability for international harms caused by climate change is rare, as causation and apportion are major hurdles to enforcement. That said, caution is highly recommended. President Trump's choice to withdraw from the Paris Agreement mirrors in the international sphere his domestic policy of supporting fossil fuels. These policies are consistently denigrating the United States' international reputation and undermining its leadership while increasing GHG emissions and global pollution. These consequences negatively impact the environment and public health of both the United States and the global community, aggravating the adverse impact of the pandemic. Accordingly, the consequences could not be more severe.

In such a context, Part IV discusses how the United States'

climate policies are likely to aggravate inequalities, both domestic and global, in the aftermath of the pandemic. It examines how these inequalities are similar and highlighted that those who are bearing the major consequences of COVID-19 have already been facing the adverse impacts of climate change. It found that regulatory action should be based on prioritarianism and social resilience on the domestic front. In the international sphere, cooperation among countries remains a requirement for effective international policies on climate change and response to the pandemic. As the UN Secretary-General has recently remarked:

The recovery from the COVID-19 crisis must lead to a different economy. Everything we do during and after this crisis must be with a strong focus on building more equal, inclusive and sustainable economies and societies that are more resilient in the face of pandemics, climate change and the many other global challenges we face.²⁶⁰

In light of all the arguments considered above, this Article concludes that President Trump's climate policies are not maximizing the wellbeing of the U.S. population and have exacerbated the impact of the pandemic domestically as well as globally. Accordingly, the United States needs an approach to climate change policies that is coherent on both the national and global stages. Ultimately, these policies need to reconcile the maximization of wellbeing and equity, leading to a paradigmatic change: instead of the poisoning of the commons, the country will be part of the cure.

260. *Id.*

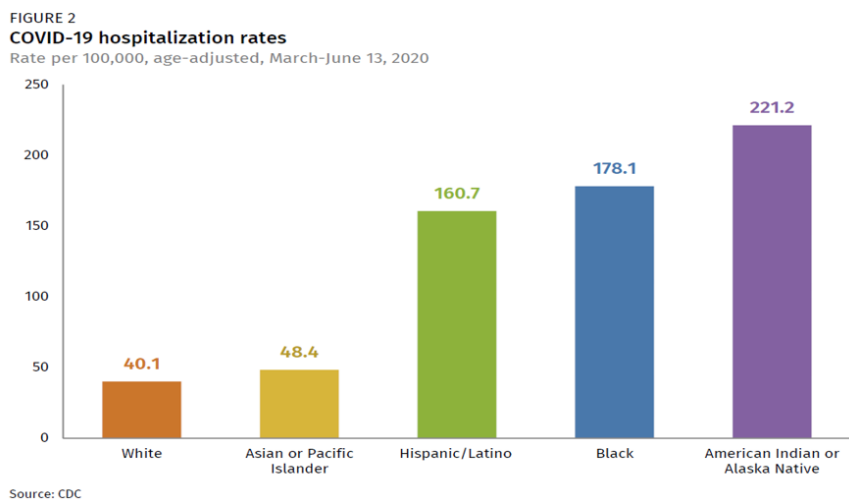
APPENDIX: FIGURES

FIGURE 1: TABLE CONCERNING THE CARBON DIOXIDE PRODUCED PER TYPE OF FUEL²⁶¹

Fuel Type	Pounds of CO2 emitted (per million BTU)
Coal (anthracite)	228.6
Coal (bituminous)	205.7
Coal (lignite)	215.4
Coal (subbituminous)	214.3
Diesel fuel and heating oil	161.3
Gasoline (without ethanol)	157.2
Propane	139.0
Natural Gas	117.0

261. Figure 1 was built by the author according to information available at: *Frequently Asked Questions: How Much Carbon Dioxide Is Produced When Different Fuels Are Burned?*, U.S. ENERGY INFO. ADMIN., <https://www.eia.gov/tools/faqs/faq.php?id=73&t=11> (last reviewed Mar. 6, 2021).

FIGURE 2: PERCENTAGE OF COVID-19 HOSPITALIZATION RATE IN THE UNITED STATES²⁶²



262. Figure 2 is based on the CDC and state data compiled by Larsen et al., *supra* note 247 (noting that the CDC does not report COVID death rates for American Indians/Alaska Natives independently, state data suggests they are considerably higher than the country's average, particularly in the Southwest).