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Feature Articles

Student Articles

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International Focus at Loyola University Chicago School of Law

Curriculum

Loyola University Chicago School of Law provides an environment where a global perspective is respected and encouraged. International and Comparative Law are not only studied in theoretical, abstract terms but also primarily in the context of values-based professional practice. In addition to purely international classes, courses in other disciplines – health law, child and family law, advocacy, business and tax law, antitrust law, and intellectual property law – have strong international and comparative components.

International Centers

The United Nations has designated Loyola University Chicago School of Law as the home of its Children's International Human Rights Initiative. The Children's International Human Rights Initiative promotes the physical, emotional, educational, spiritual, and legal rights of children around the world through a program of interdisciplinary research, teaching, outreach and service. It is part of Loyola's Civitas ChildLaw Center, a program committed to preparing lawyers and other leaders to be effective advocates for children, their families, and their communities.

Study Abroad

Loyola's international curriculum is also expanded through its foreign programs and field-study opportunities:

International Programs

- A four-week annual summer program at Loyola's permanent campus in Rome, Italy – the John Felice Rome Center – focusing on varying aspects of international and comparative law.
- A two-week annual summer program at Loyola's campus at the Beijing Center in Beijing, China focusing on international and comparative law, including a semester long course in the spring in Chicago to educate students on the Chinese legal system.

International Field Study

- A ten-day, between-semester course in London on comparative advocacy, where students observe trials at Old Bailey, then meet with judges and barristers to discuss the substantive and procedural aspects of the British trial system. Students also visit the Inns of the Court and the Law Society, as well as have the opportunity to visit the offices of barristers and solicitors.
- A comparative law seminar on *Legal Systems of the Americas*, which offers students the opportunity to travel to Chile over spring break for on-site study and research. In Santiago, participants meet with faculty and students at the Law Faculty of Universidad Alberto Hurtado.
- A one-week site visit experience in San Juan, Puerto Rico, where students have the opportunity to research the island-wide health program for indigents as well as focus on Puerto Rico's managed care and regulation.
- A comparative law seminar focused on developing country's legal systems. The seminar uses a collaborative immersion approach to learning about a particular country and its legal system, with particular emphasis on legal issues affecting children and families. Recent trips have included Tanzania, India, Thailand, South Africa, and Turkey.

Wing-Tat Lee Lecture Series

Mr. Wing-Tat Lee, a businessman from Hong Kong, established a lecture series with a grant to the School of Law. The lectures focus on aspects of international or comparative law.

The Wing-Tat Lee Chair in International Law is held by Professor James Gathii. Professor Gathii received his law degree in Kenya, where he was admitted as an Advocate of the High Court, and he earned an S.J.D. at Harvard. He is a prolific author, having published over 60 articles and book chapters. He is also active in many international organizations, including organizations dealing with human rights in Africa. He teaches International Trade Law and an International Law Colloquium.

International Moot Court Competition

Students hone their international skills in two moot competitions: the Phillip Jessup Competition, which involves a moot court argument on a problem of public international law, and the Willem C. Vis International Commercial Arbitration Moot, involving a problem under the United Nations Convention on Contracts for the International Sale of Goods. There are two Vis teams that participate each spring – one team participates in Vienna, Austria against approximately 300 law school teams from all over the world, and the other team participates in Hong Kong SAR, China, against approximately 130 global law school teams.

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We would like to recognize friends and alumni of Loyola who contributed this past year to our international law program by supporting Loyola's Vis Moot Program:

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The Space Between Grand Optimism and Grim Determination: Finding a Pathway Forward in International Climate Change Law

Cinnamon P. Carlarne

I. Introduction

We find ourselves at a point in time when maintaining hope in our collective efforts to address climate change is more important and, yet, more challenging than ever. Reason to feel pessimistic about both the effects of climate change and the failures of our legal and political efforts to address climate change abound. A recent report from the Intergovernmental Panel on Climate Change (IPCC) emphasizes that the we are already experiencing impacts to natural and human systems, that land and ocean ecosystems and the services they provide have and will continue to change, and that "pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including transport and buildings), and industrial systems".[1] Yet, despite more than 25 years of debate and effort, we continue to lack governance structures of sufficient scale and intensity to address the growing climate crises. Progress has been made and continues to be made, but the pace and depth of that progress is inadequate to limit dangerous anthropogenic climate change. The task of responding to climate change, thus, grows more daunting by the day.

In his prescient article from 2003, *Building Bridges over Troubled Waters: Eco-Pragmatism and the Environmental Prospect*, Professor Dan Farber noted that in the face of such daunting environmental challenges "excessive pessimism can be paralyzing, but blithe optimism can be fatal."[2] Taking on the particular challenge of climate change, as understood in 2003, Farber contended that although climate change "presents one of the most intractable commons problems. . .even here there is hope, despite the U.S. government's abandonment of international negotiations on the subject."[3] Hope, as Farber envisioned it then, rested largely on the advent of a technological revolution and the development of effective alternative energy technologies that would enable significant emissions reductions. Hope also, inevitably, included the eventual reversal of political course by the US government. Between 2003 and 2018, of course, much has happened. Our understanding of climate science has deepened, with the result of

[1] IPCC, *Global Warming of 1.5°C*, D1 (Oct. 6, 2018), https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf.

[2] Daniel A. Farber, *Building Bridges Over Troubled Waters: Eco-Pragmatism and the Environmental Prospect*, 87 Minn. L. Rev. 851, 852 (2003) (the report further notes that "these systems transitions are unprecedented in terms of scale, but not necessarily in terms of speed, and imply deep emissions reductions in all sectors, a wide portfolio of mitigation options and a significant upscaling of investments in those options").

[3] Farber, *supra* note 2, at 867. R

intensifying concerns about the pressing nature of the challenge. The United States has shifted from a laggard to a leader to an opposition force in international climate change negotiations as executive power shifted from Presidents Bush, to Obama, to Trump. Energy technologies have evolved tremendously and to positive end, but the needed energy revolution is still in progress and has yet to offer the necessary pathway to widespread change.

In framing environmental challenges as involving the Herculean task of finding a balance between understandable pessimism and fleeting optimism, Farber suggested that the "best reason not to despair is simply that on occasion we have somehow managed to overcome . . . barriers" to successfully address environmental challenges.[4] Farber was focused on a range of environmental challenges, of which climate change was just one. His frame, however, proved prophetic to the complex dynamics of optimism and pessimism that have characterized climate law and policy and that have, over time, made it increasingly difficult to maneuver and push forward with hope within an increasingly urgent and time-constrained space.

That space was given additional contour and urgency six years after Farber framed the governance challenge when, in their seminal article, *Planetary Boundaries: Exploring the Safe Operating Space for Humanity*, Johan Rockström et al. proposed the "novel concept, planetary boundaries, for estimating a safe operating space for humanity with respect to the functioning of the Earth System."[5] Using the concept of planetary boundaries, Rockström et al. identified nine planetary boundaries[6] that humans need to remain within to ensure that humanity can live and persist sustainably. In delineating these nine planetary boundaries, two were defined as core boundaries, the crossing of which "has the potential on its own to drive the Earth System into a new state should they be substantially and persistently transgressed."[7] One of these two core boundaries is the climate system. In determining the planetary boundary for climate change, the authors noted both the general challenges inherent in establishing planetary

[4] *Id*. at 883.

[5] Johan Rockström et al., *Planetary Boundaries: Exploring the Safe Operating Space for Humanity*, 14(2) ECOLOGY & SOC'Y 32, 33 (2009) (In key part, Rockström et al. identify "key Earth System processes and attempt to quantify for each process the boundary level that should not be transgressed if we are to avoid unacceptable global environmental change." They define unacceptable change "in relation to the risks humanity faces in the transition of the planet from the Holocene to the Anthropocene.").

[6] *Id*. at 32 (These seven are: climate change (CO_2 concentration in the atmosphere <350 ppm and/or a maximum change of +1 W m^{-2} in radiative forcing); ocean acidification (mean surface seawater saturation state with respect to aragonite = 80% of pre-industrial levels); stratospheric ozone (<5% reduction in O_3 concentration from pre-industrial level of 290 Dobson Units); biogeochemical nitrogen (N) cycle (limit industrial and agricultural fixation of N_2 to 35 Tg N yr^{-1}) and phosphorus (P) cycle (annual P inflow to oceans not to exceed 10 times the natural background weathering of P); global freshwater use (<4000 km^3 yr^{-1} of consumptive use of runoff resources); land system change (<15% of the ice-free land surface under cropland); and the rate at which biological diversity is lost (annual rate of <10 extinctions per million species). The two additional planetary boundaries for which we have not yet been able to determine a boundary level are chemical pollution and atmospheric aerosol loading).

[7] Will Steffen et al., *Planetary Boundaries: Guiding Human Development on a Changing Planet*, SCIENCE VOL. 347, ISS. 6223 at 736. (Feb. 13, 2015), https://science.sciencemag.org/content/347/6223/1259855/tab-pdf (noting that climate change is one of two "core boundaries" – the other being biosphere integrity).

boundaries and the fact that the "climate-change boundary is currently under vigorous discussion" as part of the UNFCCC negotiations leading up to what would ultimately become the Paris Agreement. Acknowledging that there was a growing convergence toward a "2°C guardrail" approach, that is, containing the rise in global mean temperature to no more than 2°C above the preindustrial level, Rockström et al. ultimately proposed a complementary planetary boundary that suggested that carbon dioxide emissions in the atmosphere needed to be contained to 350 ppm.[8] Unfortunately, by the time this planetary boundary concept was proposed and delineated for climate change, the suggested climate planetary boundary had already been transgressed.[9] Despite this transgression, the planetary boundary offered a more precisely delineated physical concept around which to construct and judge governance efforts.

Six years following the publication of *Planetary Boundaries*, the parties to the UNFCCC adopted the Paris Agreement in an attempt to chart a pathway forward towards overcoming the effective paralysis that kept the international community hurtling beyond the edges of the boundary for the climate system. However, by the time the Paris Agreement was adopted, not only had the planetary boundary for climate change already been crossed, but average global concentrations of carbon dioxide were lingering around the 400 ppm mark and continuing to climb.[10]

International climate law, thus, now operates in what could easily be imagined as a paralyzing place. As information continues to amass about the existential challenge that climate change poses for present and future generation and the gap between what we need to do, and what we are committed to doing to address climate change grows, so too does climate related anxiety. Facing this daunting challenge, law and policymakers must find ways navigate and keep pushing forward even as cause for optimism proves harder to find.

Within this frame, this short essay seeks to accomplish three things. First, it seeks to convince the reader to view climate change as one of the greatest legal and political challenges of our time by very succinctly emphasizing some of the anticipated risks and impacts of climate change and the ways in which these impacts shape the way we think about and respond to climate change. Second, it examines the overarching goals of international climate change law and the extent to which the Paris Agreement advances those goals. Third, it considers the most important roadblocks to our collective efforts to address climate change, focusing on the collective action nature of climate change and the perpetuation of an idealized vision of a cooperative international community. The essay concludes by arguing that law is an essential tool in our fight against climate change, but that using law effectively in this context means breaking free of a vision of

[8] Rockström et al., *supra* note 5, at P (The climate boundary was set based on two factors CO2 concentrations and radiative forcing, with suggested boundary values of "350 ppm CO2 and 1 W m-2").

[9] *Id.* (In addition, Rockström et al. suggested that we had already transgressed three planetary boundaries: for climate change, rate of biodiversity loss, and changes to the global nitrogen cycle).

[10] See *Id.* (reiterating that the planetary boundary for climate change dictated that carbon dioxide levels should not cross 350 ppm in the atmosphere, which is consistent with the secondary goal of the Paris Agreement to stabilize the global temperature at 1.5 degrees Celsius above pre-industrial levels).

law as a top down sweeping tool capable of offering grand solutions. Instead, it suggests that we must think of law as an enabling instrument that can help us make the multitude of changes we need to make to reshape ourselves so as to allow present and future generations to live safely and sustainably.

Part I: The Basic Parameters of the Problem

Conversations about the processes of, and responses to anthropogenic climate change have come to dominate the work of scientists, environmentalists, and policymakers, alike. The focus on anthropogenic climate change, however, remains a relatively recent phenomenon. It bears reminding that this is a young field still struggling to find the optimal mix of tools to address one of the most massive and complex challenges of our time. In fact, it is only over the last thirty years that climate change has been identified as the most pressing environmental challenge of our time, and it is only within the past 25 years that the contours of the now rapidly developing body of climate change law have begun to emerge and take shape. Thus, while we now take for granted the need for collective conversations focused on taking stock of the state of climate change science and climate change law, this was not always the case. Until quite recently, climate change was framed as one of a handful of critical international environmental challenges – as just another complex global environmental problem.[11]

However, as the science and governance responses have evolved and as legal experimentation has progressed, even over this short period of time, it has become increasingly clear that climate change is not just another environmental problem. In fact, it has become apparent that climate change is much more than an environmental challenge. It is and must be treated as much more; it is a problem of human health, human rights, security, and fundamental human and planetary well-being. Ultimately, it is a problem that exposes layers of human vulnerabilities. It is more than international; more than environmental; more than legal. It is, as UN Secretary-General Antonio Guterres has warned, "a direct existential threat" to humankind.[12]

Growing recognition of the existential nature of climatic change has given rise to a rapid period of law and policymaking at virtually every level of governance. In fact, "at all levels, from cities through the international sphere, laws, regulations and court decisions relating to climate change have proliferated. They cover topics ranging from international finance mechanisms to countries impacted by climate change to regulations of the electrical grid to carbon trading systems to aviation emissions"[13] to geoengineering, to automobile and shipping emissions,

[11] For a more robust discussion of the framing of climate change, *see* Cinnamon Carlarne, *Delinking International Environmental Law & Climate Change*, 4 MICH. J. ENVTL. & ADMIN. L. 1, 1 (2014), https://repository.law.umich.edu/cgi/viewcontent.cgi?article=1029&context=MJeal.

[12] United Nations Secretary-General, *Secretary-General's Remarks on Climate Change [as delivered],* (Sept. 10, 2018), https://www.un.org/sg/en/content/sg/statement/2018-09-10/secretary-generals-remarks-climate-change-delivered.

[13] *See* Daniel A. Farber & Cinnamon P. Carlarne, CLIMATE CHANGE LAW 1 (St. Paul, MN: Foundation Press 2018).

and much more. The emerging body of laws and policies is extensive but fragmented.

One thing that all of these developments have in common is a shared goal of limiting the negative effects of climate change. The evolving systems of law also increasingly reflect the ways in which climate change exposes the extent to which humanity is inescapably entangled in a network of mutuality, and the degree to which our individual actions and the individual harms we suffer affect one another both directly and indirectly.[14] And, while debates persist about particular patterns of change and the most apt legal and political responses, "scientific confidence has grown over the past few decades about the reality of anthropogenic climate change, the role of greenhouse gases in forcing climatic change, and the present and future harmful impacts. It is this scientific knowledge that provides the foundation of legal and policy efforts at the domestic and international level."[15]

Scientific knowledge about the processes of atmospheric climate change also reveals the challenge at the heart of the problem. Regardless of where greenhouse gases are emitted, they enter the atmosphere and are effectively mixed. As a result, while the vast majority of global greenhouse gas emissions may emanate from a small handful of the most powerful states, including the United States, China, and the European Union, these emissions intermingle to force patterns of global climate change that impact the entire planet. Because no state can either unilaterally limit another state's emissions, or protect itself from the combined impacts of climate change, responding to climate change requires international cooperation. In key part, it requires mobilizing the participation of the most powerful states, that is, the largest global economic and political actors who, by and large, are also the most significant greenhouse gas emitters. The future well-being of the vast majority of states, thus, depend on the participation and actions of a small handful of states, making climate change the ultimate commons problem.

Before exploring the ways in which the legal regime has evolved in response to these fundamental governance challenges, it is necessary to concisely frame the challenges climate change poses for humanity and, thus, what is at stake with respect to our efforts to develop effective systems of climate change law.

Although there are areas of uncertainty, the basic facts about anthropogenic climate change, by now, are firmly established. The Earth's climate is changing. The world is warming. Changes in the climate system are driven by anthropogenic – that is, by human – factors. The central debate about anthropogenic forcing of the climate system is settled.[16] We know it is happening. We know it is,

[14] For a more extensive discussion of the justice, equity, and fairness dimensions of climate change, *see* Cinnamon P. Carlarne & JD Colavecchio, *Balancing Equity and Effectiveness: The Paris Agreement and the Future of International Climate Change Law*, 27 NYU J. ENVTL. L. 107, 110 (2019), https://www.nyuelj.org/wp-content/uploads/2019/05/Carlarne_Balancing-Equity-and-Effectiveness.pdf.

[15] Farber & Carlarne, *supra* note 13, at 2. **R**

[16] *See, e.g.,* NASA: Global Climate Change, *Scientific Consensus: Earth's Climate is Warming*, https://climate.nasa.gov/scientific-consensus/; John Cook et al., *Consensus on Consensus: A Synthesis of Consensus Estimates on Human-Caused Global Warming*, 11 ENVTL. RESEARCH LETTERS 4, 4 (2016).

and will continue to wreck great harm on human and natural systems. The question is not if it is happening, but rather, what does humanity want to do about it.[17]

So, what do these changes look like? As is now well documented, recent years rank at the top of the list of the warmest global temperatures. According to the fifth assessment report by the Intergovernmental Panel on Climate Change, "[w]arming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen."[18] In addition, "each of the last three decades has been successively warmer at the Earth's surface than any preceding decade since 1850," and in the Northern Hemisphere, "1983–2012 was likely the warmest 30-year period of the last 1400 years."[19] In fact, the last 4 years have been the warmest years on recent record. Over the past decade, we have also experienced an improbable number of forest fires, droughts, heat waves, floods and record-breaking storms. As the IPCC details in its 2018 *Special Report on Global Warming of 1.5°C*, "human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels", and "[g]lobal warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate."[20]

Given current patterns of greenhouse gas emissions, absent concerted change, we are now on track to reach average global warming of 2°C by the end of the century; this level of warming would leave the earth warmer than it has been in millions of years and expose the planet to far worse impacts even than previously expected. In key part, as the IPCC report highlights, "climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C."[21]

As Priyardarshi Shukla, the co-author of the Special Report summarizes, this most recent assessment highlights the harmful effects of climate change at present levels of warming and at 1.5°C, but demonstrates that "[l]imiting global warming to 1.5°C compared with 2°C would reduce challenging impacts on eco-

[17] *See, e.g.,* IPCC, *Summary for Policymakers*, *in* IPCC, CLIMATE CHANGE 2014: IMPACTS, ADAPTATION, AND VULNERABILITY (2014), https://www.ipcc.ch/site/assets/uploads/2018/02/ar5_wgII_spm_en.pdf; IPCC, *Technical Summary*, *in* IPCC CLIMATE CHANGE 2014, IMPACTS, ADAPTATION, AND VULNERABILITY (2014), https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-TS_FINAL.pdf.

[18] IPCC, *Intergovernmental Panel on Climate Change: 2014 Synthesis Report: Summary for Policymakers* 1 (2014).

[19] T.F. Stocker et al., *Summary for Policymakers*, *in* CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS: CONTRIBUTION OF WORKING GROUP I TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, IPCC (2013), http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf.

[20] IPCC, *Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C Approved by Governments* 1, 4 (Oct. 8, 2018), https://www.ipcc.ch/news_and_events/pr_181008_P48_spm.shtml.

[21] *Id.* at 11, 24. The report emphasizes that the "avoided climate change impacts on sustainable development, eradication of poverty and reducing inequalities would be greater if global warming were limited to 1.5°C rather than 2°C, if mitigation and adaptation synergies are maximized while trade-offs are minimized."

systems, human health, and well-being",[22] including minimizing impacts such as "stronger storms, more erratic weather, dangerous heat waves, rising seas, and large scale disruption to infrastructure and migration patterns."[23] Renowned climatologist, Michael Mann, states it more clearly, explaining that: "The further we go the more explosions we are likely to set off: 1.5C is safer than 2C, 2C is safer than 2.5C, 2.5C is safer than 3C, and so on."[24] Together, Shukla and Mann's comments highlight the importance of governance efforts designed to limit greenhouse gas emissions and, thus, keep warming below 2°C.

These recent reports refine our understanding of how patterns of climate change could play out in the future, but they also reveal the ways in which climate change is already impacting life on Earth. And, of course, we – all of us – are already beginning to experience the effects of climate change. In recent years, China and Europe experienced record summer heats,[25] devastating floods swept through India and Japan,[26] Arctic sea ice continued to retreat at an alarming pace,[27] toxic algal blooms exploded along the Florida coast,[28] and wide swaths of forests on the US and Canadian West Coast burned.[29] In other words, climate change is already well under way.

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[22] Stephen Leahy, *Climate Change Impacts Worse than Expected, Global Report Warns*, NATIONAL GEOGRAPHIC, (Oct. 7, 2018), https://www.nationalgeographic.com/environment/2018/10/ipcc-report-climate-change-impacts-forests-emissions/; *see also*, *Summary for Policymakers*, *supra* note 20, at 1 (quoting Hans-Otto Pörtner, Co-Chair of IPCC Working Group II: "Every extra bit of warming matters, especially since warming of 1.5°C or higher increases the risk associated with long-lasting or irreversible changes, such as the loss of some ecosystems").

[23] Leahy, *supra* note 22.

[24] *See* Leahy, *supra* note 22; World Bank, *Turn Down the Heat: Climate Extremes, Regional Impacts, and the Case for Resilience* (2013), http://www.worldbank.org/en/topic/climatechange/publication/turn-down-the-heat-climate-extremes-regional-impacts-resilience (Bolstering the IPCC report, the World Bank similarly considers the warmer, 2 degrees scenario to be devastating, with a dire list of consequences: "the inundation of coastal cities; increasing risks for food production . . . leading to higher malnutrition rates; . . . dry regions becoming drier, wet regions wetter; unprecedented heat waves in many regions. . .[of the world]; substantially exacerbated water scarcity in many regions; increased frequency of high-intensity tropical cyclones; and irreversible loss of biodiversity, including [our beautiful and fundamentally important] coral reef systems.").

[25] *See, e.g.,* Alissa J. Rubin, *Scorching Summer in Europe Signals Long-Term Climate Changes* NY-TIMES (Aug. 4, 2018), https://www.nytimes.com/2018/08/04/world/europe/europe-heat-wave.html; Jason Samenow, *All-Time Heat Records Have Been Set All Over the World this Week*, THE INDEPENDENT (July 5, 2018), https://www.independent.co.uk/environment/heatwave-temperature-records-broken-europe-north-america-eurasia-middle-east-latest-a8432226.html.

[26] *See, e.g.,* Jeffrey Gettleman, *More Than 1,000 Died in South Asia Floods This Summer*, NY TIMES (Aug. 29, 2018), https://www.nytimes.com/2017/08/29/world/asia/floods-south-asia-india-bangladesh-nepal-houston.html; Jessie Yeung et al., *Japan Floods: At Least 122 Dead after Heavy Rain and Landslides*, CNN (July 10, 2018), https://www.cnn.com/2018/07/09/asia/japan-floods-intl/index.html.

[27] National Snow & Ice Data Center, *Arctic Sea Ice Extent Arrives at its Minimum* (Sept. 27, 2018), http://nsidc.org/arcticseaicenews/2018/09/.

[28] *See, e.g.,* Angela Fritz, *How Climate Change is Making 'red tide' Algal Blooms Even Worse*, THE WASHINGTON POST (Aug. 15, 2018), https://www.washingtonpost.com/news/capital-weather-gang/wp/2018/08/14/how-climate-change-is-making-red-tide-algal-blooms-even-worse/?noredirect=on&utm_term=.c9bfdcd68d71; Brigit Katz, *A Toxic Algal Bloom Is Spreading in Florida's Waterways*, SMITHSONIANMAG.COM (July 10, 2018), https://www.smithsonianmag.com/smart-news/toxic-algal-bloom-spreading-floridas-waterways-180969586/.

[29] *See, e.g.*, Kurtis Alexander, *Scientists See Fingerprints of Climate Change All Over California's Wildfires*, SF CHRONICLE (Aug. 3, 2018), https://www.sfchronicle.com/science/article/Scientists-see-fin-

This description is, of course, just a fragment of the picture. The arc of climate change is long, the variables are complex, and our models reach only so far and offer only so much clarity. We find ourselves at a moment in time, however, when our collective understanding of anthropogenic climate change is sharp enough to reveal both our inescapable interconnectedness and the reality that, if we hope to achieve meaningful progress towards mitigating climate change and meaningful progress towards creating a more just world – goals that are not necessarily either complementary or collectively shared, our time frame for doing so grows short.

This leads us to our second theme, which is to investigate the overarching goals of international climate change law, and to consider whether the Paris Agreement moves us forward towards meeting those goals and, ultimately, towards keeping humanity within a safe operating space.

Part II: The State and Purpose of International Climate Change Law

We know that humans are influencing the climate system. We know that the anticipated impact of this human forcing is and will lead to widespread harm. We also know that in order to limit climate change and to minimize the harmful effects of climate change worldwide, we must reduce greenhouse gas emissions. We being all of the state parties to the UNFCCC, but especially the big polluting states. Therein lies the heart of the problem. The causes of climate change are driven by a small handful of very powerful states. The effects of climate change, however, are felt by all of humankind, but especially – most severely and most urgently – in low-income countries and, especially, in those places where people are already experiencing high levels of vulnerability. In other words, climate change is the greatest collective-action problem of our time,[30] but it also gives rise to some of the greatest distributional justice and equity challenges of our time. We – humanity – are all deeply and fully in this together, but only some key state actors have the capacity to limit the causes and consequences of climate change, and even fewer have the will.

As Professor Dan Farber and I have explained elsewhere:

> Obtaining international cooperation on collective action challenges such as this is never easy, and in this case of climate change it is further hindered by uncertainties about the timing and extent of harm, our general lack of experience with problems having multi-century footprints, uncertainty about how to decarbonize our energy systems while continuing to allow economic development, and the perception that short-term, individual state economic interests – particularly the interests of the big polluter

gerprints-of-climate-change-all-13128585.php; John Kurucz, *Summer Wild Fires and Smoke-Clogged Skies the New Normal in B.C.*, VANCOUVER COURIER (Aug. 15, 2018), https://www.vancourier.com/news/summer-wild-fires-and-smoke-clogged-skies-the-new-normal-in-b-c-1.23401953.

[30] *See, e.g.,* Farber & Carlarne, *supra* note 13, at 10-11. R

> states, the great power states – are often in conflict with the collective interest of combating climate change on behalf of humankind.[31]

It is, by now, well understood that the stakes of, and barriers to addressing climate change are irrefutably high. So, where are we with our evolving system of climate law, and where do we go from here?

In order to assess the state of international climate change law, we must first ask whether there is a common goal that underpins efforts in this area and the degree to which this goal rests on shared assumptions that have remained true over time. At a very basic level, Article 2 of the UNFCCC defines the ultimate goal of international climate change law as the: "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."[32] The 2015 Paris Agreement reiterates this goal, committing parties to "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels."[33] Both agreements situate efforts to address climate change within a context that simultaneously seeks to advance equity, sustainable development, and poverty eradication. Consequently, it might be argued that the twin goals of international climate change law are to mitigate climate change – holding it, at a minimum, to less than 2°C – and to do so in a way that advances equity and reduces risks to human populations.

Accepting that limiting anthropogenic climate change to keep humanity with a safe planetary operating space, and doing so in a way that also allows us to move towards a more just world are the goals that sit at the heart of international climate change law, the pressing question is whether the 2015 Paris Agreement advances efforts to achieve these goals.

Upon adoption, the Paris Agreement was widely heralded as a positive step forward in efforts to structure an effective international climate change regime. The Paris Agreement represented the culmination of efforts, begun in Copenhagen in 2009, to create a more flexible and bottom-up model for addressing climate change. As Bodansky describes it, the end result is a bit of "a Goldilocks solution that is neither too strong (and hence unacceptable to key states) nor too weak (and hence ineffective)."[34]

At its core, the Agreement commits the Parties to limiting warming to 2°C above pre-industrial levels while pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels,[35] while also directing the Parties "to

[31] *Id.* at 3.

[32] United Nations Framework Convention on Climate Change, 1771 U.N.T.S. 107, S. Treaty Doc No. 102-38, U.N. Doc. A/AC.237/18, 31 I.L.M. 849 (1992), available at http://unfccc.int/resource/docs/convkp/conveng.pdf [hereinafter UNFCCC].

[33] *Paris Agreement*, Preamble, Dec. 12, 2015, U.N. Doc. FCCC/CP/2015/L.9/Rev.1 (entered into force Nov. 4, 2016).

[34] Daniel Bodansky, *The Paris Climate Change Agreement: A New Hope?*, 110 AM. J. INT'L L. 288, 289 (2016).

[35] *Paris Agreement*, *supra* note 33. R

reach global peaking of greenhouse gas emissions as soon as possible. . . and to undertake rapid reductions thereafter. . . on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty."[36] In addition, Parties to the agreement commit to increasing pathways towards adaptation, and to improving climate finance all within a framework focused on reflecting "equity and the principle of common but differentiated responsibilities and respective capabilities".[37] In key part, the Paris Agreement upends the Kyoto Protocol's approach to addressing climate change that was based on establishing one shared international emissions-reduction goal and, instead, creates a system based on the submission of Nationally Determined Contributions (NDCs), wherein Parties detail the contributions they are committing to making to address climate change.[38] NDCs should reflect the Parties' highest possible ambition within the common but differentiated responsibilities framework. That is, the Party must state what it is willing to do to address climate change *and* why its commitment is fair and ambitious.[39] With each subsequent round of NDC submissions, Parties must adopt progressively ambitious goals.

In short, the Paris Agreement "abandons the static, annex-based approach to differentiation in the [UNFCCC] and the Kyoto Protocol, in favor of a more flexible, calibrated approach, which takes into account a country's circumstances and capacities."[40] It represents a move away from the starkly bifurcated view of the world that characterized international climate law for almost twenty years and more directly acknowledges the social realities driving states' highly individualized interests and decisions on when and why they are willing to cooperate and take steps to respond to climate change.

The adoption and rapid coming into force of the Paris Agreement[41] was heralded as a positive move towards facilitating more effective global cooperation on everything from mitigation to adaptation to climate finance, as well as more

[36] *Paris Agreement*, *supra* note 33, at Art. 4. R

[37] *Id.*

[38] Paris Agreement, UNFCCC, 'Adoption of the Paris Agreement', fccc/cp/2015/L.9/Rev.1, 21 (2015), Art. 2 (While the Paris Agreement does not designate a shared global emission-reduction goal it does establish the overarching objective of 'Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change').

[39] *See Lima Call for Climate Action*, Dec. 1/CP.20 (Dec. 14, 2014), *in* COP Report No. 20, Addendum, at 2, UN Doc. FCCC/CP/2014/10/Add.1 (Feb. 2, 2015) (Countries have approached this task differently, with some keeping their statements narrow and concise, while others are using the NDCs process as a platform for talking more broadly about national circumstances and addressing, with specificity, what they believe fairness and ambition mean).

[40] Bodansky, *supra* note 34, at 290. R

[41] Paris Agreement, *supra* note 33, at Art. 21 (The Paris Agreement was opened for signature on April 22, 2016 at which time 175 Parties signed the Agreement. By October 5, 2016, the signatory threshold was met, allowing the Paris Agreement to enter into force, which it did on November 4, 2016, less than a year after it was adopted. Article 21 specifies that the Agreement will come into force "thirty days after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55 % of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depositary." At the time of writing, 183 of the 197 Parties to the Convention have ratified the Agreement). R

focused and diversified forms of mitigation experimentation at the state level. Within this context, one of the primary reasons that the Paris Agreement was viewed as a success was because all of the major greenhouse gas emitters became parties to the Agreement and, consequently, submitted NDCs laying out their mitigation goals and strategies. For the first time, key players such as the United States, China, the EU, India, and Brazil were all working together under a framework that called on each of the states to participate in efforts to mitigate climate change, to facilitate adaptation, and to be transparent about their overarching objectives in doing so. Accordingly, pursuant to the Paris Agreement, for the first time, every party to the agreement – regardless of their economic development status – commits to pursuing mitigation efforts, and to being explicit and transparent about the steps they intend to take to do so and why the steps they are taking are fair and ambitious.[42]As of late 2018, 179 (of 183) Parties had submitted their first NDCs.

The ambitious climate-limiting goals embodied by the Paris Agreement and the high levels of party participation reflect growing concerns about the negative impacts of climate change and an increased willingness on the part of states worldwide to work together towards a common solution. The participation of the United States and China is particularly important, given that they are the two largest net global emitters of climate change pollutants and had previously been at odds over their respective roles in contributing to, and alleviating climate change.[43]

Despite these forward-looking developments, when assessing the Paris Agreement based on expected effectiveness to limit climate change, even if Parties fully fulfilled the commitments they make in their NDCs, it is unlikely that this would hold warming below 2°C, much less achieving the more ambitious 1.5°C target.[44] In fact, one estimate suggests that policies existing as of November 2016 would achieve warming of about 3.6°C, but that if Parties fulfilled all of the commitments they have made under Paris this would "limit warming to about

[42] Paris Agreement, *supra* note 33, at Art. 4. (In key part, however, Article 4 mandates different forms of mitigation commitments from developed and developing country Parties, as such: **R**

"Developed country Parties should continue taking the lead by undertaking economy-wide absolute emission reduction targets. Developing country Parties should continue enhancing their mitigation efforts, and are encouraged to move over time towards economy-wide emission reduction or limitation targets in the light of different national circumstances.").

[43] *See* The White House – President Barack Obama, *U.S.-China Joint Presidential Statement on Climate Change* (Sept. 25, 2015), https://obamawhitehouse.archives.gov/the-press-office/2015/09/25/us-china-joint-presidential-statement-climate-change (Notably, in the lead up to the Paris meeting, the United States and China - the two largest net greenhouse gas emitters – issued a joint announcement sharing their respective commitments and their renewed commitment to bilateral cooperation).

[44] *Global Warming of 1.5°C*, *supra* note 1, at D1. (The recent IPCC report highlights the existing mitigation gap: **R**

> "Estimates of the global emissions outcome of current nationally stated mitigation ambitions as submitted under the Paris Agreement would lead to global greenhouse gas emissions18 in 2030 of 52–58 GtCO2eq yr-1 (medium confidence). Pathways reflecting these ambitions would not limit global warming to 1.5°C, even if supplemented by very challenging increases in the scale and ambition of emissions reductions after 2030 (high confidence). Avoiding overshoot and reliance on future large-scale deployment of carbon dioxide removal (CDR) can only be achieved if global CO2 emissions start to decline well before 2030 (high confidence).").

2.8°C above pre-industrial levels, or in probabilistic terms, likely limit warming below 3.1°C." Accordingly, while the Paris Agreement may push us farther along toward the 2°C goal, there is still a significant mitigation ambition gap.

If, from a pure mitigation-effectiveness perspective, the Paris Agreement falls short, even assuming full Party compliance, which is a naive assumption (particularly given the current US stance)[45], what then makes it historic and the tool to prevent climate disaster? Perhaps it is because "[r]emarkably, all major protagonists endorsed the deal, and countries with diametrically opposed interests supported it"[46] and, thus, it provides the momentum and the platform states need to cooperate and move towards increasingly meaningful and ambitious change. Or, perhaps it is because the Paris Agreement doubles down on the importance of adaptation and places greater emphasis on loss and damage, climate finance, inclusive mitigation mechanisms, and other measures linked to efforts to promote equity and fairness in climate actions.[47] All of these facets are important. Arguably, however, the greatest success of the Paris Agreement is disrupting the previous paradigm of international climate law and offering a new governance model.

In key part, the Paris Agreement responds to the rigidity and deficiencies of the previous approach and makes a sharp turn away from the existing top-down mitigation framework while also inviting a more transparent and inclusive discussion of fairness and centering that discussion as the frame for international cooperation. Disrupting the conventional top-down approach is no small accomplishment. This model emerged from and reflected a traditional form of multilateral environmental agreement and inertia that kept the international community rooted within this conventional form of cooperation even as its utility faltered in the wake of the struggles, first to ratify, and later to implement and move beyond the limited commitments embodied by the Kyoto Protocol, the Paris Agreement's predecessor. In addition, the inclusivity of the Paris Agreement, particularly in its reliance on NDCs, represents an important step forward for procedural justice. As much as the free-form nature of the NDCs invites uncertainties and disparities, it also provides a platform for states to speak to their needs and to ground their contributions in the context of their circumstances. Whereas a top-down prescriptive consensus may be simpler and more efficient, it is also prone to neglecting the most vulnerable, and to suppressing their voices. Even if the substantive goals of the Paris Agreement at first fall short, the states that have the most to lose, and the least capacity to limit climate change now, at least, have a platform to say so, and to play an active part in defining and giving contour to what 'fairness' and 'ambition' mean.

[45] On June 1, 2017, President Trump declared that the United States would "cease all implementation of the nonbinding Paris Accord and the draconian financial and economic burdens the agreement imposes on our country." The White House, *Statement by President Trump on the Paris Climate Accord* (June 1, 2017), https://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/ (While the United States is still formally a party to the Paris Agreements, its de facto withdrawal from Agreement suggests that, at least in the short-term, the United States will not be taking any formal steps at the federal level to fulfill the commitments set out in the NDC).

[46] Radoslav S. Dimitrov, *The Paris Agreement on Climate Change: Behind Closed Doors*, 16:3 GLOBAL ENVTL. POL. 1, 2 (2016).

[47] For a richer discussion of this issue, *see generally* Carlarne & Colavecchio, *supra* note 14. R

Ultimately, the Paris Agreement does not offer a grand solution to climate change. Its greatest success is disrupting the previous paradigm of international climate law that we tried unsuccessfully to use for 20 plus years. That paradigm was static and envisioned big solutions facilitated by high levels of consensus-based state cooperation. That model made sense at the time it was crafted but, ultimately, did not reflect the political or physical realities of climate change. The Paris framework recognizes those deficiencies and provides room to rethink modes of cooperation and diversified strategies for mitigation. It provides a more realistic platform for progress. That is its greatest strength. But, the work of translating the commitments made under the Paris Agreement into real and meaningful actions is only just beginning. In addition, from a pure effectiveness perspective, we remain far from our very basic goal of stabilizing greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous anthropogenic interference with the climate system and keep humanity within a safe operating space.

As we stand at this precipice, recognizing the existential importance of limiting climate change and possessing a new international legal agreement to use as the basis for doing so, the next question we must ask is what are the most important roadblocks to our efforts to develop a more effective and equitable system of international climate change law?

Part III: The Roadblocks – Collective Action & the Myth of the International Community

Here, of course, it would be easy to say political will. This is often the default answer for most complex questions of international law and diplomacy. The answer, of course, is much more complex than that because the presence or absence of political will turns on any number of factors. With respect to climate change, the ability to garner political will to support legal efforts to address climate change is influenced by many different aspects of complexity whether it be scientific, economic, social, or cultural. The nature of the political will challenge varies across time and place, as so aptly demonstrated by the populist movements and radical governance shifts that are presently shaping the contours of systems of environmental law worldwide.[48]

At the international level – and with respect to international law – the collective action nature of climate change is what presents the most significant challenge. The notion of a collective action problem is a familiar one and, as discussed, climate change is the quintessential international collective-action

[48] For example, between August and October of 2018, President Trump took dramatic steps to reshape US climate change law; the United Kingdom government warned of the far-reaching impacts of a no-deal Brexit; the French environmental minister resigned in frustration over climate inaction; Australia failed to pass legislation limiting greenhouse gas emissions; Brazil elected as their next president the populist, Jair Bolsonaro, who campaigned on an aggressively anti-environmental platform. *See, e.g.,* Dan Farber, *Another Scary Election (But Not Here)*, LEGAL PLANET (Oct. 22, 2018), http://legal-planet.org/2018/10/22/another-scary-election-but-not-here/; *but see*, Paola Villavicencio Calzadilla & Louis J. Kotze, *Living in Harmony with Nature? A Critical Appraisal of the Rights of Mother Earth in Bolivia*, 7 TRANSNAT'L ENVTL. L. 397, 400 (2018) (discussing the ways in which countries such as Ecuador and Bolivia are pushing for a more progressive re-imagining of environmental law).

problem. Whether we characterize it as a wicked[49] or a massive problem,[50] scientific and political consensus underscores that mitigating climate change demands buy-in and active engagement on the part of all of the developed and emerging economies, while adapting to climate change necessitates local, regional, and international efforts on a scale that is almost impossible to conceive.[51] Responding to both the causes and consequences of climate change, therefore, depends upon high levels of state cooperation. As a result, international climate change law was constructed around the premise of the necessity of cooperation, but also a belief in the possibility of international cooperation.

It is not, however, just the collective action nature of climate change in isolation that impedes progress. It is that this challenge is situated within a larger, ongoing debate in international law about the degree to which we see ourselves as a collective human community – that is, as an international community – that is prepared to act as a collective species.

International climate change law represents the paradigmatic example of the assumption that we are a collective human community and we are prepared to cooperate as such, when in actuality we are really far from a functioning, collective international community.[52] The assumption that there is an international community reflects larger trends in international law that shaped the emerging field of international environmental law and, eventually, climate change law.

As a result, the substance of international climate change law, and a critical challenge underpinning the development of international climate change law can be explained by pointing more directly to how our efforts to address climate change reflect a larger ongoing struggle to decide whether we are, in fact, one collective species capable of functioning as, and on behalf of an international community. This question has taken on even more resonance in recent years with the rise of the populist and authoritarian movements in the US, Europe, and worldwide.

The notion that we are an international community that can and, at times, should function collectively is intertwined with the evolution of international law as a system of law focusing on ways to allow states to co-exist peacefully to a system that, at times, also seeks to facilitate active cooperation around issues of common interest.

In the wake of World War II, international law primarily operated to facilitate peaceful coexistence between sovereign states. The primary goal of international

[49] *See* Horst W. J. Rittel & Melvin M. Webber, *Dilemmas in a General Theory of Planning*, 4:2 POLICY SCIENCES 155. (1973).

[50] *See* J. B. Ruhl & James Salzman, *Climate Change, Dead Zones, and Massive Problems in the Administrative State: A Guide for Whittling Away*, 98 CAL. L. REV. 59, 72-80 (2010).

[51] *See* Daniel A. Farber & Cinnamon P. Carlarne, *Climate Change Law* 11 (2018) (Put simply, if every country reduces greenhouse gas emissions, it is possible to limit anthropogenic climate change. Individual state interests undercut these efforts, however, because, bluntly speaking, emissions are associated with economic activity and states are thus incentivized to continue emitting and to free-ride on the emissions reduction efforts of other states).

[52] *See generally* Cinnamon P. Carlarne & Mohamed S. Helal, *A Conversation about Climate Change Law and the 'International Community'*, 9 CLIMATE L. 1 (2018).

law was not to resolve all differences between states, but to recognize those differences and find some form of equilibrium that would enable states to coexist peacefully. In this way, the focus of the evolving body of international law was on establishing and maintaining a minimum of order between potentially antagonistic entities or, to put it more bluntly, to find ways to keep entities peacefully apart – that is, to allow them to peacefully coexist.[53]

In the later part of the twentieth century, as patterns of globalization intensified, states began to identify areas where new forms of international cooperation[54] were needed—e.g., human rights, economic development, environmental protection. Intensifying patterns of environmental degradation, for example, revealed the extent to which emerging challenges such as biodiversity loss, marine pollution, ozone depletion, and acid rain required new forms of transnational cooperation. As the contours of these transnational challenges emerged, there was an effort to frame new governance approaches to address these shared concerns. Notably, as part of these new cooperative governance efforts, instead of being asked to refrain from certain behaviors, states were often tasked with actively undertake something – that is, with adopting positive obligations.[55] To cooperate around these shared interests, states began to develop new institutions to actively bring parties together to establish objectives and obligations, and to assign new divisions of labor designed to help achieve the goals of the common enterprise. The emergence and rapid development of the field of international environmental law in the latter part of the twentieth century aptly demonstrates this trend.[56]

These new cooperative efforts reflected a fundamental shift in the way that we envisioned state-to-state relationships and required much more ambitious efforts on the part of states both individually and collectively. As a result, these collective tasks have proven extremely difficult to accomplish, in part because, as renowned international law scholar George Abi-Saab suggests, they envisage systems of law that "influence society by regulating and channeling social change."[57] In order to effect social change, there is a need not only for a shared sense of community around the issue, but also a complex set of institutions to facilitate cooperative action. This has proven difficult and, in the environmental context, although we have made impressive progress towards developing an in-

[53] *See generally* Wolfgang Friedmann, THE CHANGING STRUCTURE OF INTERNATIONAL LAW (Stevens and Sons et al. 1964).

[54] *See generally* Georges Abi-Saab, *Whither the International Community*, 9 EJIL 248 (1998).

[55] *See, e.g.,* Mohamed S. Helal, *The Crisis of World Order and the Constitutive Regime of the International System*, 46 FLA. ST. U. L. REV. (forthcoming 2019) (In contrast, in the wake of World War II, international law primarily operated to facilitate peaceful coexistence between sovereign states. The primary goal of international law was not to resolve all differences between states, but to recognize those differences and find some kind of equilibrium that would enable states to coexist peacefully. This largely entailed sets of negative obligations, as opposed to positive obligations).

[56] *See generally* Donald K. Anton, *The "Thirty-Percent Solution" and the Future of International Environmental Law*, 10 SANTA CLARA J. INT'L L. 2, 212 (2013) (discussing the rapid growth of environmental norms and instruments). For a detailed discussion of the post 1960's development of domestic environmental law in the United States and other developed countries, *see* Sanford Gaines, *Reimagining Environmental Law for the 21st Century*, 44 ENVTL. L. REP. NEWS & ANALYSIS 10188, 10192-97 (2014).

[57] Abi-Saab, *supra* note 54, at 256. R

creasingly sophisticated set of normative instruments and complex complementary institutions, these institutions have rarely been able to facilitate the type of cooperation and positive action and change that is needed to resolve many of the most pressing international environmental challenges, including climate change. International will and collective action continues to lag.

The challenges we face in the field of international climate change law epitomize the extent to which grounding governance regimes in optimistic views of international cooperation can both give life to, but ultimately impede the operation of emerging legal regimes. Emerging in the 1990s, climate change law built upon an increasingly sophisticated body of international environmental law that, by then, had been grappling with the challenges inherent in motivating cooperation on transboundary environmental issues for two decades across a variety of bilateral, regional, and international environmental challenges. Between the 1970s and 1992, when the UNFCCC was adopted, for example:

It was estimated that 885 different international environmental legal instruments (hard and soft) and 139 different major international environmental treaties were in existence. In the years between 1972 and 1992 alone, it was said that more than 50 multilateral treaties relating to the protection of the marine environment were concluded. In the years between 1970 and 2004, three hundred and forty-eight multilateral treaties and one hundred and forty nine protocols were concluded, an average of roughly 100 combined instruments every five years until 2005.[58]

These governance instruments embodied a variety of regulatory approaches and reflected an evolving set of environmental norms, all of which presumed the necessity and possibility of extensive international cooperation. The first two decades of experimentation in the field of international environmental law revealed the extent and complexity of global environmental challenges, but also provided models for cooperation on issues such as reducing ozone-depleting substances and curbing trade in endangered species. Incremental success in limiting environmental degradation suggested not only that cooperation was possible, but also that there was an increasing level of awareness and shared concern around environmental challenges and their implications for economic development and human health and well-being.

Building on the momentum and progress achieved during the 1970s and the 1980s, in 1992, members of the international community came together in Rio de Janeiro for the UN Earth Summit. The objective of the Rio Earth Summit was to convince world leaders that "nothing less than a transformation of our attitudes and behaviour" was necessary to "rethink economic development and find ways to halt the destruction of irreplaceable natural resources and pollution of the planet."[59] The Summit was ambitious in scope and intent, bringing together leaders representing 172 different governments, including 108 heads of state, as well as more than 2,400 NGOs and in excess of 17,000 civil society participants and seeking to convince governments of the fundamental need "to redirect interna-

[58] Anton, *supra* note 56, at 213-14. R

[59] United Nations – Earth Summit, *UN Conference on Environment and Development* (1992).

tional and national plans and policies to ensure that all economic decisions fully took into account any environmental impact."[60]

The UN Earth Summit represented the culmination of two decades of efforts to develop a collective conscious around transnational environmental challenges. The Earth Summit was infused with a sense of determination and optimism around facilitating international environmental cooperation.[61] The levels of participation, breadth of focus, degree of cooperation, and extent of legal development at the Earth Summit was unprecedented, and has never been repeated in international environmental law. Summit participants grappled with some of the most complex international challenges of our time, yet they approached the growing set of environmental challenges with determination and with optimism.

This is the context in which international climate change law was born. The UNFCCC was adopted at the UN Earth Summit. International climate change law, thus, emerged at the pinnacle of cooperation and optimism about collective efforts to take on international environmental challenges. This collective spirit and aspirational optimism infuses the text of the UNFCCC and early cooperative efforts to address climate change. This optimism was not naïve or ignorant to the challenge at hand. State and non-state actors, alike, understood the scale of the emerging challenge. Yet, even in the face of this challenge, there was a collective sense of cooperation and community. While this state of optimism gradually eroded as negotiations for the Kyoto Protocol began and the massive nature of the climate challenge began to take more granular form, the point of emergence for international climate change law was one of collective spirit and an implicit belief in the ability to foster a shared sense of international community, commitment, and cooperative action around climate efforts.

The origins and early institutions of international climate change law, hence, is grounded in the presumption that the international community is capable of cooperating to achieve meaningful progress on behalf of humankind, despite potentially competing individual state interests. This early view of cooperation informed the shape of the UNFCCC and the Kyoto Protocol and infused the first two decades of international climate change negotiations.[62] The sense of collective interest and commitment is the basis upon which the climate regime is built

[60] *Id.*

[61] 'Agenda 21: Programme of Action for Sustainable Development; Rio Declaration on Environment and Development; Statement of Forest Principles: The Final Text of Agreements Negotiated by Governments at the United Nations Conference on Environment and Development (UNCED)', 3-14 June 1992, Rio De Janeiro, Brazil. New York, NY: United Nations Dept. of Public Information (1993), at ¶ 2.1. (See, for example, the 95 different references to 'international community' that occur in Agenda 21 and, in particular, the language in Chapter 2:

> "In order to meet the challenges of environment and development, States have decided to establish a new global partnership. This partnership commits all States to engage in a continuous and constructive dialogue, inspired by the need to achieve a more efficient and equitable world economy, keeping in view the increasing interdependence of the community of nations and that sustainable development should become a priority item on the agenda of the international community. It is recognized that, for the success of this new partnership, it is important to overcome confrontation and to foster a climate of genuine cooperation and solidarity. It is equally important to strengthen national and international policies and multinational cooperation to adapt to the new realities.")

[62] *See, e.g.*, Carlarne & Helal, *supra* note 52, at 240-42. **R**

and it has created an essential platform for establishing a fundamental set of shared goals and norms. During the first two decades of operation, it prompted parties to begin reducing their domestic emissions and created platforms for cooperation on mitigation, adaptation, climate finance, and technology transfer. This model, however, fell well short of mobilizing the extent of international cooperation necessary to ensure the level of large-scale, long-term global reductions in greenhouse gases needed to curb climate change.

Ultimately, the prevailing model of law represented by the Kyoto Protocol, premised on one shared emissions reduction goal, minimally differentiated and maximally reliant on a collective sense of obligation, failed to mobilize the extent of international cooperation necessary to limit the causes and consequences of climate change. Recognizing the limits of this approach, in 2009, the parties to the UNFCCC began to move towards a new model that responded more directly to the highly individualized circumstances, objectives, and interests of individual states. The resulting institution, the Paris Agreement, represents and inflection point in international climate change law. In key part, as discussed, the Paris Agreement offers the parameters for a new approach to climate change that is premised on motivating more individualized forms of cooperation and mitigation. This model embraces a pluralistic vision of international cooperation that is conducive to facilitating state (and non-state) efforts to experiment and be more ambitious in their individual and collective efforts to address climate change. The new model of cooperation and individualization that the Paris Agreement represents responds to the fundamental political reality that cooperation is seldom selfless and that states are motivated by a variety of factors but, ultimately, by highly individualized, as opposed to collective concerns.

As we find ourselves at a moment in time when populist and authoritarian movements worldwide are putting increasing pressure on already fragile cooperative international institutions, it is an opportune moment to ask whether, in fact, there is an 'international community' or whether, even if the absence of this mythical international community we can acknowledge the existence of the incontestably global, collective interests that bind us and require us to come together for a common goal, and for our common good.[63] With respect to the evolving body of international climate change law, the relevant question is whether we have built up enough of a sense of awareness of the individualized and collective risks of climate change, and enough of a normative and institutional foundation around climate change to support efforts to cooperate with respect to this profound challenge.

[63] *See* Carlarne & Helal, *supra* note 52. (For a much more robust investigation of the ways in which early efforts to address climate change presumed the existence of an international community that would facilitate the level of cooperation needed to structure effective solutions to a massive and complex collective-action problem, and how reliance on this vision hampers efforts to think critically about how to address the causes and consequences of climate change). R

Part IV: Abandoning Grand Optimism in Favor of Grim Determination

This essay does not attempt to construct a sense of grand optimism around past or present international efforts to address climate change. In fact, it instead deliberately "sin[s] against the prime American idol, optimism"[64] and encourages the deconstruction of grand optimism and discourages over-emphasis on the search for grand solutions. Instead, it hopes to motivate a sense of grim determination and a willingness to fight for incremental progress at every level of governance.

Optimism allowed us to identify the challenge of climate change and to come together to craft the foundations of international climate change law. Optimism infused our belief in a cooperative international community. Ultimately, however, stubborn optimism and the belief in traditional solutions to a problem that defies traditional responses has slowed us down. We had an idea that climate change was susceptible to high-level, large-scale fixes and that law – law at the international level and law at the state level – could be used as the essential foundations for that fix. That has not proven to be the case.

Therefore, to the extent that we think optimism means that we can come together as an international community to find grand solutions to climate change and that law will be the foundation upon which those grand solutions are built, this essay seeks to chip away at that idealized vision. Instead, it argues for dismantling a vision of international climate change law constructed on optimism about the possibility of grand solutions to allow for a vision of international climate change law grounded in the inevitably incremental and fragmented hard work of whittling away at the challenges climate change poses even when the task before us is daunting and does not lend itself to easy solutions but, instead, requires experimentation, vision, leadership and, ultimately, lots of fixes that add up to something bigger.

Twenty plus years of experience in crafting a system of international climate change law has demonstrated that fresh thinking and new approaches are needed. This does not mean that we have not made progress at every level of governance. In fact, as climate law has matured, a complex climate regime consisting of diverse and varied systems of governance has emerged.[65] Climate change law, in fact, "has shown a remarkable degree of resilience in adapting to barriers."[66] There may never be a grand solution to climate change, but there are many opportunities for real and meaningful change, for change that matters in big and small ways to humanity's ability to operate within a safe space.

However we choose to approach it, the stakes of responding to climate change are high and getting higher and we are at a critical moment in determining our collective future. Sweeping success is no longer a realistic goal, but gradual, hard fought for, incremental successes are. As Farber reminds us: "[w]hat we do know. . . is that success is possible despite the existence of serious obstacles.

[64] John F. Ross, *How the West Was Lost,* THE ATLANTIC (Sept. 10, 2018), https://www.theatlantic.com/ideas/archive/2018/09/how-the-west-was-lost/569365/.

[65] *See, e.g.*, Robert O. Keohane & David G. Victor, *The Regime Complex for Climate Change*, 9 PERSPECTIVES ON POL. 7. (2011).

[66] Farber & Carlarne, *supra* note 13, at 3. R

Whether success will be achieved is up to us; neither success nor failure is mandated by human nature or the logic of human institutions."[67]

Despite existing mitigation gaps and deepening concerns around pervasive risks and the equity issues surrounding the distribution of those risks, the Paris Agreement represents a step forward towards creating a more effective international framework for limiting climate change. It may not reflect the coalescence of the international community, as such, but it does reflect a more intentional effort to come together to work individually and cooperatively towards achieving a common goal for the common good. That type of cooperation suggests progress, persistence and, ultimately, the type of grim determination essential to cultivating a safe and sustainable path forward for humanity.

[67] Farber, *supra* note 2, at 875. R

Rethinking the Role of Nonstate Actors in International Climate Governance

Jason MacLean

What is currently lacking is sufficient political and business leadership.
— The Global Commission on the Economy and Climate[1]

Look, everything is political.
— Anne-Marie Leroy, Former World Bank General Counsel[2]

I. Introduction

Climate governance is at a crossroads. While climate science is settled and unequivocal that rapid, systemic, and unprecedented changes in how governments, industries, and societies operate are required to limit climate change to 1.5°C, climate governance grows more and more fragmented. In the wake of failed international climate treatymaking efforts, from Kyoto to Copenhagen to—it now appears—Paris, climate governance scholars and practitioners are investing their efforts and hopes in the potential of *nonstate* climate actions. The era of "megamultilateral" climate treatymaking is over; the era of nonstate climate leadership from corporations, cities, provinces, and NGOs is in full swing. The signal moment in this new climate governance movement may have been the reaction to U.S. President Donald Trump's announcement that the United States would formally withdraw from the U.N. Paris Agreement on climate change. Former California governor Arnold Schwarzenegger remarked: "When Trump backs out, it doesn't mean anything. Cities4Climate [a global partnership to bring about change at the local and regional level] will pick up the slack and lead the clean energy revolution."[3] Former mayor of New York City Michael Bloomberg responded with what has become the unofficial mantra of this movement: "Nonstate actors are driving the bus."[4]

Nonstate actors, their champions argue, have a number of advantages over their national government counterparts. Nonstate actors represent a broader array of resources, perspectives, and expertise than states. Nonstate actors (with the important exception of subnational actors, including prominent examples like the U.S. state of California or New York City) are at least one step removed from

[1] Helen Mountford et al., Unlocking the Inclusive Growth Story of the 21st Century: Accelerating Climate Action in Urgent Times, at 16 (2018), https://newclimateeconomy.report/2018/.

[2] Quoted in Dimitri Van Den Meerssche, *Scholars in Self-Estrangement (Again): Rethinking the Law of International Organizations*, 5 London Rev. Int'l L. 455, 457 (2017).

[3] Quoted in Joydeep Gupta & Soumya Sarkar, *'Non-State Actors Are Driving the Bus': The Role of the US at COP23*, thethirdpole.net (Nov. 15, 2017), https://www.thethirdpole.net/en/2017/11/15/non-state-actors-are-driving-the-bus-the-role-of-the-us-at-cop23/.

[4] *Id.*

elected political officials and the four-to-five-year electoral cycle. Nonstate actors are far more numerous, and by virtue of their numbers they can enhance the potential for new channels of collaboration at multiple levels of climate governance.[5]

But do nonstate actors actually have the capacity to fill the leadership gap in climate mitigation left by national governments at both the scale and pace of change required? Are nonstate actors immune from the barriers to effective climate action faced by national governments? Are nonstate actors insulated from politics? This paper critically examines the capacity of nonstate actors to "drive the bus" toward effective and expeditious global climate governance.

The paper unfolds as follows. First, is describes the "ambition gap" embedded in the U.N. Paris Agreement[6] and the role assigned to nonstate actors in particular in meeting the Agreement's aspirations. The paper proceeds by assessing the post-Paris climate governance landscape through the critically-important prism of capacity. In doing so, the paper also asks how we arrived at this juncture, and whether we might have lost our way. The paper concludes by arguing that while the post-Paris climate governance era does indeed call for an "all hands on deck" approach, state and nonstate actors alike must address and counter the special interests and political influence of the fossil fuels industry in order to create an enabling climate policy environment.

II. Mind the Gap! Nonstate Actors and the Paris Agreement

The most remarkable feature of the Paris Agreement is its explicit acknowledgement of its own ambition gap. The Paris Conference of the Parties (COP) Decision "[*n*]*otes with concern* that the estimated aggregate greenhouse gas emissions levels in 2025 and 2030 resulting from the intended nationally determined contributions do not fall within the least-cost 2°C scenarios but rather lead to a projected level of 55 gigatonnes in 2030."[7] The Paris COP Decision further notes "that much greater emission reduction efforts will be required than those associated with the intended nationally determined contributions in order to hold the increase in the global average temperature to below 2°C above pre-industrial levels."[8] Specifically, GHG emissions must be reduced to 40 gigatonnes by the year 2030 in order to meet the Paris Agreement's goal of limiting global warm-

[5] *See, e.g.*, Kenneth Shockley & Idil Boran, *With Waning US Leadership on Climate, Nonstate Actors to Play Outsize Role*, THE CONVERSATION (Nov. 23, 2016), https://theconversation.com/with-waning-us-leadership-on-climate-nonstate-actors-to-play-outsize-role-68946.

[6] The phrase "Paris Agreement" is used throughout this paper to refer collectively to the Paris Conference of the Parties (COP) Decision and the Paris Agreement; the latter was adopted in Paris as an Annex to the Paris COP Decision, but it became a separate, legally binding agreement when ratified by at least 55 parties accounting for at least an estimated 55% of total global GHG emissions. *See Report of the Conference of the Parties on its Twenty-First Session, Held in Parties from 30 November to 13 December 2015*, COP Dec. 1/CP.21, Doc. FCCC/CP/2015/10/Add.1, at 21-36 (Jan. 29, 2016), http://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf.

[7] *Id.* at ¶ 17 (emphasis original).

[8] *Id.*

ing to well below 2°C (or 3.6 degrees Fahrenheit) above the pre-industrial norm.[9] This initial "ambition gap" embedded in the Paris Agreement is 15 gigatonnes of GHG emissions. Another way of expressing this gap is to observe that the set of individually determined national contributions (INDCs) filed at or before the conclusion of the Paris Agreement, which represented 95 percent of global GHG emissions in 2015, put collective efforts on a path to an approximately 3°C temperature increase.[10]

To close this gap between the initial GHG emissions-reduction commitments (INDCs) made by the parties and the Agreement's well-below 2°C target, an initial analysis concluded "[s]ubstantial enhancement or over-delivery on current INDCs by additional national, sub-national and non-state actions is required".[11] Before proceeding to discuss this call for greater climate action, particularly at the subnational and nonstate levels, it is important to first observe two qualifications about the Paris Agreement's initial GHG emissions-reduction commitments and the Agreement's well-below 2°C target, respectively.

Regarding the initial commitments, the projection that they collectively place the world on a path to a minimum of 3°C warming above the pre-industrial norm is based on the tenuous assumption that all of those initial pledges will actually be met by the Agreement's parties; if they are not, which appears likely, then the projected temperature increase would not be limited to 3°C, and might reach 4°C.

Regarding the target itself, initial climate analyses following the conclusion of the Paris Agreement warned that the 2°C target itself should not be confused with a safe level of warming. According to climate scientist James Hansen and his colleagues, 2°C of warming above the pre-industrial norm should be considered "dangerous."[12]

Taken together, these qualifications help contextualize the findings of the United Nations Environment Programme's (UNEP) 2017 emissions gap report.[13] According to the UNEP report, the pledges made by parties to the Paris Agreement would—if actually met—bring about only one third of the emissions reductions required to meet the Agreement's well-below 2°C target.[14] A separate but contemporaneous analysis conducted by the nongovernmental organization Climate Action Tracker concluded that no major industrialized state was on pace to meet its initial pledge under the Agreement.[15]

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[9] *Id.*

[10] Jennifer Allan et al., *Summary of the Paris Climate Change Conference: 29 November – 13 December 2015*, EARTH NEGOTIATIONS BULL., Dec. 15, 2015, at 44, enb.iisd.org/download/pdf/enb12663e.pdf.

[11] Joeri Rogelj et al., *Paris Agreement Climate Proposals Need a Boost to Keep Warming Well Below 2°C*, 534 NATURE 631, 631 (2016).

[12] James Hansen et al., *Ice Melt, Sea Level Rise and Superstorms: Evidence from Paleoclimate Data, Climate Modeling, and Modern Observations that 2°C Global Warming Could Be Dangerous*, 16 ATMOSPHERIC CHEMISTRY & PHYSICS 3761, 3801 (2016).

[13] UNEP, *The Emissions Gap Report 2017: A UN Environment Synthesis Report*, (Nov. 2017), https://www.unenvironment.org/resources/emissions-gap-report-2017.

[14] *Id.* at xiii.

[15] Hanna Fekete et al., *Improvement in Warming Outlook as India and China Move Ahead, but Paris Agreement Gap Still Looms Large*, CLIMATE ACTION TRACKER (Nov. 15, 2017), https://climateaction

These discouraging data—made worse by the United States' decision to withdraw from the Paris Agreement—have amplified calls for nonstate actors to play, not merely a more significant role, but a *leading* role in addressing climate change.[16] The argument that corporations, cities, and state and provincial governments "must help to drive the ambition of national governments on climate change, particularly through smart infrastructure and transport policy"[17] is representative of this increasingly urgent call. So too is the claim that the public engagement of "eminent scientists, business leaders, economists, analysts, influencers and representatives of non-governmental organizations, is an example of the strength of radical collaboration across unusual partners." [18]

Daunting as the challenge of meeting the Paris Agreement's well-below 2°C target doubtless is, the international climate action landscape changed dramatically following the release of the UN Intergovernmental Panel on Climate Change's (IPCC) special report on global warming of 1.5°C.[19] The IPCC's report responds to the invitation of the United Nations Framework Convention on Climate Change (UNFCC) to the IPCC's three climate science working groups to examine the impacts of global warming above the more aspirational of the Paris Agreement's two climate targets, 1.5°C above pre-industrial levels. The resulting report was authored by 91 researchers from 44 countries, and consists of a review of over 6,000 peer-reviewed studies and 40,000 reviewer comments.[20] The report expresses "high confidence" in a "robust difference" between a world of 1.5°C warming and a world of 2°C warming.[21] Warming of 1.5°C will produce a greater number of severe heat waves and more extreme storms, flooding, and forest fires, which is notable given the increasing extreme weather events we are already witnessing.[22]

Warming *above* 1.5°C, however, is truly alarming. Approximately ten million people will be exposed to permanent inundation, and hundreds of millions more will be susceptible to climate-related poverty.[23] Malaria and dengue fever will increase, while maize, rice, and wheat crop yields will decline.[24] At 2°C of warming, the consequences are graver. Approximately 18% of insects, 16% of

tracker.org/publications/improvement-warming-outlook-india-and-china-move-ahead-paris-agreement-gap-still-looms-large/.

[16] *See, e.g.*, *Subnationals, Non-state Actors Are Crucial for Paris Success*, UN FRAMEWORK CONVENTION ON CLIMATE CHANGE (Oct. 20, 2017), https://unfccc.int/news/subnationals-non-state-actors-are-crucial-for-paris-success. *See generally*, Thomas Hale, *'All Hands on Deck': The Paris Agreement and Nonstate Climate Action*, 16 GLOBAL ENVTL. POL. 12, 12 (2016).

[17] Christiana Figueres, *Three Years to Safeguard Our Climate*, 546 NATURE 593, 595 (2017).

[18] *Id.*

[19] IPCC, *Global Warming of 1.5°C: Summary for Policymakers*, Doc. SR1.5 (Oct. 6, 2018), http://www.ipcc.ch/report/sr15/.

[20] IPCC, *IPCC Press Release*, Doc. 2018/24/PR (Oct. 8, 2018), https://www.ipcc.ch/site/assets/uploads/2018/11/pr_181008_P48_spm_en.pdf.

[21] IPCC Doc. SR1.5, *supra* note 19, ¶ B1, at 9.

[22] *See, e.g.*, Natural Disasters Videos, N.Y. TIMES, https://www.nytimes.com/video/natural-disasters.

[23] IPCC Doc. SR1.5, *supra* note 19, ¶ B5.1, at 11.

[24] *Id.* ¶ B5.2, at 11.

plants, and 8% of vertebrates will lose their habitats.[25] The global annual catch from marine fisheries will decline by 3 million tonnes.[26] Nearly all (99%) of coral reefs will die off.[27] The *cri de coeur* of the climate-threatened Alliance of Small Island States—"1.5 to stay alive"—is now a global scientific truism.[28]

The implications of these findings for GHG emissions pathways are just as startling. Not only does the IPCC estimate that limiting warming to 1.5°C will require far higher carbon prices than are presently in place (by 2030, the global average price must be three to four times higher, or US$135 to US$5,500 per tonne),[29] but it also concluded that rapid, unprecedented, and systemic changes in how governments, industries, and societies function are necessary.[30] With renewed urgency, the IPCC calls for an "all hands on deck" approach by concluding that "[s]trengthening the capacities for climate action of national and subnational authorities, civil society, the private sector, indigenous peoples and local communities can support the implementation of ambitious actions implied by limiting global warming to 1.5° C."[31] In particular, the IPCC recommends partnerships "involving non-state public and private actors, international investors, the banking system, civil society and scientific institutions" to meet the 1.5°C target. [32]

More daunting still, further delay is no longer an option. The world has already experienced an average temperature increase of as much as 1.2°C.[33] The current rate of extracting and combusting fossil fuels risks global warming of 4°C by the end of the century, if not sooner.[34] To prevent this calamity, the IPCC reports that the world must reduce global GHG emissions by 45% from 2010 levels by 2030, and achieve net-zero emissions by 2050. "The next few years," argues Debra Roberts, co-chair of the IPCC's working group on climate impacts, adaptation, and vulnerabilities, "are probably the most important in our history."[35]

While the IPCC's findings with respect to 1.5°C of warming are perhaps surprising, the claim that nonstate actors must assume a leadership role in global

[25] *Id.* ¶ B3.1, at 10.

[26] *Id.* ¶ B4.4, at 11.

[27] *Id.* ¶ B4.2, at 10.

[28] *Id.* ¶ B5.1, at 9.

[29] IPCC Doc. SR1.5, *supra* note 19, ¶¶ C2.6-C2.7, at 18.

[30] *Id.* ¶ C2, at 17.

[31] *Id.* ¶ D7, at 25.

[32] *Id.* ¶ D7.1, at 25.

[33] Press Release, World Meteorological Org., Provisional WMO Statement on the Status of the Global Climate in 2016 (Nov. 14, 2016), https://public.wmo.int/en/media/press-release/provisional-wmo-statement-status-of-global-climate-2016.

[34] *See* Ottmar Edenhofer & Johan Rockström, *Charge _30 a Tonne for C02 to Avoid Catastrophic 4C Warming*, THE GUARDIAN (Oct. 5, 2018), https://www.theguardian.com/environment/2018/oct/05/charge-30-a-tonne-for-co2-to-avoid-catastrophic-4c-warming.

[35] Carolyn Kormann, *The Dire Warnings of the United Nations' Latest Climate-Change Report*, NEW YORKER (Oct. 8, 2018), https://www.newyorker.com/news/news-desk/the-dire-warnings-of-the-united-nations-latest-climate-change-report.

climate governance is by now familiar, even taken for granted among international climate policy scholars and observers—indeed, one observer has gone so far as to claim that "minilateralism" has become the "conventional wisdom" for addressing climate change in developed countries.[36] The traditional approach to global climate governance, multilateral treatymaking dominated by states, has thus far failed to adequately address the problem. Over the last 10-15 years, as the failures of state-focused multilateralism became increasingly clear, new and experimental approaches have proliferated. Nonstate actors and initiatives have been at the forefront of this alternative approach, which no longer has either a single focus or locus.[37]

This climate governance shift is evident in—but not limited to—the Paris Agreement itself. The Agreement's structure reflects the burgeoning efforts of nongovernmental organizations, business groups, civil society, think tanks, trade unions, independent media organizations, private governance arrangements, transnational networks, academic researchers, and subnational authorities to address global climate change.[38] Nonstate actors play a number of formal and informal roles in the Agreement. They monitor states' progress toward their commitments, and by doing so they increase the transparency of states' levels of compliance as well as facilitate, at least in theory, the ratcheting-up of states' policy ambitions. By registering their own climate commitments, initiatives, and actions in the Non-State Actor Zone for Climate Action (NAZCA) platform attached to the Paris Agreement under the auspices of the UNFCC, nonstate actors are attempting to play a variety of governance roles, from undertaking independent GHG reduction commitments, to partnering in multi-level governance arrangements, to experimenting with ways to scale-up their initiatives at broader levels of governance.[39] Under the closely related Global Climate Action Agenda (GCCA), or what is called the "fourth pillar" of the Paris Agreement (alongside national pledges, the Agreement's financing package, and the negotiated agreement itself), nonstate climate actions across 12 thematic fields are showcased by the UNFCC.[40] The importance of these nonstate commitments is reflected in the text of the Paris Agreement itself.[41]

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[36] David Roberts, *A Way to Win the Climate Fight*, THE AMERICAN PROSPECT (May 10, 2011), https://prospect.org/article/way-win-climate-fight.

[37] Sander Chan et al., *Reinvigorating International Climate Policy: A Comprehensive Framework for Effective Nonstate Action*, 6 GLOBAL POL'Y 466, 466 (2015). *See also* DAVID G. VICTOR, GLOBAL WARMING GRIDLOCK: CREATING MORE EFFECTIVE STRATEGIES FOR PROTECTING THE PLANET (2011); MATTHEW J. HOFFMAN, CLIMATE GOVERNANCE AT THE CROSSROADS: EXPERIMENTING WITH A GLOBAL RESPONSE AFTER KYOTO (2011).

[38] Jonathan W. Kuyper, Björn-Ola Linnér & Heike Schroeder, *Non-state Actors in Hybrid Global Climate Governance: Justice, Legitimacy, and Effectiveness in a Post-Paris Era*, 9 WIREs CLIMATE CHANGE 1, 18 (2018).

[39] As of this writing (November 12, 2018), over 12,000 (12,293) nonstate stakeholders have registered over 19,000 (19,823) actions. For up-to-date information, see NAZCA's online portal: Database of Stakeholder Actions, NAZCA GLOBAL CLIMATE ACTION, http://climateaction.unfccc.int/views/total-actions.html (last visited Jan. 11, 2019).

[40] Latest Climate Action News, UNFCC, https://unfccc.int/climate-action (last visited Jan. 11, 2019).

[41] Paris Agreement, ¶¶ 117-118 (mandating the continuation of the NAZCA), and ¶¶ 133-136 (welcoming and encouraging all non-party stakeholders).

Even more important, however, is the broader and increasingly diverse landscape of nonstate climate governance in the now post-Paris era. It is now taken for granted that nonstate actors are intimately involved in international climate governance.[42] The question is whether nonstate actors—particularly subnational governments and corporations—are *capable* of assuming an effective leadership role in international-*cum*-global environmental governance, and if so, how? The next section of this paper offers a critical account of the post-Paris climate governance landscape through the prism of the critically-important concept of capacity. In doing so, it also asks how we got here, and whether we might have lost our way.

III. Who's Driving this Bus? Enhanced Climate Action Before (2020) 2030

The world is in a desperate race between accelerating climate change and the innovation needed to cut emissions before it's too late. Cities, states, and businesses are in the lead, but they face stiff headwinds from weak national policies and the continued efforts of fossil fuel interests to undermine the innovation we need.

— John Sterman, MIT Systems Dynamics Group Leader[43]

The number of nonstate and subnational climate commitments and initiatives has grown steadily in the post-Paris Agreement era. These commitments and initiatives are being made by municipalities, subnational states, provinces, and regions, and companies, and also include climate action networks and international cooperative initiatives. Examples include: (1) America's Pledge;[44] (2) C40 Cities for Climate Leadership Group;[45] (3) ICLEI Local Governments for Sustainability carbon*n* Climate Registry;[46] (4) Carbon Disclosure Project (CDP);[47] (5) Compact of States and Regions;[48] (6) European Union Covenant of Mayors; [49] (7) Global

[42] *See, e.g.,* José Enrique Alvarez, THE IMPACT OF INTERNATIONAL ORGANIZATIONS ON INTERNATIONAL LAW (Brill Nijhoff 2016); Guy Fit Sinclair, TO REFORM THE WORLD: INTERNATIONAL ORGANIZATIONS AND THE MAKING OF MODERN STATES (Oxford University Press 2017) (This growth on nonstate action in international climate governance mirrors the growth of nonstate actions on the part of international organizations and nongovernmental organizations in international law-making more generally).

[43] Oliver Milman, *Climate Change: Local Efforts Won't Be Enough to Undo Trump's Inaction, Study Says*, THE GUARDIAN (Aug. 30, 2018), https://www.theguardian.com/environment/2018/aug/29/local-climate-efforts-wont-undo-trump-inaction.

[44] Overview, AMERICA'S PLEDGE, https://www.americaspledgeonclimate.com/ (last visited Jan. 11, 2019).

[45] C40 CITIES, https://www.c40.org/ (last visited Jan. 11, 2019).

[46] CARBONN CLIMATE REGISTRY, https://carbonn.org/ (last visited Jan. 11, 2019).

[47] CARBON DISCLOSURE PROJECT, https://www.cdp.net/en (last visited Jan. 11, 2019).

[48] Compact of States and Regions - Subnational Initiatives Driving Climate Ambition, UNFCC (Sept. 1, 2015), https://unfccc.int/news/compact-of-states-and-regions-subnational-initiatives-driving-climate-ambition.

[49] EUROPEAN UNION COVENANT OF MAYORS, https://www.covenantofmayors.eu/ (last visited Jan. 11, 2019).

Covenant of Mayors for Climate and Energy;[50] (7) the UNFCC NAZCA an GCAA;[51] (8) Under2 Coalition;[52] (9) US Climate Alliance;[53] (10) US Climate Mayors;[54] and (11) We Are Still In.[55] While not exhaustive, these examples are representative of nonstate actors and initiatives, and help comprise—as of this writing—8,237 municipalities in 128 countries making up 16 percent of the world's population; 182 regions in 37 countries making up 15 percent of the world's population; and 2,175 companies in 36 countries with US$21 trillion in revenue.[56]

These commitments and initiatives represent a dizzying array of diverse global climate actions at varying scales of ambition and implementation. To name but a handful of innovative examples: Seoul's building retrofit building programme;[57] the Lake Turkana wind power project;[58] the Pay As You Go (PAYG) solar systems project in East and West Africa;[59] Barcelona's people-focused Superblock model;[60] Lagos's BRT "lite" bus system;[61] the Farm Animal Investment Risk and Return (FAIRR) investor network;[62] OzHarvest, a Sydney-based surplus food donor and delivery programme;[63] the Hydrogen Breakthrough Ironmaking Technology (HYBRIT) public-private R&D joint venture;[64] and Tesco's multi-solution logistical efficiency and modal shift strategy.[65] This list is merely suggestive; the world is awash in climate commitments, partnerships, and pilot projects.

The most prominent nonstate—specifically, subnational—commitment is California's pledge, enacted into law in 2018, to require that 100 percent of the state's electricity come from carbon-free sources by 2045.[66]This pledge comple-

[50] GLOBAL COVENANT OF MAYORS FOR CLIMATE AND ENERGY, https://www.globalcovenantofmayors.org/ (last visited Jan. 11, 2019).

[51] Climate Action Overview, UNFCC, https://unfccc.int/climate-action (last visited Jan. 11, 2019).

[52] UNDER2 COALITION, https://www.theclimategroup.org/project/under2-coalition (last visited Jan. 11, 2019).

[53] US CLIMATE ALLIANCE, https://www.usclimatealliance.org/ (last visited Jan. 11, 2019).

[54] US CLIMATE MAYORS, http://climatemayors.org/ (last visited Jan. 11, 2019).

[55] WE ARE STILL IN, https://www.wearestillin.com/ (last visited Jan. 11, 2019).

[56] ANGEL HSU ET AL., GLOBAL CLIMATE ACTION OF REGIONS, STATES AND BUSINESSES 19-26 (2018), datadriven.yale.edu/wp-content/. . ./08/YALE-NCI-PBL_Global_climate_action.pdf.

[57] THE GLOBAL COMMISSION ON THE ECONOMY AND CLIMATE, UNLOCKING THE INCLUSIVE GROWTH STORY OF THE 21ST CENTURY 52 (2018).

[58] *Id*. at 58.

[59] *Id.* at 62.

[60] *Id*. at 75.

[61] *Id.* at 88.

[62] *Id*. at 110.

[63] *Id*. at 114.

[64] *Id*. at 140.

[65] *Id*. at 152.

[66] Mark Chediak, *California Governor Jerry Brown Signs Bill for Carbon-Free Power by 2045*, BLOOMBERG (Sept. 24, 2018, 5:05 PM), https://www.bloomberg.com/news/articles/2018-09-10/california-s-brown-signs-bill-for-carbon-free-power-by-2045.

ments California's cap-and-trade programme, the world's fourth-largest carbon permit trading scheme (after the European Union, South Korea, and Guangdong, China).[67] This scheme, which applies to large electric power plants, industrial plants, and fuel distributors, is connected to the California's low-carbon fuel standard[68] and its subsidized zero-emissions electric vehicle programme.[69]

Corporate commitments have also attracted considerable attention in the post-Paris climate governance era. Among the most prominent of these is Walmart's commitment to require its more than 10,000 suppliers—including thousands of Chinese companies—to report on a defined set of sustainability metrics ranging from GHG emissions to food waste.[70]

More generally, companies have to date reported 21,500 climate-related commitments to the Carbon Disclosure Project (CDP).[71] Of those, 81 percent included a quantifiable GHG emissions-reduction target, with 546 commitments expressing an aspiration of carbon neutrality.[72] More than 200 of the world's largest companies (as defined by the 2017 Forbes 2000 and Global 500 lists) have made 3,755 unique emissions-reduction commitments.[73] Four-fifths (17,955) of companies' commitments include specific base and target years, and 58 percent are short-term (pre-2020) commitments.[74] Beyond GHG emission-reduction targets, 3,115 actions expressly address renewable energy in terms of purchasing and generation.[75] Another 4,356 commitments discuss or at least mention renewable energy as a part of a broader commitment.[76]

In an analysis of these commitments' potential contribution to climate change mitigation, Hsu and her colleagues found that if (1) these commitments are fully implemented and (2) they do not slow the pace of climate action elsewhere, then (3) these commitments would result in global GHG emissions of between 54.5 — 57.1 $GtC0_2e$/year in 2030.[77] This potential contribution, while not insignificant,

[67] *Understanding the California Cap and Trade*, CENTER FOR CLIMATE AND ENERGY SOLUTIONS, https://www.c2es.org/content/california-cap-and-trade/ (last visited Jan. 7, 2019).

[68] *About the Low Carbon Fuel Standard*, CAL. ENERGY COMM'N, https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/about.

[69] *See* Nick Cahill, *California to Spend $2.5B to Boost Zero-Emission Vehicle Sales*, COURTHOUSE NEWS SERV. (Jan. 26 2018), https://www.courthousenews.com/california-to-spend-2-5b-to-boost-zero-emission-vehicle-sales/.

[70] *See* Press Release, Wal-Mart Stores, Inc., Walmart Announces New Commitments to Drive Sustainability Deeper Into the Company's Global Supply Chain (Oct. 25, 2012), https://www.prnewswire.com/news-releases/walmart-announces-new-commitments-to-drive-sustainability-deeper-into-the-companys-global-supply-chain-175738411.html; *see also* Alisha Staggs, *An Up-close Assessment of Walmart's Sustainability Index*, GREENBIZ (May 17, 2013), https://www.greenbiz.com/blog/2013/05/17/up-close-assessment-walmarts-sustainability-index.

[71] HSU, *supra* note 56, at 23.

[72] *Id.*

[73] *Id.* at 26.

[74] *Id.*

[75] *Id.*

[76] *Id.*

[77] *Id.* at 8.

is "still not nearly enough to hold global temperature increase to well below 2°C and work towards limiting it to 1.5°C."[78]

In a more ambitious scenario, wherein numerous national, regional, and local governments cooperate with businesses and civil society partners across national boundaries, GHG emissions in 2030 could be as much as one-third lower—15 to 23 $GtC0_2e$/year—than with fully-implemented national policies alone.[79] But even under this unlikely scenario, global GHG emissions in 2030 would be between 36-43 $GtC0_2e$/year, potentially in excess of the amount associated with the Paris Agreement target of holding warming to well below 2°C (40 $GtC0_2e$), and almost assuredly in excess of the maximum amount associated with holding warming to 1.5°C (25-35$GtC0_2e$/year).[80]

Moreover, it is reasonable to question whether those nonstate commitments having quantifiable targets will in fact be *fully* implemented. To date, there is very sparse data reported on their implementation and progress.[81] Previous analyses demonstrate that few voluntary corporate climate and sustainability domains have established monitoring and reporting mechanisms.[82] Notwithstanding that the commitments canvassed above are at an early stage of development, which may partially account for their lack of reported implementation and monitoring data thus far, the past performance of similar initiatives counsels skepticism. For example, 10 years after the 2002 World Summit on Sustainable Development, 43 percent of the "Partnerships for Sustainable Development" formed pursuant to the Summit did not yield results amenable to analysis and ultimate accountability.[83]

Paradoxically, after noting that the potential individual and cooperative contributions of these nonstate actors' commitments "should be interpreted with caution and uncertainty"[84] because of the unlikelihood of their complete implementation and fulfillment, Hsu and her colleagues recommend collaboration "at all levels"[85] to realize the commitments' emissions-reduction potential. Besides noting the role of financing in ensuring that sustainable development partnerships are implemented, Hsu and her colleagues point to additional research suggesting "the role *national governments* can play in supporting and facilitating non-state actor initiatives through top-down policy support, coordination among other subnational and non-state actors, and finance."[86]

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[78] *Id*.

[79] *Id*. at 9.

[80] IPCC, *supra* note 19, at 24. R

[81] HSU, *supra* note 56, at 98. R

[82] *See, e.g.*, Angel Hsu et al., *Towards a New Climate Diplomacy*, 5 NATURE CLIMATE CHANGE 501, 501 (2015) [hereinafter *New Climate Diplomacy*]; Sander Chan et al., *Effective and Geographically Balanced? An Output-based Assessment of Non-state Climate Actions*, 18 CLIMATE POL'Y 24, 24 (2018).

[83] PHILIPP PATTBERG ET AL., PUBLIC-PRIVATE PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT: EMERGENCE, INFLUENCE AND LEGITIMACY (2012).

[84] HSU, *supra* note 56, at 96.

[85] *Id*. at 97.

[86] *Id*. (emphasis added).

This is not a little ironic given that the starting point of their analysis, like the starting point of the post-Paris climate governance literature writ large, is the contribution *nonstate* actors can make in order to fill the climate governance gap created by weak national government actions: "Both individual commitments made by regions, states, cities, businesses and international cooperative initiatives have the potential to reduce global greenhouse gas emissions *beyond what is currently expected from national policies alone*." [87]

This paradoxical call for states to support nonstate actors in order to fill the gaps created by state inaction is not an isolated example. Rather, it is a recurring feature of the nonstate actor climate governance narrative. In their book *Climate of Hope: How Cities, Businesses, and Citizens Can Save the Planet*,[88] former New York City mayor Michael Bloomberg and former Sierra Club executive director Carl Pope arrive at the same conclusion. After setting out the crucial role of private investment in sustainable infrastructure, they proceed to note a series of obstacles to attracting private investments: (1) infrastructure projects require long-term investments that have solid but only moderate yields; (2) there is a history in some jurisdictions of "unpredictable regulator intervention" in renewable energy developments, which are incorrectly perceived to be heavily subsidized; (3) many investors are not first-movers, and prefer to wait for decades-long track records of investment returns; (4) not enough investment moves from the global north to the global south; and (5) sustainable investments are typically capital-intensive and thus expensive; and (6) "*governments are still tilting in favor of fossil fuels"* (*e.g.* in 2014, global subsidies to the fossil fuels industry were US$493 billion compared to US$120 billion to renewable energy companies, a four-to-one ratio).[89] According to Bloomberg and Pope, "[a]ddressing such issues requires *government leadership*."[90]

It turns out that nonstate actors are not driving the bus toward climate mitigation after all. In light of the findings discussed above, reliance on nonstate commitments to *lead* efforts to enhance climate mitigation in the crucially-important and potentially path-dependent short-term—let alone what little is left of the critical pre-2020 timeframe[91]—is a highly questionable and quite possibly reckless policy option. Rather, climate governance scholars and practitioners should redirect our attention back to national and international climate actors and actions and attend to the root cause underlying the apparent failures of multilateralism noted above. Below, the paper turns to this root problem and examines its implications for meaningful climate action across multiple levels of governance.

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[87] *Id*. at 7 (emphasis added).

[88] MICHAEL BLOOMBERG & CARL POPE, CLIMATE OF HOPE: HOW CITIES, BUSINESSES, AND CITIZENS CAN SAVE THE PLANET (2017).

[89] *Id*. at 191-93.

[90] *Id*. at 192 (emphasis added).

[91] On the critical importance of this timeframe, *see* Christiana Figueres et al., *Three Years to Safeguard Our Climate*, 546 NATURE 593, 593 (2017) (discussing recent climate modeling showing that if GHG emissions do not begin to decline after 2020, the Paris Agreement targets become virtually unattainable).

IV. Shall versus Should- Captured States

The turn away from state-focused, multilateral climate governance occurred prior to the post-Paris era, and is more a response to the failure of the multilateral climate negotiations in Copenhagen in 2009 than the latterly failures to date of the Paris Agreement. Following two years of intensive multilateral negotiations, the UNFCC COP15 meeting in Copenhagen was expected to result in a comprehensive and legally-binding climate treaty that would take effect after the expiry of the Kyoto Protocol's first commitment period in 2012. The outcome of these negotiations, the Copenhagen Accord, was broadly considered a bitter failure. During the final days of negotiations the early draft agreements calling for global GHG emissions reductions of 50-80 percent by 2050 were unceremoniously abandoned. Instead, COP15 concluded by "taking note" of a three-page, non-binding political agreement—the Copenhagen Accord—that was drafted by a group consisting of 28 heads of state during the final 24 hours of extended negotiations.[92] What had been hailed as "Hopenhagen" transmogrified into "Brokenhagen."[93] Global climate governance had been thrown into a "crisis."[94]

Following "Brokenhagen," climate governance scholarship and practice alike began emphasizing the importance of nonstate and subnational actors' potential to reinvigorate state-focused multilateralism, in effect diminishing—if not quite demoting—the role of national governments: "In the post-Copenhagen era, the nation-state and the state system seem to be enmeshed in cross-cutting webs of governance that blur familiar boundaries and responsibilities between public and private sectors."[95]

Now, in the post-Paris era, academic and activist claims about the importance of nonstate actors' contributions to climate governance have only grown, seemingly exponentially, although not in response to any discernible increase in nonstate actors' climate governance capacity or contributions, but rather because national governments are once again failing to reduce GHG emissions.

Pragmatic as this policy pivot may appear, it is important not to pass over the *causes* of the inadequacy of state-focused multilateral climate governance. The implications are not merely academic. It may well be that the barriers—whatever they may be—to effective national- and international climate policymaking also stand in the way of effective nonstate and subnational climate actions.[96] But there is an even more direct and pressing reason to look more closely at the causes of

[92] Karin Bäckstrand & Eva Lövbrand, *Climate Governance After Copenhagen: Research Trends and Policy Practice*, *in* RESEARCH HANDBOOK ON CLIMATE GOVERNANCE xvii (Karin Bäckstrand & Eva Lövbrand eds., 2015).

[93] Meinhard Doelle, *The Legacy of the Climate Talks in Copenhagen: Hopenhagen or Brokenhagen?*, 4 CARBON & CLIMATE L. R. 86, 86 (2010).

[94] Jeffrey McGee, *Minilateralism*, *in* RESEARCH HANDBOOK ON CLIMATE GOVERNANCE 132 (Karin Bäckstrand & Eva Lövbrand eds., 2015).

[95] Bäckstrand & Lövbrand, *supra* note 92, at xxii-xxiv.

[96] For a brief and introductory discussion of politics as the defining characteristic of climate governance, no matter the level of governance in question, *see* Ian Bailey & Piers Revell, *Re-politicizing Climate Governance Research*, *in* RESEARCH HANDBOOK ON CLIMATE GOVERNANCE 534 (Karin Bäckstrand & Eva Lövbrand eds., 2015).

inadequate national and international climate actions, which was introduced above. Namely, notwithstanding the putative advantages of polycentric nonstate and subnational climate actions (*i.e.* greater opportunities for experimentation and learning coupled with increased communications and interactions across more actors[97]), theories and analyses of nonstate contributions to climate action consistently call for their integration with—and *support from*—national governments.[98]

Paradoxically again, academic commentary on the effectiveness of centrifugal nonstate actions gestures back to centripetal national climate politics. For example, the proponents of a model capable of assessing and valuing the contributions of nonstate and subnational actors observe that the challenge of decarbonization is not limited to removing a set number of gigatonnes of carbon dioxide equivalent from the atmosphere. Rather, decarbonization requires "disrupting carbon lock-in through the wholesale transformation of established economic, social, technological, and governance institutions."[99] Nonstate and subnational climate actions must be assessed, accordingly, "against how much they contribute to broader transformations in key institutions."[100]

What does "carbon lock-in" mean, and what are its implications for climate governance? A remarkable feature of the scholarly literature on climate governance is the sparse mention—let alone sustained analysis—of the outsize political influence of carbon-intensive industries—particularly oil and gas—at the national and international level.[101] While the world is decarbonizing faster than ever, global GHG emissions continue to rise.[102] The reason why is perhaps deceptively simple, and has little to do with the surface-level failures of climate multilateralism to solve the world's greatest collective action problem. According to *The Economist* magazine, "[s]teel, cement, farming, transport and other forms of economic activity account for over half of global carbon emissions. They are technically harder to clean up than power generation *and are protected by vested*

[97] *See, e.g.*, Daniel H. Cole, *Advantages of a Polycentric Approach to Climate Change Policy*, 5 NATURE CLIMATE CHANGE 114, 114 (2015); Andrew J. Jordan et al., *Emergence of Polycentric Climate Governance and Its Future Prospects*, 5 NATURE CLIMATE CHANGE 977, 977 (2015); Kenneth Shockley & Idil Boran, *With Waning US Leadership on Climate, Nonstate Actors to Play Outsize Role,* THE CONVERSATION (Nov. 23, 2016), https://theconversation.com/with-waning-us-leadership-on-climate-nonstate-actors-to-play-outsize-role-68946.

[98] HSU, *supra* note 56, at 1.

[99] Hamish van der Ven, Steven Bernstein & Matthew Hoffman, *Valuing the Contributions of Nonstate and Subnational Actors to Climate Governance*, 17 GLOBAL ENVTL. POL. 1, 5 (2017).

[100] *Id.*; *See also* Gregory C. Unruh, *Understanding Carbon Lock-In*, 28 ENERGY POL'Y 817, 817 (2000); Gregory C. Unruh, *Escaping Carbon Lock-In*, 30 ENERGY POL'Y 317, 317 (2002); Jason MacLean, *Pipelines and Paris? Canada's Climate Policy Puzzle*, 33 J. ENVTL. L. & PRAC. 45, 45 (2018).

[101] *See, e.g.*, Helen Thompson, OIL AND THE WESTERN ECONOMIC CRISIS 1 (2017). *But see* GUTSTEIN, THE BIG STALL: HOW BIG OIL AND THINK TANKS ARE BLOCKING ACTION ON CLIMATE CHANGE IN CANADA (2018); Jason MacLean, *Striking at the Root Problem of Canadian Environmental Law: Identifying and Escaping Regulatory Capture*, 29 J. ENVTL. L. & PRAC. 111, 111 (2016).

[102] *$C0_2$ Emissions from Fuel Combustion 2018 Overview*, INT'L ENERGY ASS'N (2018), https://www.iea.org/statistics/co2emissions/.

industrial interests."[103] The political influence of the oil and gas industry in particular is the root cause of climate action inertia. Outside of the mainstream of academic literature on climate governance, the perverse power of the special interests of the oil and gas industry is taken for granted. The international oil industry has played a fundamental role in shaping economic and political priorities and policies in oil states, including the range of potential policies for environmental protection. The industry as a whole, moreover, has shaped the recent history of much of the world. Oil remains the single biggest component of the energy industry and the world's most traded commodity.[104] Half of the Global *Fortune* 500 top ten listed companies produces oil, and still-unlisted Saudi Aramco is larger still.[105] Oil literally fuels democracies and dictatorships alike, and oil's products fuel over 90% of the world's transport.[106]

Thus, one of the leading analyses of the failed legacy of climate multilateralism notes, almost as an analytic afterthought, that "[t]he United States, especially, has not been inclined to provide leadership, given its dependence on fossil fuels. Large developing countries have also consistently signaled that they prioritize development goals over climate protection."[107] Yet this is *the* story underlying the failures of state-focused multilateralism: states' consistent and unabated prioritization of economic development and the special corporate interests in economic development. Private industry organizations—themselves a kind of nonstate actor—have throughout the relatively short history of multilateral climate governance lobbied repeatedly and successfully against mandating specific, quantifiable GHG emissions-reduction targets, advocating instead for market-based mechanisms and voluntary corporate self-regulation.[108] By paying scant attention to this underlying story, the nonstate governance literature runs the risk identified early on by van Asselt of ignoring the politics and competing interests *among* nonstate climate governance commitments and actions.[109] Not all nonstate actors or actions are created equally (investor-owned multinational oil majors are nonstate actors), and ignoring the politics of power may result in overstating the climate mitigation potential of nonstate actions and obscuring the ways nonstate actions might influence national and/or international climate actions.

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[103] *The World is Losing the War Against Climate Change*, THE ECONOMIST (Aug. 2, 2018), https://www.economist.com/leaders/2018/08/02/the-world-is-losing-the-war-against-climate-change (emphasis added).

[104] *Special Report: Oil: Breaking the Habit*, THE ECONOMIST (Nov. 26 2016), http://www.economist.com/sites/default/files/20161126_oil.pdf.

[105] *Id*.

[106] *Id*.

[107] Hoffman, supra note 37, at 15.

[108] *See* Gutstein, *supra* note 101, 51-63 (a discussion of such efforts on the part of the Global Climate Coalition, the World Business Council for Sustainable Development, the International Chamber of Commerce, and the American Petroleum Institute).

[109] Harro van Asselt, *Climate Governance at the Crossroads: Experimenting with a Global Response After Kyoto*, 2 ENVTL. POL. 354, 355 (2013); Harro van Asselt et al., *Global Climate Governance after Paris: Setting the Stage for Experimentation*, *in* INNOVATING CLIMATE GOVERNANCE: MOVING BEYOND EXPERIMENTS 27-42 (Bruno Turnheim et al. eds., 2018).

Consider a brief example. In 2018 a nonprofit organization called the Climate Leadership Council represented by two former U.S. Senators turned oil and gas industry lobbyists proposed a federal carbon fee and dividend of US$40 per tonne.[110] On its own, this price point would be insufficient to reduce GHG emissions in line with the United States' GHG-reduction commitments under the Paris Agreement (from which it is withdrawing),[111] but it would still be considered a good start, and far better than no price at all. As part of this proposal, the lobbyists pledged the support of key nonstate actors, including major investor-owned oil companies including ExxonMobil, BP, Royal Dutch Shell, and Total SA. But the Senators-turned-lobbyists did not simply propose a carbon fee. Instead, they proposed a compromise: a federal carbon fee in exchange for (1) the outright repeal of the Obama-era Clean Power Plan, which authorizes the federal Environmental Protection Agency to regulate and reduce carbon emissions;[112] and (2) a grant of federal- and state-level immunity to GHG emitters from tort liability for their contributions to climate change and its costs. This would effectively reverse the polluter-pays principle and shift the financial burden of adapting to climate change (the costs of which are estimated as being in the trillions of dollars) from private emitters to the public.[113]

In response to environmentalists' criticisms, [114] particularly the counterargument that there is no necessary connection between a carbon fee, on the one hand, and a waiver of liability for fossil fuels companies on the other,[115] a U.S. Congressman spoke out in favour of the proposed deal. The congressman's rhetoric is instructive. First, in an attempt to diminish criticism of major oil companies, he stated that "beating up on them" makes for "cheap applause."[116] He also characterized tort liability lawsuits against oil companies (which are presently being filed and litigated in courts across the United States) as unlikely to succeed

110 Trent Lott & John Breaux, *Here's How to Break the Impasse on Climate*, N.Y. TIMES (June 20, 2018), https://www.nytimes.com/2018/06/20/opinion/climate-change-fee-carbon-dioxide.html.

111 For a comprehensive analysis of carbon pricing levels in relation to GHG emissions reduction targets, *see* Carbon Pricing Leadership Coalition, *Report of the High-Level Commission on Carbon Pricing*, THE WORLD BANK GROUP (May 29, 2017), https://static1.squarespace.com/static/54ff9c5ce4b0a53decccfb4c/t/59b7f2409f8dce5316811916/1505227332748/CarbonPricing_FullReport.pdf. *See also* R.S. Tol, *The Social Cost of Carbon*, 3 ANN. REV. ECON. 419 (2011) (recommending a carbon price of US$70). On this latter point, *see* MARK JACCARD, MIKELA HEIN & TIFFANY VASS, *Is Win-Win Possible? Canada's Government Achieve Its Paris Commitment. . .and Get Re-Elected* 1 (2016), http://rem-main.rem.sfu.ca/papers/jaccard/Jaccard-Hein-Vass%20CdnClimatePol%20EMRG-REM-SFU%20Sep%2020%202016.pdf.

112 *See What is the Clean Power Plan?,* NAT. RESOURCES DEF. COUNCIL (Sept. 29, 2017), https://www.nrdc.org/stories/how-clean-power-plan-works-and-why-it-matters.

113 James Hansen et al., *Young People's Burden: Requirement of Negative $C0_2$ Emissions*, 8 EARTH SYS. DYNAMICS 577, 592 (2017).

114 *See, e.g.*, Lee Wasserman & David Kaiser, *Beware of Oil Companies Bearing Gifts*, N.Y. TIMES (July 25, 2018), https://www.nytimes.com/2018/07/25/opinion/carbon-tax-lott-breaux.html.

115 *Id.*

116 Scott Peters, *Time for a Carbon Tax*, N.Y. TIMES (Aug. 3, 2018), https://www.nytimes.com/2018/08/03/opinion/letters/carbon-tax-litigation-oil-companies.html (Peters, a California Democrat, is as of this writing a member of the U.S. House Energy and Commerce Subcommittee on Energy, and of the bipartisan Climate Solutions Caucus).

or have any effect on carbon emissions.[117] Most tellingly, the congressman argued that getting the oil companies to "acquiesce" to a carbon fee might assist in enacting the fee into law, and if that means giving up on a few "long-shot lawsuits," America should cut that deal today.[118] It appears not to occur to this congressman to challenge the outsize regulatory influence wielded by the fossil fuels industry; rather, he treats the industry almost as if it were sovereign. As such, no climate policy without its approval is even thinkable, let alone feasible. This example illustrates not only the subsisting power of the oil and gas industry over U.S. climate policy,[119] but also the conceptual danger of treating and valorizing all nonstate climate actors and actions equally. It also further develops the point raised above about the questionable merits of relying on nonstate actors for climate policy *leadership*. The irony inherent in that logic is illustrated further through an examination of one of the most prominent corporate climate initiatives, "The B Team,"[120] to which the paper now turns.

V. Plan B- Corporate Social Responsibility, Redux

Former UN Secretary-General special envoy on climate change Mary Robinson describes the "B Team" as an initiative that brings together a growing number of business leaders around the world (co-founded by Sir Richard Branson of the Virgin Group and Jochen Zeitz of the Zeitz Foundation) committed to "delivering a new way of doing business that prioritises people and the planet alongside profit—a 'Plan B' for business."[121]

Plan B is admirably candid—if still somewhat coy—about the rationale for greater business involvement in climate governance: "Civil Society alone cannot solve the tasks at hand and *many governments are unwilling or unable to act*. While there are myriad reasons we've arrived at this juncture, much of the blame rests with the principles and practices of 'business as usual.'"[122]

Plan B's advocacy efforts follow two separate but closely related tracks: (1) persuading other businesses to implement sustainable practices; and (2) lobbying governments to enact stronger business regulations, including, tellingly, lobbying against other forms of corporate regulatory lobbying.

The first track is effectively a repackaged form of corporate social responsibility (CSR): "Leading by example, and leveraging our collective voice, we are part of a growing movement of businesses who want to be part of the solution rather

117 *Id.*

118 *Id.*

119 *See* The Editorial Board, *Midterm Climate Report: Partly Cloudy*, N.Y. TIMES (Nov. 9, 2018), https://www.nytimes.com/2018/11/09/opinion/climate-change-midterm-elections.html (Examples of this influence abound and include the role of the industry's campaigning against *state-level* legislative initiatives such as Washington State's proposal to enact a carbon price and Arizona's proposal to set binding renewable energy targets. This campaign is discussed further below).

120 THE B TEAM, http://www.bteam.org/ (last visited Jan. 12, 2019).

121 MARY ROBINSON, CLIMATE JUSTICE: HOPE, RESILIENCE, AND THE FIGHT FOR A SUSTAINABLE FUTURE 141 (2018).

122 About Page, THE B TEAM, http://www.bteam.org/about/ (last visited Jan. 12, 2019).

than a substantial contributor to the problem."[123] Laudable as this effort may be, the evidence canvassed in the previous section above suggests that this voluntary approach to greater corporate responsibility and sustainability is insufficient. Moreover, multijurisdictional comparative analysis of the barriers to environmental corporate sustainability demonstrates that leaving corporate sustainability to market forces (*e.g.* investor and consumer demands) or business itself through voluntary CSR initiatives has not succeeded in transforming commitments and pledges into genuinely sustainable results.[124] The primacy of shareholder value-maximization remains deeply entrenched and largely immune from competing CSR norms, including enhanced transparency and reporting practices.[125] Moreover, CSR's defining feature—volunteerism—is routinely deployed as a strategic means of resisting legislative mandates.[126] As The Global Commission on the Economy and Climate concludes its 2018 report on accelerating climate action: "*What is currently lacking is sufficient political and business leadership."*[127] This twofold lack of leadership is not coincidental.

Fittingly, Plan B's second track of advocacy seeks to directly address this joint lack of leadership: "We act as a countervailing force to others lobbying to derail effort to protect the planet and its inhabitants. We push the agenda. We don't wait for government regulations to force us to act. Instead, we work with civil society to advocate for enabling policy environments".[128]

Specifically, The B Team has since 2013 advocated for stronger national government policies (*e.g.* the U.S. Clean Power Plan and U.K/ net-zero legislation); it joined the Carbon Pricing Leadership Coalition with 21 governments and 90 businesses; and it became a member of Friends of the Fossil Fuel Subsidy Reform.[129] Six years later, however, the U.S. Clean Power Plan is under review and in jeopardy of being rescinded;[130] carbon prices across enacting jurisdictions remain far below the level required to meet the world's GHG emissions-reduction

[123] *The B Team Progress Report June 2013 – June 2015: Towards a Plan B for Business,* THE B TEAM (June 2016), https://issuu.com/the-bteam/docs/b_team_progress_report_2016/21?e=15214291/36892582 [hereinafter *B Team Progress Report*].

[124] *See, e.g.*, Beate Sjåfjell & Irene Lynch Fannon, *Corporate Sustainability: Gender as an Agent for Change*, *in* CREATING CORPORATE SUSTAINABILITY: GENDER AS AN AGENT FOR CHANGE 305, 315-16. (Beate Sjåfjell & Irene Lynch Fannon eds., 2018).

[125] Beate Sjåfjell & Irene Lynch Fannon*, supra* note 124, at 315. *See also* Beate Sjåfjell et al.*, Shareholder Primacy: The Main Barrier to Sustainable Companies*, *in* COMPANY LAW AND SUSTAINABILITY 79 (Beate Sjåfjell & B.J. Richardson eds., 2015).

[126] *See, e.g.*, Irene Lynch Fannon, *The Corporate Social Responsibility Movement and Law's Empire: Is There a Conflict?*, 58 N. IR. LEGAL Q. 1 (2007); Jason MacLean, *Review of Penelope Simons & Audrey Macklin, The Governance Gap: Extractive Industries, Human Rights, and the Home State Advantage,* 3 THE EXTRACTION INDUS. AND SOC'Y 262 (2016).

[127] THE GLOB. COMM'N ON THE ECON. AND CLIMATE, UNLOCKING THE INCLUSIVE GROWTH STORY OF THE 21ST CENTURY: ACCELERATING CLIMATE ACTION IN URGENT TIMES 16 (2018).

[128] *B Team Progress Report*, *supra* note 123, at 3.

[129] *Id.* at 13.

[130] *Complying with President Trump's Executive Order on Energy Independence*, EPA (June 18, 2018), https://www.epa.gov/energy-independence.

and climate stabilization goals;[131] and both national and subnational governments continue to heavily subsidize fossil fuels, especially oil and gas; the true amount of those subsidies after factoring in undercharging for environmental costs and general taxes as well as production costs would have amounted to US$5.3 trillion in 2015 (or 6.5 percent of global gross domestic product).[132] Progressive corporate lobbying targeting perverse corporate lobbying thus far appears to have failed to help establish enabling policy environments. Notably, the sticky nature of perverse policies applies not only to national governments, but also to subnational ones, including putative climate leaders such as California. As Bloomberg and Pope acknowledge, "[l]obbying is a $3 billion industry in Washington alone—and that's not counting the lobbying that goes on in state capitals and city halls."[133]

Part V: California Dreaming- Captured Substates

As discussed above, California is widely perceived to be a leading example of the climate governance capacity of subnational actors. But while California has concentrated on reducing state-level fossil fuels consumption, it has not addressed its increasing extraction and production of oil and gas. Since 2011, the state has issued permits for 20,000 new oil and gas wells; over 8,500 of those wells are situated within a half-mile of residential communities, including homes, schools, and hospitals.[134]

In a letter to California's governor signed by 26 climate change scholars calling for California to phase-out its existing oil and gas wells and to cease issuing permits allowing new oil and gas extraction, the climate scholars noted that at least 75 percent of California's oil and gas is as carbon-intensive as Canada's tar sands bitumen crude, considered the most corrosive and carbon-intensive in the world.[135] Accordingly, if California were to phase-out its existing wells while prohibiting new extraction, the state could prevent the emission of an estimated 428 million cubic metric tonnes of carbon dioxide equivalent between 2019 and 2030, the equivalent of California's annual economy-wide GHG emissions in

[131] *Few Countries Are Pricing Carbon High Enough to Meet Climate Targets*, ORG. OF ECON. CO-OPERATION AND DEV. (Sept. 18, 2018), http://www.oecd.org/ctp/tax-policy/few-countries-are-pricing-carbon-high-enough-to-meet-climate-targets.htm.

[132] David Coady et al., *How Large are Global Fossil Fuel Subsidies?*, 91 GLOB. DEV. 11, 11-27 (2017).

[133] BLOOMBERG & POPE, *supra* note 88, at 249.

[134] Steven C. Amstrup, PhD, Chief Scientist, Polar Bears International, to Edmund G. Brown, Governor of California (July 12, 2018) (on file with Center for Biological Diversity), https://www.biologicaldiversity.org/programs/climate_law_institute/energy_and_global_warming/pdfs/18-07-12-Scientist-letter-to-Gov-Brown-calling-for-phase-out-of-oil-and-gas-production.pdf. *See also* Kate Wheeling, *Climate Scientists Call for Jerry Brown to End Oil Extraction in California*, PACIFIC STANDARD (July 12, 2018), https://psmag.com/environment/climate-scientists-call-on-jerry-brown-to-end-oil-extraction-in-california; Kate Wheeling & Jim Morris, *Big Oil's Black Mark on California's Climate Record*, PACIFIC STANDARD (Sept. 12, 2018), https://psmag.com/environment/big-oils-black-mark-on-californias-climate-record.

[135] *Id*. *See also* Judith Lewis Mernit, *Why Does Green California Pump the Dirtiest Oil in the U.S.?*, YALE ENV'T 360 (Oct. 19, 2017), https://e360.yale.edu/features/why-does-green-california-pump-the-dirtiest-oil-in-the-u-s.

2015.[136] By contrast, the climate scholars warned that "[n]ew approvals of fossil fuel infrastructure projects such as pipelines, marine and rail import/export terminals, and refinery expansions further exacerbate 'carbon lock-in' because such projects require up-front investment, incentivizing continued operation for decades into the future."[137] The scholars concluded that "[a]n end to new fossil fuel projects is urgently needed to meet the Paris Agreement goals to limit global average temperature rise to well below 2 degrees Celsius and strive to limit temperature rise below 1.5 degrees Celsius above pre-industrial levels." [138] California, however, presently has no plan to phase-out existing oil and gas extraction projects or restrict the approval of new projects.[139]

California is not alone among subnational actors captured by the fossil fuels industry's opposition to stringent climate policies. In Washington State, for instance, BP, Valero, Phillips 66, and other fossil fuels interests spent over US$30 million to help oppose the state's 2018 ballot initiative to impose the first carbon price in the United States. According to *The New York Times*, "[b]ackers of the proposal hoped it would serve as a template for similar action elsewhere and perhaps for the country as a whole."[140] But even a state as reliably democratic as Washington succumbed to what *The New York Times* characterized as the fossil fuels industry's "relentless fearmongering about job losses, higher electricity bills and more expensive gasoline."[141] The ballot initiative was defeated resoundingly.

As Bloomberg and Pope acknowledge, "special interests in other countries are acting in the same way as special interests in the United States, clinging to their privileges, monopolies, and market positions. Logging interests in Peru, coal interests in Australia, cattle interests in Brazil, owners of outmoded merchant ships—all try to slow progress toward a cleaner world by extracting political concessions from governments."[142] Trying and succeeding. Several Canadian provinces, for example, have themselves have mounted a concerted opposition—including legal challenges—to the Canadian federal government's proposed (and modest, starting at CDN$20 per tonne) national carbon price.[143] The provinces' opposition is being fueled by the nonrenewable energy industry's opposition to legally-binding climate change policies.[144] Subnational governments are no less

[136] *Id.*

[137] *Id.* at 2.

[138] *Id.* at 1.

[139] *Id.*

[140] Opinion, *Midterm Climate Report: Partly Cloudy*, N.Y. TIMES (Nov. 9, 2018), https://www.nytimes.com/2018/11/09/opinion/climate-change-midterm-elections.html.

[141] *Id. See also Our Coalition*, NO ON 1631, https://votenoon1631.com/our-coalition/.

[142] BLOOMBERG & POPE, *supra* note 88, at 254.

[143] *See, e.g.*, Jason MacLean, *The problem with Canada's gradual climate policy*, POLICY OPTIONS POLITIQUES (Oct. 26, 2018), http://policyoptions.irpp.org/magazines/october-2018/the-problem-with-canadas-gradual-climate-policy/.

[144] *See, e.g.*, Jason MacLean, *Kill Bill C-69 – It Undermines Efforts to Tackle Climate Change*, THE CONVERSATION (Oct. 25, 2018), https://research.usask.ca/our-impact/highlights/the-conversation-canada/kill-bill-c-69—it-undermines-efforts-to-tackle-climate-change-.php.

immune than are national governments to regulatory capture by the special interests of the fossil fuels industry.

Moreover, climate governance's root problem of regulatory capture is an enduring one that threatens to imperil the progress otherwise being made in the generation of renewable energy throughout the world. Once again, Bloomberg and Pope acknowledge that, notwithstanding the fact that the *under*-subsidized costs of renewable energy are often cheaper than fossil fuels, the fossil fuels industry "will hold on for as long as they can, and many will succeed in extending their profitability far longer than the market would naturally allow."[145] Indeed, as long as regulatory incentives favor continued production, fossil fuel producers will both exploit their reserves rapidly and continue exploration activities, in direct conflict with other state and nonstate efforts to mitigate climate change.[146] Low fossil fuel prices, moreover, may reflect the intention of producer countries like Canada, Russia, the United States, and OPEC members to "sell out" their reserves by maintaining or even increasing production despite declining demand for fossil fuel assets. [147] Relatedly, if oil and gas producers become concerned by the prospect of either the gradual or more imminent greening of economic policies in response to the targets set by Paris Agreement, they may well extract their stocks more rapidly, thus accelerating global warming.[148]

Meanwhile, as Bloomberg and Pope observe, fossil fuels interests will continue to vigorously oppose regulatory reforms, including ending fossil fuels subsidies and pricing carbon and other forms of pollution, which would if implemented allow for increased investments in "natural commons and public goods".[149] How to break this policy impasse? As if speaking for much of the nonstate climate governance literature, Bloomberg and Pope offer the following declaration, which merits quotation in full:

The single most important development in the fight against climate change hasn't been the Paris Agreement, of the U.S. shale gas boom, or even the advancement of solar and battery technology. All have been critically important. But the most important has been that mayors, CEOs, and investors increasingly look at climate change *not as a political issue but as a financial and economic one*—and they recognize that there are gains to be made, and losses to be averted, by factoring climate change into the way they manage their cities, businesses, and funds.[150]

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[145] BLOOMBERG & POPE, *supra* note 88, at 254.

[146] Saphira A.C. Rekker et al., *Comparing Extraction Rates of Fossil Fuel Producers Against Global Climate Goals*, 8 NATURE CLIMATE CHANGE 489, 489 (2018).

[147] Jean-Francois Mercure et al., *Macroeconomic Impact of Stranded Fossil Fuel Assets,* 8 NATURE CLIMATE CHANGE 588, 588 (2018). *See* also Julie Gordon, *Imperial Oil to Build New Oil Sand Project*, REUTERS (Nov. 6, 2018), https://www.reuters.com/article/us-imperial-oil-aspen/imperial-oil-to-build-new-canada-oil-sand-project-idUSKCN1NC01O; Al Root, *Why Oil Stocks Could Get a Boost from OPEC Production Cuts*, BARRON'S (Nov. 12, 2018), https://www.barrons.com/articles/why-oil-stocks-could-get-a-boost-from-opec-production-cuts-1542024900.

[148] Hans Werner Sinn, *Public Policies Against Global Warming: A Supply Side Approach*, 15 INT'L TAX & PUB. FIN. 360, 360-394 (2008).

[149] BLOOMBERG & POPE, *supra* note 88, at 254.

[150] *Id.* at 199 (emphasis added).

And yet, time and again, Bloomberg and Pope, not unlike so much of the nonstate climate governance literature, fall back on the indispensable role of national governments, whose "[p]olitical leadership is essential to deploy these [sustainable investment] ideas with the speed and scale that we need."[151]

VI. Conclusion- Readjusting the Rearview Mirror Back to Plan A

Driving may be difficult when it is dark outside, but a science that tries to see the road ahead by using only the rearview mirror makes little sense, especially if we are building the road as we go along.

—Alexander Wendt[152]

There is a tension in the literature of international law and policymaking with respect to the question of institutional design. Positive analyses that proffer explanations of past practices cannot in themselves direct future choices, or the goals that international policymakers ought to pursue. Such questions are normative, and intensely political. On the other hand, in the absence of positive theory, norm entrepreneurs may envisage and pursue utopian prescriptions whose failures may be worse than comparatively more realistic, "second-best" policies.[153] As is well known, the historian E.H. Carr criticized utopian theories unconditioned by political constraints for "ignor[ing] what was in contemplation of what should be."[154] By examining the past effectiveness (or lack thereof) of institutional designs and policy choices, we can better understand why some choices worked and others not, and that understanding can inform the next choices we make.

While the international relations theorist Alexander Wendt worried that navigating by such past positive explanations alone is tantamount to trying to drive by using only the rearview mirror,[155] the present impasse in international climate governance raises a different concern. Our task is to reorient our rearview mirror to better reflect the causes of past failures so as to avoid repeating them.

Much international-*cum*-global climate governance theory suggests that states and state-focused multilateralism have failed to produce meaningful climate mitigation. This is doubtless true. But the root causes of that failure are not inherent in either states themselves or the negotiations among states. The root cause, the outsize political influence of special interests, principally the fossil fuels industry, infects not only states and their multilateral negotiations but also the initiatives of subnational and other nonstate actors that the climate governance literature con-

151 *Id.* at 254. *See also* BRUNO TURNHEIM, PAULA KIVIMAA & FRANS BERKHOUT, INNOVATING CLIMATE GOVERNANCE: MOVING BEYOND EXPERIMENTS 217 (2018) (arguing that nonstate climate experiments must be embedded "in wider policy systems").

152 Alexander Wendt, *Driving with the Rearview Mirror: On the Rational Science of Institutional Design*, 55 INT'L ORG. 1019, 1049 (2001).

153 *Id.* at 1048.

154 E.H. CARR, THE TWENTY YEARS' CRISIS, 1919 TO 1939: AN INTRODUCTION TO INTERNATIONAL RELATIONS 11 (HarperCollins Publishers 1964) (1939).

155 Wendt, *supra* note 152, at 1049.

siders to be our best hope of closing the gap between the aspirations and the actions of national governments under international agreements. The evidence canvassed above demonstrates this. Climate actors at all levels of governance are subject to and limited by the interference of this incredibly influential industry.

Our rearview mirror, properly oriented, tells us that we have been here before. Critics of top-down, command-and-control environmental regulations at the nation-state level beginning in the 1980s have ascribed the shortcomings of such regulations to the nature of the nation-state itself. Indeed, this narrative about the inherently cumbersome and costly nature of top-down environmental regulations appears to have lost none of its normative purchase.[156] The at once theoretical and practical risk we run now is to transpose the putatively inherent limitations of domestic top-down environmental regulatory regimes onto the international level, and thereby suppose that multilateralism is inherently deficient and that our best hope for effective global climate governance resides in promoting a diffuse, polycentric, and *voluntary* regime of nonstate climate actions. As discussed above, the early evidence suggests that this approach is proving no more successful than state-focused multilateralism.

The argument advanced here, however, is not a paean to nationalism, although as much of the nonstate climate governance literature unwittingly testifies, the state remains *the* critical climate actor on the world's stage. Nor is it to dismiss that, in the post-Paris climate era, we need "all hands on deck." The argument, rather, is that for multilevel climate governance to succeed, it must at multiple levels of governance address and effectively counter the powerful and perverse influence of the fossil fuels industry.

This may be how nonstate actors can make their most significant contribution to enhancing climate governance, by collaborating to directly counter the fossil fuels industry's capture of climate policies and regulations. But as the B Team's lack of success in its own anti-lobbying lobbying campaign testifies, this is no mean task. A critical first step is to resist the blurring of familiar boundaries and responsibilities between public and private sectors occasioned by the proliferation of nonstate climate governance actors and their pronouncements,[157] and to rehabilitate Plan A, effective national governance. *The Economist* may have put it best when it observed in an early special report on CSR that "[a]bove all, it is governments, not firms, that should arbitrate between interest groups for the pub-

156 *See, e.g.*, Daniel C. Esty, *Red Lights to Green Lights: From 20th Century Environmental Regulation to 21st Century Sustainability*, 47 ENVT'L L. 53, 53-80 (2017). Indeed, Esty treats the phenomenon of regulatory capture almost as an analytic and regulatory afterthought, observing that "[o]f course, privileged access to decision makers by special interests—through lobbyists, think-tank funding, and campaign contributions—will need to be monitored and controlled, perhaps with disclosure rules and transparency tools that flag attempts to torque the outcome of decision processes." Would that it were so simple! *See, e.g.*, LAWRENCE LESSIG, THE USA IS LESTERLAND (Createspace), (2014). *See also* NAOMI ORESKES & ERIK M. CONWAY, THE COLLAPSE OF WESTERN CIVILIZATION: A VIEW FROM THE FUTURE 54-55 (2014) (describing the "carbon combustion complex," or the "interlinked fossil fuel extraction, refinement, and combustion industries, financiers, and government 'regulatory' agencies that enabled and defended destabilization of the world's climate in the name of employment, growth, and prosperity").

157 Bäckstrand & Lövbrand, *supra* note 92, at xxii-xxiv.

lic interest . . . . It is the job of governments to govern; don't let them wiggle out of it."[158]

[158] *Special Report: Just Good Business*, THE ECONOMIST (Jan. 19, 2008), https://www.economist.com/special-report/2008/01/17/just-good-business.

STUDY ON LEGAL SYSTEMS FOR TRANSBOUNDARY CCS IMPLEMENTATION AND TRANSBOUNDARY ENVIRONMENTAL LIABILITY REGARDING CCS

MoonSook Park

I. Introduction

Climate change due to global warming is actually perceivable in the real world, and the predictions of scientific outcomes from global warming warn that in the near future countries will be at risk of irreversible disaster in the long term if they do not take aggressive and appropriate measures to reduce greenhouse gas emissions in addition to near term mitigation. Carbon dioxide is the most common cause of global warming and is produced most abundantly by power plants based on fossil fuels, accounting for about 70 percent of total emissions.[1] Therefore, the technology of directly capturing and permanently isolating carbon dioxide from these emitting sources has attracted attention as a viable near term strategy to combat the problem of climate change. This crucial strategy in the fight against global warming is termed carbon capture and sequestration (CCS).[2] Research and development on CCS technology has already achieved results, related CCS projects have been implemented mainly in developed countries, and recent commercialization cases are emerging. Additionally, CCS technology has been considered as a feasible and necessary strategy in developing countries as well.[3] Under these circumstances, the essential and significant task for each

[1] *See* Int'l Energy Agency [IEA], *CO_2 Emissions from Fuel Combustion 2018 Highlights*, http://www.indiaenvironmentportal.org.in/files/file/CO2_Emissions_from_Fuel_Combustion_2018_Highlights.pdf (detailing specific data associated with carbon dioxide emission from fuel combustion including national, regional, and global analyses).

[2] *See* JEFFREY LOGAN, ANDREA DISCH, KATE LARSEN & JOHN VENEZIA, WORLD RESOURCE INSTITUTE [WRI] ISSUE BRIEF, BUILDING PUBLIC ACCEPTANCE FOR CARBON CAPTURE AND SEQUESTRATION 1 (2007); Stuart Haszeldine, *Geological Factors in Framing Legislation to Enable and Regulate Storage of Carbon Dioxide Deep in the Ground, in* THE CARBON CAPTURE AND STORAGE 7 (Ian Havercroft, Richard Macrory & Richard Stewart eds., 2011); *see* PETER FOLGER, CONGRESSIONAL RESEARCH SERVICE [CRS], CARBON CAPTURE AND SEQUESTRATION (CCS) 2 (Jan. 25, 2010) (meanwhile, carbon sequestration could happen as a natural process. Forests, agricultural lands, and oceans exchange huge amounts of CO_2 and store it. However, the CCS that this paper covers is not this type of natural process but rather the artificial activity of carbon capture and sequestration as a new technology); *see also* Elizabeth C. Brodeen, *Sequestration, Science, and the Law: An Analysis of the Sequestration Component of the California and Northeastern States' Plans to Curb Global Warming*, 37 ENVTL. L. 1217, 1221 (2007). With regard to defining terms, both the terms "Carbon Capture and Storage" and "Carbon Capture and Sequestration" are used in legal and scientific literatures currently. This paper uses the term "Carbon Capture and Sequestration (CCS)" since it includes an emphasis on the long-term.

[3] *See* Brad Page, *The Global Status of CCS: 100 days after the COP21 Paris Agreement,* DECARBONI.SE, Mar. 21, 2016, http://www.decarboni.se/insights/global-status-ccs-100-days-after-cop21-paris-agreement (CCS technology needs to be implemented in developing countries as well, and it would be desirable that developed and developing countries are effectively cooperating and connected with the implementation of CCS. The Paris Agreement, which will be applied from 2021 as an agreement to replace the Kyoto Protocol, entered into force in November 2016. This agreement is meaningful in that all of the participating countries, not only developed countries, have agreed to fulfill their duties. Addi-

country is to have a well-organized legal and regulatory system for CCS and a number of countries have put legislative efforts on fixing existing legal systems and preparing a new legal system for CCS implementation.

In order to address climate change issues at a more fundamental level, however, a domestic system for CCS would be insufficient. It is imperative that the CCS regime should work efficiently in the international dimension because CCS business can be implemented in close cooperation with bordering or transboundary countries through carbon dioxide export.[4] Additionally, in a negative situation, even if a CCS regime is properly implemented in each country, leakage of carbon dioxide can occur to damage other countries unintentionally.[5] In other words, there is the problem of transboundary CCS projects due to limitations of appropriate storage sites and potential transboundary CCS damages, which are not adequately covered under existing international law. Fundamentally more, given the natural proposition that the impact of environmental damages is not limited to one country and thus cannot be solved only by one country, and that the participation of all countries in resolving the current climate change crisis is a desirable and an efficient measure, global scale CCS implementation and internationally collaborated CCS projects are expected with necessary legal CCS system research.

In consideration of all of these aspects, a more effective and practical international system needs to be created.[6] With this aim in mind, this paper examines the necessity of preparing international norms and proposed contents to be included in these areas. Section II mainly explained basic and technical features of CCS first. After that, Section III addresses regulatory systems for future transboundary CCS implementation, and Section IV covers regulatory systems for transboundary environmental liability. In addressing a future CCS legal framework on an international level, this paper has taken a scenario-based approach to analyze cases that have not yet been realized.

tionally, CCS could have a great significance in developing countries with high economic and industrial development needs and strong dependence on fossil fuel energy sources)*; see also* Milagros Miranda, *The New Climate Deal Shows the Importance of CCS*, WORLD COAL ASSOCIATION [WCA], Feb. 4, 2016, https://www.worldcoal.org/new-climate-deal-shows-importance-ccs. For more discussion about the important role of CCS under the Paris Agreement, *see* GLOBAL CCS INSTITUTE [GCCSI], THE GLOBAL STATUS OF CCS 2016, SUMMARY REPORT, 2-7 (2016).

[4] *See* United Nations Framework Convention on Climate Change [UNFCCC], *Technical Paper, Transboundary carbon capture and storage project activities* 1 (2012). Viviane Romeiro & Virginia Parente, *Carbon Capture and Storage and the UNFCCC: Recommendations to Address Trans-Boundary Issues*, 3 LOW CARBON ECONOMY 130, 131 (2012).

[5] *See* Yvette Carr, *The International Legal Issues Relating to the Facilitation of Sub-Seabed CO_2 Sequestration Projects in Australia*, 14 AUSTRALIAN INT'L L.J. 137, 140 (2007).

[6] Even in a transboundary CCS implementation with cooperation between countries, carbon dioxide leakage accidents can happen, which can raise liability issues between countries. In such situations of CCS liability under transboundary CCS implementation, the allocation of liability between countries concerned will be an important issue, and it is differentiated from transboundary liability issue of unintentional transboundary harm to a neighboring country.

II. Basic explanation of CCS and CCS from an international perspective

a. The concept and characteristics of CCS

Carbon Capture and Sequestration (CCS) is a technology comprised of a series of processes, in which CO_2 is captured from large-scale emitting sources, transported to a determined storage site and then sequestered deep below the surface into pore space. The primary potential site where the capture of CO_2 might be carried out would be electric power plants, which are based on the use of fossil fuel energy sources.[7] Installing capturing facilities to power plants could be considered both for new power plants and for existing power plants by retrofitting them.[8] As for other emitting point sources of CO_2, there are oil refineries, manufacturing units (such as chemical plants cement manufacturers and steel works), and pulp mills.[9] There are three main types of technologies which are available to capture carbon dioxide from emitting point sources: pre-combustion capture, post-combustion capture, and oxy-fuel with post-combustion capture technology.[10]

The CO_2 captured through these processes would be transported through pipelines or other transport methods such as trains, trucks, and ships.[11] The state of CO_2 under this process of capture and transport is called "supercritical fluid," which makes the movement of CO_2 in pipelines easy and enables the CO_2 to be stored efficiently in sequestration sites that are geologically stable.[12] There are three types of reservoirs that are being considered as possible geological seques-

[7] *See* Anand B. Rao, *Technologies: Separation and Capture*, *in* CARBON CAPTURE AND SEQUESTRATION – INTEGRATING TECHNOLOGY, MONITORING AND REGULATION 13 (Elizabeth J. Wilson & David Gerard eds., 2007) (the amount of CO_2 emissions from electric power plants accounts for one-third of worldwide emissions and they are responsible for approximately 40 percent as the single largest contributor among anthropogenic CO_2 emissions in the United States.); INT'L ENERGY AGENCY [IEA], IEA GREENHOUSE GAS R&D PROGRAMME, PUTTING CARBON BACK INTO THE GROUND 4 (2001) [hereinafter "IEA GREENHOUSE GAS R&D PROGRAMME"] (in order to generate power from fossil fuels, different types of power plants and combination of fuels could be used, such as pulverized coal-fired, natural gas combined, and integrated gasification combined cycles. The CCS technology could be utilized in all these power plants.).

[8] *See* Rao, *supra* note 7, at 13.

[9] *See id.*; IEA GREENHOUSE GAS R&D PROGRAMME, *supra* note 7, at 4.

[10] *See* Intergovernmental Panel on Climate Change [IPCC], *IPCC Special Report on Carbon Capture and Storage* 5 (2005), *see also* FOLGER, *supra* note 2, at 10-11 (first, the pre-combustion capture method converts fossil fuels into a mixture of hydrogen and carbon dioxide by combining the fuel with air. After the separation of hydrogen and carbon dioxide, the hydrogen can be burned and the carbon dioxide can be compressed, transported, and sequestered. This method has not been widely demonstrated due to the technological limitations. Second, the post-combustion capture method extracts carbon dioxide after the combustion of fossil fuels. This is a widely used method to capture carbon dioxide. Third, the oxy-fuel combustion capture method uses oxygen instead of air for the combustion of fossil fuels. This method produces a flu gas that is mainly water and carbon dioxide, after which the carbon dioxide can be compressed, transported, and sequestered.).

[11] *See* Haszeldine, *supra* note 2, at 7; IPCC, *supra* note 10, at 5.

[12] *See* IPCC, *supra* note 10, at 386; *CO_2 Transport for Storage: Regulatory Regimes –European and Regional: The CCS Directive*, UCL CARBON CAPTURE LEGAL PROGRAMME, http://www.ucl.ac.uk/cclp/ccstransport-europe-CCS.php; *see also* STEVE WHITTAKER & ERNIE PERKINS, TECHNICAL ASPECTS OF CO_2 ENHANCED OIL RECOVERY AND ASSOCIATED CARBON STORAGE, GLOBAL CCS INSTITUTE [GCCSI] 3-5 (2013) (precisely speaking, the supercritical fluid indicates that it exists above its critical temperature and pressure of 31.1 degree Celsius as an equilibrium between a gas, which is a general state of CO_2

tration repositories: (1) saline aquifers, (2) depleted oil and gas reservoirs, and (3) unmineable coal seams.[13] These places will have CO_2 sequestered at least one kilometer below the surface because these three layers would be located deep below the ground.[14] Additionally, these available sequestration systems could exist below the seabed, below the surface of the ocean, as well as deep subsurface onshore. Therefore, there exist two kinds of sequestration methods of (1) onshore geological sequestration and (2) offshore geological sequestration.[15] To summarize, CCS is a technology that captures and compresses the emitted carbon dioxide and turns it into a supercritical condition and then injects it after moving it to a deep underground space of the land or ocean (where the cover layer is), which seeks to safely isolate and permanently trap the carbon dioxide in that space.[16]

The distinctive characteristic that distinguishes CCS from other storage technologies is that it is designed to store CO_2 for a very long time, amounting to hundreds or thousands of years in the future.[17] The technology of capture, transport, and storage of carbon dioxide has already been utilized by the oil and gas producing community in association with Enhanced Oil Recovery (EOR) technology and it has been implemented for more than 40 years.[18] While the EOR technology utilizes temporary storage of CO_2 to increase oil production by injecting carbon dioxide into oil fields, CCS technology features a permanent sequestration and requires a more expansive pipeline system than that which serves the current EOR network.[19] In addition, carbon sequestration in this paper needs to be distinguished from the concept of carbon mineralization, which makes carbon dioxide into a solid state.[20]

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under normal temperature and pressure, and liquid.); Alexandra B. Klass & Elizabeth J. Wilson, *Climate Change, Carbon Sequestration, and Property Rights*, 2010 U. ILL. L. REV. 363, 373 (2010).

[13] *See* Haszeldine, *supra* note 2, at 7; STEPHEN A. RACKLEY, CARBON CAPTURE AND STORAGE 24 (2010); IEA GREENHOUSE GAS R&D PROGRAMME, *supra* note 7, at 15.

[14] *See* MIDWEST GEOLOGICAL SEQUESTRATION CONSORTIUM [MGSC], http://www.sequestration.org/

[15] The offshore geological storage scheme sequesters CO_2 in an area at the bottom of the sea, such as a saline aquifer, not to dissolve into the seawater. The latter method of melting CO_2 into the ocean is strictly prohibited under international norms.

[16] *See* LEONARDO CIPOLLA, CENTER SVILUPPO MATERIALI [CSM], CARBON CAPTURE AND STORAGE AT POWER PLANTS – A PERSPECTIVE TOWARDS A SUCCESSFUL ZERO EMISSION STRATEGY 28 (2007) (carbon dioxide, under the state of supercritical fluid for CCS technology, moves slowly, responding to surrounding stratum and subsurface fluid, which is called a trapping mechanism.).

[17] *See* Haszeldine, *supra* note 2, at 8.

[18] *See* Arnold W. Reitze Jr., *Carbon Capture and Storage (Sequestration)*, 43 ENVTL. L. REP. 10414, 10414 (2013).

[19] *See* FOLGER, *supra* note 2, at 13 (current estimates state that about 3600 miles of pipeline to transport carbon dioxide exist for EOR. On the other hand, there is an analysis showing that around 300,000 miles of pipeline network will be necessary for the commercialization of CCS, which is similar in scale to the natural gas pipeline network.). For more analysis on CO_2 transportation infrastructure for EOR and CCS technology considering carbon price, *see* Matthew Tanner, *Projecting the Scale of the Pipeline Network for CO_2-EOR and Its Implications for CCS Infrastructure Development*, U.S. ENERGY INFO. ADMIN. (Oct. 25, 2010), http://www.eia.gov/workingpapers/co2pipeline.pdf.

[20] *See* Chris Mooney, *This Iceland plant just turned carbon dioxide into solid rock-and they did it super fast*, WASH. POST (June 9, 2016), https://www.washingtonpost.com/news/energy-environment/wp/2016/06/09/scientists-in-iceland-have-a-solution-to-our-carbon-dioxide-problem-turn-it-into-stone/?noredirect=ON&utm_term=.90fef2b28424 (recently in Iceland, a new technique called carbon mineralization consisting of injecting carbon dioxide into basaltic rocks to convert gaseous carbon dioxide into rocks,

b. Technical and Scientific elements of CCS

CCS technology is a complex technology that consists of a series of processes (capture, transport, and sequestration) and also requires a variety of enabling techniques and knowledge from many fields, such as geology, chemistry, physics, and environmental science.[21] For the safe and successful implementation of CCS technology, the technical feasibility and accumulation of scientific research needs to be improved. The inclusion of the results from the technical and scientific elements is particularly important in creating a sound CCS legal and regulatory system.

First, suggesting CCS technology as a necessary option for greenhouse gas emission reduction is based on the concept that this technology could sequester a large amount of carbon dioxide securely and permanently. Carbon dioxide, under the state of supercritical fluid for CCS technology, moves slowly, responding to surrounding stratum and subsurface fluid, which is called a trapping mechanism.[22] This trapping mechanism decreases the mobility of carbon dioxide more and more and finally makes it become permanently contained. More specifically, this process happens through thermal-hydraulic-mechanical-chemical interactions, and there are three kinds of trapping: cap rock trapping (physical trapping), solubility trapping (chemical trapping), and mineral trapping.[23] In the case of sequestration in deep saline aquifers, there is a concern that deep saline aquifers might be more vulnerable to this trapping mechanism and have a potential for carbon dioxide leakage as compared to depleted oil and gas reservoirs.[24] Therefore, it will be very important to explore geologically appropriate sites for sequestering carbon dioxide.[25] The storage sites need to ensure both enough cap rocks for secure confinement with sufficient reservoir rocks for adequate storage capacity. This will require establishing evaluation standards for site selection. In

has been researched and achieved positive outcomes.); *see also* Henry Fountain, *Iceland Carbon Dioxide Storage Project Locks Away Gas, and Fast*, N.Y. TIMES (June 9, 2016), https://www.nytimes.com/2016/06/10/science/carbon-capture-and-sequestration-iceland.html (It is noteworthy that the conversion of carbon dioxide into minerals takes place in a short period of time of about two years, thus drastically shortening the duration of monitoring for leak detection. Under the condition of solid rock, there is no possibility of carbon dioxide leakage, which is compatible with the concept of permanent sequestration. However, this carbon mineralization has been developed in a limited manner and there is also a restriction which requires a large amount of water. In this new and advanced form regarding CCS technology, legal and regulatory systems need to be approached in a different way from the current CCS technology.).

[21] *See* Jon Gibbins & Hannah Chalmers, *Carbon Capture and Storage*, 36 ENERGY POL'Y 4317, 4320 (2008).

[22] *See* CIPOLLA, *supra* note 16, at 28 (the reason why carbon dioxide is transported and sequestered in a supercritical state is because it is cost effective as well as technically safe.).

[23] *See* Chen Zhu et al., *Benchmark modeling of the Sleipner CO_2 plume: Calibration to seismic data for the uppermost layer and model sensitivity analysis*, INT'L. J. GREENHOUSE GAS CONTROL (2015) (cap rock trapping, which is also called structural trapping, makes up the majority of trapping. Mineral trapping dramatically increases permanent safety sequestration.).

[24] *See* IPCC, *supra* note 10, at 31; S*ee* Seyed M. Shariatipour et al., *The Effect of Aquifer/Caprock Interface on Geological Storage of CO_2*, 63 ENERGY PROCEDIA 5544, 5544 (2014) (further studies on the interface between aquifer and cap rock are needed.).

[25] In the United States, in order to find suitable storage sites that consider the distance from emitting sources, research that utilizes geographic information system and economic analysis has been performed.

addition, since finding an appropriate storage site is fundamental for CCS implementation, a country that could not find an appropriate site will need to consider transport and storage to other sites, which may be in countries. Extensive geological data acquisition, along with national and international information sharing of that data, is therefore necessary.[26]

Next, a detailed technical and scientific analysis on the specific risks of each step in the CCS process is necessary, because it could strongly affect the regulation level, and could generate different legal issues. In the *capturing stage*, three capturing techniques (pre-combustion, post-combustion, and oxy-fuel combustion) and methods within each capturing technique have been developed.[27] Technical feasibility and safety studies have accumulated in developed countries. However, since the technical feasibility has been limited until now, the permit system or the mandatory establishment of capturing facilities needs to be addressed. In the *transport stage*, the methods of pipeline transport require more attention. Captured carbon dioxide includes other mixed substances that could pose a risk of eroding pipelines.[28] Therefore, there is a need for establishing acceptable criteria regarding carbon dioxide purity and impurity.[29] The last *sequestration stage* has a potential risk of carbon dioxide leakage in each process of installing wells, injecting carbon dioxide, and closing wells. The potential risk of leakage is related to some elements called "parameter sensibility" (e.g., pressure, temperature, and permeability).[30] Therefore, it is necessary to create legislative standards with regard to injection pressure and rate so that the cap rock is not adversely affected. Another potential cause of leakage is earthquake occurrences, and the activity of stratum depends on the pressure and rate with which carbon dioxide is injected.[31] This type of earthquake, which takes place because of human or anthropogenic activities, is called induced seismicity or an induced earthquake.[32] Furthermore, thorough management of injection wells is also essential, even after the closure of injection wells. Neglect or carelessness in managing the closure of wells might cause an erosion of cement where an injection well plug is sealed.

As seen from the technical and scientific perspectives, CCS is a new technology that has a complex and highly integrated process and requires numerous

[26] *See* INTRODUCING THE CO_2 STORAGE DATA CONSORTIUM, CO_2 STORAGE DATA CONSORTIUM [CSDC], https://www.sintef.no/globalassets/sintef-petroleum/brosjyre/csdc_sintef.pdf.

[27] *See generally* CARBON SEQUESTRATION LEADERSHIP FORUM [CSLF], 2013 TECHNOLOGY ROADMAP (2013).

[28] *See* INT'L ENERGY AGENCY [IEA], CARBON CAPTURE AND STORAGE –MODEL REGULATORY FRAMEWORK 52 (2010).

[29] The purity of carbon dioxide is high in the case of EOR. However, carbon dioxide under the CCS technology includes a variety of impurities, which prevents the use of existing EOR pipelines. For this reason, safety review on the material quality of pipelines is necessary.

[30] *See* CIPOLLA, *supra* note 16, at 28; Zhu et al., *supra* note 23, at 1.

[31] *See Ethical Issues Entailed by Geologic Carbon Sequestration*, ROCK ETHINS INSTITUTE (June 23, 2008), http://sites.psu.edu/rockblogs/2008/06/23/ethical-issues-entailed-by-geologic-carbon-sequestration/.

[32] *See* INT'L ENERGY AGENCY [IEA] GREENHOUSE GAS R&D PROGRAMME, INDUCED SEISMICITY AND ITS IMPLICATION FOR CO_2 STORAGE RISK 4 (2013).

interdependent relevant techniques for implementation and commercialization. Therefore, scientific research in each phase and type of CCS technology is continuously needed, yielding scientific evidence with regard to geological potential and technical feasibility. This improvement will be helpful in finding efficient and safe legal standards for CCS technology. Moreover, this kind of criteria in the field of science has a strong need for unification. For this reason, a rationale could develop to create international criteria or guidelines regarding scientific standards for CCS.

c. Status of CCS on the international level

Climate change issues cannot be resolved substantially without the participation of the developing countries that focus on industrial development. In other words, developing countries' participation in the obligations of greenhouse gas reduction will be an inevitable task. For example, China, the top carbon dioxide emitting country, has increased large and young coal-fired power plants, and India also uses coal as a dominant energy source as a rising developing country.[33] Since activities by developing countries might make the global climate change crisis worse, developing countries' cooperation is imperative in reducing CO_2 emissions.[34]

The adoption of CCS technology has a characteristic that is favorable to both developing and developed countries as CCS technology acknowledges the use of fossil fuel energy sources for the time being.[35] Specifically, CCS could have an important role and be a persuasive method that involves developing countries in the climate change negotiation table, while still being able to rely on fossil fuels[36] and ensuring time for a gradual shift from fossil fuel to renewable energy sources.[37] Additionally, CCS R&D programs have been led by developed countries, and currently the United States, Australia, and European countries are conducting large-scale CCS projects. Developing countries could get an insight from developed countries through their approved project experiences with a lesser cost burden.[38] In this context, CCS could play an important role as a bridge between developed and developing countries.

[33] *See* MATTHIAS FINKENRATH, JULIAN SMITH & DENNIS VOLK, INT'L ENERGY AGENCY [IEA] CCS RETROFIT: ANALYSIS OF THE GLOBALLY INSTALLED COAL-FIRED POWER PLANT FLEET 22 (2012); Malti Goel, *Carbon Capture and Storage, Energy Future and Sustainable Development: Indian Perspective*, *in* CARBON CAPTURE AND STORAGE –R&D TECHNOLOGIES FOR SUSTAINABLE ENERGY FUTURE 3 (Malti Goel, Baleshwar Kumar & S. Nirmal Charan eds., 2008).

[34] *See* Clarke Bruno et al., *Report of the Climate Change and Emissions Committee*, 30 ENERGY L.J. 563 (2009).

[35] *See* Haszeldine, *supra* note 2, at 8.

[36] *See* David Schwartz, *The Natural Gas Industry Lessons: For the Future of the Carbon Dioxide Capture and Storage Industry*, 19 STAN. L. & POL'Y REV. 550, 551 (2008).

[37] *See* FRANCISCO ALMENDRA, LOGAN WEST, LI ZHENG & SARAH FORBES, CCS DEMONSTRATION IN DEVELOPING COUNTRIES: PRIORITIES FOR A FINANCING MECHANISM FOR CARBON DIOXIDE CAPTURE AND STORAGE 1 (World Resources Institute, Working Paper, April 2011).

[38] *See id*. at 3 (in recent years, developing countries in Asia and Middle East, such as India and the United Arab Emirates, are increasingly interested in CCS projects, and these countries also have the ability and affordability to implement CCS technology.).

CCS-relevant projects have been performed after significant extensive technical development and public financial support to demonstrate the feasibility of CCS over the last two decades. As a result, it has been shown that CCS technology is a viable, albeit very expensive, technology which potentially could be commercialized in developed countries within a few years. Even though large-scale CCS projects in developing countries are much less numerous than in developed countries, some emerging economies, such as China, South Africa, and India, have already taken international RD&D collaborations and moved forward towards setting up a roadmap for CCS deployment.[39] Additionally, according to the analysis by IEA, the future prospects regarding CCS are promising. The IEA has expected that globally 100 demonstration projects need to be implemented by 2020, and more than 3000 projects need to be deployed by 2050.[40] In regards to future CCS prospects in developing countries, the IEA reports also say that it is reasonable that in 2050, 70 percent of capture and storage of CO_2 will be performed in developing countries.[41] As seen from this analysis of current CCS projects, future plans, and prospects, CCS is an upcoming technology in the near future, not a vague technology in the distant future, which has a potential in developing countries as well as developed countries.

On an international level analysis, international treaties and norms that can be related to CCS have been reviewed to see if they are consistent with CCS technology. As a result of the analysis, it was shown that CCS technology is not against many ocean-related laws in case of offshore sequestration, and rather can be supported under climate-related laws.[42] However, this international level analytical effort falls short as it only addresses the initial step for making the new CCS technology acceptable. As CCS technology expands internationally, it is necessary to look for possible relevant treaties and norms. Meanwhile, the adoption of CCS in the Clean Development Mechanism (CDM) is positively evaluated in that the adoption makes it possible for developed countries to implement CCS in developing countries.[43] However, regarding the issuance of Certified

[39] *See* Benjamin Evar, Chiara Armeni & Vivian Scott, *An Introduction to Key Developments and Concept in CCS, in* THE SOCIAL DYNAMICS OF CARBON CAPTURE AND STORAGE – UNDERSTANDING CCS REPRESENTATIONS, GOVERNANCE AND INNOVATION 29 (Nils Markusson, Simon Shackley & Benjamin Eva eds., 2012).

[40] *See id*. at 18; FINANCING CCS – OVERVIEW, GLOBAL CCS INSTITUTE [GCCSI], https://hub.globalccsinstitute.com/publications/financing-ccs/financing-ccs-overview.

[41] *See* CCS IN DEVELOPING COUNTRIES – FACT SHEET, GLOBAL CCS INSTITUTE [GCCSI], http://decarboni.se/sites/default/files/publications/191093/fact-sheet-ccs-developing-countries.pdf.

[42] *See* Ray Purdy, *The Legal Implications of Carbon Capture and Storage Under the Sea*, 7 SUSTAINABLE DEV. L. POL'Y 22, 24-26 (2006) (CCS implementation is not prohibited by relevant articles of the UNCLOS, and CCS activities are clearly allowed by the London Protocol. Additionally, CCS technology is consistent with the purpose and principles of the UNFCCC and further promotes the provisions of the Kyoto Protocol as a useful measure.).

[43] *See* Ray Purdy & Ian Havercroft, *Carbon Capture and Storage: Developments under European Union and International Law*, 4 J. EUR. ENVTL. & PLAN. L. 353, 360-361 (2007) (CDM is a system that enables developed countries to reduce greenhouse gas emissions in a cost-effective way and that allows developing countries to gain technical and economic benefits as well. In order for a business to be approved as a CDM project, the business must have additional benefits through the CDM project from technical, economical, and environmental aspects. In other words, it requires participants to clearly demonstrate that the possible business cannot happen naturally under the host country's situation but can

Emission Reductions (CERs) due to the implementation of CCS projects, problems such as over-issuance, lack of relevant legislation and regulation, and its ambiguity, are also exposed. Therefore, there is a need to continually supplement the rules so that CERs can be issued by accurate and fair methodologies, and that issued CERs can be traded well in the market.[44]

Furthermore, a more internationally coherent legal and regulatory framework should be required, as it can embrace countries which try to implement coordinated CCS projects between countries outside the CDM.[45] In this context, the following tasks will be an effort to find possible and necessary elements that can be included in a global CCS regime.[46] Creating a CCS-specific international treaty and providing standards of technical areas can be considered. Along with this effort, it is also necessary to utilize soft law effectively, such as IMO guidelines and ISO standards, in order to provide a uniformed framework.[47] Finally, the international legal regime needs to look into and cope with the areas that have legal and regulatory gaps and ambiguities beyond the current initial step. In other words, there exist highly expected areas for review in the future, which are less explored and necessary to be regulated under an international legal and regulatory framework of CCS.[48] As for these areas, transboundary movement of carbon dioxide and transboundary liability from leakage occurrences need to be explored first.

be performed through additional efforts. This concept is called additionality, which is an important requirement in the CDM. Along with the benefits of CDM, positive effects can be brought and expanded by incorporating CCS within the CDM.); *see* ANDREI MARCU, CEPS SPECIAL REPORT NO. 128, CARBON MARKET PROVISIONS IN THE PARIS AGREEMENT (ARTICLE 6) 13 (2016) (CDM has been functioning importantly as a measure complementing the developed and developing countries under the current Kyoto Protocol. The basic concept of this mechanism is expected to be maintained in a new system under the Paris Agreement. Article 6 of the Paris Agreement provides Sustainable Development Mechanism (SDM), which is very similar to the CDM.); *see also* INT'L ENERGY AGENCY [IEA], CARBON CAPTURE AND STORAGE - PROGRESS AND NEXT STEPS, IEA/CSLF REPORT TO THE MUSKOKA 2010 G8 SUMMIT 16 (2010).

[44] *See* INT'L ENERGY AGENCY [IEA] GREENHOUSE GAS R&D PROGRAMME, USE OF THE CLEAN DEVELOPMENT MECHANISM FOR CO_2 CAPTURE AND STORAGE (2004); Anatole Boute, *Carbon Capture and Storage Under the Clean Development Mechanism – An Overview of Regulatory Challenges*, 2008 CARBON & CLIMATE L. REV. 339 (2008); Ana Maria Radu, Long-term Liability for Carbon Capture and Storage Project Activities within the Clean Development Mechanism (Dec. 2012) (unpublished thesis, University of Calgary).

[45] For example, the need for a CCS treaty regime, including multilateral and bilateral treaties, can be raised.

[46] *See* ADEBOLA OGUNLADE, CENTRE FOR ENERGY, PETROLEUM AND MINERAL LAW AND POLICY [CEPMLP], CARBON CAPTURE AND STORAGE: WHAT ARE THE LEGAL AND REGULATORY IMPERATIVES? 22 (2009). *See also* David Langlet, *Safe Return to the Underground? The Role of International Law in Subsurface Storage of Carbon Dioxide*, 18 REV. EUR. CMTY. & INT'L ENVTL. L. 303, 303 (2009).

[47] *See* Daniel H. Cole, *Advantages of a polycentric approach to climate change policy*, 5:2 NATURE CLIMATE CHANGE 114, 114-117 (2015) (in current climate governance, polycentric approaches need to be emphasized. This implies that bilateral, regional-scale, and multilateral approaches are all needed in climate-related global negotiations, and furthermore, this supports a broad attitude to climate change policy that involves private actors as well as public actors.).

[48] *See* Kirsten Braun, *Carbon Storage: Discerning Resource Biases that Influence Treaty Negotiations*, 22 GEO. INT'L ENVTL. L. REV. 649, 649 (2010).

III. Regulatory systems for future transboundary CCS implementation

a. Backgrounds

Transboundary CCS implementation means that the series of CCS activities in capture, transportation, and sequestration may not be limited by the boundary of any single country.[49] Additionally, CCS implementation needs long-term sequestration in areas of appropriate storage sites. Therefore, countries without such a site domestically need to try to locate such a sequestration place in other countries.[50] For example, actual capturing may be conducted in country A, transportation passes through countries A and B, and finally sequestration (possibly including onshore and offshore sequestration) is done in country B. Even though the possibility of actual performance between countries with regards to transboundary CCS implementation may not be high, diverse scenarios can exist. In this context, a more thoroughly-structured system for transboundary CCS implementation needs to be established by reviewing diverse scenarios associated with carbon dioxide capture, transportation, and sequestration between countries and by exploring necessary legal and regulatory schemes.

First of all, it is necessary to look for any limitation by international norms regarding the transboundary movement of carbon dioxide. One example to be reviewed is the Basel Convention.[51] If the carbon dioxide stream of CCS is cate-

[49] *See* Viviane Romeiro & Virginia Parente, *supra* note 4, at 130 (it is necessary to tell transboundary CCS implementation from CCS activities under the CDM which is explained in the part of incorporation of CCS within the CDM. The probable situation of CCS activities under the CDM is that the business entity is a CCS operator in a developed country, and all business operations of capture, transportation, and sequestration, are conducted in a developing country. However, it is also possible for the CCS project within the CDM to be performed as a type of transboundary implementation.); *see* UNFCCC, *supra* note 4, at 17 (On the other hand, the discussion on transboundary implementation in this part is to create a legal system in which a series of CCS activities can be carried out in each different country. In other words, it means that multiple countries can participate in CCS deployment. While modalities and procedures of CCS within the CDM are established, international practice of transboundary CCS implementation is very limited, and international treaty or agreement addressing this transboundary CCS implementation does not exist yet.). Meanwhile, the IPCC has provided a guideline regarding transboundary implementation of CCS in 2006. *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE [IPCC], 2006 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES VOLUME 2 ENERGY: CHAPTER 5 CARBON DIOXIDE TRANSPORT, INJECTION, AND GEOLOGICAL STORAGE (2006), https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol2.html.

[50] For more discussion on the international cooperation for CCS demonstration, *see* Heleen de Coninck, Jennie Stephens & Bert Metz, *Global Learning on Carbon Capture and Storage: A Call for Strong International Cooperation on CCS Demonstration*, 37:6 ENERGY POL'Y 2161-2165 (2009). Meanwhile, it is predicted that the EU has a greater possibility of associating with this type of transboundary CCS projects. *See* Andy Raine, *Transboundary Transportation of CO2 Associated with Carbon Capture and Storage Projects: An Analysis of Issues under International Law*, CCLR 353, 355 (2008). Specifically, in the area of North Sea, a lot of CCS projects, which require cooperation between countries, have been conducted with reasons of technical and economic efficiency. *See* PETER BROWNSORT, VIVIAN SCOTT, & GORDON SIM, SCOTTISH CARBON CAPTURE & STORAGE, CARBON DIOXIDE TRANSPORT PLANS FOR CARBON CAPTURE AND STORAGE IN THE NORTH SEA REGION –A SUMMARY OF EXISTING STUDIES AND PROPOSALS APPLICABLE TO THE DEVELOPMENT OF PROJECTS OF COMMON INTEREST 2 (2015). However, a number of views in the EU show that the EU's CCS Directive does not provide practical regulations for transboundary CCS implementation. *See* UNFCCC, *supra* note 4, at 8; David Langlet, *Transboundary Dimensions of CCS –EU Law Problems and Prospects*, CCLR 3, 198, 207 (2014).

[51] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, 1673 U.N.T.S. 126.

gorized as hazardous waste from an international environmental law perspective, transboundary CCS implementation can be limited by this convention.[52] However, considering current situations where domestic laws tend not to categorize carbon dioxide as hazardous waste, the general view is that the Basel Convention is unlikely to be applied to carbon dioxide movement under transboundary CCS implementation.[53]

Regarding offshore geological sequestration, the London Protocol needs to be reviewed for a possible restriction on carbon dioxide movement in the ocean. As a part of the current international system regarding CCS, the London Protocol's Annex included carbon dioxide stream in the materials permitted to be discharged to the ocean, allowing offshore geological sequestration.[54] However, although still in controversy for interpretation, if the transboundary carbon dioxide movement is regarded as an export, it can be restricted by article 6 of the London Protocol.[55] Therefore, in order to ensure the transboundary movement of carbon dioxide at the sea, article 6 needs to be amended.[56] The amendment of article was submitted by the International Marine Organization (IMO) in 2009 with this understanding.[57] However, the dominant view is that it would take more time to be ratified and ready to be entered into force.[58] This delay is because the amendment procedure under the London Protocol requires that an amendment should gain consent from two-thirds of the parties.[59] Meanwhile, transboundary CCS implementation will be possible in the cases of non-marine international movement of carbon dioxide or cooperation among non-parties to the London Protocol.

b. Possible scenarios and required elements in each scenario

If the transboundary CCS projects are to be implemented in the real world, diverse kinds of scenarios can be performed between countries.[60] The first scena-

[52] *See* IEA, *supra* note 28, at 9.

[53] *See* Catherine Redgwell & Lavanya Rajamani, *Energy Underground: What's International Law Got to Do With It? in* THE LAW OF ENERGY UNDERGROUND: UNDERSTANDING NEW DEVELOPMENTS IN SUBSURFACE PRODUCTION, TRANSMISSION, AND STORAGE 103 (Donald N. Zillman eds., 2014).

[54] *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter*, INT'L MARITIME ORGANIZATION [IMO], http://www.imo.org/en/OurWork/Environment/LCLP/Pages/default.aspx.

[55] 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, art. VI. (Export of Wastes or Other Matter) (contracting Parties shall not allow the export of wastes or other matter to other countries for dumping or incineration at sea.).

[56] *See* UNFCCC, *supra* note 4, at 7.

[57] *Carbon Capture and Sequestration*, INT'L MARITIME ORGANIZATION [IMO], http://www.imo.org/en/OurWork/Environment/LCLP/EmergingIssues/CCS/Pages/default.aspx.

[58] *See* Tim Dixon, Justine Garrett & Edward Kleverlaan, *Update on the London Protocol – Developments on Transboundary CCS and on Geoengineering*, ENERGY PROCEDIA 63, 6623, 6626-6627 (2014) (currently, only two countries, Norway and the United Kingdom, have ratified this amendment of article 6 despite the need for ratification from around thirty countries. Further attention and efforts for the amendment are needed among parties of London Protocol since this article may be a major impediment to transboundary CCS implementation.).

[59] *See* IEA, *supra* note 28, at 33.

[60] *See* SVEN BODE & MARTINA JUNG, HAMBURGISCHES WELT-WIRTSCHAFT-ARCHIV [HWWA] DISCUSSION PAPER, CARBON DIOXIDE CAPTURE AND STORAGE (CCS) – LIABILITY FOR NON-PERMANENCE

rio is the case of capture in country A and sequestration in country B. In this case, country B is the importer and it may request country A to follow certain labeling or notice or tracking conditions.[61] In this case, cross-border pipelines need to be constructed for carbon dioxide transportation. Therefore, as discussed in the domestic legal and regulatory issues regarding the transportation phase, both countries internationally need to agree upon legal issues, such as pipeline siting, installation, and third party access.[62] Additionally, if any leakage occurs in the capture, transportation, and sequestration processes, it should be the responsibility of a country with jurisdiction over the corresponding area.[63] According to the IPCC guidelines of 2006, a country of sequestering carbon dioxide is liable for the damage of leakage therefrom, an accounting of leaked carbon dioxide, and long-term monitoring.[64] However, some suggest that if characteristics or uniqueness of CCS are more thoroughly considered, this jurisdiction-based accountability may not be reasonable enough. From the perspective of this argument, some claim that country A of capture needs to share the responsibility of leakage with country B of sequestration.[65] What matters is to make sure that liability between countries is allocated in preparation for any occurrence of leakage accidents. This clear liability distribution system of CCS can help give predictability to concerned countries under the high possibility of different liability systems in

UNDER THE UNFCCC at 7 (2005) (meanwhile, in a case where country A and B are both the parties of Kyoto Protocol under the UNFCC, the matter of whether or not country A and country B are Annex I or non-Annex I countries has a meaning. It is because a certain scenario depending on the results may be categorized as a form of CCS under the CDM, which requires following the rules of CDM, such as accounting or credit issuance system under the CDM. For example, with an emphasis on whether or not the capturing country is non-Annex I, there is an analysis that when capture of carbon dioxide is performed in a non-Annex I country, the CCS project falls on the CDM regardless of whether the sequestration is performed in Annex I or non-Annex I countries.); *see* UNFCCC, *supra* note 4, at 5 (therefore, more clear delineation of applicable scope between CCS activities under the CDM and transboundary CCS implementation is necessary.).

61 *See* UNFCCC, *supra* note 4, at 19.

62 *See* CATO-2, TRANSBOUNDARY LEGAL ISSUES IN CCS – ECONOMICS, CROSS BORDER REGULATION AND FINANCIAL LIABILITY OF CO2 TRANSPORT AND STORAGE INFRASTRUCTURE 12, 29 (2011) (in cases of different legal requirements regarding these issues and CCS operator's burden of meeting the requirements thereof, there would be significant hindrances for transboundary CCS implementation.).

63 It will be a general approach for the liability allocation between countries that a country with a jurisdiction or control over the process (e.g., capture, transportation, and sequestration) is liable for a leakage accident.

64 *See* UNFCCC, *supra* note 4, at 21; *see* SVEN BODE & MARTINA JUNG, *supra* note 60, at 14 (when the captured carbon dioxide is calculated and regarded as an emission reduction in the capture country, the matter on how to clearly account carbon dioxide, which is leaked in a sequestration country, will be an important legal issue.); *see* IEA, *supra* note 28, at 32 (a precise system in calculating the leakage of carbon dioxide needs to be established, which brings trust between countries with equitable outcomes. Not only exclusion from calculating but also repetition of calculating must be avoided. For an exact system to account for the amount of leaked carbon dioxide, it will be a fundamental preparation for each country (for both carbon dioxide exporting and importing countries) to report the movement of carbon dioxide through inventories. The IPCC guideline of 2006 also provides these report obligations.).

65 *See* Gustav Haver & Hans Christian Bugge, *Transboundary Chains for CCS: Allocation of rights and obligations between the state parties within the climate regime*, 4 J. EUR. ENVTL. & PLAN. L. 367, 374 (2007) (in other words, from this perspective, a concern of unfairness is raised since the capture country enjoys the benefit of preventing carbon dioxide emission, and on the other hand the sequestration country has to take on the risk of leakage accidents and assume the burden of management for a long time.).

each country. Finally, as shown in the first scenario, both countries of carbon dioxide exporting and importing (countries A and B) need to cooperate in dealing with the transportation system construction or liability sharing, and other concerns. For this cooperation, an instrument to share necessary data and manage details collaboratively is needed.

The second scenario is the case of carbon dioxide capture in country A and transportation through country B to sequester in country C.[66] The difference from the first scenario is the involvement of country B for transportation. In this scenario, setting the stance of country B will be an important issue. Without the permission of country B, the country to pass through, the procedure cannot progress, and the participation of country B will have to be guaranteed in transportation regulatory aspects.[67] The involved countries, countries A, B, and C, will also have to reach an agreement on the liability of country B and the extent thereof in the event of leakage during transportation. For example, it also needs to be discussed whether to make country B liable or if there is any room to distribute liability to country A and C so that country B can indemnify damages to country A or C.[68]

The third scenario is for country A and B to share the sequestration area. This case can be divided into two types. One is the case of capture solely in country A and sequestration in a place shared by both countries. The other is the case of capture in country A and country B separately and sequestration in a shared place. Unlike the first and second scenarios, this scenario does not shows transboundary carbon dioxide transportation.[69] In this scenario, as the sequestration site is shared, countries A and B especially need to build a cooperative system for a series of procedures from sequestration site selection, license issuance, environment impact assessment, and long-term monitoring.[70] On the other hand, regarding the distribution of responsibility, in the first case of this scenario, country A is likely to have more responsibilities of accounting and compensation due to a leakage after a long time as all processes of capture, injection, and sequestration are conducted in country A alone.[71] In the second case, it would be more appropriate that both country A and country B have a duty to report the amount of

[66] *See* UNFCCC, *supra* note 4, at 26.

[67] *See id.*; *See* CATO-2, *supra* note 62, at 27 (the transit country B can be a coastal country and pipelines for transportation of carbon dioxide can cross the country B's Exclusive Economic Zone. In this situation, the consent of transit country B with jurisdiction on the area is required.).

[68] *See* UNFCCC, *supra* note 4, at 27.

[69] *See id.* at 21, 24.

[70] *See id.* at 12-13, 22 (specifically, as for the transboundary environmental impact assessment on the storage area, the Espoo Convention, which requires cooperation between countries, offers implications. Additionally, the aspects from social elements of CCS, such as public acceptance or public participation, have to be also applied to the transboundary CCS implementation. In this context, the Aarhus Convention needs to be looked into, as it addresses access to information and public participation in decision-making regarding actions which have influential effects on the environment. Additionally, in this scenario, cooperation among countries is required in many areas, such as access to the sequestration sites, periodic monitoring, and notification and information sharing in case of finding any unusual movement of carbon dioxide.).

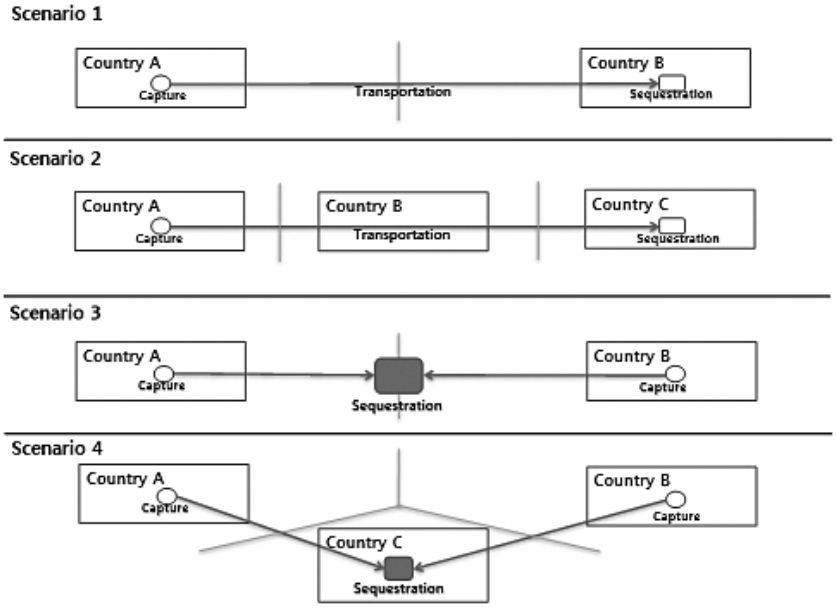
[71] *See id.* at 22.

leakage, and responsibilities regarding leakage accidents are shared by countries A and B equally.[72]

The fourth scenario is the case of separate capture by country A and B and sequestration in country C, even though this scenario is less likely and less discussed.[73] If the relationship between country A and C is separate from the relationship between country B and C, this scenario is not much different from the first scenario. In this scenario, the carbon dioxide stream from country A and B is mixed and sequestered together like the second type of the third scenario. Therefore, the capture countries A and B will need to cooperate and share the information associated with carbon dioxide stream purity, as well as to give notification of this information to country C.

As discussed above, transboundary CCS implementation requires cross-border cooperation for the duties of mutual notice and report, environmental impact assessments and monitoring, etc.[74] Such structures can work as practical ways of actively executing preventative measures under the precautionary principle, the environmental principle of international law as looked at above.

Diagram 1. Scenarios regarding transboundary CCS projects.[75]



[72] *See id.* at 24; *see also* IEA, *supra* note 28, at 32.

[73] Unlike other scenarios that have been analyzed in previous studies, Scenario 4 has not been discussed much in research outcomes yet. Although the feasibility is somewhat low, this paper also includes this form in the analysis, considering the possibility.

[74] These factors are considered as key methods to realize the precautionary principle, which are emphasized under the precautionary principle.

[75] *See generally* UNFCCC, *supra* note 4; *see also* Romeiro & Parente, *supra* note 4, at 130 (detailing the Author's factual basis' in creating this diagram).

The procedural issue for such a cooperative structure from an international level equally matters as analyzed in a domestic legal and regulatory system. Regulating this transboundary CCS within a form of multilateral framework, such as inclusion in the UNFCCC and Kyoto Protocol or an independent CCS treaty, is desirable in that CCS implementation can be controlled and managed with a global range.[76] However, practically, concluding such an agreement is not easy, and bilateral agreements between several countries involved in each CCS project are more likely.[77] One important aspect in creating an international regime regarding transboundary CCS implementation is to make an effective and timely form of agreement and sufficiently reflect the discussion of various scenarios above.

IV. Regulatory systems for transboundary environmental liability

a. Backgrounds

With such a CCS-related domestic and international legal and regulatory system in place, CCS safety will be guaranteed to the maximum extent possible. Nevertheless, however, the possibility of leakage accidents cannot be ruled out, and it means that CCS implementation in one country can harm the environment of another country.[78] More likely, though, leakage affects every country, because it adds to the global carbon load. Carbon dioxide is not locally, directly harmful in the way one usually thinks of transboundary pollution. Any transboundary liability scheme for CCS has yet to be set up.[79] Additionally, the existing system is unclear about the possibility that a country with environmental damage by such an unexpected leakage accident can claim damage to another country. In this situation, it is important to look at the present international legal norms and customary laws and establish a clearer transboundary responsibility scheme for CCS.[80] Such a system should be appropriate in making full and prompt compensation in the event of damage and be consistent with existing international environmental principles. Only in that case would the CCS liability and compensation

[76] *See* Mark A. Latham, *The BP Deepwater Horizon*: *A Cautionary Tale for CCS, Hydrofracking, Geoengineering and Other Emerging Technologies with Environmental and Human Health Risks*, 36 WM. & MARY ENVTL. L. & POL'Y REV. 31, 73, 75 (2011) (Under the system, the establishment of a CCS clearinghouse, which enables integrated management of CCS internationally, deserves consideration. This clearing house can not only function for coordinated sound policy approaches of each country but also contribute to sharing scientific research results and expertise between countries.).

[77] *See* UNFCCC, *supra* note 4, at 28; *Id.* at 15-16 (This prediction is based on the experience that there have been many bilateral agreements regarding transboundary projects which are associated with oil and gas reservoir sharing.).

[78] *See* CATO-2, *supra* note 62, at 38 (The prevailing scientific view is that the likelihood of leakage accidents and transboundary harm is low. However, without a CCS liability system regarding transboundary harm, it may discourage CCS implementation at a global level. Therefore, international liability and compensation system for CCS is necessary and will help to increase international acceptance of CCS.).

[79] *See* DOE/NETL, INTERNATIONAL CARBON CAPTURE AND STORAGE PROJECTS OVERCOMING LEGAL BARRIERS 13 (2006) (The transboundary liability means any liability issue that may affect more than one country.).

[80] *See* Carr, *supra* note 5, at 148.

scheme be internationally persuasive and fair, and it helps CCS technology to be well implemented in the global arena as a technology against climate change.

Examples of damage to another country in the process of CCS implementation in one country include cases where the carbon dioxide in sequestration leaks into the territory of a neighboring country after a long time to contaminate underground water or where a leakage accident occurs in an offshore geological sequestration in one country to harm the marine environment of another country.[81] The present international conventions, practices, and judicial precedents will be significant standards to assess if a damaged country (or its entity) can claim damages from a damaging country in the event of CCS-related transboundary environmental accidents. Although international conventions have recognized state liability for transboundary environmental pollution as a key issue, it is not very common to provide state liability in any direct manner. In the current international law, the state responsibility associated with international wrongful acts has been regulated by an International Law Commission (ILC) convention.[82] However, an accountability structure has yet to be clearly established regarding environmental damage caused by non-illegal behaviors.[83] Meanwhile, the major international precedent is the *Trail Smelter arbitration* case, which is based on the *Sic utere tuo ut alienum non laedas* principle.[84] This case stated that no country has a right to cause damage to another country by the use of own territory.[85] However, the concept of this principle is too broad and ambiguous to present any specific detail. Consequentially, under the present international norms, a damaged country or individual citizen of a damaged country is limited in holding a damaging country liable for CCS-related environmental damage. Therefore, this can be connected to the need to introduce a liability and compensation regime solely for CCS activities in the international law. In this sense, it is necessary to look at what kind of details are to be incorporated in adopting such a liability and compensation regime.

[81] *See* GLOBAL CCS INSTITUTE [GCCSI], STRATEGIC ANALYSIS OF THE GLOBAL STATUS OF CARBON CAPTURE AND STORAGE REPORT 3: COUNTRY STUDIES, INTERNATIONAL POLICY AND LEGISLATION 14-16 (2009).

[82] Draft Articles on the Responsibility of States for Internationally Wrongful Acts, U.N. Doc. A/56/10 (2001).

[83] *See id*. at 150 (With regard to the area of international liability arising from acts not prohibited by international law, the International Law Commission (ILC) has established two drafts: draft articles on prevention of transboundary harm from hazardous activities of 2001 and draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities of 2006.).

[84] *See* ABBAS AHDAL SHARIF, STATE RESPONSIBILITY AND LIABILITY FOR LONG TERM CARBON CAPTURE AND STORAGE IN THE EVENT OF LEAKAGE FROM THE SUB SEABED 25 (2014) (Arctic University of Norway, Working Paper, 2014).

[85] *See* Carr, *supra* note 5, at 149.

b. The need for state liability adoption for CCS

First of all, it should be demonstrated why a state liability is necessary in the CCS accountability regime at an international level.[86] Furthermore, looking at what kind of characteristics and scope the liability system would have is important. It is true that the international community has progressed toward creating a civil liability regime in preparation for international environmental damages by hazardous behaviors.[87] However, some conventions have adopted international liability and provided strict liability.[88] It would be reasonable to view the liability for CCS activity-caused damages as falling under the area requiring state liability.[89] Each country has a duty to carefully supervise CCS implementation from licensing to monitoring management as a regulator, since the CCS technology still has the risk of leakage (though it is still regarded as a significant measure to overcome the climate change crisis). This perspective can be related to the point that a county's behavior should be in line with the precautionary principle, the important principle of international environmental laws.[90] In this regard, countries themselves are deemed to have independent responsibility from the responsibility that CCS operators have, which is also consistent with the polluter pays principle.[91]

Additionally, state liability is necessary for ensuring prompt and sufficient compensation for a damaged country suffering CCS-related damages. Given the nature of CCS, which requires long-term sequestration, state liability is all the more necessary.[92] If state liability is not recognized, unfair situations may take place where compensations are made insufficiently. For instance, CCS operators may have a poor financial situation or become nonexistent after a long time.[93] Another basis for the argument for state liability is the view that state interfer-

[86] The term "state liability" will be used in this part in order to distinguish it from the term "state responsibility," which addresses damages and compensation associated with internationally wrongful acts.

[87] *See* Carr, *supra* note 5, at 153.

[88] For example, state liability systems are adopted with regard to damages caused by space objects or oil pollution.

[89] *See* Carr, *supra* note 5, at 155 ("Even if a State fully complies with its prevention obligations, accidents may nonetheless occur and have transboundary consequences that cause harm and serious loss to other States. A liability regime for sub-seabed sequestration, while imposing primary liability on the operator, should be without prejudice to the rules of State responsibility for internationally wrongful acts. In other words, ideally a liability regime for sub-seabed sequestration would be a 'residual State liability' regime.").

[90] *See* Sharif, *supra* note 84, at 31.

[91] *See* Carr, *supra* note 5, at 155 (There is an argument that a state liability may not be consistent with the polluter pays principle. However, it would be reasonable that the polluter pays principle should not be interpreted as a direction for exempting a state from its own liability.); *See* Sharif, *supra* note 84, at 35 (In other words, a state has a liability for its unique obligations and its violations as a regulator against operators, which is independent from operators' obligation and its violations.).

[92] *See* Carr, *supra* note 5, at 155.

[93] *See* Sharif, *supra* note 84, at 39.

ence becomes more justified in areas implying a huge possibility of damage, even though its likelihood is deemed very low, such as the risk of CCS leakage.[94]

Furthermore, if the state liability is recognized, it can pose another problem in setting specific standards to determine whether to include the requirements of intentionality or fault of the corresponding state agencies or officers. Though it should be more discussed, given the fact that presenting scientific proof is difficult in environmental damage lawsuits and could be more difficult in inter-country lawsuits, it would be more persuasive to make the damaging state liable for the results regardless of intentionality or fault. Additionally, with regard to compensation scope, more specific standards are needed. For example, there needs to be regulation which includes the relevant cost of cleanup and recovery of damaged environmental resources in addition to the direct damage amount.

c. Balanced approach for transboundary CCS liability

Such a CCS state liability scheme does not rule out the civil liability of CCS operators. Based on the polluter pays principle, CCS operators should be made liable for transboundary damages as they are the direct and major cause thereof.[95] Then, the next discussion would be about how to set up the relationship between operators' liability and state liability. In this regard, there are two different stances. One approach is that a country and operator should be jointly responsible. The other approach is that the operator should take liability primarily and, if this compensation is less than enough, the state should become liable secondarily.[96] Of these two approaches, the latter is more in line with the polluter pays principle, as it holds the operator liable first since the operator's liability is more direct and fundamental.[97] Additionally, to motivate operators not to slow their efforts to prevent environmental damages, holding CCS operators primarily liable will be fairer and more persuasive rather than holding state and CCS operators jointly responsible from the outset.[98] As seen from this, in the transboundary liability regime, there are multiple parties who bear obligations to compensate

[94] *See* CATO-2, *supra* note 62, at 45.

[95] *See* Carr, *supra* note 5, at 156 (It is possible to provide both systems of state liability and civil liability and that this kind of CCS liability regime will be consistent with polluter pays principle and precautionary principle. With regard to a CCS operator's liability under a civil liability system, this issue on which option between fault and strict liability standard is applied will be discussed, similar to a domestic liability system. The reasons supporting strict liability will still be valid in a transboundary liability system.).

[96] The EU's CCS Directive provides that when a member country's territorial sovereignty is violated by another member country, the offending country's competent administrative agency and CCS operator have a joint liability for the violation. This attitude is analyzed as a method to activate CCS activities.

[97] *See* Yvette Carr, *supra* note 5, at 155; Yvette Carr, *supra* note 5, at 157 (With regard to state and operator's liability, some measures can be taken by state, such as insurance requirements for the operator for guaranteeing the operator's financial security as well as government-led fund raising for preparing state liability.).

[98] This reason will be consistent with the reasons which were suggested for the support of liability transfer to the government.

damages, such as private operators and states.[99] Additionally, transboundary liability system which includes industry-wide funds or insurance companies as a subject of liability has been shown in international environmental treaty regime.[100] Thus, the transboundary liability system including funds or insurance companies can be considered in CCS international regime, which can make CCS transboundary liability system more robust.

Which form of liability regime needs to be accepted will also be a significant issue. If a comprehensive convention on the transboundary CCS implementation is to be concluded as discussed above, building a protocol to a main convention will be another good way to set up the liability regime.[101] Meanwhile, if the international CCS implementation is to be progressed in bilateral agreements and conclusion of multilateral agreements is delayed, it is reasonable to take the approach for types of soft law for this issue of liability. Although the dispute settlement process has been hardly discussed so far regarding disputes over CCS-caused transboundary liabilities that CCS may bring out, it needs to be addressed whether to include dispute settlement provisions to establish a more effective liability scheme.[102]

V. Conclusion

Currently, no international treaty that deals with CCS exists, but there are areas where there is a need for international legal and regulatory framework in the future. Considering the characteristics and uniqueness of CCS, it is necessary to draw an agreement on the fundamental technical standards required for safe implementation of CCS at the international level so it can function as a standard in the drafting of domestic laws. The attempt to reach an agreement can be done through various channels from treaties to voluntary soft laws.

International legal system is required for transboundary cooperative CCS projects. Transboundary CCS projects need to be implemented by prepared standards and procedures that will be applied, such as notification, risk impact assessment, and monitoring. In this case, it was analyzed that requirements and procedures for various types of scenario due to the combination of capture, transport, and storage among countries can be different. By standardizing requirements according to various scenarios, it will be helpful for smooth transboundary CCS projects, and it will also help CCS implementation to expend internationally. Additionally, it is likely that an international liability system is not yet sufficiently constructed for when the CCS implementation of one country causes unexpected damage to another country, while there is a high possibility that the liability issues are discussed in advance in the terms of transboundary CCS

[99] *See* ILIAS PLAKOKEFALOS, THE PRACTICE OF SHARED RESPONSIBILITY IN RELATION TO LIABILITY FOR TRANSBOUNDARY HARM 1 (Research Project on Shared Responsibility in International Law, Working Paper No. 95, 2016).

[100] For example, there is the Convention on Civil Liability for Oil Pollution Damage. *See id.* at 6.

[101] Current practice with regard to the conclusion of international environmental conventions shows this trend toward a combination of a general convention with a specific protocol.

[102] *See* UNFCCC, *supra* note 4, at 31.

projects. With regard to the transboundary CCS liability framework, it is desirable to introduce a state liability system, and adopt a primary liability system for CCS operators in which it is reasonable to consider a strict liability standard for domestic liability. In relation to the form of international agreement regarding transboundary CCS operation and liability, a multilateral framework is desirable, but it is necessary to increase the possibility of agreement by taking into account the forms of bilateral treaties or guidelines if necessary.

WHAT IS A "GRAVE" INTERNATIONAL CRIME? THE ROME STATUTE, DURKHEIM AND THE SOCIOLOGY OF RULING OUTRAGES

Nikolas M. Rajkovic

I. Introduction

The modern relationship between criminal law and constitutionalism has had a rich, dynamic, and even symbiotic history. Across a variety of domestic contexts, the academic study and actual practice of criminal law endures perpetual reconstruction through rule of law debates and "constitutional" questions that juggle a bricolage of fundamental norms, rights, procedures and solidary values. What can be referred to broadly as constitutionalism has evolved similarly through societal disputes over the appropriate scope of criminalization, the proper extent of rights and procedural fairness, and the acceptable distribution and proportionality of penal sanctions. Yet, when the adjective "international" is placed in front of "criminal law," or discussions turn to the International Criminal Court (ICC), something curious happens to that rich tradition. Newly anointed international criminal lawyers recuse themselves from discussing the ICC within that same ethos, and even avoid references to the C-word via a lowercase semantics of cosmopolitanism. As a result, a novel discourse has become established that expresses International Criminal Law (ICL) not as the distinct relative of a public law or constitutional tradition, but rather ICL as a new penal orthodoxy of so-called "international criminal justice".[1]

International lawyers explain this seemingly gestalt switch with textbook efficiency and a taxonomical narrative intent on species distinction.[2] Foremost, ICL is asserted to have unique sociological and institutional origins that make it an extraordinary sort of criminal law.[3] Specifically, ICL does not derive from the unitary ideal-type of the state, but alternatively a pluralistic and exceptional international society of states that lacks an express constitutional instrument.[4] That alleged societal and textual distinction is then used to inform a dichotomy between local versus international prospects of criminal law, where the ICC is said

[1] *See* GEOFFREY ROBERTSON, CRIMES AGAINST HUMANITY: THE STRUGGLE FOR GLOBAL JUSTICE (Penguin, 2000); Luis Moreno-Ocampo, *The International Criminal Court: Seeking Global Justice* 40 CASE W. RES. J. INT'L L. 215, 215 (2008); *See also* Carsten Stahn, *Between 'Faith" and 'Facts': By What Standards Should We Assess International Criminal Justice?*, 25 Leiden J. INT'L L. 251, 251 (2012).

[2] *See* Kenneth Anderson, *The Rise and Fall of International Criminal Law: Intended and Unintended Consequences*, 20 EUR. J. INT'L L. 331, 331 (2009); Claus Kress, *The Procedural Law of the International Criminal Court in Outline: Anatomy of a Unique Compromise*, 1 J. INT'L CRIM. JUST. 603, 603 (2003).

[3] *See* Sarah Nouwen & Wouter Werner, *Monopolizing Global Justice: International Criminal Law as Challenge to Human Diversity*, 13 J. INT'L CRIM. JUST. 157, 157 (2015).

[4] Frederic Megret, *What Sort of Global Justice is 'International Criminal Justice'?*, 13 J. INT'L CRIM. JUST. 77, 79-81 (2015).

to represent an institutional form that operates in a normative and penal space distinct from public law or constitutionalism.[5] In this way, the term "international" serves an ideological and, not just, a grammar role: it signifies that while ICL, and concretely the ICC, manifest a new jurisdictional ambit it still structurally retains the exceptional sociology of international law that others the prospects of a public law or constitutional ethos.[6]

That mark of exceptionalism is astonishing, I argue, since the ICC has been celebrated within the discipline and profession of International Law as an evolutionary advance for the rule of law in terms of jurisdictional transformation as well as penal and communitarian possibility. The ICC is commonly framed within a historical narrative of evolutionary progress,[7] where the signing of the Rome Statute in 1998 followed by the ICC's subsequent ratification are placed along a trajectory that began with the Geneva and The Hague Conventions, the United Nations Charter, The Nuremburg and Tokyo Tribunals, the Universal Declaration of Human Rights, the Genocide Convention, and the International Criminal Tribunals for the former Yugoslavia (ICTY) and Rwanda (ICTR).[8] Further still, the growth of international criminal tribunals over the past two decades have been portrayed by leaders, scholars and judges as institutionalizing a "revolutionary"[9] spatial and jurisdictional future for criminal accountability.[10] To use the words of United Nations Secretary-General Kofi Annan at the opening of the Rome Diplomatic Conference to establish the ICC: "We have an opportunity to create an institution that can save lives and serve as a bulwark against evil."[11]

This article casts critical light on that progressive narrative by emphasizing what, I argue, is the liminal crisis that afflicts the operative jurisdiction of the Rome Statute and, importantly, the ICC. By liminal crisis, I refer to the contentious question of operative threshold that the ICC now confronts publicly before a global audience of aggrieved victims, all primed in myriad numbers, locations[12]

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[5] Elies van Sliedregt, *Pluralism in International Criminal Law*, 25 LEIDEN J. INT'L L. 847, 848 (2012) ("The ICC most prominently features as a separate legal system").

[6] *See* Tor Krever, *International Criminal Law: An Ideology Critique*, 26 LEIDEN J. INT'L. L. 701, 701 (2013) (discussing ICL as ideology).

[7] *See* KATHRYN SIKKINK, THE JUSTICE CASCADE: HOW HUMAN RIGHTS PROSECUTIONS ARE CHANGING WORLD POLITICS (W. W. Norton, 2011) (showing a narrative example).

[8] Cherif Bassiouni, *From Versailles to Rwanda in Seventy-Five Years: The Need to Establish a Permanent International Criminal Court*, 10 HARV. HUM. RTS. J. 11, 11 (1997).

[9] Payam Akhavan, *The Rise, and Fall, and Rise, of International Criminal Justice*, 11 J. INT'L. CRIM. JUST. 527, 527-529 (2013).

[10] Ban Ki-Moon, *With the International Criminal Court, a New Age of Accountabilit*y, WASH. POST, May 29, 2010, at A19.

[11] Press Release, un.org, U.N. Secretary-General Kofi Annan address at inaugural meeting of the United Nations Diplomatic Conference of Plenipotentiaries on the Establishment of an International Criminal Court, U.N. Press Release SG/SM/6597/L/2871 (June 15, 1998) https://www.un.org/press/en/1998/19980615.sgsm6597.html.

[12] *See* Carsten Stahn, Justice Civilisatrice? The ICC, post-colonial theory, and faces of 'the local, in Contested Justice: The Politics and Practice of International Criminal Court Interventions (Christian De Vos, Sara Kendall & Carsten Stahn, eds., 2015).

and causes[13] with jurisdictional expectations.[14] On the one hand, the Rome Statute was meant to represent a watershed jurisdictional development for an emergent global legal history, signifying how international society and institutionalism have evolved a global public ethos that combines the rule of law with trans-border solidarity.[15] Yet, on the other hand, this newborn and rhetorical "global public" actually operates within a narrow and privileged catalogue of international outrages and penality, which extends jurisdiction very selectively across a vast depth of culpable international tragedies.[16] As such, ethereal narratives and teleological framing must be put aside, so as to interrogate what are pressing socio-legal questions on the liminal extent of proclaimed (judicial) emancipation: What is the penal threshold of this unique jurisdiction that the ICC is said to legally and institutionally oversee? What is the actual scope of the social "evil" confronted via the doctrinal notion of international crimes? How does that frame our perceptions of who and where are the "saved", and from what kinds of evils? Ultimately, what are the parameters of solidarity that define the horizon of international outrage and penality under the ICC's watch?

At first glance these questions may appear to have only theoretical relevance, but truly they speak to the informal but no less consequential constitution that the Rome Statute actually manifests.[17] Further still, they resonate empirically across growing controversies over, for instance, how the ICC indicts overwhelmingly non-white Africans,[18] and whether the institutionalized sources of chronic starva-

[13] Referral of Syria to International Criminal Court Fails as Negative Votes Prevent Security Council from Adopting Draft Resolution, U.N. Press Release SC/11407 (May 2014); Mark Lowen, Europe, World, BBC, *Greeks seek austerity trial at The Hague,* (Apr. 24, 2012), https://www.bbc.com/news/world-europe-17811153.

[14] William Schabas, *The Banality of International Justice*, 11 J. INT'L CRIM. JUST. 545 (2013).

[15] *See* Luigi Corrias & Geoffrey Gordon, *Judging in the Name of Humanity: International Criminal Tribunals and the Representation of a Global Public*, 13 J. INT'L CRIM. JUST. 97, 108 (2015) ("International criminal tribunals represent the global public by speaking in its name, that is by saying 'we, humanity. . .'").

[16] *See* Immi Tallgren, *The Voice of the International: Who is Speaking?,* 13 J. INT'L CRIM. JUST. 135, 138 (2015) ("The 'ICL we' is, in a way, just one linguistic phantom among others in the alienating landscape where the international crimes become crimes by getting selected out of a multitude of violence by baptizing them with their name and categorizing them as the gravest of all.").

[17] Here I concur with Friedrich Kratochwil's thesis that constitutionalism is constituted and contested through varied but no less interacting formal, informal and semantic structures. *See* Friedrich Kratochwil, The Status of Law in World Society: Meditations on the Role and Rule of Law 77-78 (CUP, Cambridge, 2014) ("[T]he rule of law and the constitutional discourse amalgamate different themes and present us with a bricolage of different semantics rather than with an unequivocal and clearly structured program or corpus of rules and principles, sometimes hinted at in discussion on global administrative law, or in debates on the constitutionalization of international law. . . Many laws and documents might have constitutional standing without explicit systematization . . . and even when a clear and systematic exposition of the principles is intended—as in written constitutions—some of the hoariest problems might actually remain outside the constitutional framework.").

[18] This racial grievance expressed concisely by Courtney Griffiths QC, who served as chief defense lawyer for the indicted former President of Liberia, Charles Taylor. *See* Mark Kersten, *Is the ICC Racist?*, JUSTICE IN CONFLICT (Feb. 22, 2012), https://justiceinconflict.org/2012/02/22/is-the-icc-racist/ ("If one goes down to the Old Bailey . . . on any given day if you troll around the court, you'll find that roughly ninety percent of all the defendants on trial in that Court are, guess what? Black. . . What we're seeing in terms of international law currently is the replication of that association between criminality and

tion in the Global South must be addressed as a crime against humanity.[19] As such, this article engages the Rome Statute, and its specific gravity threshold, as both a synonym and antonym of penal accountability, by looking critically into the sociological and doctrinal sources that have served to reify a circumscribed catalogue of international crimes, leaving the ICC struggling visibly to live up to its celebrated jurisdiction.

My methodological aim is to show how interdisciplinary research can enhance doctrinal analysis, and, in doing so, bring into conceptual view a submerged constitutional dimension at work within the Rome Statute, which typically escapes the lens of more doctrinal analysis. Specifically, I engage Durkheimian sociology for the purpose of complementing existing doctrinal critiques that have identified a sizable conceptual and policy void within the Rome Statute's seminal "gravity" threshold. This cross-disciplinary move makes visible a politics of ruling outrages that naturalizes, under the cover of doctrinal determinacy, an economy of what grave international crimes are and should be. Thus, the analytical benefit of infusing Durkheimian sociology is the connection this draws between the extralegal and doctrine, highlighting how the former is a silent partner that conventional doctrinal analysis is ill-equipped to grasp on its own.

To unpack my contribution we traverse considerable interdisciplinarity ground, and so my argument works between sociology and doctrinal analysis using the following three steps. First, Emile Durkheim is reintroduced[20] to international lawyers both for the juridical way in which he helped found modern sociology, but also for his deep scrutiny of crime and penal law as the ultimate artifice of any society's "sacred" outrages. In the second step, we bridge Durkheimian insight on sacred outrages and penality with ICL by scrutinizing how the doctrinal notion of grave crimes operates, in effect, as a powerful semantic, symbolic and, ultimately, sacral barrier, which serves to ring a narrow, but increasingly contested, catalogue of international crimes. In the third and final step, we discuss how this symbolic infrastructure has empowered an elite class of international criminal lawyers as managers of the gravity threshold. The key implication being that this creates the appearance of ICL as focused on boutique prosecutions, which minimize scope for wider public access and reflection on whether international crimes remain consistent with present debates on global outrages and solidarity.

black-ness which one sees at the national level not only here in the United Kingdom but in any significant Western country with a black population.").

[19] Gwilym David Blunt, *Is global poverty a crime against humanity?*, 7 INT'L THEORY 539 (2015).

[20] A number of works have related Durkheim's writings to international criminal law and justice. *See generally* Immi Tallgren, *The Durkheimian Spell in International Criminal Law*, 2 REVUE INTERDISCIPLINAIRE D'ETUDES JURIDIQUES 71, 137 (2013); MARK OSIEL, MASS ATROCITY, COLLECTIVE MEMORY, AND THE LAW (Transaction Publishers, New Brunswick, 2000); Frederic Megret, *Practices of Stigmatization*, 76 L. CONTEMP. PROBS. 287 (2014); SALIF NIMAGA, EMILE DURKHEIM AND INTERNATIONAL CRIMINAL LAW: A SOCIOLOGICAL EXPOSITION, (2010).

II. A Disciplinary Odyssey: Durkheim, Sociology and Law's Solidarity

Emile Durkheim is recorded as one of the originators of the modern discipline of sociology. Yet, that label effaces the instability from which both he and sociology emerged, and this is worth emphasis owing to the precariousness that now defines our present international circumstances. Quite literally, Durkheim and disciplinary sociology emerged out of Europe's great social upheavals and reorganization in the 19th century, precipitated by the industrialization of what had been centuries-old rural societies and feudal economies. That intense social transformation cultivated a similar upheaval and change across Europe's established academy, which became reflected in the controversy over Durkheim's initial academic posting in 1887 as lecturer in "pedagogy and social science" at the University of Bordeaux. The controversy located in his post title "social science", which apparently emerged as a compromise because his newfound faculty questioned whether sociology was a genuine science of inquiry.[21]

For Durkheim, as exemplified in the title of his inaugural lecture La Solidarite Sociale, the case for sociology became spurred by need for deeper inquiry into the changing bonds of social solidarity in Western Europe and, specifically, the formation of a scientific perspective concerned with interrogating the transformation of the social.[22] The fundamental questions Durkheim defined as the basis of this new and imperative field: "What are the bonds which unite men one with another?"[23] "How. . .does it come about that the individual, whilst becoming more autonomous, depends ever more closely upon society?"[24] The key to answering these questions, Durkheim asserted, was a sociological field that examined the changing character of social morality and solidarity, which specifically took stock of society's moral order and the way it constituted individuals and modern self-consciousness.

In his magisterial work, The Division of Labour in Society, Durkheim then engaged directly with that central issue of what social solidarity is and how sociology, as a new and distinctive social science, could observe and classify it. The paradox Durkheim confronted, however, is that while all manners of solidarity constituted different types of societies, no less "social solidarity is a wholly moral phenomenon which by itself, does not lend itself to exact observation and especially not to measurement."[25] This left a nascent sociology in need of "social facts", and the way out of that conundrum, he asserted, was to "substitute for this internal datum, which escapes us, an external one which symbolizes it, and then study the former through the latter."[26] In other words, as Durkheim exclaimed:

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[21] STEVEN LUKES & ANDREW SCULL, DURKHEIM AND THE LAW 54 (Basingstoke, Palgrave MacMillan, 2d ed., 2013).

[22] *Id.* at 1.

[23] Émile Durkheim, *Introduction a la sociologie de la famille,* ANNALES DE LA FACULTE DES LETTRES DE BORDEAUX, 257 (1888).

[24] ÉMILE DURKHEIM, THE DIVISION OF LABOUR IN SOCIETY 7 (Basingstoke, Palgrave MacMillan 2013).

[25] *Id.* at 52.

[26] *Id.*

"Science studies heat through the variations in volume that changes in temperature cause in bodies, electricity through its physical and chemical effects, and force through movement. Why should social solidarity prove any exception?"[27]

Flowing from that analogy, Durkheim set out what sociology's essential indicators should be to help proxy its amorphous but no less consequential "object" of inquiry. He made two pivotal assertions significant for the making of disciplinary sociology, but also of under-examined salience for what is now an institutionalizing field of international criminal law. First, Durkheim held that the "perceptible effects" of social solidarity were symbolized and visible in law, owing to how law came to organize and reflect the moral structures that shaped a common or collective conscience.[28] Yet, Durkheim keenly distinguished between two principal kinds of law, repressive versus restitutive, and it was this former, repressive, type that he claimed spoke most directly to the quality and scope of the moral ordering that created an internal solidarity and thus a societal arrangement.[29] Second, Durkheim's emphasis on repressive law then informed what he claimed was the most direct empirical window onto the existence of a society: punishment as the "straightforward embodiment of [a] society's moral order."[30]

This motif of punishment engaged no less than three of Durkheim's major works (The Division of Labour in Society,[31] Moral Education[32] and The Two Laws of Penal Evolution[33]), and led to an evolutionary account of penal law that examined how pre-modern (mechanical) and modern (organic) forms of solidarity shaped legal performances of punishment. However, what proved the signature of Durkheim's study was his trans-historical conclusion: "Punishment has remained for us what it was for our predecessors. It is still an act of vengeance, since it is an expiation. What we are avenging, and what the criminal is expiating, is the outrage to morality."[34] That bold conclusion later generated profound criticism to the effect that, as David Garland has asserted, Durkheim's theorizing on punishment eventually became relegated to classroom textbooks.[35] The substantial critique being that Durkheim's emphases on moral outrage and vengeance had in fact naturalized and reified a pre-modern, largely religious, and "anthropological" model of punishment, which failed to reflect the detached professionalism, institutional distance and contestable moral order that allegedly typified contemporary penal practices.[36]

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[27] *Id.* at 53.

[28] *Id.* at 52.

[29] *Id.* at 55, 88-89.

[30] DAVID GARLAND, PUNISHMENT AND MODERN SOCIETY: A STUDY IN SOCIAL THEORY 25 (UCP, Chicago, 1990).

[31] Durkheim, *supra* note 25.

[32] Émile Durkheim, *Moral Education: A Study in the Theory and Application of the Sociology of Education* (E. K. Wilson and H. Schnurer, trans., Free Press, New York, 1961).

[33] Émile Durkheim, *The Two Laws of Penal Evolution,* 4 L'Annee Sociologique 65 (1901).

[34] *Id*. at 70.

[35] Garland, *supra* note 30, at 26-27.

[36] *Id*.

Yet, dismissing Durkheim vis-à-vis inadequate proportionality and historical immediacy came at the price of forgetting what had in fact been his more generic but no less eminent insight: what connected across different pre-modern and modern societies was how penal law remained to a considerable extent a fundamentally social, constitutive and morally imbued project. In other words, penal law represented, for those within and without, a mirror of the most sacred morals held by an asserted societal grouping at a given time. As such, Durkheim's focus on punishment had underlined a seminal social gap within a timeworn association that has been conceptually made between the notions of crime and justice. Notably, he revealed, what overlapped socially between these two historic concepts was quite crucially the state of social solidarity, and the manner in which penal, or ultimately criminal, law came to mutually reflect and construct collective perceptions of a sacred moral order that acted as the bond of solidarity between individuals.

Projected across the disciplinary boundary between sociology and law, this meant that Durkheim had engaged and advanced much more than just general social theory. He was indeed one of the pioneering and founding disciplinary sociologists, but Durkheim's intervention extended considerably beyond the sociological audience he intended to cultivate. His focus on social solidarity, how that derived from a shared moral order, and the way this ultimately became reflected in penal law, were all social insights that did not simply speak to the constitution of society and the need for sociology but, further still, it spoke to the constitution of law itself in terms of an under-examined moral sociology of legal ordering. Put differently, Durkheim's methodological move of using penal law as proxy to examine social solidarity was an intervention on the social and moral origins of penal law, and the way this influences an evolving state of solidarity across pre-modern, modern, and even post-modern societies.

III. Durkheim's Moral Sociology and the "Sacred" Constitution of Law

However, that rich insight on the deeper social constitution and significance of penal law has historically eluded the register of what public lawyers have traditionally understood as being within the doctrinal rubric of proper legal study. Here, international criminal lawyers, as partial or full descendants of that public law tradition, are in need of confronting that legacy because of the theoretical poverty it has inflicted vis-à-vis grasping law's deeper moral and thus social constitution. The epistemic heritage of that poverty deriving from the dominance of classical legal thought across the 19th and 20th centuries, and how that bunkered the notion of the constitutional within legal formalism. Consequently, the wealth of Durkheim's actual legal intervention has had a largely provincial standing relative to the established canons of not simply conventional legal education but most especially the robust formalism that has defined traditionally the teaching of international law. Notwithstanding that Durkheim built his sociology with law, and incidentally lawyers, as the object or "visible index" of social solidarity. Restated in blunt terms, since Durkheim was not and did not portend to be a lawyer, and his methodological treatment of law could be framed as epiphenome-

nal, this conveniently placed Durkheim outside the fence of requisite formalism that had bounded, in epistemic and identity terms, the late modern canons of disciplinary law and practice.

This metaphor of the fence provides more than a quaint image. Rather, it helps capture what the prolonged and intersecting traditions of legal classicism, formalism and secularism, which later extended into international criminal law, pivotally lost grasp of and bequeath in terms of neglected normative and institutional analysis: the enduring social importance of sacred perception, and the way it permeates through even expressly secular and formalist structures of contemporary law. That gap, however, should be understood less as conscious omission than an artifact of professional and disciplinary consciousness. Where a culture of formalism and secularism informally policed the alleged "extra-legal" and left doctrinal lawyers with an awkward collection of discomfort, incapacity and technical idiom when faced with intimations of the sacred. The most forcible illustration being an ingrained professional instinct that couples the mention of the sacred as something the field of human rights uniquely addresses as a distinct cause of legal action. As such, relegated to the most active of legal imaginations has been the prospect that the sacred could be much more than a novel legal cause of action but, more accurately, a crucial constitutive source that (quietly) stands behind formal institutions and texts of international public law such as the Rome Statute.

We arrive thus at what orthodox legal canon has either directly or indirectly occluded with Durkheim's "extra-legal" placement. In a nutshell, Durkheim's scrutiny of punishment and penal law focused on how submerged moralities have been integral to the mutual constitution of solidarity, law, and "the criminal", and by implication that perspective applied a novel reading of what disciplinary lawyers have long held to be their foundational question of "what is law?" In the alternative, Durkheim asked not what law is, but what informs (penal) law? Yet, that seemingly conceptual question took a more moral and epistemological line of inquiry, which looked not at the history of legal thought but rather the impact of an established moral sociology of the penal. Where punishment was shaped as much by the path dependencies of institutional history as through a common moral circuitry and, especially, the force of an underlying but no less ruling moral order:

In the penal law. . .murder is universally regarded as the greatest of crimes. Yet an economic crisis, a crash on the stock market, even a bankruptcy, can disorganize the body social much more seriously than the isolated case of homicide. . .. But if we compare the degree of danger however real it may be, to the penalty, there is a striking disproportion. All in all, the instances just cited show that an act can be disastrous for society without suffering the slightest repression. . ..Indeed, the only feature common to all crimes is that, saving some apparent exceptions to be examined later, they comprise acts universally condemned by the members of each society. . .that crime disturbs those feelings that in any one type of society are to be found in every healthy consciousness. . ..[37]

[37] Durkheim, *supra* note 25, at 58-59.

Durkheim, the juridical outsider, asserted that the integrity of both society and its laws derived from the magnetic pull of a very specific moral core: the solidary perception of fundamental outrages. A perception, however, that was informed by more than raw imaginations and impulses, but instead shaped through a kind of social matrix that Durkheim pivotally labeled the common or collective consciousness.[38] That noun occupied a profound analytical importance for Durkheim because it emphasized the collective consciousness as an essential "social fact" from which any society and, ultimately, its laws grew. A foundational moral code that defined the scope of what was held out to be collectively unconscionable, and thus by implication gave societal solidarity its broad stickiness as well as the concept of the criminal its normative substance and economy of consequences.

Yet, for Durkheim, there was a further force behind that notion of collective consciousness, but its conception and theme is a difficult one to reconcile with the formalist and secular training of modern lawyers. Effectively, a dualism sits behind Durkheim's notion of collective consciousness, which is not immediately apparent with the concise definition he provides in The Division of Labour in Society. In particular, Durkheim defines the noun with generic openness, or even a bland empirical aggregation, akin to that of a statistical denominator: "The totality of beliefs and sentiments common to the average members of a society. . .."[39] However, upon closer reading, he further attaches what is the curiously under-theorized but no less seminal dimension of sacredness,[40] which Durkheim emphasized as essential for the integrity and reach of not just penal law but the broader projects of legal and societal ordering.[41] As such, what made collective consciousness an actual phenomenon of profound implication was its attachment to the sacral, which expressly or subversively constituted social and legal "weness" through the bonding effect of essentialized outrages and, by extension, the semantics of "the criminal."

What has been under discussed not simply within sociological circles, but even less so among most lawyers, is how Durkheim's resuscitation of the sacred provides a disruptive and fundamental challenge to the formalist conception of socio-legal ordering that has bound to date international legal thought. Law draws authority not merely from the doctrinal articulation of rules and norms but also, informally, from different kinds of sacral appearances intended to project a ruling morality. Durkheim's emphasis on the sacred, and more accurately the role of sacredness, appears initially to swim radically against the secular ethos of not merely modern law but especially enlightenment thought. That is until one discerns how Durkheim's emphasis on sacredness is actually about the continued importance not of religion per se but religiosity, such that, as he underlined, modern law has always relied on trappings of the transcendental and, by implication, sacredness.[42] As Durkheim explained, this quantum of the sacral was what ulti-

[38] *Id*. at 64.

[39] *Id*. at 63.

[40] Garland, *supra* note 30, at 55.

[41] Durkheim, *supra* note 25, at 77.

[42] Garland, *supra* note 30, at 54-55.

mately distinguished the impact of the penal not just in terms of what made alleged crimes resonate socially as "the criminal", but further because it ignited the outrages that fused a diverse mass of individuals into a social collectivity of higher moral purposefulness:

When we demand the repression of crime it is not because we are seeking a personal vengeance, but rather vengeance for something sacred which we vaguely feel is more or less outside or above us. . . This is why penal law is not only of essentially religious origin, but continues always to bear a certain stamp of religiosity. This is because the acts that it punishes always appear as attacks upon something which is transcendent, whether this is a being or a concept. . .. Such a representation is assuredly an illusion. In one sense it is indeed ourselves that we are avenging, and ourselves to whom we afford satisfaction, since it is within us, and within us alone, that are to be found the feelings that have been offended. But this illusion is necessary. Since these sentiments, because of their collective origin, their universality, their permanence over time, and their intrinsic necessity, are exceptionally strong, they stand radically apart from the rest of our consciousness. . .they dominate us, they possess, so to speak, something superhuman about them.[43]

However, Durkheim's argument on the role and relevance of sacredness was, to a considerable extent, undermined by the reified way he came to conceptualize the sacred.[44] In particular, his theorizing of both sacredness and collective consciousness invoked a largely apolitical and ahistorical construal of these pivotal "social facts." The effect of which was illustratable in Durkheim's incomplete distinction between religiosity and religion, where he emphasized sacred norms as occupying an essential core that both constituted collective consciousness and correspondingly the criminal. Yet, that closed and deductive character he assigned to sacred norms produced in effect a causal theory that did not account for or elaborate the possibilities of historical production. Durkheim drew little attention to the importance of understanding what brought about sacred perception in the actual making of a fundamental moral order and, ultimately, the alleged higher purpose that distinguished penal law. In this way, his treatment of sacred norms as given social variables had a sizable methodological as well as theoretical implication, it depicted the sacred as an inherent property of homologous society rather than a historical artifact of evolving social relations and moralities.

Thus, Durkheim's theorizing on sacredness was trans-historical in its analytical ambition but largely ahistorical when it came to conceptualization and method, and this attracted criticism. Indeed, the identification of sacredness and collective consciousness underscored the importance of an underlying and fundamental moral framework that maintained, in the face of social differences and clashing interests, a deeper level of shared sentiments and solidarity. Flowing from that framework, acts that became designated as criminal, and projected socially through penal law, could then be understood as the signifiers of what was a sacred class and constitution of moral values. Yet, Durkheim's reified construal

[43] Durkheim, *supra* note 25, at 77-78.

[44] Garland, *supra* note 30, at 55-56.

of "social facts" left his resuscitation of sacredness having neglected, as David Garland has notably criticized, that: "Social relations and moral beliefs that come to dominate in any society are. . .the outcome of an ongoing process of struggle and negotiation. They are not a given characteristic of a particular social type, nor are they the inevitable product of functional evolution."[45]

In this light, the crucial gap that emerges within Durkheim's approach was his failure to distinguish between the semantic or symbolic endurance of sacredness relative to the taxonomy or even genealogy of what sacredness meant across varied societal arrangements over time. This implied that sacredness and collective consciousness did matter for moral and legal ordering in the symbolic way Durkheim emphasized, but without the isomorphic meaning he had conceptually and socially presumed. As such, the distinct absence of historicity made Durkheim's conceptualization blind to how moral orders are established temporally and spatially rather than just given. This by virtue of how sacred values evolve from social forces that each advance alternate ruling moralities and, crucially, differing schemes of sacred outrage which trigger need for law's penal repression.

IV. Sacredness and Sacral Outrages: What Makes the Gravity of International Crimes?

This brings us to the point of overlap where Durkheim's extra-legal inquiry into sacredness assumes significance for ICL as it encounters, after the ICC's judicial establishment, social friction and controversy over the relevant scope of grave international crimes. Frictions and controversies increasingly expressed through critiques that range from the narrowness of the international criminal catalogue, to the need for greater expansion in interpreting that existing catalogue, or to, demographically, the striking racial profile that has emerged with the few ICC prosecutions that materialize. Yet, a key feature of that burgeoning contestation has been both formal institutional crisis and normative and moral contestation over who and what draws the outrage of international penalization. By implication, the nature of that politics, while ultimately legal and penal in consequence, is an inherent social struggle over collective (global) indignations that inform the doctrinal register of international crime. A politics and struggle enacted over the performance of the ICC but, deeper still, at the constitutive level that Durkheim identified seminally as ruling outrages and what is deemed to shock an international collective consciousness.

However, before I proceed, it is important to preface briefly how the application of Durkheim's work to ICL and the ICC is quite literally a novel one, both in historical and sociological terms. Foremost, Durkheim and his sociological work on crime actually preceded, by several decades, the normative and institutional emergence of ICL. As such, his theorizing did not address the notion of international crime in any concrete sense. In addition, Durkheim's study of criminal law focused largely on nation-state societies as opposed to expressly international

[45] *Id.* at 51.

society. Notwithstanding multiple references in The Division of Labour in Society where Durkheim mentions "international law,"[46] "international relations,"[47] as well as prospects for international or European consciousness.[48] Yet, what should not go forgotten is that Durkheim's work, while being a product of his specific time and reigning truths on the nature of society, no less engaged trans-historical change and evolution involving different types of societal and, correspondingly, penal arrangements. Durkheim's aim was very much to grasp what he saw as a key historical continuity or commonality located in the sacred norms and constitution that animated penal orders. A trans-historical observation of profound relevance applicable even to the novel species of international criminal ordering that he never lived to study specifically.

With this outlook, Durkheim's emphasis on the sacred constitution of penal and societal ordering sharpens focus on how a ruling morality similarly influences the constitution of international criminal law, which in turn governs the scope of imaginable outrages the ICC becomes institutionally capable of conceiving, seeing and acting upon. What might emerge as surprising for international lawyers is that the doctrinal and formalist bounds of disciplinary training have obscured the extent to which ICL is predicated politically on a ruling morality but also, more pivotally, a latent structure of religiosity. Where, using the Durkheimian lens, it becomes possible to interrogate how the formal indexing of "grave" international crimes produces sacral appearance in international penal ordering, which then conditions the parameters of international consciousness and, ultimately, the proper essence of international solidarity that becomes enforced through ICL.

Yet, my scrutiny of sacredness is not about claiming international crimes are ultimately creatures of religiosity, with international criminal lawyers lacking the consciousness to grasp this. This would miss entirely a more subtle but key observation. The objective here is to emphasize how legal formalization in ICL has the effect of constraining, politically and socially, an evolving and reflexive register of international solidarity and, importantly, penality.[49] This constraining effect drawing force not merely from the accepted substance and procedures of international law-making, but also an under-acknowledged symbolic power exercised via a ruling dichotomy between grave and non-grave killing. Where the former class is stratified normatively and protected institutionally as "grave" international outrages. The informal consequence being a quiet association between international crimes and sacral appearances, which becomes a problem if international lawyers do not register that effect and over-rely on its strength to sustain social and political purchase in ICL, the Rome Statute and the ICC. Consequently, this may produce a wide gap between institutional versus social imagi-

[46] Durkheim, *supra* note 25, at 95.

[47] *Id*. at 173.

[48] *Id*. at 219.

[49] On the discursive power of formalization and standardization, *see* Thomas Skouteris, *The Force of a Doctrine: Art. 38 of the PCIJ Statute and the Sources of International Law, in* EVENTS: THE FORCE OF INT'L L., 69, 69-80 (Fleur Johns et al. eds., 2011).

nations of "international crimes", which gradually corrode support in ICL as a genuine rule of law project acting on evolving perceptions of outrage.[50]

The trajectory just described is more than a hypothetical proposition, because the ICC is increasingly confronted by an expanding parade of mass human tragedies where it has—what lawyers call—no jurisdiction or authority to act. These (invisible) tragedies range from regularized human starvation, mass infanticide, human trafficking,[51] to the excesses of the so-called war on terror (e.g. drone killings and proxy aggressions),[52] naming only a few. The cause of that incapacity is often and conventionally framed in the usual terms of inadequate jurisdiction, finite resources, or doctrinal constraints. Most overlook, however, the deeper moral and conceptual politics that have structured deficient agency into this doctrinal and institutional regime. In particular, the formalization of grave international crimes under the Rome Statute has silently created an underclass of global outrages that publicly manifest severe collective harm and detriment, but which are framed as conceptually and thus doctrinally misfit for outrage under ICL's penality.

For many, an apparent solution resides in either amending the doctrinal law, i.e. the Rome Statute, through further treatification or reworking the canons of interpretation. However, both prospects remain distant feats not simply due to the positivism of state consent, but because, crucially, they must reconfigure what Durkheim emphasized as ruling outrages that govern the social ambit of international solidarity and penality. This is where Durkheim's emphasis on the sacral is novel for how international criminal lawyers come to appreciate productive power in relation to the Rome Statute, as well as ICL more generally.[53] The principal gain being how the notion of sacral outrages unsettles an under-examined presumption across international law: the secular exclusion of religiosity from institutional rule. To refer to Wittgenstein's metaphor,[54] my exploring the sacral sheds light on a "scaffolding" that gently disciplines perceived international outrages and, by implication, the ICC's jurisdictional horizon on what international crime is and should be.

By scaffolding, I direct our attention at two symbolic effects that play a key role in sanctifying a narrow penal economy and monopoly brand of "international criminal justice". First, the Rome Statute is a symbolic text and object used to bound select killings deemed as exclusively "grave". This effect flowing not simply from the application of doctrinal and technical logic, but relying as well

[50] *See* Frédéric Mégret, *In whose name? The ICC and the search for constituency*, *in* CONTESTED JUSTICE: THE POLITICS AND PRACTICE OF INT'L CRIM. CT. INTERVENTIONS 1, 23-45 (Christian De Vos et al. eds., 2015).

[51] *See* Janie A. Chuang, *Exploitation Creep and the Unmaking of Human Trafficking Law,* 108 AM. J. INT'L L. 609 (2014).

[52] *See* Steve Niva, *Disappearing Violence: JSOC and the Pentagon's New Cartography of Networked Warfare*, 44 SECURITY DIALOGUE 185 (2013).

[53] For a rich explanation of typologies of power, *see* Michael Barnett & Raymond Duvall, *Power in International Politics*, 59 INT'L ORG 39, 40 (2005).

[54] Ludwig Wittgenstein, *On Certainty*, §211 (G.E.M. Andscombe and G.H. von Wight eds., Harper & Row, 1972) (1969).

on the symbolic and "high" standing of the Rome Statute as an inter-state treaty that uniquely defines the exemplars of grave outrage.[55] Second, by enumerating what outrages are recognized by international law as grave, this creates, informally, a sacral class of (international) crimes. Put together, these symbolic effects become mutually reinforcing and powerful, because they iconize the boundaries and properties of proper international solidarity and outrage. This makes the task of critiquing or amending the catalogue of grave crimes not just a difficult doctrinal enterprise, but also an uphill political and sociological endeavor because one must overcome the reigning symbolic infrastructure that protects this established economy and code of grave crimes. In other words, the Rome Statute should also be appreciated as a disciplining text in a more Foucauldian sense: it is a powerful artifice of symbolic power because it frames an alleged natural order of international crimes.[56]

Admittedly, what I have asserted offers a disruptive prospect for a good number of doctrinal international lawyers. The Durkheimian lens brings subtle religiosity and productive power into view, which pressures a key background assumption that international law's formalization provides a doctrinal space autonomous from grassroots political and social contestation. However, that mapping underplays how certain international institutions, like the Rome Statute and ICL, are more vulnerable to feedback loops from immediate political controversies, as recently shown in the case of protests from the African Union.[57] This suggests why symbolic power and sacral appearance become important for the Rome Statute because it imposes a normative topography over political debates, where the metaphorical high-ground of "grave" crimes influence the register of solidarity and what seemingly merits international penality. Yet, the peril with such a topography is the moral, normative and political numbness it risks toward the world beyond elite international criminal lawyers and their hardened institutional logics. The specter of that detachment perhaps taking hold, for example, with respect to whether ICC prosecutions, intentionally or structurally, produce institutional racism within the framework of the Rome Statute.[58]

No less, this introduction of Durkheim, symbolic power and sacral appearance relative to grave crimes will likely generate pushback from doctrinal orthodoxy in a dual sense. Where, first, my highlighting a dimension of the sacral within the

[55] For more on the power of formal style and the transcendental object, *see* P.J. Schlag, *The Problem of the Subject*, 69 TEX. L. REV. 1627, 1628 (1990-91).

[56] *See* Michel Foucault, *The Subject and Power*, *in* POWER: ESSENTIAL WORKS OF MICHEL FOUCAULT, 326-348 (J.D. Faubion ed., R. Hurley et al. trans., Vol. 3, 2000).

[57] *See* Adam Branch, *Dominic Ongwen on Trial: The ICC's African Dilemmas*, 11 INT'L J. TRANSITIONAL JUST. 30, 30-49 (2017); *see also* Max du Plessis & Guénael Mettraux, *South Africa's Failed Withdrawal from the Rome Statute*, 15 J. INT'L CRIM. JUST. 2, 361-370 (2017).

[58] For interrogation of the notion of institutional racism, *see* Colin Wight, *The Agent-Structure Problem and Institutional Racism*, 51 POL. STUD. 70 (2003). On the under-confronted roots of racism and white privilege within international criminal law, *see* Makua Mutua, *From Nuremberg to the Rwanda Tribunal: Justice or Retribution?* 6 BUFF. HUM. RTS. L. REV. 77, 79-80 (2000) ("[N]uremberg can be seen as an orchestrated and highly manipulated forum intended primarily to impress on the Nazi leadership who the victors were and to discredit them as individuals as well as their particular brand of the philosophy of racial supremacy. The irony of Nuremberg, and the White men who created it was that their states either practiced as official policy or condoned their own versions of racial mythologies. . .").

Rome Statute may be framed as overly "meta" or "postmodern" and, second, ignores how international criminal lawyers have already responded via their applications and readings of the Rome Statute. In nutshell, the sociological and political concerns I raise amount to a tempest in teapot? To that effect, it becomes important to take head on what, I argue, are the limits of purely doctrinal thinking and remedies: where the asserted interpretive and procedural safeguards put in place are believed to convincingly address the perennial problem of what is and should be the operative field of international penality. In the critique that follows, my analysis draws from the seminal insights of Margaret M. DeGuzman on indeterminacy within doctrinal practice[59] regarding which kinds of killings enter the space of grave crimes and thus receive the formal outrage of ICL.

V. The Semantics of Gravity and the Specter of Boutique Prosecutions

At first glance, conjoining the terms gravity and indeterminacy might seem odd semantics for characterizing what many would expect is the most legally concrete aspect of the ICL and the Rome Statute: the distinct seriousness of an international crime. After all, the narrative of this institutional field asserts that the accepted universality of international crimes provides the basis from which international law is authorized to administer criminal justice over and above national jurisdictions.[60] What is more, listed crimes are professed to be so empirically grave they intuitively seize international solidarity and, as such, warrant the intervention of international criminal adjudication. This narrative and jurisdictional structure is reflected clearly in the Rome Statute's preamble where the ICC is said to focus on "the most serious crimes of concern to the international community as a whole," which are qualified further as "unimaginable atrocities" that "deeply shock the conscience of humanity."[61] Pursuant to Article 17 of the Statute, jurisdiction is emphasized as only concerned with "the most serious crimes" and prohibiting the ICC from taking on crimes "not of sufficient gravity."[62]

Yet, does this black-on-white doctrine obscure a deeper conceptual and historical tension when it comes to the practice of empirically discriminating what are the "most serious" and "shocking" deaths across international society? Here, again, the rise of social media, and its influence on political discourse today, has resulted in an unprecedented visibility given to an array of culpable and shocking tragedies: e.g. systematic and mass starvation in habitual parts of the globe, the regularized deaths of millions of children each year across the same countries, or the newly systematized pattern of mass drownings of non-European migrants in

[59] Margaret M. deGuzman, *Gravity and the Legitimacy of the International Criminal Court*, 32 FORDHAM INT'L L. J. 1400, 1400-1401 (2008) ("The concept of gravity or seriousness resides at the epicenter of the legal regime of the International Criminal Court. . . Yet despite the acknowledged centrality of gravity to international criminal law, there is virtually no discussion in academic or judicial sources of theoretical basis and doctrinal contours of this concept. . .").

[60] Kevin Jon Heller, *What is an International Crime? (A Revisionist History)*, 58 HARV. INT'L L. J. 353, 354 (2017).

[61] *Rome Statute of the International Criminal Court, preamble, 2187 U.N.T.S. 90 (July 17, 1998),* https://www.icc-cpi.int/resourcelibrary/official-journal/rome-statute.aspx. [hereinafter ROME STATUTE]

[62] *Id.*

the Mediterranean.[63] Yet, these instances stand little chance of accessing the Rome Statute and the ICC.[64] How so?

The doctrinal lawyer simply points to the established and venerated catalogue of the Rome Statute: genocide, crimes against humanity, war crimes and—more recently—aggression.[65] This same lawyer will also acknowledge, in an empathetic tone, that the four-crime catalogue curates a narrow horizon of international outrages and penal prosecutions. A catalogue that reflects a positivist core of international criminal law, and the way state practice and opinio juris define international penalization. As Kevin Jon Heller has emphasized, nearly 150 states have adopted legislation authorizing "their courts to exercise universal jurisdiction over war crimes, crimes against humanity, genocide or aggression."[66] Nevertheless, there is a risk of over-emphasizing this positivist legacy, and undermining a richer history of contingencies in the development of international solidarity, opinio juris and penalization now embodied by the Rome Statute. A concern reflected in Sara Kendall's observation that "much international criminal law scholarship has a positivist focus on decisions and judgments while sidestepping and underlying critical engagement: understood here as the examination of underlying presuppositions and animating forces."[67]

As such, a doctrinal and positivist approach toward the development of the Rome catalogue, while resonating with an internal legal logic, still overlooks the history and force of normative production and contestation. Referring back to Durkheim's insight, a positivistic approach relies on an established legal method to reify, and iconize, a privileged list of international outrages and grave crimes. Yet, in terms of social narratives directed beyond lawyers, this provides a necessary but insufficient justification when one considers that the ICC must face a global audience with myriads of actual and possible victims seeking "international criminal justice."

My emphasis on socially sustainable narratives is of real legal concern and relevance,[68] because the positivist history and practice of the Rome Statute is littered with normative contingencies. For starters, it is important to recall how the drafting history of the Rome Statute, at key points, gave serious consideration

[63] *See* T. Basaran, *The saved and the drowned: Governing indifference in the name of security*, 46 SECURITY DIALOGUE 205, 205 (2015) ("The duty to render assistance at sea appears to be a well-established humanitarian norm; nonetheless, in 2011 alone more than 1500 people drowned in the Mediterranean. Witnesses recount that many could have been rescued if fellow seafarers had not ignored their pleas for help.").

[64] *See* James Boyle, *Ideals and Things: International Legal Scholarship and the Prison-house of Language*, 26 HARV. INT'L L.J. 327, 331-32 (1985) ("[O]ne would have to ignore the central insight that 'social constructs', such as law, do not have some pre-existing shape prior to human intervention. The idea of finding the essence or the real sources of law distracts us from the reality that, in a very important sense, it is being created by our categories and definitions rather than being described by them.").

[65] *See* deGuzman, *supra* note 59, at 1401.

[66] *See* Heller, *supra* note 60, at 357.

[67] Sara Kendall, *A Critique of International Criminal Court Practice*, *in* CRITICAL APPROACHES TO INTERNATIONAL CRIMINAL LAW: AN INTRODUCTION 53, 56-57 (Christine Schwöbel ed., Routledge 2014).

[68] Ronald R. Krebs & Patrick Thaddeus Jackson, *Twisting Tongues and Twisting Arms: The Power of Political Rhetoric*, 13 EUROPEAN J. INT'L REL. 39, 42 (2007).

to longer lists of grave crimes. Notably, the 1991 Draft Code listed not four but twelve crimes: aggression, threat of aggression, intervention, colonial domination and other forms of alien domination, genocide, apartheid, systematic or mass violations of human rights, exceptionally serious war crimes, recruitment, use, financing and training of mercenaries, international terrorism, illicit traffic in narcotic drugs, and willful and severe damage to the environment.[69]

Or, turning to the everyday practice and controversy, the ICC's Office of the Prosecutor (OTP) publicly declines jurisdiction over thousands cases involving some kind of culpable death.[70] This selective in-take,[71] both with respect to the very small number as well as inconsistent kinds of cases, has made the Rome Statute and the ICC vulnerable to an accusation that its brand of ICL is based on a boutique ethos in the pursuit of international criminal prosecutions. For instance, in 2006, the OTP declined proprio mutu jurisdiction over evidence of British war crimes in Iraq on the basis of relatively low numbers of deaths suffered;[72] notwithstanding that later the ICC scrutinized cases involving North Korea, Honduras and Guinea all with similarly lower numbers of deceased.[73]

Consequently, my notion of boutique prosecutions is jolting for institutional sensibilities because the ICC defends prosecution and jurisdictional decisions with reference to a doctrinal threshold of "seriousness" and "gravity." These gatekeeping terms mobilizing semantic determinacy and a vivid geophysical metaphor. Yet, when one looks more closely at when and how the terms "serious" and "gravity" arose in recent decades of international legal deliberation and legislating, what is most striking is the extent to which these gatekeeping terms have exhibited conceptual contestation and operational plasticity on the potential range of international penality.

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[69] International Law Commission, Summary of the Work of the International Law Commission: Draft code of crimes against the peace and security of mankind (Part II), http://legal.un.org/ilc/summaries/7_4.shtml (Accessed 26 Sept. 2018).

[70] *See* The Office of the Prosecutor, ICC, *Report on Preliminary Examination Activities 2013*, Nov. 2013, https://www.icc-cpi.int/OTP%20Reports/otp-report-2013.aspx (Between 1 November 2012 and October 2013, the OTP "received 597 communications relating to article 15 of the Rome Statute of which 503 were manifestly outside the Court's jurisdiction; 21 warranted further analysis; 41 were linked to a situation already under analysis; and 32 were linked to an investigation or prosecution. The Office has received a total of 10,352 article 15 communications since July 2002.").

[71] *See* Margaret M. deGuzman, *Choosing to Prosecute: Expressive Selection at the International Criminal Court*, 33 MICH. J. INT'L L. 265, 271 (2012) (deGuzman refers specifically to a "selectivity threat" facing the ICC: "No aspect of the ICC's work has been more controversial to date than its decisions about which situations and cases to prosecute. Every selection decision the Court makes is scrutinized, and many have given rise to strong criticisms. Such expressions of disapproval have come from each of the ICC's primary evaluative audiences—states, NGOs, communities most affected by the ICC's work, academics, and the global community generally.")*; See also* William Schabas, *Victor's Justice: Selecting 'Situations' at the International Criminal Court*, 43 J. MARSHALL L. REV. 535, 535-36 (2010).

[72] William Schabas, *Prosecutorial Discretion v. Judicial Activism at the International Criminal Court*, 6 J. INT'L CRIM. JUST. 731, 742-43 (2008).

[73] Margaret M. deGuzman, *How Serious Are International Crimes? The Gravity Problem in International Criminal Law*, 51 COLUM. J. TRANSNAT'L L. 18, 42-43 (2012), http://jtl.columbia.edu/wp-content/uploads/sites/4/2014/05/51ColumJTransnatlL18_How-Serious-are-International-Crimes-The-Gravity-Problem-in-International-Criminal-Law.pdf.

What I refer to specifically derives from the under-scrutinized conceptual evolution of the notion of international crime, and how it is historically, legally and politically misleading to characterize the four-crime catalogue as representing an immutable "core." The basis of that inference flowing from how different stages of institutionalization have evolved the doctrinal scope of international crime, which is traceable across the jurisgenerative legacies of the International Military Tribunal at Nuremburg (IMT), the ICTY, the ICTR, and the International Law Commission (ILC). With each of these institutions separately and cumulatively transforming the meaning and ambit of international crime within little over 40 years of international drafting, institutionalization and adjudication.

It is a sequence of transformation that begins with the IMT, and its inaugural conceptualization for international crime based both on the "war nexus" concept and the horrific exemplar of Nazi aggression and Holocaust.[74] Together, these dual features projected a threshold where an international crime needed to occur in a context of international conflict and, further, manifest features of large-scale, systematic and state-directed slaughter. The later rise of the ad hoc tribunals, the ICTY and the ICTR, in the early 1990s reinforced but also profoundly mutated that founding conceptualization and methodology.[75] On the one hand, both ad hoc tribunals consolidated the jurisdictional ambit of ICL by capping the outrages of international crime to the finite doctrinal categories of war crimes, crimes against humanity and genocide. On the other hand, the ICTY, in its renown Tadic case, came to historically dissolve this once essential "war nexus" via the court's watershed assertion that international crimes could actually become recognized outside conventional international conflicts.[76]

Pivotally, it was the ILC, and not the IMT, the ICTY or the ICTR, that came to establish the doctrinal terms gravity and seriousness,[77] where in the 1983 the ILC first proposed and articulated a doctrinal threshold for international crimes using the exact gatekeeping terms of "serious" and "gravity."[78] These two notions then became central semantics and terms for the ensuing ILC negotiations and drafts during the 1990s, which eventually produced the Rome Statute and the institutional birth of the ICC. Yet, when one studies the process of those ILC negotia-

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74 Beth Van Schaack, *The Definition of Crimes Against Humanity: Resolving the Incoherence*, 37 COLUM. J. TRANSNAT'L L. 787, 791 (1998).

75 The later ICTR Statute especially, since Article 3 of that Statute made the watershed change that the charge of crime against humanity only involves "widespread or systematic attack against any civilian population." *See* S.C. Res. 955, ¶ 3 (Nov. 8, 1994).

76 *Prosecutor v. Tadic*, Case No. IT-94-1, ¶¶ 128-37 (Int'l Crim. Trib. for the Former Yugoslavia Oct. 2, 1995).

77 *See generally Report of the International Law Commission on the Work of Its Thirty-Fifth Session*, 2 Y.B. INT'L L. COMM'N 1, 13-14, U.N. Doc. A/CN.4/SER.A/1983/Add.1 (Part 2) (1983), http://legal.un.org/docs/?path=. ./ilc/publications/yearbooks/english/ilc_1983_v2_p2.pdf&lang=EFSRA. (reported it "unanimously agreed" that the Draft Code should include "the most serious of the most serious offences.").

78 *See* Doudou Thiam, *First Report on the Draft Code of Offences Against Peace and Security of Mankind*, 2 Y.B. INT'L L. COMM'N 137, 137-143 (1983). ("It may be that the authors of the Charter of the Nuremberg were struck not so much by the political content of the crimes with which they were concerned as by their gravity, their atrociousness, their scale and their effects on the international community.").

tions, it becomes clear that semantic agreement did not produce a universal understanding on conceptualization and operationalization.[79] In particular, preparatory consultations on the 1994 Draft Statute reveal how the ILC envisioned international crime and future ICL prosecutions to reflect potentially a more expansive catalogue based on not simply so-called "core crimes" of the international humanitarian law e.g. genocide, crimes against humanity and war crimes, but also treaty crimes reaching into a broader map of systematic human rights violations.[80] Regardless, at the Rome Conference in 1998, state delegations rejected summarily the ILC's more expansive "treaty crimes" proposal on the grounds that expansion beyond the "four core crimes" might encompass subjects "insufficiently serious" that "trivialize" the ICC's work.[81]

These differing "core" versus "expansive" approaches on the proper catalogue of international crimes resulted in the terms "serious" and "gravity" being left, ultimately, undefined in the Rome Statute,[82] and further still, under-specified in ensuing prosecutorial policy-making and judicial decisions. That void justified publicly on the grounds that both core and expansive approaches were given some doctrinal purchase within the text of the Rome Statute, while at the same time granting space and time for prosecutorial practices to define, across ensuing jurisprudence, the appropriate jurisdictional balance.[83] However, the examples have been plentiful on the extent to which the OTP[84] and especially the ICC[85] have struggled to evolve doctrinal and empirical metrics on the ex ante operation of the gravity threshold. That critical observation being visible in post-Statute policy-making efforts by the OTP,[86] and most remarkably in the abstraction ex-

[79] *See Report of the International Law Commission on the Work of Its Thirty-Sixth Session*, 2 Y.B. INT'L L. COMM'N 1, at 17, U.N. Doc. A/CN.4/SER.A/1984/Add.1 (Part 2) (1984), http://legal.un.org/docs/?path=. ./ilc/publications/yearbooks/english/ilc_1984_v2_p2.pdf&lang=EFSRA. (The Commission advanced the following determination when some its members pressed for specific *ex ante* criteria on gravity: "The seriousness of an act was judged sometimes according to the motive, sometimes according to the end pursued, sometimes according to the particular nature of the offense the horror and reprobation it arouses, sometime according to the physical extent of the disaster caused. . .").

[80] *Id.*

[81] *See* deGuzman, *supra* note 59, at 1421.

[82] *See* ROME STATUTE, *supra* note 61.

[83] *See* deGuzman, *supra* note 73, at 36.

[84] *See* The Office of the Prosecutor, ICC, *Annex to the "Paper on Some Policy Issues Before the Office of the Prosecutor": Referrals and Communications*, https://www.icc-cpi.int/NR/rdonlyres/278614ED-A8CA-4835-B91D DB7FA7639E02/143706/policy_annex_final_210404.pdf. (The OTP simply asserts that it has a wide discretion.)

[85] *See generally* Prosecutor v. Katanga, ICC-01/04-01, Motion Challenging the Admissibility of the Case by the Defence of Germain Katanga (Nov. 3, 2009); Prosecutor v. Ntaganda Dyilo, ICC-01/04-169, Decision on the Prosecutor's Application for a Warrant of Arrest, Article 58 (July 13, 2006).

[86] The OTP's latest statement on the gravity threshold still only provides a menu of potential criteria and does not articulate an actual liminal policy. *See* The Office of the Prosecutor, ICC, *Draft Policy Paper on Case Selection and Prioritisation* (Feb. 29, 2016), https://www.icc-cpi.int/iccdocs/otp/29.02.16_Draft_Policy-Paper-on-Case-Selection-and-Prioritisation_ENG.pdf. (37. The scale of the crimes may be assessed in light of, inter alia, the number of direct and indirect victims, the extent of the damage caused by the crimes, in particular the bodily or psychological harm caused to the victims and their families, and their geographical or temporal spread (high intensity of the crimes over a brief period or low intensity of crimes over an extended period)).

hibited by the ICC's own appellate chamber. As Judge Pikis revealed with elaborate haziness in the Lubango case:

Which cases are unworthy of consideration of the International Criminal Court? The answer is cases insignificant in themselves; where the criminality on the part of the culprit is wholly marginal; borderline cases. A crime is insignificant in itself if, notwithstanding the fact that it satisfies the formalities of the law, i.e. the insignia of the crimes, bound up with the mens rea and the actus reus, the acts constituting the crimes acts wholly peripheral to the objects of the law in criminalizing the conduct. Both, the inception and the consequences of the crimes must be negligible. In those circumstances the Court need not concern itself with the crime nor will it assume jurisdiction for the trial of such an offence. . . Any other construction of Article 17(1)(d) of the Statute would neutralize its avowed objects and purposes and to a large extent empty it of content. The subject-matter must be minimal, so much so that it can be ignored by the Court.[87]

Accordingly, what actually constitutes sufficient seriousness garners slight specificity from doctrinal formula or policy, and instead appears rooted in other informal and extra-legal comprehensions that international criminal lawyers have been disinclined to interrogate thus far. With the symbolic power and formal semantics of the Rome Statute obfuscating how the legal threshold for gravity is, to a considerable extent, void of jurisdictional certainty. In operational terms this means that while doctrinal law demarcates a boundary for international criminal jurisdiction through a semantics of gravity (i.e. Statute terms, OTP criteria and policy statements, ICC cases), in reality the substance of what gravity means is more encrypted by doctrine and positivism than settled normatively or socially.

This brings us back to Durkheim's earlier emphasis on how penal law is ultimately tied to ruling outrages that represent a particular collective consciousness. In the specific context of international crime, such ruling outrages gain a distinct institutional and symbolic platform via their canonization in the Rome Statute. This platform venerating select types of culpable deaths as grave crimes over othered types of culpable tragedies, which become subaltern and non-grave misfortunes. The positivist narrative relied upon by international criminal lawyers anaesthetizing this bit of doctrinal and social violence, aided conceptually by the rhetorical frame of "core crimes". The implication, sociologically and politically, is the four-crime catalogue might also represent an economy of culpable death, encoded by the legal semantics and grammar of "grave" international outrages and crimes.

It is via this powerful mix of legal formalism, symbolic power and social performance that the Rome Statute comes to discipline the possibilities of international outrages and criminalization, where the positivist tradition of international law stunts capacities to evolve a broader and more resonant social discourse on outrages that shape international penalization. The implications now being the focus of the concluding section that follows.

[87] Prosecutor v. Lubango Dyilo, Case No. ICC-01/04, Decision on the Prosecutor's Application for Warrants of Arrest, ¶¶ 38-39 (July 13, 2006) (See Article 58, Separate and Partly Dissenting Opinion of Judge Georghios M. Pikis).

VI. Conclusion: Ruling Outrages and the Penal Economy of Grave Crimes

This loops our discussion back to where the paper departed vis-à-vis an absent constitutionalism within ICL relative to domestic criminal counterparts. However, using Durkheim's insight we can challenge that seeming void, and even dichotomy between constitutional discourse and ICL. Durkheim's sociology making visible an informal constitution of ruling morality and outrages, which stand beneath the formal stem of the Rome Statute and inscribe selected outrages as exemplars of "international" solidarity.

This brings to fore the question of how does that ruling morality work to privilege certain deaths as international outrages, versus not? Further, what role does ICL play via the Rome Statute in that moral and criminal ordering of international outrages? Or, more tangibly, how does ICL come to distinguish gravity between, for example, thousands killed systematically through military slaughter versus regularized mass starvation and malnourishment? How much work does doctrinal and positivist law actually perform with respect to such empirical determinations of gravity? What does this all reveal about an informal constitution of international criminal law?

My excavation of Durkheim has produced two key insights that address these questions, but in a manner where ICL is not taken to be a sui generis doctrinal or penal species of "international criminal justice". Instead, ICL is engaged as a socio-legal project with constitutional dimensions that international lawyers can ill-afford to discount. First and foremost, a Durkheimian reading sharpens focus on what has been the largely ignored relationship between solidarity and international penal law, with such unfamiliarity stemming from how formalization engenders a technical ethos that focuses on applying the Rome Statute as settled law. What Durkheim highlights usefully for international lawyers is how international crimes and penality are immersed in far more than just doctrinal law and application. The Rome Statute is also an asset of symbolic, and even sacral, power because its text venerates what are the "grave" outrages of the reigning international order. This means, in effect, that the Rome Statute is a powerful tool of symbolic exclusion because its status as the doctrinal catalogue dulls scrutiny into an underlying penal economy of sanctioned (e.g. systematized starvation) versus non-sanctioned (e.g. military atrocities) deaths. In other words, this symbolic force of the Statute dampens prospects for ongoing reflection and revision on what are "grave" international outrages.

Second, flowing from this emphasis on ruling morality, Durkheim's further focus on a "collective consciousness" helps problematize a managerial ethos that is visible publicly in the operation of the Rome Statute. An elite lawyer class applies and operates the workings of the Rome Statute, which produces a distinct public space governed by the technical tools and protocols of the international criminal lawyer. Yet, the rule of that lawyer class has remained largely under-

examined,[88] because the symbolic force of the Rome Statute, and its four-crime catalogue, projects an intrinsic and naturalized order of what international crime is and should be. All the while, the Statute's symbolic height disciplines the bounds of imagined collective consciousness on what counts as a true international (criminal) outrage.[89]

In conclusion, the Rome Statute is more than a doctrinal text or convention of international law. Sociologically, its catalogue is a symbolic marker that borders what grave deaths are worthy of international outrage and jurisdiction. Put another way, the Statute is bounded by more than its legal list of crimes but, further, by a symbolism that blunts liminal inquiry into the subject that crucially defines its jurisdiction: the gravity of killing that offends international consciousness. This brings into question what Durkheim flagged as the essential social and subjective core of penal law: how a solidary "we" informs and ignites what alleged crimes define the highest moral outrage and purpose of international penal law. In the case of the Rome Statute and the ICC, the heavy extent to which that international "we" has become managed by doctrinal legalism and sacral symbolism influences the potential depth of solidarity enacted through the workings of international crime and punishment. This perhaps sheds light on social violence committed when the possibility of constitutional discourse is dismissed as incompatible with the idiom, grammar and legalism of ICL.

We become confronted thus by a perplexing implication, which derives from frequent assertions that "international criminal justice" is an exceptional doctrinal species. Foremost, this exceptionalism has undermined the full gaze of legal, political and, ultimately, constitutional scrutiny, resulting in structural outcomes that are unsustainable for the ICC in the longer term. Notably as: the Global North versus Global South experiencing very uneven levels of international criminal investigation and actual prosecutions; or, the so-called fight against impunity generating stark racial demographics vis-à-vis who in actual practice faces criminal accountability.

Put another way, the Rome Statute and the ICC have constructed, whether intended or not, an altar of grave international crimes, which imposes its hierarchy of killing over multiple kinds of outrageous deaths the world over. The gravity threshold being a doctrinal device that seeks to control access to what is and should be a grave (international) crime. Yet, Durkheim reminds us of the close social relationship between all penal law and ruling outrages, and this imparts to international criminal lawyers the importance of staying attentive to that evolving sociology and politics of international outrages. Should my altar metaphor prove apt, this suggests the presumed exceptionalism of "international criminal justice" from ordinary social and constitutional considerations may in fact produce an occupational hazard.

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[88] *See* Immi Tallgren, *Who Are 'We' in International Criminal Law? On Critics and Membership*, *in* CRITICAL APPROACHES TO INTERNATIONAL CRIMINAL LAW: AN INTRODUCTION 71 (Christine Schwöbel ed., Routledge 2014).

[89] On imagination and states of national (collective) consciousness, *see* Benedict Anderson, *Imagined Communities: Reflections on the Origins and Spread of Nationalism* (Verso, 1991).

WATER INSECURITY AND CLIMATE CHANGE AS EMERGING HUMAN MIGRATION PRESSURES

Michael Tiboris

I. Introduction[1]

Water insecurity is the inability of a population to reliably gather adequate water of acceptable quality to simultaneously meet its needs for health, well-being, and basic economic development.[2] Reflecting on this definition one is struck by how much has to go right in order for a population to be water secure. Even under circumstances of relative abundance, water must be managed well—properly treated and transported—with economic uses balanced against ecological consequences and shared sources governed by law and policy. The immediacy of the emergency caused by a sudden drop in availability or quality is unusually destabilizing.[3] This underscores the extent to which water insecurity, and its consequences, are fundamentally mediated by human institutions and policies. Scarcity, even if quite deep, does not automatically result in lower quality health, well-being, or development, but it makes careful governance and thoughtful planning all the more important.[4]

Climate change raises the stakes and creates new crises. Since the publication of the International Panel on Climate Change's First Assessment Report in 1990, an enormous volume of scientific research on the effects of climate change has painted an increasingly dire picture.[5] Carbon emissions have not slowed sufficiently in the interim and halting international political efforts to reverse carbon emissions allow us to predict a near-term future that is both profoundly changed for the negative and almost unavoidable.[6] Passing the established threshold of a 1.5°C global average temperature increase above pre-industrial levels, which we are likely to do, will put hundreds of millions of people at risk of food insecurity,

[1] Thanks to Michelle David for research assistance and editing.

[2] *E.g.,* U.N. Water, *Water Security and the Global Water Agenda* (Mar. 22, 2013), https://collections.unu.edu/eserv/UNU:2651/Water-Security-and-the-Global-Water-Agenda.pdf; Brahma Chellaney, WATER, PEACE, AND WAR: CONFRONTING THE GLOBAL WATER CRISIS 26 (2015); Colin H. Kahl, STATES, SCARCITY, AND CIVIL STRIFE IN THE DEVELOPING WORLD 11 (2008); Colleen Devlin & Cullen S. Hendrix, *Trends and Triggers Redux: Climate Change, Rainfall, and Interstate Conflict*, 43 POL. GEOGRAPHY 27, 28–30 (2014).

[3] Scott Moore, SUBNATIONAL HYDROPOLITICS: CONFLICT, COOPERATION, AND INSTITUTION-BUILDING IN SHARED RIVER BASINS 8 (2018); Joshua Busby, WATER AND U.S. NATIONAL SECURITY 6 (2017), https://cfrd8-files.cfr.org/sites/default/files/pdf/2017/01/Discussion_Paper_Busby_Water_and_US_Security_OR.pdf.

[4] Moore, *supra* note 3, at 8; Busby, *supra* note 3, at 6.

[5] IPCC Working Group I, *Climate Change: The IPCC Scientific Assessment*, at 7-8 (1990), https://www.ipcc.ch/publications_and_data/publications_ipcc_first_assessment_1990_wg1.shtml.

[6] The IPCC's most current special report collects impacts of global warming of 1.5°C above pre-industrial levels related to greenhouse gas emissions. IPCC, *Global Warming of 1.5°C*, at 8, Doc. SR1.5 (Oct. 6, 2018), http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf.

water stress, and poverty.[7] Water insecurity is already quite common in the developing world. About 1.2 billion people live with physical water scarcity, where water consumption is greater than seventy-five percent of renewable supply. Even when water is available, a population may not have the technical or financial means to access it. An additional 1.6 billion people live with this sort of "economic scarcity."[8] Water insecurity clusters in low-and-middle-income countries in Sub-Saharan Africa and Central and South Asia and, within those populations, is most severe for the poor, rural populations, and women.[9] This is set to become considerably worse in the coming decades because the communities most affected by scarcity are also the least prepared to adapt to and recover from climate change.[10] This is by no means, however, a problem limited to the global poor. Cape Town, South Africa's recent water crisis demonstrates the extent to which climate change is likely to make water security a challenge even for wealthier places, historically thought to be paradigms of aggressive climate preparedness.[11] We do not have to wait for some distant future to see the effects of climate on water resources, but we should expect them to intensify significantly in the coming decades.[12] One likely consequence of this will be increased human migration away from chronic water insecurity.[13] Again, this is not just a future problem. Migration patterns toward cities in Bangladesh, for instance, display a retreat from salinized soil caused by flooding, seawater intrusion, and poor irrigation practice.[14] Other environmental migration

[7] *Id.* at 8-12.

[8] Peter H. Gleick et al., THE WORLD'S WATER: THE BIENNIAL REPORT ON FRESHWATER RESOURCES 2 (2014).

[9] *Id.* at 3.

[10] Z. W. Kundzewicz et al., *The Implications of Projected Climate Change for Freshwater Resources and Their Management*, 53 HYDROLOGICAL SCIENCES J. 3, 3–10 (2008) (stressing the need for research to better understand "how climate change might affect freshwater and to assist water managers who need to adapt to climate change.").

[11] Brett Walton, *Cape Town's Harrowing Journey to the Brink of Water Catastrophe*, CIRCLE OF BLUE (July 12, 2018), https://www.circleofblue.org/2018/world/cape-towns-harrowing-journey-to-the-brink-of-water-catastrophe/.

[12] Blanca E. Jiménez Cisneros & Taikan Oki, et al., *Freshwater Resources, in* CLIMATE CHANGE 2014: IMPACTS, ADAPTATION, AND VULNERABILITY 234–36 (2014), https://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap3_FINAL.pdf.

[13] Richard Black et al., *The effect of environmental change on human migration*, GLOB. ENVTL. CHANGE S3, S8 (2011); M. MILETTO ET AL., MIGRATION AND ITS INTERDEPENDENCIES WITH WATER SCARCITY, GENDER AND YOUTH EMPLOYMENT (2017); Rafael Reuveny, *Climate Change-Induced Migration and Violent Conflict*, 26 POL. GEOGRAPHY 656, 658, 662 (2007); Julia Toscano, *Climate Change Displacement and Forced Migration: An International Crisis,* 6 ARIZ. J. ENVTL. L. & POL'Y 457, 462 (2015); Koko Warner et al., *Climate Change, Environmental Degradation and Migration*, 55 NAT. HAZARDS 689, 694 (2010); JEFFREY D. SACHS, THE AGE OF SUSTAINABLE DEVELOPMENT 333 (2015).

[14] Ram Mukul Fishman et al., *Over-Extraction from Shallow Bedrock Versus Deep Alluvial Aquifers: Reliability Versus Sustainability Considerations for India's Groundwater Irrigation*, 47 WATER RESOURCES RES. 1, 3 (2011), https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2011WR010617; Richard Marshall and Shibaab Rahman, INTERNAL MIGRATION IN BANGLADESH: CHARACTER, DRIVERS AND POLICY ISSUES 6, 25 (UNDP 2013), http://www.bd.undp.org/content/dam/bangladesh/docs/Publications/Pub-2013/Internal%20Migration%20in%20Bangladesh%20UNDP%20Final.pdf; *see* Michael Gillan, *Refugees or Infiltrators? The Bharatiya Janata Party and "Illegal" Migration from Bangladesh*, 26 ASIAN STUD. REV. 73, 75–76 (2002).

hotspots include Central and East Africa, Central Asia, rural China, and the Caribbean.[15]

Human migration is becoming a major logistical and political challenge which we can expect to get progressively worse with the destabilizing effects of climate change.[16] People move for many reasons, of course, some of them quite positive. Water and climate are only two of a complex set of reasons for migration and are both complex motivators in their own right. But water is potentially special in this context—the need for it is constant and urgent, its management is exceptionally complex, and it is directly affected by climate change.

This article begins with what we know about the relationship between water insecurity and the population vulnerable to human migration as a result of water in security. This is followed by a brief description of the relevant international legal instruments relevant to water-related migration. It then discusses the interaction between emerging conceptions of water rights, the authority of states to restrict migration, and the degree to which responsibility to protect water migrants can be globalized. I will argue that we cannot adequately distinguish between migration resulting from physical scarcity and failures of governance and that this ought to have consequences for our views about state obligations to accommodate migration. The article concludes with some suggestions about legal and policy instruments that would help us better respond to the expected increase in water migration.

II. Background

a. Water Insecurity as a Cause of Human Migration

The causes of human migration in any particular case are irreducibly complex and context-dependent.[17] As a result, a cottage research industry has popped up to argue that, because individual factors like "water scarcity" are rarely unambiguously identified as causal factors, climate migration does not describe a real or emerging challenge.[18] It does not follow from complexity, however, that climate change or its water security consequences are not causally significant ele-

[15] Alex de Sherbinin, *Climate Change Hotspots Mapping: What Have We Learned?*, 123 CLIMATIC CHANGE 23, 28 (2014); *see* Warner et al., *supra* note 13, at 692, 702. R

[16] *See generally* Mostafa Mahmud Naser, *Climate Change, Environmental Degradation, and Migration: A Complex Nexus*, 36 WM. & MARY ENV'T. L. & POL'Y REV. 713, 721, 732–33 (2011) (In this article, I will use the terms "migration" and "displacement," interchangeably. The word, "Refugee," will be reserved for describing the legal status of a person who is entitled to special status or protections on account of being displaced or migrating.).

[17] Black et al., *supra* note 13 (provide a comprehensive conceptual framework for thinking about the causes of environmental migration. It demonstrates the degree to which the concept of "environmental migration" is both a unique phenomenon and one of a variety of familiar migratory pressures.). R

[18] INTERNATIONAL ORGANIZATION FOR MIGRATION [IOM], MIGRATION, THE ENVIRONMENT AND CLIMATE CHANGE: ASSESSING THE EVIDENCE 14 (Frank Laczko and Christine Aghazarm eds. 2010), https://publications.iom.int/system/files/pdf/migration_and_environment.pdf; Betsy Hartmann, *Rethinking Climate refugees and Climate Conflict: Rhetoric, Reality and the Politics Of Policy Discourse*, 22 J. INT. DEV. STUDIES ASSOCIATION 233–246 (2010); Olivia V. Dun & François Gemenne, *Defining 'Environmental Migration'*, 31 FORCED MIGRATION REV. 10, 10 (2008); *see* James Morrissey, *Rural-Urban Migration in Ethiopia*, 31 FORCED MIGRATION REV. 28, 28–29 (2008).

ments of migration. The inability to isolate particular elements of water insecurity as direct and close to singular causes of migration does not show that it is not a real causal factor in migration, only that it is part of a complex story that includes both environmental and socio-economic and political pressures. That water insecurity is causally related to migration is relevant primarily as a premise in a larger argument about how we can appropriately respond to migration and its consequences. What we need to know about the relationship between water, climate, and migration is framed from the start by the policy discussion that follows it. Water migrants are moving both because they have an immediate need that they cannot fill through no or little individual fault because it either arises from natural scarcity or the collective contributions of humans to climate change. Nevertheless, their movement creates serious stresses on the communities they are leaving, passing through, and entering. What we want to know is how to resolve migrants' reasonable demand for better conditions and reasonable demands by others that their own conditions not be unfairly destabilized. Thus, we ought to be looking for links between water insecurity and migration which elucidate the basis for these demands and the way that they interact with the social forces that make movement and conflict attractive. This cannot be done by simply comparing levels of water access and the number of people who report moving. The value of any causal link between water insecurity and migration must be evaluated on the basis of whether it helps us better understand and respond to problems like this.[19]

There are a host of issues that deserve careful discussion at the intersection of climate migration and international law. Here I will focus on a narrower issue: what does water insecurity-related climate migration imply for border regimes across which migrants must pass?[20] If it is likely that water insecurity will lead to more displacement and human migration, an increasing number of people will have to cross borders to find more suitable places to live. Even without the additional inputs of climate change and water scarcity, migration pits the normative commitments of states to protect their citizens' entitlements to a share of domestic resources from non-citizens against the dire humanitarian needs of people who are perhaps badly off through no fault or choice of their own. There are several complicating issues, within this familiar problem of patriotic partiality, related specifically to climate change because the populations that are the main

[19] Wendy Jepson et al., *Advancing Human Capabilities for Water Security: A Relational Approach*, 1 WATER SECURITY 46, 50 (2017).

[20] By "climate migration" I mean the forced or voluntary movement of people resulting from the direct or indirect effects of climate-related environmental changes. This includes movement in response to things like storms and droughts, but does not include movement in response to, for example, industrial environmental degradation. This is a necessarily hazy distinction and particular cases are almost always up for debate in their relation to climate change because they result from discrete weather or scarcity events which precipitate movement, and not the general phenomenon of "climate change." By "border regime" I mean the collection of legal, political, and social mechanisms that establish and regulate the spatial borders between groups. Most commonly this refers to the actual national borders of a state which separate citizens of different countries. But it can also refer to sub-national institutional or even ethnic barriers that in some way constrain the free movement of people and define their life options. This is, again, a fuzzy concept, but it is important that it be able to capture the idea that a large amount of conflict over water resources happens at the sub-state level. MOORE, *supra* note 3 at 9, 62. R

contributors to climate change are not necessarily the ones that must deal with its migration consequences most directly. Water insecurity, in particular, is complicating because the naturally uneven distribution of water on the planet can mean that scarcity is not any particular groups' fault. The very feature of water insecurity that makes it so compelling as a humanitarian case also makes it unclear who, from the perspective of international law, is responsible for ensuring greater water access.

What is clear, however, is that water insecurity is increasing globally. While significant progress has been made in drinking water access over the last fifteen years, the absolute numbers of people with poor water access are still very high. An estimated 663 million people have no access to drinking water sources within thirty minutes of their home.[21] Even if water sources are closer, they are often unsafe. An estimated two billion people drink from sources contaminated with human waste.[22] Waterborne disease affects more than 1.5 billion people every year, and its most common symptom, diarrhea, kills 1.2 million children annually.[23]

One of the obstacles to improving global water access is that demand for water has continued to rise at levels far exceeding the rate of population increase. This reflects not only population increases but the fact that humans are consuming more water per capita than they have historically.[24] Urban populations consume more water per capita both because their infrastructure tends to be more water intensive and because emerging middle-class wealth generates demand for personal goods and a diets which require more water to produce.[25] The high rates of urbanization and population growth across the developing world suggest a future of greater inter-sectoral competition for a decreasing stock of renewable water resources. These trends have already begun to strain global water resources. Over the last fifty years alone, global per capita freshwater availability has decreased by thirty-seven percent.[26] Many countries report rates of water consumption that far exceed their capacity for natural replenishment.[27]

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[21] UNICEF & WHO, *Progress on Drinking Water, Sanitation and Hygiene: 2017 Update and SDG Baselines*, at 3 (2017), https://www.unicef.org/publications/index_96611.html.

[22] *Drinking-Water,* WHO (Feb. 7, 2018), http://www.who.int/news-room/fact-sheets/detail/drinking-water.

[23] UNICEF, *supra* note 21; UNICEF & WHO, *Diarrhoea: Why Children Are Still Dying and What Can Be Done*, at 13, 20 (2009), http://www.who.int/maternal_child_adolescent/documents/9789241598415/en/. R

[24] WBG, Turbulent Waters: Pursuing Water Security in Fragile Contexts 28 (2017), http://documents.worldbank.org/curated/en/885171489432062054/Turbulent-waters-pursuing-water-security-in-fragile-contexts; Johan Rockström et al., *Future Water Availability for Global Food Production: The Potential of Green Water for Increasing Resilience to Global Change*, 45 Water Res. 1, 5 (2009) https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2007WR006767.

[25] Willa Paterson et al., *Water Footprint of Cities: A Review and Suggestions for Future Research*, 7 Sustainability 8461, 8470 (2015).

[26] Jennyfer Wolf et al., *An Exploration of Multilevel Modeling for Estimating Access to Drinking-Water and Sanitation*, 11 J. Water & Health 64, 64–77 (2013).

[27] *Study: Third of Big Groundwater Basins in Distress*, NASA (June 16, 2015), http://www.jpl.nasa.gov/news/news.php?feature=4626.

Water Insecurity and Climate Change

The UN expects 1.8 billion people will live in regions facing critical water scarcity by 2025.[28] Longer term predictions are hard to verify because the effects of climate change are uncertain. But even without absolute certainty, it is well within reason to expect higher sea levels, more intense and frequent major storms, and more seasonable precipitation.[29] All three of these are likely to displace people in urban places in particular. The UN estimates that forty-four percent of the world's population lives within 150 kilometers of the coast and is likely to be affected by flooding and storms.[30] Coastal populations are growing rapidly in both Africa and China. Cities, and for that matter agriculture and heavy water infrastructure, are built where they are to exploit consistent water resources. The central threat of climate change in this context is that we are likely to see these water sources move away from the places we have invested in building. Over the long term, either water must be moved back to these locations or the populations themselves must move.

Climate migration is not a new phenomenon, but the intensity of research over the last thirty years has revealed a growing amount of displacement and voluntary movement related to environmental changes.[31] The Internal Displacement Monitoring Centre (IDMC) reports that between 2008 and 106, 227.6 million people were forced to move because of sudden natural disasters.[32] Slower changes with a longer timescale also appear related to migration rates and spikes in violence.[33] While there are wide differences in exact predictions depending on definitions of migration and climate change impacts, there is little question that millions of people will move, especially in Africa and Asia, in response to environmental changes over the next century.[34] The empirical research on the exact

[28] U.N. Water, *Managing Water under Uncertainty and Risk,* WWDR4, at 196 (2012), http://unesdoc.unesco.org/images/0021/002156/215644e.pdf; *see generally* FOA, *Coping with Water Scarcity: An Action Framework for Agriculture and Food Security* (2017), http://www.fao.org/docrep/016/i3015e/i3015e.pdf (acknowledging the significant problem of water scarcity and providing a conceptual framework to address food and water security).

[29] Kundzewicz et al., *supra* note 10, at 5.

[30] *Human Settlements on the Coast*, UN ATLAS OF THE OCEANS, http://www.oceansatlas.org/subtopic/en/c/114/ (last visited Sept. 28, 2018).

[31] *E.g.*, 31 FORCED MITIGATION REVIEW (Marion Couldrey & Maurice Herson eds. Oct. 2008), https://reliefweb.int/report/world/forced-migration-review-no-31-climate-change-and-displacement (collecting articles regarding climate change and displacement); Warner et al., *supra* note 13; Toscano, *supra* note 13; ETIENNE PIGUET, NEW ISSUES IN REFUGEE RESEARCH: CLIMATE CHANGE AND FORCED MIGRATION, RESEARCH PAPER NO. 153 (UNHCR Jan. 2008); Naser, *supra* note 16; Norman Myers, *Environmental Refugees: A Growing Phenomenon of the 21st Century*, 357 PHIL. TRANS. OF THE ROYAL SOC. 609, 609–613 (2002).

[32] INTERNATIONAL MONITORING DISPLACEMENT CENTRE, GLOBAL REPORT ON INTERNAL DISPLACEMENT (May 2018), http://www.internal-displacement.org/global-report/grid2018/downloads/2018-GRID.pdf.

[33] *See generally* Alex Evans, *Resource Scarcity, Climate Change and the Risk of Violent Conflict*, World Development Report Background Paper (2011) (assessing how natural resource scarcity and global climate change may alter the risk of violent conflict in the future); *compare* Ragnhild Nordås & Nils Petter Gleditsch, *Climate Change and Conflict*, 26 POL. GEOGRAPHY 627, 635 (2007) (asserting, "While it is possible that climate change may lead to more conflict in the future, it has not so far caused a reversal of the current trend towards a more peaceful world.").

[34] Frank Biermann & Ingrid Boas, *Protecting Climate Refugees: The Case for a Global Protocol*, 50 ENV'T: SCIENCE & POL'Y FOR SUSTAINABLE DEV. 8, 10 (2011), https://www.tandfonline.com/doi/abs/

numbers of expected migrants is controversial and shows wide variations both because it is a prediction based on an uncertain future and because the methodology of studies is inconsistent.[35] It is a mistake, however, to take this as a reason to ignore the phenomenon. The range of predictions, while wide, has about twenty-five million people displaced on even the most conservative estimates.[36] Even if the number of people who will actually move are on the low end of predictions, there are strong policy and legal reasons for anticipating this will be a continuing problem which deserves thoughtful planning to avoid the worst outcomes. It is also a mistake to think of displacement as a future eventuality when there are currently tens of millions of people who are reasonably classified as environmental migrants.[37]

b. Population Vulnerability

Under what conditions does water insecurity cause people to move? The large number of attempts to describe the causes and conditions of environmental migration yield a few common categories for assessing the causes of displacement.[38] These are significant for the law and moral justifications for intervention because they pick out different relationships between peoples' decisions to move, the nature of the environmental conditions, and the scope of their consequences. Roughly, these categories include people who are:

i. Displaced by rising sea levels

ii. Displaced by sudden-onset disasters including hurricanes, flooding, heat, and drought

iii. Displaced by progressive degradation in water quantity or quality essential for meeting basic needs

iv. Displaced by a sudden or progressive increase in the number of people arriving as a result of migration from elsewhere, which results in new water stress in the host community

(i) and (ii) are distinguished by their timescale and the permanency of relocation. (iii) is distinguished from (ii) by timescale and permanency. In the case of saltwater intrusion, (iii) might be caused by (i), but it emphasizes displacement related to quality and availability rather physical displacement by rising water. (iv) is distinguished from the rest by the fact that it is caused by migration from

10.3200/ENVT.50.6.8-17#aHR0cHM6Ly93d3cudGFuZGZvbmxpbmUuY29tL2RvaS9wZGYvMTAuMzIwMC9FTlZULjUwLjYuOC0xNz9uZWVkQWNjZXNzPXRydWVAQEAw.

[35] *Id.;* Black et al., *supra* note 13; Naser, *supra* note 16. R

[36] Dana Zartner Falstrom, *Stemming the flow of environmental displacement: creating a convention to protect persons and preserve the environment*, 13 COLO. J. INT'L ENV'T. L. & POL'Y 1, 4 (2002).

[37] *Id.*

[38] *E.g.*, Naser, *supra* note 16; Myers, *supra* note 31; PIGUET, *supra* note 31; Warner et al., *supra* note 13; Reuveny, *supra* note 13; FABRICE G. RENAUD ET AL., CONTROL, ADAPT OR FLEE: HOW TO FACE ENVIRONMENTAL MIGRATION? No. 5/2001 (2007); U.N. Office for the Coordination of Humanitarian Affairs et al., *Monitoring Disaster Displacement In The Context Of Climate Change* (Sept. 2009), http://www.internal-displacement.org/sites/default/files/publications/documents/200909-monitoring-disaster-displacement-thematic-en.pdf. R

somewhere else. It is also the least common but expected to become more common over time as global conditions deteriorate.[39] There is no question that the distinctions between these are less-than-firm, but they are worth separating, at least intellectually because each requires different tactics for resiliency and recovery.

Migration is, for many, an adaptation strategy. Given the conditions that water migrants are leaving, it holds the potential to improve the quality of their life. This depends, however, on finding sustainable and stable conditions into which to move. A large enough influx of migrants to a water secure area can run the risk of turning it into a water insecure one. The Syrian civil war has been cited extensively as a case in which poor water policy contributed to conflict and internal migration by heavily subsidizing water extraction on the eve of a profound drought, leading to agricultural collapse.[40] Internal population and dissatisfaction with the government precipitated conflict, and the following civil war produced massive external migration into Jordan, Syria's southern neighbor. Jordan has its own serious water access issues. It is one of the driest countries in the world, with per capita water availability of about 125 L/day, which is already below the global average of 200-300 L/person/day.[41] The Zaatari refugee camp contained more than 80,000 registered refugees in northern Jordan, becoming one of the country's largest cities. While the National Water Strategy, produced before this wave of refugees arrived, planned for greater water security in Jordan by 2022, it was based on a population projection that was exceeded rapidly once refugees began arriving. This sort of case in which migration—whatever its cause—contributes to water insecurity in the host community is likely to be repeated in the many places globally where scarcity is geographically broader than any one political border. Water insecurity is, in sum, both cause and effect of migration.[42]

The linear story about scarcity, environmental degradation, migration, and conflict is certainly attractive and compelling. The problem is that it is almost certainly too simplistic to be correct. Scarcity, even deep and chronic scarcity, is

[39] Reuveny, *supra* note 13. **R**

[40] Peter H. Gleick, *Water, Drought, Climate Change, and Conflict in Syria*, 6 WEATHER, CLIMATE, & SOCIETY 331, 331–340 (2014); Francesca De Châtel, *The Role of Drought and Climate Change in the Syrian Uprising: Untangling the Triggers of the Revolution*, 50 MIDDLE EASTERN STUDIES 521, 521–535 (2014); Colin P. Kelley et al., *Climate change in the Fertile Crescent and implications of the recent Syrian drought*, 112 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES 3241, 3241 (2015); Marcus DuBois King, *The weaponization of water in Syria and Iraq*, 38 THE WASHINGTON QUARTERLY 153, 153–169 (2015); John Wendle, *Syria's Climate Refugees.*, 314 SCIENTIFIC AMERICAN 50, 50 (2016); Kitty van der Heijden, et al., *Beyond Conflict, Water Stress Contributed to Europe's Migration Crisis*, WORLD RESOURCES INSTITUTE (Nov. 3, 2015), https://www.wri.org/blog/2015/11/beyond-conflict-water-stress-contributed-europe-s-migration-crisis (last visited Sep 27, 2018); Michael Tiboris, *Jordan's Water Woes, Are a Wellspring of Mideast Strife*, THE NATIONAL INTEREST (Dec. 11, 2015), https://nationalinterest.org/feature/jordans-water-woes-are-wellspring-mideast-strife-14579.

[41] Kevin Watkins et al., HUMAN DEVELOPMENT REPORT 2006, (UNDP 2006), http://hdr.undp.org/sites/default/files/reports/267/hdr06-complete.pdf; Jordanian Ministry of Water and Irrigation, *Jordan Water Sector Facts and Figures*, USAID, https://jordankmportal.com/resources/jordan-water-sector-facts-and-figures-1 (last visited Oct. 8, 2018).

[42] Tobias Hagmann, *Confronting the Concept of Environmentally Induced Conflict*, 6 PEACE, CONFLICT & DEV. 1, 1–22 (2005); PIGUET, *supra* note 31; Ashok Swain, *Environmental Migration and Conflict Dynamics: Focus on Developing Regions*, 17 THIRD WORLD QUARTERLY 959, 959–974 (1996).

not by itself a predictor of water conflict or water migration.[43] The direct connection between low water access and migration is not a good model for thinking about water migration.[44] This significantly complicates the account given above. Contemporary research on this topic has begun to shift, rightly, toward more complex models of environmental displacement as well as an emphasis on case studies, rather than global assessments, which incorrectly suggest an easy-to-understand uniformity in environmental migration.[45] The particular problem this research identifies is that environmental change is treated as an acute "hazard."[46] The sense that this is inadequate is already present in the effort to distinguish hazards that have shorter and longer timescales, but this seems to miss the point that migration is inextricably a social phenomenon and rarely has the linear character of hazard to expulsion.[47] To take the more complex analytical approach suggests that environmental change is a contributing element of migration decisions that cannot reasonably be separated from other sorts of migration decisions. Developing models for treating water migration as a distinct sort of hazard that increases vulnerability for migration independently of social, economic, and political conditions is attractive only as a simplified media narrative. Alternative models are empirically messy but improve our ability to identify vulnerable populations and, as I will argue below, influence the way in which water migration should be understood by legal frameworks.

Rejecting a linear, hazard-based account of water migration does not mean that we cannot identify any meaningful and useful patterns in water insecurity and human migration. Instead, it means that these pathways must be treated as mechanisms which are inconsistently and variably present but nevertheless significant for understanding people's decisions to migrate and how we ought, legally, practically, and politically, to respond to them. This provides a "toolbox" for understanding water migration rather than universal constants in their causation. Black *et al.*, identify five rough drivers of migration which are useful for framing these mechanisms—economic, political, demographic, social, and environmental.[48] Poverty is the main concern when it comes to water access and exposure to disasters. The global poor have the highest rates of water insecurity and overwhelmingly bear the brunt of the destabilizing consequences of poor

[43] Moore, *supra* note 3; Aaron T. Wolf, *Conflict and Cooperation Along International Waterways*, 1 WATER POL'Y 251, 251–265 (1998). R

[44] Black et al., *supra* note 13. R

[45] *See generally* Warner et al., *supra* note 13; Sabine L. Perch-Nielsen et al., *Exploring the Link Between Climate Change and Migration*, 91 CLIMATIC CHANGE 375, 375 (2008); Black et al., *supra* note 13; Edward R. Carr, *Placing the Environment in Migration: Environment, Economy, and Power in Ghana's Central Region*, 37 ENV'T & PLANNING A 925, 925–946 (2005). *See also* Sarfaraz Alam, *Environmentally Induced Migration from Bangladesh to India*, 27 STRATEGIC ANALYSIS 422, 422–438 (2003); Alisson Flavio Barbieri & Ulisses EC Confalonieri, *Climate Change, Migration And Health: Exploring Potential Scenarios of Population Vulnerability in Brazil*, MIGRATION & CLIMATE CHANGE 49, 49–73 (2011); Sabine Henry et al., *Modelling Inter-Provincial Migration in Burkina Faso, West Africa: The Role Of Socio-Demographic and Environmental Factors*, 23 APPLIED GEOGRAPHY 115, 115–136 (2003). R R

[46] Black et al., *supra* note 13, at S4. R

[47] *Id.*; Jepson et al., *supra* note 19. R

[48] Black et al., *supra* note 13, at S6-S7. R

water access.[49] Government policy has direct effects on water security as well. Decisions to privilege polluting industries, or unsustainable patterns of agricultural water usage, have a direct impact on social stability and migration.[50] Population movement and competition between groups over declining water supplies are essentially political problems where management of shared resource is inadequate. "Social drivers" describe patterns of migration created by social connections between places, which make them attractive pathways for any sort of migration. An example of this is historical migration to the United States in which immigrants formed ethnic neighborhood communities in American cities, attracting increasing numbers of immigrants from that particular ethnic group. But it also includes economic pathways of remittances, which can make physical migration more or less likely in the place receiving them.[51] Finally, environmental drivers are the physical ecosystem conditions which include at least items (1) – (3) in the "hazard" analysis. The dramatically increased complexity of this framework allows us to avoid some problems for understanding water migration, but it creates others.

For example, it helps explain why we should not expect to see migration as a necessary upshot of water scarcity. Societies with a cultural history of confronting water scarcity have found ways to adapt to those conditions.[52] This stability is often hard fought and tenuous. The fact that living with scarcity becomes, of necessity, a part of the population's cultural identity has the potential to transform technical changes in supply into a cultural affront. This is apparent in places like Egypt, which almost totally dependent on the Nile for its water.[53] Upstream development of the Blue Nile, especially by Ethiopia, has become a tense diplomatic challenge that the Egyptian government regards as an existential threat. In other places, an abundant water supply is not enough to prevent migration and conflict. In fact, both unusually high rain intensity and the *perception* of unusual seasonal water availability are positively correlated with conflict and militant activity. But too much rain at the wrong times also has the capacity to cause food insecurity-linked migration.[54] Whether the issue is scarcity or unusual abundance, the connections between environmental conditions and human behavior depend on understanding the social conditions which make scarcity a vulnerability.

On the other hand, the more complex analysis of environmental migration makes it difficult to argue that water migration, or even environmental migration more broadly, is a special case which deserves unique sorts of legal protection. If almost any individual putative case has to be understood as irreducibly linked to

[49] UNICEF, *supra* note 21. R

[50] Jeffrey D. Sachs, *supra* note 13. R

[51] Black, *supra* note 13. R

[52] Colin H. Kahl, *supra* note 11.

[53] Richard Kyle Paisley, *Why the 11 countries that rely on the Nile need to reach a river deal soon,* THE CONVERSATION (Aug. 27, 2017), http://theconversation.com/why-the-11-countries-that-rely-on-the-nile-need-to-reach-a-river-deal-soon-75868.

[54] Devlin &. Hendrix, *supra* note 2.

some social, demographic, economic, or political conditions, it is unclear what separates it from other forms of migration. This, I think, may turn out to be a blessing if properly understood. But before turning to the reasons for this, it is worth noting one other set of patterns that emerge from the environmental migration literature.

While the drivers of migration are necessarily complex, two main features seem to tip water insecurity caused by some combination of them into the sort of social unrest that encourages migration. The first is *rapid physical changes in supply*.[55] These can be caused by natural changes in precipitation—including droughts, floods, and salt water incursion.[56] But rapid supply changes can also result from human activity—for instance, industrial pollution, infrastructure construction, policy changes, and violence. Rapid changes are more significant than baseline abundance or scarcity in predicting migration. The second factor is *poor governance*.[57] The social, political, and economic conditions under which people live determine whether physical water scarcity is water insecurity. This is apparent when considering the differences in the capacity to recover from drought in places like South Africa, Afghanistan, and the United States. Successful recovery from disasters depends on a well-organized response and prepared, resilient, and adaptable institutions. Rapid physical changes in the environment are less destabilizing when the conditions of good governance are present. Poor governance is actually likely to weaken the ability of a population to remain resilient during sharp supply changes, deepening the consequences of acute and sudden scarcity.[58]

The main vector for water-specific migration, on this analysis, runs through sudden-onset disasters and progressive deterioration of water resources that cause water and food insecurity linkage, especially for water-ecosystem dependent livelihoods in agriculture and fisheries.[59] Whether water resource degradation will result in migration depends on the "meso level" features of water management, institutional governance, and whether threatened communities can cooperate and negotiate with better-off neighboring populations.[60] Even if a population does not move to find new water sources, people, especially men, may travel to new locations to find work. These rates of internal movement rise notably during and after drought and flood events.[61] Among the leading causes of displacement is poor

[55] Chellaney, *supra* note 3; Busby, *supra* note 3; *Troubled Waters: The Effects of Scarcity on Interests, Identities, Conflict and Cooperation, in* THE MULTICULTURAL DILEMMA: MIGRATION, ETHNIC POLITICS, AND STATE INTERMEDIATION (Michelle Hale Williams ed. 2013); WBG, *supra* note 24. R

[56] *See* Devlin and Hendrix, *supra* note 2 (Interestingly, there is some evidence that it is both weather variability and *perception* of weather variability which most directly influence civil unrest.). R

[57] Wolf, *supra* note 43; WBG, *supra* note 24. R

[58] M. Miletto et al., *supra* note 13. R

[59] Black, et al., *supra* note 13. R

[60] *Id.*; Miletto et al., *supra* note 13. R

[61] Clark Gray & Valerie Mueller, *Drought and Population Mobility in Rural Ethiopia*, 40 WORLD DEV. 134, 134–145 (2012); Tamer Afifi, *Economic or Environmental Migration? The Push Factors in Niger*, 49 INT'L MIGRATION (2011); Sabine Henry et al., *The Impact of Rainfall on the First Out-Migration: A Multilevel Event-History Analysis in Burkina Faso*, 25 POPULATION & ENV'T 423, 423–460 (2004)

access to fresh water.[62] Many other common causes of displacement, such as food insecurity, are substantially related to changes in water availability. The International Food Policy Research Institute projects substantial declines in rice and maize productivity by 2050 related to climate change via heat, more seasonality, frequent extreme storms, drought, and flooding—all of which are water-agriculture interactions.[63]

Finally, it is also worth noting that the negative effects of both water insecurity and displacement are not uniform even within the migrant population. Women are especially vulnerable.[64] When water access is poor, they spend a huge amount of time collecting water, which is physically taxing work that reduces their ability to be economically productive. This task begins early in life and disproportionately includes girls, who are prevented from attending school by water collection duties and because the schools themselves lack adequate sanitation facilities.[65] Water insecurity also has disparate psychological effects. Women register much higher levels of emotional stress and anxiety about water insecurity and tend to be more water insecure than other members of even the same household.[66]

c. Mechanisms Governing Water Migration

Water migration, and climate migration more broadly, has elements of both forced and voluntary migration that make it difficult to subsume under existing international legal mechanisms. The complexity of the evolving conceptual analysis above has important consequences for the legal treatment of water migrants. Adequately responding to higher volumes of water security-related migration requires simultaneously acknowledging this complexity while providing something closer to clear guidance that can inform law and policy at the international level as populations become more mobile.

In the common analysis, there are roughly three overlapping categories of displacement—those temporarily displaced by sudden-onset disasters, those permanently displaced because of or to avoid major environmental disruptions, and those displaced by progressive degradation of environmental conditions.[67] Within each of these, but the third most clearly, conditions of social and eco-

[62] Toscano, *supra* note 13. R

[63] Gerald C. Nelson et al., FOOD SECURITY, FARMING, AND CLIMATE CHANGE TO 2050: SCENARIOS, RESULTS, POLICY OPTIONS (International Food Policy Research Institute 2010).

[64] Maitreyi Bordia Das, THE RISING TIDE: A NEW LOOK AT WATER AND GENDER (WBG 2017).

[65] Jay P. Graham et al., *An Analysis of Water Collection Labor Among Women and Children in 24 Sub-Saharan African Countries*, PLOS ONE (June 1, 2016).

[66] Sera L. Young et al., *Household Food Insecurity, Maternal Nutritional Status, and Infant Feeding Practices Among HIV-Infected Ugandan Women Receiving Combination Antiretroviral Therapy*, 18 MATERNAL AND CHILD HEALTH J. 2044, 2044–2053 (2014); Elijah Bisung & Susan J. Elliott, *Psychosocial impacts of the lack of access to water and sanitation in low-and middle-income countries: a scoping review*, 15 J. OF WATER AND HEALTH 17, 17–30 (2017).

[67] Naser, *supra* note 16; El-Essam Hinnawi, *Environmental refugees*, *in* ENVIRONMENTAL REFUGEES, (1985); RENAUD ET AL., *supra* note 38. The fourth category above, displacement by the displaced, has yet to receive much attention. R R

nomic vulnerability complicate the degree to which environmental conditions are the most direct cause of migration. Labor migration, for instance, may have been a common strategy to cope with poverty, but a progressively degraded environment can reduce the effectiveness of the strategy over time resulting in cycles of more permanent migration.[68]

The fact that water migration has elements of both force and voluntary adoption is significant for its legal status. Moreover, the causes of migration have both political and environmental origins. This, as others have noted, makes trouble for the idea of including environmental migrants under the heading of "refugees."[69] The concept of an "environmental refugee" "naturalizes the economic and political causes of environmental degradation and masks the role of institutional responses to it."[70] In emphasizing the environment as a cause it seems to deemphasize the powerful role that governance plays in creating environmental problems and mitigating their effects. It also suggests that "forced" migration must stem, more or less directly, from persecution, and that the legally significant sort of movement is only that which crosses some politically recognized (especially international) border.[71] Neither of these accurately describe climate migrants. The status of environmental refugees is not reducible to this definitional squabble, however. It represents an evolving set of legal considerations where the question is whether to expand a category (and hence both responsibility and remedy) or to create a new category altogether for a set of circumstances that are unique enough not to fit within existing frameworks.[72] The global scale of environmental change, the fact that (while it includes acute disasters) it is persistent and non-episodic, and the reality that human activities are part of its causal origin as well as the ability to stop it, all make climate induced migration a special case.[73] The viability of "environmental refugees" and the sub-group "water refugees" as a group with special rights seems to depend on unraveling several competing narratives about responsibility packed into these concepts. Another way to put the question here is to ask whether legal responses to climate migration ought to follow the academic assessment into the wilderness of greater complexity that an adequate empirical story about the causes of migration requires.

There is currently no broadly accepted international legal definition for either "environmental migrant" or "environmental refugee." The term "environmental refugee" first appears in a 1985 UN Environment Program report, which defined environmental refugees as those "who have been forced to leave their traditional habitat. . .because of a marked environmental disruption. . .that jeopardized their

[68] El-Hinnawi, *supra* note 67. R

[69] Rina Kuusipalo, *Exiled by Emissions-Climate Change Related Displacement and Migration in International Law: Gaps in Global Governance and the Role of the UN Climate Convention*, 18 VT. J. ENV'T L. 614, 614 (2016); Naser, *supra* note 16; PIGUET, *supra* note 31. R

[70] Hartmann, *supra* note 18. R

[71] Swain, *supra* note 42, at 965. R

[72] I leave aside another possible view—that we are not describing any real phenomenon and so both the concept and responsibility can be safely ignored by the law.

[73] Warner, *et al. supra* note 13, at 691-692. R

existences and/or seriously affected the quality of their life."[74] This definition sparked several points of disagreement, including disagreements over the terminology ("refugee" or "migrant" or "displaced person"); bright lines for involuntary and voluntary migration as well as environmental and non-environmental factors; and differential protections for sudden and slow-onset events.[75] Among these conversations, initial discussions focused on whether affected populations were likely to eventually return to their homes.[76] This was already a departure from the 1951 United Nations Convention on Refugees, which, along with the 1967 Protocol Relating to the Status of Refugees, identified four essential features of a refugee in Article 1(A)(2)—they must be (1) outside their country of nationality, (2) unable or unwilling to seek protection from their home country (3) as a result of a reasonable fear of persecution (4) on the basis of race, religion, nationality, social membership, or political opinion.[77] Whether environmental migrants are moving voluntarily or are being forced by water insecurity crosscuts this definition, which is manifestly too narrow to address them even if we acknowledge that at least some of the sources of water insecurity are political. Crafted with World War II in mind, the definition turns on the key requirement of persecution, which the international community has agreed environmental migrants do not meet. The UN High Commissioner for Refugees Handbook explicitly states that the lack of persecution "rules out such persons as victims of famine or natural disaster."[78]

The 1969 Organization of African Unity/African Union Convention and the 1984 Cartagena Declaration on Refugees both explicitly extend the relevant causes of movement in the definition of "refugee" to include people fleeing "events seriously disturbing public order."[79] This would seem to allow disruptions caused by environmental degradation, but neither has been clearly invoked to address movement for environmental reasons. In the case of the Cartagena Declaration, it was amended specifically to limit its ability to do so.[80]

Beyond refugee status, there are some existing yet limited legal protections that may assist with climate-induced migration and displacement. For example, Environmental migrants might attempt to seek protection as internally displaced

[74] El-Hinnawi, *supra* note 67; Bonnie Docherty & Tyler Giannini, *Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees,* 33 HARV. ENV'T. L. REV. 349, 349 (2009). R

[75] Biermann & Boas, *supra* note 34. R

[76] David Keane, *The environmental causes and consequences of migration: a search for the meaning of environmental refugees*, 16 GEO. INT'L ENVTL. L. REV. 209, 210 (2003).

[77] United Nations Convention Relating to the Status of Refugees Ch. I Art. 1(A), Jul. 28, 1951, 189 U.N.T.S. 137; United Nations Protocol Relating to the Status of Refugees, Jan. 31, 1967, 606 U.N.T.S. 267.

[78] UNHCR, Handbook on Procedures and Criteria for Determining Refugee Status under the 1951 Convention and the 1967 Protocol relating to the Status of Refugees*,* U.N. Doc. HCR/IP/4/Eng/REV.1, (Jan. 1992), http://www.unhcr.org/4d93528a9.pdf; Toscano, *supra* note 12.

[79] Org. of African Unity [OAU], Convention Governing the Specific Aspects of Refugee Problems in Africa art. 1(2), Sept. 10, 1969, 1001 U.N.T.S. 45; Colloquium on the Protection of Refugees in Central America, Mexico, and Panama, Declaración de Cartagena art. 3, Nov. 22, 1984.

[80] Keane, *supra* note 77, at 216.

persons, governed by the UN Guiding Principles on Internal Displacements. The Guiding Principles categorize internally displaced persons as:

"[P]ersons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border."[81]

Despite its clear inclusion of environmental migration, the Guiding Principles are limited in application to displacement within a country rather than migration from one country to another. Moreover, the Guiding Principles call on states to take responsible action when managing internal displacement but do not provide further technical or financial assistance to aid the effort, effectively nullifying their impact.[82]

Another potential avenue is the 1954 Convention relating to the Status of Stateless Persons, which protects people "not considered as a national by any State under operation of its law."[83] Though it may potentially apply to citizens living on land disappearing due to sea level rise, the Convention has only been signed by 23 countries and outlines few rights to those who are stateless.[84] Similarly, the 1990 International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families and the 1986 UN Declaration on the Human Rights of Individuals who are Not Nationals of the Country of Which They Live do not have either broad ratification or clearly defined rights.[85] Some of the goals of protecting the water insecure (whatever the cause) may also be found in declarations of the human right to water.[86] The UN Committee on Economic, Social and Cultural Rights links the right to water with the general right to adequate standards of living:

"The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses."[87]

Meanwhile, the UN General Assembly Resolution states that:

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[81] U.N. Comm'n on Hum. Rts., Rep. of the Secretary-General Pursuant to Resolution 1997/39 on its Fifty-Fourth Session, U.N. Doc. E/CN.4/1998/53/Add.2 (Feb. 11, 1998).

[82] Toscano, *supra* note 12.

[83] ESCOR, U.N. Res. 526 A(XVII) (Apr. 26, 1954).

[84] Toscano, *supra* note 12.

[85] *Id*.

[86] Peter H. Gleick, *The Human Right to Water*, 1 WATER POLICY 487, 487 (1998); Peter H. Gleick, *The Human Right to Water,* PACIFIC INSTITUTE (2007), http://smtp.wecalc.org/reports/human_right_may_07.pdf; S.M. SALMAN & S. MCINERNEY-LANKFORD, WORLD BANK GROUP [WBG], THE HUMAN RIGHT TO WATER: LEGAL AND POLICY DIMENSIONS. LAW, JUSTICE, AND DEVELOPMENT (2004); STOCKHOLM INT'L WATER INST., THE HUMAN RIGHTS TO WATER AND SANITATION AND THE HUMAN RIGHTS-BASED APPROACH (2016); INGA T. WINKLER, THE HUMAN RIGHT TO WATER (2012); *see* G.A. Res. 51/229, (Apr. 11, 1997); *see* Ariel Litke & Alistair Rieu-Clarke, *The UN Watercourses Convention: A Milestone in the History of International Water Law,* GLOBAL WATER F. (2015), http://www.globalwaterforum.org/2015/02/02/the-un-watercourses-convention-a-milestone-in-the-history-of-international-water-law/.

[87] U.N. Comm. on Econ., Soc. and Cultural Rights, *General Comment No. 15: The right to water (arts. 11 and 12 of the Covenant)*, U.N. Doc. E/C.12/2002/11 (Jan. 20, 2003).

"The right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights; [and] calls upon States and international organizations to provide financial resources, capacity-building and technology transfer, through international assistance and cooperation, in particular to developing countries, in order to scale up efforts to provide safe, clean, accessible and affordable drinking water and sanitation for all. . ."[88]

The typical goal of human rights in this context is their "progressive realization" through national level laws.[89] Human rights thus impose fairly discrete obligations for, at least, the nation states that are party to the covenant.[90] The existence and obligatory force of such a right, however, is not believed to be contingent on the existence of these laws.[91] As such state-level laws do not create the right, they are the mechanism by which states fulfill their obligations to respect and protect them.[92] One benefit of this approach to extending legal protections to water insecure people is that it makes no explicit reference to borders. This is valuable because much of what we would identify as water migration is sub-national and internal, and thus harder to fit under the framework of refugee protocols.

Given this background, there are no obviously good options for integrating environmental migrants into existing international legal frameworks. The most straightforward options are (1) expanding the definition of "refugee," (2) creating a new legal category of "climate refugee," (3) finding ways to respond to climate pressures under the existing definition, or (4) denying climate refugees a legal status. Expanding the definition risks watering down protections for traditional political refugees. The specificity of the definition in the UN Refugee Convention contributes to its value as a tool for protecting migrating populations because it runs less risk of outright rejection by states with an interest in preventing that migration that would be likely to argue that their right to enforce their borders cannot be open to such broad interpretation. There is fairly steady and increasing pressure by developed states to limit refugee status, so a further expansion seems politically unfeasible.[93] Moreover, expanding the international definition of refugee could well be used as cover by national governments accused of causing displacement to de-politicize the causes of the migration, blaming climate change, and hence expanding responsibility beyond its borders. Even if these

[88] GA Res. 64/292, at 2 (Aug. 3, 2010).

[89] The Rt Hon Lady Justice Arden, *Water for All? Developing a Human Right to Water in National and International Law*. 65 INT'L & COMP. L.Q. 771, 785-86 (2016).

[90] *See* Erik B. Bluemel, *The Implications of Formulating a Human right to Water,* 31 ECOLOGY L.Q. 957, 957 (2004) (These include obligations to respect the right (by not preventing its realization), to *protect* the right (by preventing third parties from preventing its realization), and to fulfill the right or "facilitate enjoyment of the right [and] promotion of the right through education measures, and provision of the right where individuals or groups cannot realize the right due to insufficient personal means."); Arjun K. Khadka, *The Emergence of Water as a 'Human Right' on the World Stage: Challenges and Opportunities*, 26 INT'L J. WATER RESOURCES DEV. 37, 37 (2010).

[91] Brunner et al., *The Human Right to Water in Law and Implementation,* 4 LAWS 413, 414 (2015).

[92] Malcolm Langford, *The United Nations Concept of Water as a Human Right: A New Paradigm for Old Problems?*, 21 INT'L J. WATER RESOURCES DEV. 273, 277 (2005).

[93] Biermann & Boas, *supra* note 33.

attempts are undertaken in bad faith, they are more or less prevented by the traditional definition.[94]

The second option is to create a new category altogether. This would reflect the reality that climate change, as a vector for migration, has become an intense enough pressure that it deserves its own legal status. The major obstacle to this at the moment is the lack of political support for the idea. Getting the international community to take collective responsibility for anthropogenic harm to the environment has been less than successful, and it seems unlikely that collective responsibility for the consequences of that harm is in the offing. As a conceptual matter, this is also unattractive because it requires distinguishing the environmental factors and political factors in migration in ways inconsistent with our best scientific understanding of their deep relationship. This may suggest the third option, i.e. finding ways to treat individual cases of putative environmental migration as instances of the political persecution definition within the UN Refugee Convention. This might be done by noting the fact that environmental degradation often has social and political origins. However, it is much harder to establish that they result from persecution. Worse still, there is no plausible way in which environmental harms caused by climate change are aimed at specific racial, religious, or political groups. Even if it turns out that, because poverty and climate vulnerability are related, the effects of climate change are distributed in socially unfair ways, this is far from showing that responsibility for this harm can be attributed to anyone in particular. A final option is to simply reject the idea that climate refugees ought to be given a special legal status at all. This is unattractive if predictions about the scale of the climate migrant challenge are even remotely correct. However, given the difficulty of expanding or supplementing international legal mechanisms, it might be best to export responsibility for responding to environmental migrants to human rights law and the international aid institutions working to limit the effects of climate change on vulnerable populations. None of these responses stand out as settling the issue, which underscores the need for more work on the topic.

III: Discussion

a. Water and Rights

The geography of water and the geography of national political boundaries frequently do not coincide. There are 145 countries that share surface water, 286 international river and lake basins, and 274 shared underground freshwater basins.[95] Thirty-three countries have more than 95% of their territory in a shared basin. In places where borders disregard the geography of water basins, they tend to be defined by them directly—such as when a river forms the border between nations or sub-national territories. When considered alongside the conclusions above—that water insecurity will increase as a result of climate change and en-

[94] Keane, *supra* 77, at 218.

[95] Transboundary Waters Assessment Programme - RIVER BASINS COMPONENT, http://twap-rivers.org/.

courage human migration, and that there are no satisfactory international protocols for handling this movement—we face some difficult legal and policy questions about how to proceed. This section discusses the potential conflict between conceptions of rights to water and the authority of a state to prevent immigration.

It is worth noting that water is somewhat special case of resource depletion. Water insecurity of the sort that encourages migration typically builds over a long time, unmitigated by governance, and becomes suddenly pressing through an acute event, such as a drought.[96] The difference between water insecurity migration and displacement by disaster is that migrants are unlikely to return home. Desertification, which is the extreme version of this, prevents large-scale population return.[97] However, even less permanent conditions can make returning unlikely. The vast majority of water globally is used for agriculture, which in turn employs a large portion of the world's population.[98] Consistent disruption of reliable water resources for farming is a migratory pressure that is difficult to reverse. Second, improving water access is an expensive and technically difficult project. While a portion of the world's water insecure population are dealing with increasing physical scarcity of environmental water, many places lack adequate water infrastructure which would help them make available natural water resources accessible. The expense of building catchment and piped infrastructure for very poor populations has kept access rates low even in regions with decent renewable water supplies.[99] Third, the uneven distribution of water on the planet is largely a natural phenomenon for which humans are not responsible.[100] While one might argue that the global distribution of wealth and political power is unjust in various ways and influences a population's ability to make use of the resources that surround it, no one is responsible for the natural distribution of the resources themselves. This is significant because, even though global consumptive freshwater use is competitive (i.e. my consumption reduces the immediately available stock for others), this only really affects people within the same basin. There are reasons to object to overconsumption in the Great Lakes region, but not because they directly reduce the stock of resources for people in Nigeria.

Despite these special challenges, there is a broadly accepted sense that people have something akin to rights claims on water resources.[101] This is central to an

96 *See* Steduto et al., *supra* note 27.

97 *See generally*, Thomas Hammer, *Desertification and Migration: A Political Ecology of Environmental Migration in West Africa*, *in* 20 Environmental Change and its Implications for Population Migration 231 (Martin Beniston ed., 2004).

98 Gleick, *supra* note 7.

99 World Bank Group [WBG], *High and dry: Climate change, water, and the economy* 21 (2016), http://www.worldbank.org/en/topic/water/publication/high-and-dry-climate-change-water-and-the-economy.

100 It is worth asking whether human activity via global warming has altered water availability in ways that call the "naturalness" of this distribution in to question, so I will return to this in the next section. Large scale interbasin transfers are also a potential exception, but they are relatively rare.

101 Inga T. Winkler, The Human Right to Water: Significance, Legal Status and Implications for Water Allocation (Reprint edition ed. 2014); Salman M. A. Salman & Siobhan McInerney-Lankford, *The Human Right to Water: Legal and Policy Dimensions*, World Bank, 2004; Benjamin Mason

adequate response to climate migration across borders, which present a conflict between rights claims. A state's authority to make decisions about immigration and to protect its citizens' claims to natural resources within the territory is challenged by apparently more general individual rights claims to water resources necessary for life. It is a common sentiment that there is a human right to at least basic access to freshwater to meet daily needs.[102] The basis for this human right is largely moral at present, though as noted above, there have been efforts to provide it with legal status.[103] The basic view holds that there is a right to water because it is constituent to a right to life.[104] Water of sufficient quantity and quality is necessary for living and, the reasoning goes, if we have a legally protected right to life, we must have a concomitant right to things directly necessary for life.

There are several significant problems for this line of reasoning, however. One is that it seems to establish only that people have a right not to be denied access to water that they need to live. That is, it does not establish that they have a right to some quantity of water. If correct, this leaves out a large number of the cases we care about—in which water access is naturally low, depleted over time, or caused by natural disasters. Some will argue that human rights are not necessarily limited to negative rights (of non-interference), but this raises some difficult questions about what one is entitled to and whose responsibility it is to provide it. Tying the right to water to the right to survival only secures a right to a very small amount of water. Basic survival requires only 2-4.5 L/day, but this is far below the 50-100 L/day that the World Health Organization treats as a basic minimum.[105] In any event, this misses the spirit of the idea that people have a basic entitlement to water security which increasingly ties basic entitlements to broader sets of needs for human wellbeing.[106] If we assume that the positive entitlement is quite a bit larger, then the practical challenges of provision loom large. Responsibility for supplying water when natural and economic resources are limited cannot practically fall on individual states were water insecurity is a persistent challenge. The economic and human cost of building water infrastructure is quite high. Consider the large amount of forced displacement that has happened in China to improve the water distribution and power infrastructure for

Meier et al., *Translating the Human Right to Water and Sanitation Into Public Policy Reform*, 20 SCI. AND ENG'G ETHICS 1, 1–16 (2014); Erik B. Bluemel, *The Implications of Formulating a Human Right to Water*, 31 ECOLOGY L.Q. 957, 957 (2004).

[102] *Id.*, *see especially* Winkler, *supra* note 101.

[103] *See generally*, Bluemel, *supra* note 90; Brunner et al., *supra* note 91; Peter H. Gleick, *The Human Right to Water*, 1 WATER POL'Y 487, 487–503 (1998).

[104] John Scanlon, Angela Cassar & Noémi Nemes, *Water as a Human Right?* 51 (Int'l Union for Conservation and Nature Ser. No. 16) (2004); Bluemel, *supra* note 90; Gleick, *supra* note 86; Vrinda Narain, *Water as a Fundamental Right: A Perspective from India*, 34 VT. L. REV. 917, 917 (2009); Sharmila L. Murthy, *The Human Right (s) to Water and Sanitation: History, Meaning, and the Controversy Over-Privatization*, 31 BERKELEY J. INT'L L. 89, 89 (2013).

[105] Peter H. Gleick, *Basic Water Requirements for Human Activities: Meeting Basic Needs*, 21 WATER INT'L 83, 83–92 (1996).

[106] *See* Jepson, *et al*., *supra* note 19.

the general population.[107] Millions of people have been involuntarily relocated to build massive interbasin transfer projects from the wet southern parts of the country to the dry northern ones. The environmental costs of these projects are significant as well, and thought they solve some water security problems in the short term, they do so by causing significant externalities in other areas.

Whether explained in terms of the right to life or not, the idea that humans have a basic right to water is motivated by the idea that it is *individual need* which entitles people to a share of water resources. This is a welfare-based view of these rights—the claim to a portion of the world's water rests on the fact that their individual welfare is damaged when they do not get it. An alternative tactic for establishing a right to water runs through the authority of states to protect citizens' *property rights* to resources they need or *territory* that they occupy. In fact, some classical theories of state authority tend to argue that states gain their legitimacy exactly by protecting people's property claims to resources, or by providing a fair playing field of justice and law necessary to make property rights secure.[108] One reason to justify a right to water this way is that it puts what looks like a contest between rights claims—rights to welfare and rights to territory—in the same terms. Both are explained through the state's authority to protect or deny people's claims. To a very a great degree, people's prospects for welfare are dependent on the stability of institutions that define the nation in which they live, and on contemporary liberal views of state legitimacy, the ability to maintain just institutions that protect basic rights underwrites a state's jurisdictional authority over its borders. Water's naturally uneven distribution, the disregard for water sustainability in the founding of political boundaries, and climatic changes, create a situation in which these rights claims are severely tested.

b. Water Rights, Depletion, and Borders

If water rights are justified by individual needs—i.e. people have rights entitlements to adequate water resources in order to achieve basic welfare—then this suggests either a direct conflict of rights claims or a significant re-ordering of international attitudes about climate migration. It is hard to imagine that a nation's rights to prevent migration across its borders (or to protect the property and territory rights claims these borders signify) could be so strong as to justify turning away literally any amount of suffering people. If the property claims to water internal to the receiving state are themselves based on the welfare benefits that they give to citizens, then this makes the permissibility of denying migration into

[107] Jim Yardley, *China - Three Gorges Dam - Impact*, N.Y. TIMES (Nov. 19, 2007), https://www.nytimes.com/2007/11/19/world/asia/19dam.html; Mara Hvistendahl, *China's Three Gorges Dam: An Environmental Catastrophe?* SCI. AM (Mar. 25, 2008), https://www.scientificamerican.com/article/chinas-three-gorges-dam-disaster/.

[108] The former view is generally associated with John Locke, and the latter with Immanuel Kant. JOHN LOCKE, SECOND TREATISE OF GOVERNMENT: AN ESSAY CONCERNING THE TRUE ORIGINAL, EXTENT AND END OF CIVIL GOVERNMENT (1689); Immanuel Kant, THE METAPHYSICS OF MORALS (1886); *See also*, Onora O'Neill, *Justice and Boundaries*, *in* POLITICAL RESTRUCTURING IN EUROPE 74–93 (2003); Cara Nine, GLOBAL JUSTICE AND TERRITORY (2012); A. John Simmons, *On the Territorial Rights of States*, 35 NOÛS 300, 300–326 (2001); David Miller, *Territorial Rights: Concept and Justification*, 60 POL. STUD. 252, 252–268 (2012).

a matter of identifying the amount of migration that will maximize group welfare. Desire to have a border that defines national interests and a national value for protecting an existing way of life may well factor into the calculation. But in general, if rights to water rest on human welfare, this recommends a significantly weaker border regime than currently dominates the world. People living in a water secure country could not justify preventing the movement of people toward water security if it collectively improves access to those rights, regardless of whether their own individual welfare will decrease some (perhaps substantially) in the process. If climate change is disruptive enough, this account of water rights would result in fairly radical re-ordering of populations, as nations could not justify turning away climate migrants until the welfare conditions of the people living there began to badly deteriorate as a result of the migration. On the most radical versions, it might even recommend annexation of water scarce places by water rich places in an effort to achieve higher levels of water security.

If, instead of individual needs satisfaction, we think about rights to water in terms of property rights claims, then the facts of uneven distribution are still significant. There are two broad legal doctrines that govern water "ownership."[109] The *riparian doctrine* entitles everyone with land adjacent to a water system a proportional amount of the water available in a system on the condition that they return water to the system undiminished in quantity or quality. Traditionally, this doctrine governs wet places where there is more water available than demand. Under the *appropriation doctrine*, users gain entitlements to divert, use, and store quantities of water, usually tied to other property rights such as land titles. This system has a stronger claim on the mantle of a true legal property right than the riparian doctrine and tends to apply to places in which demand is significantly higher than available supply. This simple doctrinal division is belied by a lot of complexity in practice, but for the purposes of this discussion, the important thing to note is that both systems are typically accompanied by reasonable use conditions. In the case of the riparian doctrine, this is a central part of the idea. Since most water uses are consumptive, it is frequently impossible to return water to the common supply undiminished in quantity or quality. As such, riparianism simply advises reasonable use and entitlements that are conditional on sufficient abundance. Appropriation of water resources requires serious justification. It is difficult to see how it could be permissible for someone to sequester water without threatening the common idea that no individual has inherent exclusive claim to the Earth's valuable natural resources. Traditional arguments for exclusive property rights to natural resources tend to follow Locke in arguing that these claims are defensible with the proviso that after appropriation there is still "enough, and as good, left in common for others."[110] There is intense, and justified, disagreement about the philosophical viability of the appropriation theory given that reasonable use conditions like the Lockean Proviso, but in application to water resources, they are generally interpreted to enjoin against making others

[109] Douglass Shaw, WATER RESOURCE ECONOMICS AND POLICY: AN INTRODUCTION (2008); Robert Glennon, *Water Scarcity, Marketing, and Privatization*, 83 TEX. L.R. 1873, 1873-1875 (2014).

[110] *See* Susan P. Liebell, *The Text and Context of "Enough and as Good": John Locke as the Foundation of an Environmental Liberalism*, 43 POLITY 210, 210–241 (2011).

drastically worse off or failing to put captured resources to productive use.[111] If we are inclined to think of water rights claims in terms of property, then it seems likely that the strength of those rights (i.e. the state's authority to protect them) is limited in some way by whether the proviso can be met. Because the planet's water resources are naturally distributed, it seems reasonable to think that resource depletion that is not directly related to poor management is subject to the proviso. If this is correct then the property rights to water which water rich states secure become weaker as there is less water available to people, even if they are beyond the borders of the state. To the extent that the state's authority to enforce its borders is dependent on its role as an enforcer of property rights, displaced people have an opening to claim that they ought to be allowed to use a portion of the resources previously captured by the state. Because water resources are so difficult to transport, populations affected by climate-related water insecurity would have a reasonable claim to be allowed to move toward more secure supplies. This model of water rights also suggests that water migrants ought to have some broader legal claim to migration on the grounds that they are entitled to a fair share of planetary water resources.[112]

A more nationalist territorial view of state authority suggests that people have a strong interest in forming communities that allow self-determination.[113] These include cultural, religious, and ethnic communities that share common bonds of history, social norms, and practices. They are not inherently geographically delimited, but geography could be an element of their identity. The purpose of the state, and the source of its authority, one might argue, come from the need of these groups to protect their continued existence. This theory of state authority permits significantly stronger restrictions on migration because at least part of the purpose of the state is to deflect threats to the groups of "peoples" that occupy its territory. Climate change and water insecurity are geographic threats and displacement may simply destroy a people that has an identity which is strongly geographically determined. Take, for example, island peoples whose identity is linked deeply to their island nation. They are self-determining in their desire to farm, eat, and construct homes in ways that are only possible given the particular ecosystem of the island. If the island is overtaken by climate change-linked sea level rise and they must move, they disappear as a people. In most cases, identity is less place-based and migration will not destroy the group. In such cases, the state as a responsibility to permit and facilitate internal migration and to prevent it from reducing the ability of other peoples within the state to live in self-determining ways. Neighboring states, however, might argue that they have significantly less responsibility to accept climate migrants because they have no

[111] *See generally* Jim Yardly *Supra* note 107; Mara Hvistendahl *Supra* note 107; John Locke *supra* note 108; Immanuel Kant *supra* note 108; Cara Nine *supra* note 108; A. John Simmons *supra* note 108; David Miller *supra* note 108; Douglass Shaw *supra* note 109.

[112] Mathias Risse, *The Human Right to Water and Common Ownership of the Earth*, 22 J. POL. PHIL. 178, 178–203 (2014); Tim Hayward, *Global Justice and the Distribution of Natural Resources*, 54 POL. STUD. 349, 349–369 (2006); Nine, *supra* note 108; Michael Blake & Mathias Risse, *Immigration and Original Ownership of the Earth*, 23 NOTRE DAME J.L. ETHICS & PUB. POL'Y 133, 136-137 (2009).

[113] *See* Miller, *supra* note 108.

responsibility to preserve the integrity of peoples from other nations. On the other hand, they may well be willing to absorb those groups if doing so will not disrupt their responsibilities to other peoples. Presumably their ability to do this will be heavily dependent on resource availability.

c. Responsibility for Water Migrants

There are, unquestionably, more ways to think of water rights than as welfare needs, property claims, or part of group identity. However, each of these views suggests state should be inclined to facilitate migration unless it will be very damaging to the receiving nation or sub-national region. The relevant conception of water rights nevertheless has a significant impact on the extent of the obligation to receive migrants and the reasons that a nation might prevent migration. Running through each of these views of water rights, one can feel a broader question looming about the extent of responsibility nations have for opening borders to water migrants when they are not themselves clearly responsible for the displaced population's water insecurity. Responsibility for remedying the harms caused by climate change is likely to become a more robust area of international legal study in the future. Global attitudes about the causes of climate change have shifted significantly over the last few decades toward the belief that humans are extensively responsible for its consequences, and that this responsibility is not evenly spread across the population. If attempts to slow these consequences are not robust enough, there will likely be a serious push to assign legal responsibility in increasingly formal ways.

I have referred repeatedly to water's naturally uneven distribution across the planet. There is reason to think that this, coupled with the fact that people are not responsible for the conditions of their birth, means that any resulting personal disadvantage from natural water insecurity is unjust. The next question is who has a responsibility to remedy this injustice? The nation in which the water insecure person lives surely holds some responsibility for remedy, but not because of the fact of natural scarcity. Nations may be responsible, on any of the conceptions of water rights above, for not further limiting citizens' access to water resources. But beyond this, their capacity to improve conditions may be quite limited. The construction of new water infrastructure, interbasin transfers, or the wholesale relocation of people is very costly, both financially and socially. The depth of the need for improved water security makes it attractive to look for views of responsibility which fall on a much broader scope of actors.

If the negative consequences of water insecurity were directly caused by those of us in water rich places, or if those of us in water rich places were made better off by water insecurity elsewhere, there may be grounds for compensatory duties. That is, if the behavior of members of nation A causes water insecurity in nation B, B may be owed compensation for the consequences of that insecurity. For example, in river systems which run through multiple nations, it is possible that upstream groups have a responsibility to refrain from or repair harm caused to downstream populations for depleted or polluted water. Causal responsibility for

downstream water insecurity, *ceteris paribus*, creates a duty to compensate downstream riparians which might reasonably include accepting migrants.

Some authors have suggested that water rich places have a responsibility to compensate water poor places simply in virtue of their differential native access to the resource.[114] This seems incorrect. Unlike carbon emissions, global water consumption creates a much more attenuated relationship to water depletion in distant places. The industrialized nations that contribute the overwhelming majority of greenhouse gas emissions have a disproportionate responsibility for the effects of climate change globally and so a larger responsibly for the negative consequences on the global environment, some subset of which are water related.[115] But water consumption habits in water rich places, such as the Great Lakes region of the United States, do not directly impact the water security conditions of people in far-away naturally dry places like Egypt. The "water footprint" of products that I consume is sometimes cited as evidence that this reasoning is not correct.[116] The thought is that the water necessary to produce products (called "virtual water") in dry places is lost to the water scarce place which might have used it in some other way. There are a few reasons, however, for thinking that this virtual water trade does not automatically constitute a harm that ought to be specially compensated. For one thing, the loss of water to production and trade that dry places face is not theft. It is part of a productive economic process that often improves the lives of the people doing the producing. Secondly, the wet places in the world are still the largest exporters of virtual water. Exports of water intensive products from water stressed places do exist, but typically these places are net importers of water from wetter nations.[117] Water pollution caused by manufacturing, however, is absolutely a form of exported water stress. When we purchase products—especially electronics and textiles—from places where pollution standards are low, we contribute to a system of production that directly reduces available water supplies in the producing nation. In sum then, the nations contributing disproportionately to climate change have a greater responsibility to remedy its negative consequences on water security—through aid, compensation, and accepting migrants—but they do not generally have a responsibility to reduce their own consumption as a remedy. In fact, they may have a responsibly to *increase* consumption through exporting virtual water in products to dryer places. Whether places that are naturally dry have an entitlement claim to a portion of the world's resources independent of any facts about climate change or global consumption patterns remains unclear.

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[114] Risse, *supra* note 108.

[115] Union of Concerned Scientists, *Each Country's Share of CO2 Emissions*, (Oct. 11. 2018), https://www.ucsusa.org/global-warming/science-and-impacts/science/each-countrys-share-of-co2.html.

[116] Arjen Y. Hoekstra & Mesfin M. Mekonnen, *The Water Footprint of Humanity*, 109 PROC. NAT'L. ACAD. SCI. 3232, 3232–3237 (2012); ARJEN Y. HOEKSTRA, THE WATER FOOTPRINT OF MODERN CONSUMER SOCIETY (2013).

[117] *Id.*

IV. Responses to Global Water Migration

As with climate change, our individual contributions to global water insecurity are very small. We may have good reason to change our individual behavior to help reduce collective stress on the environment, but the most effective mechanism for both mitigating climate change and responding to it remains national governments and international institutions. The wealthy nations contributing the most greenhouse gasses, even when they are distant from water insecure nations, can take responsibility by drastically and immediately reducing their emissions, targeting aid to climate resilience and adaptation for vulnerable populations, and accepting water refugees if they are themselves water secure.[118] This has somewhat different consequences for the world's two largest emitters—China and the United States—because China faces much higher rates of internal water stress then the US.[119] This may ultimately excuse it from accepting large numbers of climate refugees, but not from compensating those harmed by climate change in other ways. Because the costs of accepting these responsibilities are potentially very high, it is tempting to look for ways to distinguish between water insecurity caused by poor governance, climate change, and natural scarcity. However, these elements of water insecurity are deeply intertwined. We cannot meaningfully distinguish between water migration resulting from physical scarcity, failures of governance, or climate change, and so must treat them as all of a piece for the purposes of policy.

It is clear, however, that there ought to be much greater influence on preventing migration. While it can be a successful adaptation strategy, it is evident that it is one of last resort, pursued only when everything else has failed.[120] There is a huge need to organize international preparation for sudden-onset disasters which includes extended support for populations that may not be able to return home for some time. More effort can be made to build shared predictive models for both disasters and population vulnerability that could inform relief and preparation efforts. The reality is that water insecurity assessments can be done with existing datasets in way that provides a fairly clear picture of migration and medium-term water risk.[121] Working the expectation of migration and worsening water security into relief and resilience planning is essential.

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[118] Kanta Kumari Rigaud et al., WORLD BANK, GROUNDSWELL: PREPARING FOR INTERNAL CLIMATE MIGRATION (2018).

[119] Ximing Cai, *Water Stress, Water Transfer and Social Equity in Northern China—Implications for Policy Reforms*, 87 J. ENVTL. MGMT. 14, 14–25 (2008); Scott Moore, *Hydropolitics and Inter-Jurisdictional Relationships in China: The Pursuit of Localized Preferences in a Centralized System*, 219 CHINA Q. 760, 760–780 (2014); Jiao Wang, Lijin Zhong & Charles Iceland, *China's Water Stress Is on the Rise*, WORLD RESOURCES INSTITUTE (Jan. 10, 2017), https://www.wri.org/blog/2017/01/chinas-water-stress-rise.

[120] Hagmann, *supra* note 42; Hartman, *supra* note 18.

[121] *See*, *e.g.,* U.N. Food and Agriculture Organization's AQUASTAT system, http://www.fao.org/nr/water/aquastat/main/index.stm; World Resource Institute's ongoing Aqueduct mapping project, https://www.wri.org/our-work/project/aqueduct; *See also* Emerging Research on Household Level Water Insecurity from the Household Water Insecurity Experiences (HWISE) Scale, https://sites.northwestern.edu/hwise/.

There is also room to create new international legal frameworks. Julia Toscano proposes the category of environmentally-displaced persons (EDPs) to standardize terminology and classification, possibly to create new or supplemental human rights obligations. She argues that a separate climate migration agreement is necessary, operating independently of the UNHCR, with its own oversight and capacity agency to assist and relocate EDPs.[122] Creating a parallel organization to specifically address EDPs avoids the disagreements about refugee status discussed above, and also allows the agency to focus on internal displacement, which dominates displacement in absolute terms. Given the physical conditions which precipitate water migration, it is considerably easier to identify and plan for emerging migration patterns, and this recommends a dedicated and centralized institution.[123]

It may also be possible to generate new protocols dedicated to water migration under the UN Framework Convention on Climate Change (UNFCCC), the international cornerstone of climate change law.[124] Working within the established UNFCCC framework would create a more integrated approach toward international adaptation policy aimed at maximizing the productivity of existing bodies, rather than creating new ones. Though the UNFCCC currently frames relations between states rather than state obligations to individuals, it could incorporate "assistance obligations" into its existing mandates to maintain common but differentiated responsibility and reduce global emissions. Others have envisioned frameworks for an expanded UNFCCC system with a multilateral migration assistance fund sponsored by industrialized countries to support climate adaptation and relief in countries managing large numbers of environmental migrants. Biermann and Boas propose one such framework, the UNFCCC Protocol on Recognition, Protection, and Resettlement of Climate Refugees.[125] Under the UNFCCC framework, the protocol would create an executive committee under the Conference of the Parties to the UN Climate Convention, operating within its established structure. The protocol process would parallel previous UNFCCC efforts such as the Montreal Protocol on Substances that Deplete the Ozone Layer.

Any set of international legal efforts will need to be supported by much more robust mechanisms at the individual state and watershed levels. Carey DeGenaro, citing the "political challenges and long lag-time" of an international convention, argues for updating national level refugee laws to handle an expanding class of climate migrants. In the US, DeGenaro offers, this might include expanding the definition of a stateless person to explicitly include environmental migrants, al-

[122] Toscano, *supra* note 12; *see also* Bonnie Docherty & Tyler Giannini, *Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees*, 33 HARV. ENVTL. L. REV. 349, 359-361 (2009).

[123] Toscano, *supra* note 12, at 620; Biermann & Boas, *supra* note 34; *See also* Docherty & Giannini, *supra* note 74; Carey DeGenaro, *Looking Inward: Domestic Policy for Climate Change Refugees in the United States and Beyond,* 86 U. COLO. L. REV. 991, 991-1047 (2015).

[124] *See generally* Rina Kuusipalo, *Exiled By Emissions—Climate Change Related Displacement and Migration in International Law: Gaps in Global Governance and the Role of the UN Climate Convention*, 18 VT. J. ENVTL. L. 615, 634-646 (2017).

[125] Biermann & Boas, *supra* note 34.

lowing migrants to apply tor permanent legal status.[126] Other states should perform similar domestic legal updates. At least some of these ought to be done in concert with other nations that share the same watershed. "Transboundary management" at the basin level has long been a soft recommendation in the water conflict literature. Discrete agreements to change domestic immigration laws between riparian nations for the purpose of absorbing and directing resources toward water migrants puts real substance into this recommendation.

VI. Conclusion

Water insecurity is already a serious and worsening global challenge. There is strong indication that climate change will deepen water insecurity and result in larger numbers of displaced people migrating to find more stable water resources. The traditional linear story which originates in scarcity and ends in migration is, however, vastly oversimplified. Water insecurity and any resulting water migration is irreducibly tied to the social, economic, and political conditions which surround natural and climate-induced scarcity. Rejecting the linear account of migration, however, does not prevent us from identifying important patterns and factors that contribute to water migration patterns. Rapid physical changes in supply and weak governance stand out as factors that precipitate migration.

Understanding state obligations toward water migrants depends, I have argued, on an understanding of why we think people have a right to water, as well as the ways in which hydro-social factors influence their ability to satisfy this right. The regimes governing water migration at the international level are deeply inadequate for handling this emerging class of rights conflicts. We are not without options for expanding and adjusting existing international mechanisms to handle water migrants. But the scale of the problem and slow movement at the international level indicates that water migration across and within nations will require rethinking both domestic and international laws. The pace of climate-induced migration will, sadly, not slow for us to work out responses fully before enacting them.

[126] DeGenaro, *supra* note 123.

THE KIMBERLEY PROCESS' LEGACY: HOW THE 2000 CERTIFICATION PROCESS FOR CONFLICT-FREE DIAMONDS CAN HELP SOLVE CONTEMPORARY HUMAN RIGHTS VIOLATIONS WITHIN THE COBALT & COLTAN MINING INDUSTRIES

Claire Henleben

I. Introduction

One might speculate that a country rich in natural resources – such as oil, timber, or minerals – would be well off and that its people would prosper given the country's wealth. However, this is not the reality in many countries where these riches abound; the "resource curse" has cast its shadow over regions which otherwise should have profited from their natural resources.[1] To blame for this unexpected misfortune is often the same set of circumstances: civil war and government overthrow coupled with the exploitation of a vulnerable population.[2] This problem resurges repeatedly in countries which meet these circumstances and where the population extracts a material of value from the earth.[3] This comment seeks to highlight past iterations of this phenomenon, analyze where and how prior solutions have gone wrong or made headway, and finally, to apply those solutions to current resource crises in need of an effective solution.

Although historical precedent details generations of the exploitation of natural resource mining by those waging war in developing nations, the issue did not gain international attention or outrage until the 1990s and the beginnings of civil war in Sierra Leone and Angola.[4] Sierra Leone, as a country affected by the so-named resource curse, is rich in natural diamond stores beneath its soil, and yet is not itself a wealthy nation.[5] Exploitation of these diamond reserves first materialized in 1991 when the Revolutionary United Front ("RUF") launched its violent campaign to overthrow the Sierra Leonean government.[6] The RUF, in need of funding for its fast-growing regime, turned to the country's diamonds as a read-

[1] Ingrid J. Tamm, *Dangerous Appetites: Human Rights Activism and Conflict Commodities*, 26 HUM. RTS. Q. 687-704 (2004); Maarten Voors, *Resource and Governance in Sierra Leone's Civil War*, 53 J. OF DEV. STUD. 278, 280 (016).

[2] Katharina Wick & Erwin Bulte, *The Curse of Natural Resources*, 1 ANN. REV. OF RESOURCE ECON. 139, 140-143 (009).

[3] Duncan Brack, *The Growth and Control of International Environmental Crime*, 112 ENV. HEALTH PERSP. No. 2 A80-81 (2004).

[4] Philippe Le Billon, *Diamond Wars? Conflict Diamonds and Geographies of Resource Wars*, 98 ANNALS OF THE ASS'N OF AM. GEOGRAPHERS 98:2, 345-72 (2008).

[5] Sigismond A. Wilson, *Sierra Leone's Illicit Diamonds: The Challenges and the Way Forward*, 76 GEOJOURNAL 191-212 (2011).

[6] *Id.*

ily-available solution.[7] RUF recruiters forcibly compelled able-bodied Sierra Leoneans to excavate the country's rivers and hillsides for diamonds and recruited child soldiers to fight in the rebels' military forces.[8] Unearthed diamonds were then smuggled out of the country and sold for profit, which the RUF used to finance its campaign to overthrow Sierra Leonean president Joseph Saidu Momoh – the country's leader since 1985.[9]

In an attempt to corral Sierra Leone's ever-growing conflict diamond exports and mitigate the damage inflicted as a result of mass forced labor, the United Nations drafted Resolutions 55 and 56, along with the ratification of the Kimberley Process Certification Scheme ("Kimberley Process") in 2000. The Kimberley Process was instrumental in controlling the RUF's exploitation of human labor as well as the global diamond trade's problematic business practices which contributed to conflict diamonds' distribution.[10] Consequently, the global diamond industry currently employs standards which have their roots in the United Nations' Kimberley Process and have all but eliminated the practice of illegal conflict diamond mining in Africa.[11] However, the Kimberley Process is not without its faults.

Following the onset of civil war in 1998, the Democratic Republic of Congo ("DRC") suffered many of the same resource curse symptoms as Sierra Leone in the early 1990s.[12] Although its second civil war officially ended in 2003, the associated abuse of the country's natural resources still continues to plague the central African state.[13] However, in DRC's case, the substance in question is not diamonds, but coltan and cobalt: two minerals essential to the manufacturing of nearly every electronic and mechanical device worldwide, including televisions, telephones, laptops, cars, and planes.[14] DRC sits upon soil containing 60% of the world's coltan stores, which rebel groups continuously exploit in order to finance their fight against the DRC government.[15] Currently, there are no long-term solutions to this ongoing domestic conflict, and the coltan and cobalt industries re-

[7] *Id.*; *see also* Maarten Voors, *Resource and Governance in Sierra Leone's Civil War*, 53 J. OF DEV. STUD. 278, 280 (016).

[8] Alfred B. Zack-Williams, *Sierra Leone: The Political Economy of Civil War*, 20 THIRD WORLD Q. 143, 145-150 (1999).; *see also* Sigismond A. Wilson, *Sierra Leone's Illicit Diamonds: The Challenges and the Way Forward*, 76 GEOJOURNAL 191-212 (2011).

[9] Sigismond A. Wilson, *Sierra Leone's Illicit Diamonds: The Challenges and the Way Forward*, 76 GEOJOURNAL 191-212 (2011).

[10] John Michael Durnovich, *This Land is My Land: Mending the Kimberley Process and Promoting Stability in Sub-Saharan Africa by Reinforcing Individual Property Rights*, 39 N.C. J. INT'L L. & COM. REG. 885 (2014) [hereinafter Durnovich].

[11] *Id.*

[12] AMNESTY IN'L, THIS IS WHAT WE DIE FOR: HUMAN RIGHTS ABUSES IN THE DEMOCRATIC REPUBLIC OF THE CONGO POWER THE GLOBAL TRADE IN COBALT, 14-54 (2016).

[13] Zandi Shabalala, *Cobalt to be Declared a Strategic Mineral in Congo*, REUTERS, (Mar. 14, 2018), https://www.reuters.com/article/us-congo-mining-cobalt/cobalt-to-be-declared-a-strategic-mineral-in-congo-idUSKCN1GQ2RX.

[14] *Id.*

[15] THE HAGUE CENTRE FOR STRATEGIC STUDIES, COLTAN, CONGO & CONFLICT: POLINARES CASE STUDY, 43-44 (2013).

main largely unregulated.[16] This comment proposes that the application of the Kimberley Process – with amendments to fill in gaps where the Process has failed to meet expectations – will help alleviate the DRC's burgeoning conflict coltan and cobalt crises.

II. Background: The Kimberley Process

The Kimberley Process Certification Scheme entered into force in 2003 as a method for remedying the conflict-ridden diamond industry in Western Africa, and to further regulate an industry which had been allowed to flourish for decades without significant supervision.[17] But in order to fully comprehend why the Kimberley Process was a necessary means to ending uncontrolled and egregious human rights abuses, one must first understand why the diamond trade was first able to grow into such a lucrative industry at all.

With the resurgence of civil wars in Angola, Sierra Leone, Rwanda, and Liberia, rebel groups hoping to overthrow their respective domestic governments needed capital with which to fund their revolutions.[18] One of the first solutions to this problem proposed – and subsequently adopted by the United Nations General Assembly – was to impose sanctions upon those countries which were the most notorious abusers of human rights so as to set an example for other violators worldwide.[19] However, this solution proved not to be as successful at remedying the problem as the United Nations had hoped.[20] Instead of thwarting bad business practices and unethical mining conditions, the sanctions instead placed the heaviest of burdens on ordinary people which the sanctions were intended to protect, thus leaving the responsible government bodies and rebel regimes largely unaffected.[21] Furthermore, even aptly-named "smart sanctions" imposed by the United Nations in response to initial sanctions' failure to corral the diamond industries in Angola and Sierra Leone were unsuccessful – largely due to lack of full implementation.[22] Therefore, because traditional measures which ordinarily would have been effective in regulating a runaway human rights-violating industry proved fruitless, the United Nations crafted a new program aimed at the dismantling of the intensely problematic gemstone market: the Kimberley Process.[23]

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[16] Nakirfai Tobor, *The Democratic Republic of Congo Declared Cobalt and Coltan Strategic Mineral*, iAfrikan, (Mar. 31, 2018), https://www.iafrikan.com/2018/03/31/the-democratic-republic-of-congo-will-declare-cobalt-a-strategic-mineral/.

[17] Holly Burkhalter, *Between the Lines: A Diamond Agreement in the Rough*, 135 For. Pol. 72-73 (2003) [hereinafter Burkhalter].

[18] *Id.*; *see also* The Hague Centre for Strategic Studies, Coltan, Congo & Conflict: Polinares Case Study, 76-79 (2013).

[19] Burkhalter, *supra* note 17.

[20] Albena P. Petrova, *The Implementation and Effectiveness of the Kimberley Process Certification Scheme in the United States*, 40 Int'l Law. 945-60 (2006) [hereinafter Petrova].

[21] Virginia Haufler, *The Kimberley Process Certification Scheme: An Innovation in Global Governance and Conflict Prevention*, 89 J. of Bus. Ethics 403-16 (2010).

[22] *Id.*

[23] *Id.*; Kimberely Process: About, https://www.kimberleyprocess.com/en/about (last visited Jan. 3, 2019).

The Kimberley Process' Legacy

Motivated by international outrage in response to global diamond mining practices, as well as war crimes committed by rebel regimes hoping to earn a profit from their country's natural resources, the United Nations began negotiations and international discussions on the creation of the Kimberley Process in 2000.[24] After three long years of deliberation, the Kimberley Process entered into force and became a legally binding certification scheme for all member states of the United Nations in 2003.[25]

In order to remedy ongoing human rights violations in connection with unethical diamond mining procedures in affected countries, the Kimberley Process implemented measures aimed at decreasing the likelihood of conflict diamonds making their way into global diamond distribution channels.[26] The first and most significant of these measures was the introduction of Kimberley "certifications". Under the Kimberley Process' certifications, rough diamonds (diamonds which are unpolished and cut raw from the earth by excavators) were to be gathered into bundles and packaged together into groups of other uncut diamonds and given a certification that those enclosed diamonds were not borne of humanitarian violations, unethical diamond mining conditions, or slave labor.[27] Enclosed with the certification was tamper-resistant and forgery-proof documentation that the stones in that particular parcel were all eligible for distribution and in compliance with United Nations' standards for human rights and best business practices.[28]

In addition to its certifications , the Kimberley Process launched additional measures at the state and local levels of government in 40 participating nations.[29] In those participating states, including Angola and Sierra Leone, the governments of each were required to ensure that the diamonds bound for global distribution were packaged in sealed containers, that they were properly certified, and that the diamonds inside did not originate from countries not in compliance with the Kimberley Process.[30] Furthermore, member states would be required to disclose information concerning their individual diamond output, including diamond production levels and specific hurdles or problems the state faced in implementing Kimberley Process programs.[31] Finally, in addition to the Kimberley Process certificates and specific disclosure requirements, member states were required to implement domestic legislation aimed at eliminating conflict diamond exports

[24] Durnovich, *supra* note 10.

[25] Burkhalter, *supra* note 17.; *see also* THE HAGUE CENTRE FOR STRATEGIC STUDIES, COLTAN, CONGO & CONFLICT: POLINARES CASE STUDY, 76-79 (2013).

[26] Durnovich, *supra* note 10.

[27] U.S. DEPT. OF STATE, CONFLICT DIAMONDS AND THE KIMBERELY PROCESS, https://www.state.gov/conflict-diamonds-and-the-kimberley-process/ (2017); Burkhalter, *supra* note 17.

[28] Burkhalter, *supra* note 17.

[29] *Id.*

[30] Joseph Hummel, *Diamonds Are a Smiggler's Best Friend: Regulation, Economics, and Enforcement in the Global Effort to Curb the Trade in Conflict Diamonds*, 41 THE INT'L. LAW. 1145, 1145-1151 (2007).

[31] Durnovich, *supra* note 10.

with accompanying procedures for adjudication and prosecution of humanitarian rights violators.[32]

III. Effectiveness Of The Kimberley Process

The Kimberley Process has maintained a legacy – both positive and negative – in the international community for its progress in eliminating conflict diamonds from global distribution.[33] As a secondary mechanism for ensuring the program's success, third party NGO's and non-diamond-distributing United Nations member states were invited to submit their own independent findings concerning the Process' progress.[34] These organizations and states, including Global Witness and Partnership Africa Canada (PAC), serve as official observers to the Kimberley Process.[35] This third party encouragement strengthened the Kimberley Process' peer review procedures and allowed for foreign, neutral observer states and organizations to lend their expertise to Kimberley Process member states.[36]

The Kimberley Process has in fact satisfied one of its main goals in that it has succeeded at significantly decreasing conflict diamonds' role in funding rebel regimes in West African particularly vulnerable countries.[37] Angola and Sierra Leone in particular found their success through adherence to four central mandates imposed upon member states to the Kimberley Process.[38] First, states must enact domestic legislation which satisfies the import and export requirements and working conditions standards specified in the Kimberley Process.[39] Second, states must collaborate and share statistical data concerning the nations' diamond exports, including data concerning the region of diamond excavation, accompanied by a documented warranty that the stones are ethically sourced.[40] Third, states are bound only to engage in trade and diamond-related commerce with other Kimberley Process-complying nations.[41] Finally, all stones bound for exportation and international sale must have an accompanying Kimberley Process

[32] Burkhalter, *supra* note 17; NIGEL DAVIDSON, THE LION THAT DIDN'T ROAR: CAN THE KIMBERLEY PROCESS STOP THE BLOOD DIAMONDS TRADE? 73-126 (2016).

[33] Andrew H. Winetroub, *A Diamond Scheme is Forever Lost: The Kimberley Process's Deteriorating Tripartite Structure and its Consequences for the Scheme's Survival*, 20 IND. J. OF GLOBAL LEGAL STUD. 1425, 1425-44 (2013) [hereinafter Winetroub].

[34] Burkhalter, *supra* note 17.

[35] Winetroub, *supra* note 33.

[36] *Id.*

[37] Winetroub, *supra* note 33.

[38] Petrova, *supra* note 20.

[39] Khaled Fayyad, *The Kimberley Process and The Unfulfilled Promise of a Conflict-Free Diamond Industry*, SEMINAR ON CORP. AND INT'L LAW (May 7, 2018), https://sites.duke.edu/corporations/2018/05/07/the-kimberley-process-and-the-unfulfilled-promise-of-a-conflict-free-diamond-industry/ [hereinafter Fayyad].

[40] *Id.*; *see also* Kimberley Process Certification Scheme, KIMBERLEY PROCESS, at Section II, [hereinafter KPCS].

[41] *Id.*

certificate guaranteeing the stones' collective compliance with the Kimberley Process regulations for ethically-sourced stones.[42]

Sierra Leone and Angola responded well to these four goals and in turn, forever changed the diamond industry.[43] According to the World Diamond Council, since the inception of the Kimberley Process, merely a fraction of one percent of all diamonds exported from Kimberley Process member states are "conflict diamonds."[44] This number has dramatically decreased since the 1990s in Angola and Sierra Leone, in which an estimated 15% - 20% of diamonds originated from mines employing slave and child labor.[45] Sierra Leone in particular has managed to maintain a steady stream of ethical diamond exports – the country imported $126,652,633 in diamonds in 2004 and $122,101,392 in 2017.[46] Moreover, the percentage of diamonds sourced unethically has dropped to less than 1%, compared to 14% in 1991.[47] As such, Sierra Leone has been able to continue the distribution of its most valuable export without sacrificing its attention to human rights.[48]

However, the Kimberley Process still left plenty room for improvement. The first of the Process' flaws concerns the original document's definition of "conflict diamonds."[49] The Kimberley Process refers to conflict diamonds as, "rough diamonds used by rebel movements. . .to finance conflict aimed at undermining legitimate governments."[50] Unfortunately, this definition falls short of encompassing all possible unethically-sourced stones because (a) it is contingent upon the existence of a government being actively overthrown or having attempts of the same and (b) it refers only to stones sourced for the purpose of funding anti-governmental regimes.[51]

The consequences of this narrow definition are evident in the continued – albeit much less significant – abuse of human rights in the diamond mining industry. All that a diamond distributor, wholesaler, or miner must do in order for his or her diamonds to fall outside the definition of "conflict diamonds" – and to thus not be bound by the Kimberley Process – is to refrain from using funds from the diamonds' profit to finance rebel regimes.[52] Of course, the assurance that funds from diamond sales will not reach rebel hands is nearly impossible to guar-

[42] *Id*.; see also KPCS, *supra* note 40, at Section II, Appendix I.

[43] Nazreen Shaik-Peremanov, *Ten Years On, The Kimberley Process Certification Scheme and Zimbabwe's Marange and "Conflict Diamonds": Lessons to be Learnt*, POTCHEFSTROOM ELEC. L.J. 326, 326-66 (2014).

[44] Fayyad, *supra* note 39.

[45] *Id*.

[46] Sierra Leone, KIMBERLEY PROCESS PARTICIPANTS AND OBSERVERS, (Apr. 18, 2019), https://www.kimberleyprocess.com/ee/sierra-leone-0.

[47] Winetroub, *supra* note 33.

[48] *Id*.

[49] *Id*.

[50] KPCS, *supra* note 40, at Section I.

[51] Barbara Harlow, *The "Kimberley Process": Literary Gems, Civil Wars, and Historical Resources*, 3 THE NEW CENTENNIAL REV. 219, 220-24 (2003).

[52] Winetroub, *supra* note 33, at 1432-34.

antee, especially in countries where armed conflict (or even the potential of armed conflict) currently threaten the state's sovereign government.[53]

Additionally problematic is the fact that the Process's terms are limited only to diamonds.[54] At the exclusion of all other gemstones, minerals, and resources that might be – and *have* historically been – exploited by those wishing to profit from the unethical sale of these materials, the Kimberley Process has defined its scope far too narrowly.[55] And although the Kimberley Process undoubtedly has an impressive history of almost entirely eliminating unethical diamond mining practices, other conflict minerals have gone largely ignored by would-be watchdog programs.[56]

However, the Kimberley Process has perhaps an even larger problem specifically regarding the complicated network of hoops that collaborating states must jump through in order to reach a consensus, which is especially problematic when immediate action is critical.[57] For example, if a country in the Kimberley Process network asserts that the most prudent course of action is to enact stricter regulations concerning the certificates given to batches of stones, then that country would have to propose a vote of all Kimberley Process nations.[58] The parties must then reach a consensus before enacting any changes to the Kimberley Process' existing framework, including proposals for changes to the certificates or requests for enforcement against non-compliant parties.[59] In practice, a consensus is often difficult to reach, considering the large number of states involved with the Process, and so countries' proposed improvements often fall to the wayside with time.[60]

Yet another problem with the Kimberley Process' effectiveness lies in its weak legal framework.[61] Because the United Nations wanted to incentivize as many states as possible to become signatories, the Kimberely Process was not self-executing. This is because the Process' drafters hoped that this design would allow member states to create legislation of their own, tailored to their country's specific needs and circumstances. And although executing legislation is required in order for signatories to officially join the Process, there are surprisingly few guidelines which outline the actual content or strictness of member states' implementing legislation.[62] Therefore, due to the United Nations precedential deference to state sovereignty, the Kimberley Process was designed in a way that

[53] *Id*.

[54] *Id*. at 1429.

[55] *Id*. at 1432.

[56] Petrova, *supra* note 20, at 947.

[57] Winetroub, *supra* note 33, at 1432.

[58] *Id*.; NIGEL DAVIDSON, THE LION THAT DIDN'T ROAR: CAN THE KIMBERLEY PROCESS STOP THE BLOOD DIAMONDS TRADE? 73-126 (2016).

[59] HUMAN RIGHTS WATCH, HUMAN RIGHTS WATCH STATEMENT ON THE KIMBERLEY PROCESS, https://www.hrw.org/news/2016/06/06/human-rights-watch-statement-kimberley-process (June 6, 2016).

[60] *Id*.; *see also* Fayyad, *supra* note 39.

[61] Winetroub, *supra* note 33, at 1436.

[62] KPCS, *supra* note 40, at Section IV.

promotes states' ability to be as severe or lenient in their executing legislative language as desired.[63]

Aside from these shortcomings, the Kimberley Process' perhaps most fatal flaw concerns its focus on batches of diamonds as a whole instead of the treatment of stones individually.[64] Because the Kimberley Process certificates apply only to large batches of diamonds – sometimes in the hundreds or thousands depending on stone size – non-ethically sourced stones often comprise at least a small portion of otherwise certified stones.[65] Smugglers, wholesalers, and prospective buyers intending to transport conflict diamonds across state borders can easily work around Kimberley Process regulations by adding conflict stones to previously-certified batches.[66] Furthermore, because individual diamonds have no bar codes, tags, or documentation of their origin past the point of certification, there is virtually no way of differentiating "blood diamonds" from a batch of hundreds of otherwise Kimberley-compliant stones once they are bundled together.[67]

Looking to the culmination of problems with the Kimberley Process' efficacy, it becomes apparent that the Process' multiple regulations and guidelines for compliance focus too heavily on the end product – the diamonds – instead of the root of the problem: the human rights abuses which sparked international outrage in the first place. Therefore, if future iterations of the Kimberley Process hope to be more successful in eliminating loopholes and providing for the most effective means of compliance, the United Nations must shift its focus from the diamonds themselves to the people or institutions inflicting harm.

IV. The Issues Of "Conflict Cobalt" & "Conflict Coltan"

The Democratic Republic of Congo is similar to Sierra Leone, Angola, and other Kimberely Process member states in many ways; all have dealt with an onslaught of rebel attempts to overthrow the states' sovereign governments, all have not-so-spotless human rights records, but perhaps most strikingly, all have an abundance of natural, valuable resources.[68] Whereas Sierra Leone, Angola, and Zimbabwe are rich in diamonds, DRC's resource wealth lies in the soil's natural cobalt and coltan stores.[69] Unfortunately, DRC has been unable to overcome its own "resource curse" in a manner similar to its West African neighbors in that the country is rife with human rights abusers – specifically due to runoff

63 Winetroub, *supra* note 33, at 1436.

64 KPCS, *supra* note 40.

65 Michael L. Ross, *How do Natural Resources Influence Civil War? Evidence from Thirteen Cases*, 58 INT'L ORG. 35, 35-67 (2004).

66 *Id.*

67 *Id.*; *see also* Michael L. Ross, *How do Natural Resources Influence Civil War? Evidence from Thirteen Cases,* 58 INT'L ORG. 35-67 (2004).

68 MARIE MAZALTO, MINING IN AFRICA: REGULATION AND DEVELOPMENT, 187-191, 187-242 (Bonnie Campbell, 2009).

69 AMNESTY INTERNATIONAL, THIS IS WHAT WE DIE FOR: HUMAN RIGHTS ABUSES IN THE DEMOCRATIC REPUBLIC OF THE CONGO POWER THE GLOBAL TRADE IN COBALT, 14-18, 14 – 54 (Amnesty International Publishing, 2016).

tension from the Rwandan Genocide of 1994.[70] Thus, a new generation of human rights violators have taken advantage of their country's valuable stores of cobalt and coltan and have utilized child labor to excavate both minerals from the ground as a means of financing their regimes.[71]

After the conclusion of the Rwandan Genocide of 1994, ethnic Hutus left Rwanda in droves across their country's border into the DRC where they felt DRC's president Mobutu Sese Seko would be sympathetic to their interests.[72] Once settled, DRC Hutu militia groups began their attack on ethnic DRC Tutsis. However in response, the Tutsi militia was eventually able to forcibly overthrow Mobutu's government and install its own president, Laurent Kabila, in 1997.[73] Despite the fact that formal fighting has since ceased, pockets of rebel groups continue to skirmish in some of the most rural regions of DRC.[74] However, after President Kabila's assassination in 2001 and subsequent years of rising tensions, DRC is still in a continual state of unrest, with periods of peacetime interrupted periodically by eruptions of civil instability.[75]

One of the most prominent rebel groups to emerge from rural DRC is M23, a militia comprised of ethnic Tutsis with alleged ties to the Rwandan government.[76] Relying on the wealth gained from the sale of conflict minerals – namely, cobalt and coltan – M23 leaders are able to obtain arms and fund their operations from their outposts in the most rural and mountainous regions of DRC; regions which happen to encompass the majority of DRC cobalt and coltan mines.[77] Because cobalt and coltan are the primary minerals needed in the manufacture of lithium ion batteries (included in electronic cars, laptops, cellular telephones, televisions, and virtually every method of renewable energy technology) it should come as no surprise that M23 leaders have taken advantage of the fact that the cobalt and coltan mining industries have reached a demand comparable to that of diamond mining.[78]

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[70] Lorna Nicholas, *Cobalt Supply Chain Needs Transparency as Human Rights Violations Continue in DRC*, Small Caps, Oct. 2, 2018, https://smallcaps.com.au/cobalt-supply-chain-transparency-human-rights-violations-drc/.

[71] *Id.*

[72] *Id.*

[73] Peter Eichstaedt, *Consuming the Congo: War and Conflict Minerals in the World's Deadliest Place*, 91 FOREIGN AFFAIRS 205-206 (2012).

[74] Lorna Nicholas, *Cobalt Supply Chain Needs Transparency as Human Rights Violations Continue in DRC*, Small Caps (2018).

[75] AMNESTY INTERNATIONAL, THIS IS WHAT WE DIE FOR: HUMAN RIGHTS ABUSES IN THE DEMOCRATIC REPUBLIC OF THE CONGO POWER THE GLOBAL TRADE IN COBALT 14-16 (2016).

[76] Reuben E. Brigety, II, *Violence in the Democratic Republic of the Congo, Council on Foreign Relations, Council on Foreign Relations*, Oct. 19, 2018, https://www.cfr.org/interactives/global-conflict-tracker#!/conflict/violence-in-the-democratic-republic-of-congo

[77] *Id.*; *see also*

[78] Zandi Shabalala, *Coltan to be Declared a Strategic Mineral in Congo*, *Reuters*, Mar. 14, 2018, https://www.reuters.com/article/us-congo-mining-cobalt/cobalt-to-be-declared-a-strategic-mineral-in-congo-idUSKCN1GQ2RX.; *see also* Dev Nathan & Sandip Sarkar, *Blood on Your Mobile?*, 45 ECON. & POL. WKLY., 22, 24 (2010).

Currently, 60% of the worlds' cobalt and coltan stores originate in DRC.[79] However, despite the country's overwhelming resource wealth, DRC is the 176th poorest country – with a poverty rate of 64%.[80] DRC's harsh economic climate has thus incentivized DRC citizens to leave urban areas and relocate to more mountainous settlements to work in an industry that they recognize as potentially profitable: cobalt and coltan mining.[81] Unfortunately, human rights investigators and third party non-profit organizations, such as Amnesty International, have investigated rural DRC mines and have found there to be an overwhelming utilization of child labor.[82] Amnesty International reports that parents will send their children, sometimes as young as six years old, to work in the cobalt and coltan mines in order to supplement the family income.[83] Often, workers do not have the proper licensing or documentation identifying them as above the age of 18, and because many cobalt and coltan mines operate in rural mountainous regions of the DRC, the government employs very few regular investigations of the country's mines.[84]

For example, mining camps in the Kapata neighborhood of Kolwezi frequently report fatal mining accidents and a high risk of miners' injury.[85] These small mining operations, referred to as "artisanal mines" employ both adults and children as part of their workforce and often turn a blind eye to hazardous working conditions in favor of quick mineral recovery and cost-efficiency.[86] However, the cost of ignoring human rights in the workforce is extreme; high exposure levels to raw cobalt can cause irreversible harm to miners' health, often causing decreased pulmonary function, asthma, and other related respiratory problems in the mildest of cases. However, increased exposure also significantly increases miners' chances of developing "hard metal lung disease", a condition which can be fatal.[87] Despite global knowledge and universal medical recognition of the dangers of cobalt and coltan mining, the DRC's own mining code – the only legislation in place to regulate domestic cobalt and coltan mining working conditions – does not contain any language pertaining to safety equipment or how to handle known harmful substances, apart from mercury.[88]

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[79] Overview, THE WORLD BANK IN DRC (2018), https://www.worldbank.org/en/country/drc/overview.

[80] *Id.*

[81] Lorna Nicholas, *Cobalt Supply Chain Needs Transparency as Human Rights Violations Continue in DRC*, Small Caps (2018).

[82] AMNESTY INTERNATIONAL, THIS IS WHAT WE DIE FOR: HUMAN RIGHTS ABUSES IN THE DEMOCRATIC REPUBLIC OF THE CONGO POWER THE GLOBAL TRADE IN COBALT 28 (2016).

[83] *Id.* at 28.

[84] *Id.* at 29.

[85] *Id.* at 26.

[86] Peter Eichstaedt, *Consuming the Congo: War and Conflict Minerals in the World's Deadliest Place*, 91 FOREIGN AFFAIRS 206 (2012).

[87] AMNESTY INTERNATIONAL, THIS IS WHAT WE DIE FOR: HUMAN RIGHTS ABUSES IN THE DEMOCRATIC REPUBLIC OF THE CONGO POWER THE GLOBAL TRADE IN COBALT 29 (2016).

[88] *Id.* at 22.

As party to the International Labor organization's ("ILO") Worst Forms of Child Labor Convention (No. 182), DRC is required to implement necessary legislation and employment regulations aimed at eliminating the utilization of child labor within its borders.[89] The ILO Convention defines children as those under the age of 18 and further delineates that the "worst forms" of child labor are those work environments wherein children's health, safety, or morals are continually threatened.[90] Unsurprisingly, DRC cobalt and coltan mines often directly violate the ILO Worst Forms of Child Labor Convention; not only do children face the well-documented safety and health hazards of such mines, but children are often physically abused by mine security guards for failure or physical inability to complete tasks.[91]

The reasons why children often do not report their abuse or lack of adequate working consditions to DRC authorities are threefold: first, these children often realize that they are working underage and fear punishment for admitting employment.[92] Second, they fear that by not working in the mines, they will cause a loss of income for their families.[93] Third, militia leaders control the operation of many rural DRC cobalt and coltan mines, which therefore incentivizes miners' submission for fear of violence.[94] Consequently, rampant human rights abuses in the form of internationally-recognized wrongful child labor continue to this day in the DRC.[95]

V. Application of The Kimberley Process Certification Scheme to Drc Cobalt and Coltan Industries

The Democratic Republic of Congo would benefit from the application of an amended Kimberley Process into its cobalt and coltan mining industries. However, a revitalized version of the Kimberley Process would likely have to undergo extensive remodeling in order for its provisions to succeed in curbing DRC human rights abuses related to cobalt and coltan mining.

First, and most obviously, this comment recommends that the Kimberley Process should amend its definition of minerals to which the Process shall apply. Namely, the Kimberley Process should not be restricted to diamonds, but should also include minerals that have been historically proven to accompany human rights abuses (such as coltan and cobalt, but also gold and other gemstones – perhaps even petroleum, which has been used by ISIS to fund its arms acquisi-

89 Worst Forms of Child Labor Convention, No. 182, 17 Jun 1999 ILC 87, I.L.O.

90 *Id.*

91 Amnesty International, This is What We Die For: Human Rights Abuses in the Democratic Republic of the Congo Power the Global Trade in Cobalt 29 (2016).

92 *Id.*

93 *Id.*

94 *Id.* at 28-39.

95 Carole J. L. Collins, *Congo: Revisiting the Looking Glass*, 29, Rev. of African Political Economy 615, 607 – 615 (2002).

tions and military activities).[96] Expanding the family of substances which can apply for Kimberley Process-borne protections would not only incentivize other mineral industries to comply with the Process' regulations, but it would also lessen the need to implement new international legislation, conventions, and regulations every time a new conflict mineral arises in need of management.

Second, The Kimberley Process should reformat its legal framework to streamline the process of reaching a consensus between member states requiring an immediate decision or new course of action for punishment of newly non-complying nations. In order to remedy this quirk of the original Kimberley Process, a new amendment should be made to eliminate the requirement that every member state to the Process must reach a consensus before a decision is made. Instead, this comment offers that clusters of similar nations form groups within the Process itself so that countries that are most interested in the legal outcomes of a particular crises or cause for humanitarian concern can quickly and efficiently come to an agreement without the interference of distant (and potentially indifferent) states' input. Of course, the Process would need a singular authority with which to bind the entire Process together, and to this end, this comment proposes that one member state to the Process serve as the foremost authoritative leader for a term of four years, allowing other member states to look to this entity for ultimate decision making and resolving of in-fighting or disagreement among member states.

Third, considering the ease with which it is possible to smuggle conflict diamonds into batches of otherwise ethically-sourced diamonds, this comment proposes that the new Process should eliminate certificates attached to whole loads of stones. Although this plan would no doubt involve more time and attention, Kimberley Process authorities should instead bestow certificates upon specific *mines,* not stones. This suggestion has its root in the fact that the original certificate program enacted by the Kimberley Process in 2000 neglected to police conflict diamonds straight from the source.[97] However, this new proposal would ensure that before cobalt and coltan are even excavated from the earth, mine owners and facilitators are in compliance with controlling international agreements, such as the ILO Worst Forms of Child Labor Convention (No. 182) and relevant Kimberley Process regulations.

The particular challenge with the DRC is that many of its cobalt and coltan mines operate high in the rural mountainside of the country.[98] However, the implementation of mine-specific certifications may still be feasible even at such high altitudes and precarious terrain considering the large amount of ground covered and the size of the workforce employed in the original Kimberley Process

[96] Leif Wenar, *How to End the Oil Curse: Stop Trading with Autocrats*, Foreign Affairs https://www.foreignaffairs.com/articles/2016-06-03/how-end-oil-curse (June 3, 2016).

[97] John M. Durnovich, *This Land is My Land: Mending the Kimberley Process and Promoting Stability in Sub-Saharan Africa by Reinforcing Individual Property Rights*, 39 N.C. J. Int'l L. & Com. Reg. 885 (2013).

[98] Amnesty International, This is What We Die For: Human Rights Abuses in the Democratic Republic of the Congo Power the Global Trade in Cobalt 15 (2016).

diamond batch certifications.[99] Additionally, the presence of international authorities at cobalt and coltan mines would likely reduce the rampant child labor and worker abuse by M23 militia mine operators and deter others from engaging in similarly abhorrent business practices. Thus, because coltan and cobalt, like diamonds, obviously do not come with the ease of bar codes or any clear identifying information imprinted on them, and because the presense of a third party would likely decrease children's rights violations, extra care and attention given to the mines from which they originate will help alleviate human rights abuses and promote the health and safety of all workers.

VI. Conclusion

The Kimberley Process Certification Scheme was a novel and effective means of corralling the ongoing diamond crises in Western Africa when it entered into force in 2000.[100] However, although it enjoyed multiple triumphs and ultimately led to the dramatic decrease of conflict diamonds' distribution into the global diamond market, the Process has numerous faults which prevent it from achieving complete success.[101] Since the age since "blood diamonds" and the Western African human rights violations following multiple civil wars and internal tension, new conflicts have arisen which require immediate international attention. Cobalt and Coltan from the Democratic Republic of Congo exhibit all the hallmarks of an exploited natural resource in need of international intervention. As such, the Kimberley Process should be revitalized and extended beyond its scope to include cobalt and coltan mining.

[99] Alexandra R. Harrington, *Faceting the Future: The Need for and Proposal of the Adoption of a Kimberley Process-Styled Legitimacy Certification System for the Global Gemstone Market* 18 TRANSNAT'L L. & CONTEMP. PROBS. 353 (2009).

[100] Matthew Hockenberry, *Demands of Supply: The Illicit Pathways of Global Supply Chains*, 66 J. OF INT'L AFF. 151 (2012).

[101] Andrew H. Winetroub, *A Diamond Scheme is Forever Lost: The Kimberley Process' Deteriorating Tripartite Structure and its Consequences for the Scheme's Survival*, 20 Indiana Journal of Global Legal Studies 1425, 1425 – 1444 (2013).

THE FUTURE OF CRYPTOCURRENCY: AN UNREGULATED INSTRUMENT IN AN INCREASINGLY REGULATED GLOBAL ECONOMY

D. Towne Morton

I. Introduction

a. Scope

Resulting from their dynamic rise of their value and international popularity, cryptocurrencies have unavoidably come under amplified scrutiny and increased pressure from global regimes and a plethora of regulatory bodies. International organizations and governing bodies have taken quite drastic and differing approaches to cryptocurrencies. With questions of jurisdiction and fraud, these entities must ask if multinational policies are beneficial to world markets while trying to carefully balance issues of national capitol control and the perceived downsides to cryptocurrency such as: money laundering and as a mechanism to fund terrorism.

This article seeks to address the enigmatic cybersecurity of cryptocurrencies with inconsistent international regulation to this new international phenomenon regarding scams, anti-money laundering, and combating the financing of terrorism. However, with international regulations already in place, like the European Union ("EU") General Data Protection Regulation ("GDPR")[1], blockchain technology must conform their anonymity and adhere to data security regulations or will they become a rogue instrument in our global economy and further used as a tool of fraud and terrorism.

With global markets and national security in jeopardy, countries and international actors must come together to form a uniformed virtual currency framework with regulatory bodies enforcing sanctions and bringing forth criminal charges to enhance cybersecurity and combat illicit activities.

II. Background on Cryptocurrencies and Blockchain Technology

a. Structure of the Cryptocurrency Process

Blockchain and cryptocurrency are two of many bywords used within this growing sector. Internationally, many countries are familiar with the term "Bitcoin." Bitcoin is the cryptocurrency that relies on blockchain technology. Cryptocurrency offers a peer-to-peer payment option that allows users to securely send or receive electronic payment. Cryptocurrency is a decentralized digital cur-

[1] *EU General Data Protection Regulation ("GDPR"):* Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), OJ 2016 L 119/1

rency secured through encryption techniques to control the creation of monetary units and to verify the transfer of funds.[2] Cryptocurrency operates on a blockchain, which is merely an archive of digital transactions.[3] Fundamentally, when thinking of blockchains, think of a ledger. This digital ledger is a database that stores the transactions and can share it among a distributed network of computers.[4] Using blockchain technology, users can confirm transactions without the need for a central certifying authority – such as a central bank.[5]

Each time a transfer is initiated, a cryptocurrency holder (i.e. Bitcoin user) combines his or her wallet with a string of data that shows one's access to a virtual currency in a specific wallet; this is analogous and can be thought of as a password.[6] The network of the cryptocurrency, for example Bitcoin, verifies the transaction and adds it to a blockchain through cryptography. The process of verifying the transaction and adding it to the blockchain is known as "mining," which is all done through sophisticated computerized software.[7] Blockchains tracking the transfer of cryptocurrencies maintain a similar ledger, like one of a central certifying authority would keep, that keeps track of the transfer from a transferor to a transferee.[8] The difference lies in the blockchain technology, and in contrast to the central certifying authority. A blockchain ledger is considered decentralized, thus lacking a controlling party, because all the transactions are stored on thousands of computers that connect to the cryptocurrency network via the Internet.[9] Since these transactions are distributed, decentralized and highly encrypted, it is near impossible to trace the funds used in the cryptocurrency to the buyer or the seller.[10]

b. History: The Start of the Original Cryptocurrency to Today

Bitcoin, the original cryptocurrency, came to fruition in 2009. Invented, under the pseudonym Satoshi Nakamato, Bitcoin's value has exponentially increased since the commencement. At the start of 2019, a single Bitcoin is valued around $4,000.[11] Before Bitcoin, digital currencies and cryptocurrencies were controlled by a central authority and always centralized.[12] Nakamoto was not the first per-

[2] SHAWN AMUIAL ET AL., THE BLOCKCHAIN: A GUIDE FOR LEGAL & BUSINESS PROFESSIONALS GLOSSARYBLOCKCHAIN TERMINOLOGY (2016).

[3] Justin E. Hobson, *Blockchain and Cryptocurrency—Two Road Converge*, 28 J. MULTISTATE TAX'N & INCENTIVES 40 (2018).

[4] AMUIAL et al., *supra* note 2.

[5] *Id.*

[6] *Id.*

[7] Hobson, *supra* note 3.

[8] AMUIAL et al., *supra* note 2.

[9] *Id.*

[10] Conor Desmond, *Bitcoins: Hacker Cash or the Next Global Currency?* 19 PUB. INT. L. REP. 30, 32 (2013).

[11] *All Cryptocurrencies*, COINMARKETCAP., https://coinmarketcap.com/all/views/all/ (last visited Mar. 7 , 2018).

[12] Robert Viglione, *Does Governance Have a Role in Pricing? Cross-Country Evidence From Bitcoin Markets,* SSRN 1–31 (Sept. 2015).

son to attempt to create a form of digital currency structure; however previous digital currency often failed because they were unable to combat double spending.[13] Currency owners would spend the same digital currency twice, so digital currencies were centralized to make sure double spending did not occur. Nakamoto created a system for cryptocurrencies, that requires a complete consensus from all parties and if there are any disagreements between the parties the whole transaction breaks down.[14] Bitcoin demonstrates that there is need for any kind of central authority to control digital currencies if there is total agreement from all the parties involved.[15] Cryptocurrencies have value as long as the users trust that if they accept it as a payment, they can then use it to purchase something else.[16]

As of November 30, 2018, there were 2073 cryptocurrencies, with Bitcoin accounting for roughly half of the total cryptocurrency market capitalization.[17] Cryptocurrencies have been getting worldwide attention and a handful of central banks have started implementing options to adopt these blockchain technologies as a mode of payment for retail and large-value purchases.[18] With their dynamic rise, cryptocurrencies have come under heightened scrutiny from regulatory bodies. This rise has induced an international debate on jurisdiction and analysis of whether cryptocurrency is true currency, a security, or a commodity.

III. International Authorities and Cryptocurrencies

Due to the international reach of cryptocurrencies: regulation, policies, and enforcement jurisdiction are vague and muddled throughout the world. Governments, therefore, must find ways to cooperate in establishing at least some mutually agreeable regulations that govern the use of cryptocurrency and give international jurisdiction for illicit activities. The debate surrounding cryptocurrency and their benefit to the global economy is nowhere close to finding a uniformed solution. Online anonymity is a double-edged sword, and laissez-faire users and authorities must be handled delicately. As policy-makers and governing bodies address these issues, they must address the dynamic and innovated field of cryptocurrencies with a new mindset to ensure that enforcement agencies have the resources and legal support to create uniformed regulatory bodies, policies, and enforcement protocols to be able to police illicit activities that arise from cryptocurrency usage. Blockchain technology policy, like all good policy,

[13] Usman W. Chohan, *The Double-Spending Problem and Cryptocurrencies*, UNIV. NEW SOUTH WALES 1–7 (Dec. 19, 2017).

[14] *Id.*

[15] *Id.*

[16] BRIAN KELLY, THE BITCOIN BIG BANG: HOW ALTERNATIVE CURRENCIES ARE ABOUT TO CHANGE THE WORLD (2014).

[17] *All Cryptocurrencies*, *supra* note 11.

[18] Jonathan Chiu & Thorsten Koeppl, *The Economics of Cryptocurrencies – Bitcoin and Beyond*, CHAPMAN UNIV. 1–40 (Apr. 2017), available at https://www.chapman.edu/research/institutes-and-centers/economic-science-institute/_files/ifree-papers-and-photos/koeppel-april2017.pdf.

must be nuanced and thoughtful to strike the balance between the needs of privacy-minded users and the government's responsibility to stop illegal activity.

a. International Actor's Stances on Cryptocurrency Regulation

As authorities around the world change policies that effect digital assets, cryptocurrencies can be greatly affected and major, positive or negative, impacts on the market can ensue. A common theme is confusion; no major international actor is confident what laws apply, how much government influence is needed, when taxes must be paid, whether cryptocurrency is an asset or an investment or a security or something that is to be determined. Legal classifications of cryptocurrencies are imperative in defining regulatory policies, addressing domestic legal certainties and applying rule of law. With licensed cryptocurrency exchange platforms that perform exchange of hard currencies to cryptocurrencies and vice-versa, we see the emergence of a new type of intermediary.[19] These intermediaries' rights are dependent on how cryptocurrencies are classified, further the issue of taxation, and policy issues all vary on the classification of cryptocurrencies.[20]

i. USA, EU & Canada

With increased scrutiny from global regulatory bodies, many countries will look to the United States ("U.S."), the EU, and Canada in their regulation and views on digital assets.

The U.S. has varying perceptions of cryptocurrencies across their federal entities and laws vary state to state. The U.S. has the second largest volume of Bitcoin, nearly twenty-six percent.[21] However, the U.S. government, in comparison to other major powers, has retrospectively set up no regulatory guidelines.[22] This lack of uniform regulatory framework has not made the country well suited to welcome the global phenomenon of cryptocurrencies. Without a compact uniformed system of rules, many blockchain startups avoid the U.S. due to implications of future taxations.[23] In observing some regulatory bodies, we see that the Financial Crimes Enforcement Network ("FinCEN") does not consider cryptocurrencies to be legal tender.[24] However, FinCEN has considered exchanges as money transmitters on the basis that tokens are "other value that sub-

[19] Dr. Asress Adimi Gikay, *Regulating Decentralized Cryptocurrencies Under Payment Services Law: Lessons from European Union Law,* 9 CASE W. RESERVE J.L. TECH. & INTERNET 1, 35 (2018).

[20] *Id.*

[21] CRYPTOCOMPARE, https://www.cryptocompare.com/ (last visited Oct. 24, 2018).

[22] *Id.*

[23] Rachel McIntosh, *The Good, the Bad, and the Ugly: Crypto Regulation in the USA*, FINANCE MAGNATES (Sept. 1, 2018), https://www.financemagnates.com/cryptocurrency/news/good-bad-ugly-crypto-regulation-usa/.

[24] APPLICATION OF FINCEN'S REGULATIONS TO PERSONS ADMINISTERING, EXCHANGING, OR USING VIRTUAL CURRENCIES, FINANCIAL CRIMES ENFORCEMENT NETWORK (Mar. 18, 2013), available at https://www.fincen.gov/resources/statutes-regulations/guidance/application-fincens-regulations-persons-administering.

stitutes for currency"[25] In contrast, the Intern Revenue Services ("IRS"), regards cryptocurrencies as property and, in March 2018, issued a formal statement to remind taxpayers to report virtual currency transactions.[26] Furthermore, multiple federal bodies in cryptocurrency exchange regulations sphere have claimed jurisdiction. The Securities and Exchange Commission ("SEC") reported that they consider cryptocurrencies to be securities.[27] While on the other side of the coin, the Commodities Futures Trading Commission ("CFTC") considers Bitcoin to be a commodity.[28] The U.S., due to their limited uniformed federal legal framework and confusion of what cryptocurrencies are, have put crypto users and their citizens at risk of illicit activities. Without sweeping federal laws, states are left to make their own regulations on the usage and classification of cryptocurrencies. When analyzing each state's laws, there is distinct divide on the approach of regulation which can be separated into three groups: (1) flexible approach states; (2) strict regulators; and (3) states without regulations (these states have yet to embrace virtual currency and do not have regulations). The Uniform Law Commission ("ULC") created, the Uniform Regulation of Virtual-Currency Businesses Act ("URVCBA"), a restatement like template that state governments may use to integrate cryptocurrency companies into the regulatory framework.[29]

The EU Parliament published an in-depth analysis of virtual currencies stating, *"Policy makers and regulators should not ignore VCs, nor should they attempt to ban them. Both extreme approaches are incorrect."*[30] This report defines virtual currencies ("VCs") as private digital monies and that they should be treated by regulators as any other financial instrument.[31] Furthermore, it expresses the importance to harmonize regulations across jurisdiction due to their global nature and trans-border character.[32] The authors recommend that cryptocurrencies should be taxed in a similar fashion to investment in other financial assets.[33]According to European Central Bank President, Mario Draghi, no member

[25] *Id*.

[26] *IRS reminds taxpayers to report virtual currency transactions*, INTERNAL REVENUE SERVICE (Mar. 23, 2018), https://www.irs.gov/newsroom/irs-reminds-taxpayers-to-report-virtual-currency-transactions.

[27] Jay Clayton, *Statement on Cryptocurrencies and Initial Coin Offerings,* U.S. SECURITIES AND EXCHANGE COMMISSION (Dec. 11, 2017), https://www.sec.gov/news/public-statement/statement-clayton-2017-12-11.

[28] *Bitcoin*, U.S. COMMODITY FUTURES TRADING COMMISSION, https://www.cftc.gov/Bitcoin/index.htm (last visited Apr. 20, 2019).

[29] NATIONAL CONFERENCE OF COMMISSIONERS ON UNIFORM STATE LAWS, Uniform supplemental Commercial Law for the Uniform Regulation of Virtual-Currency Businesses Act (2018). *See also* Ballard Spahr, *Uniform Act to Regulate Virtual Currency Businesses Ready for State Adoption*, JDSUPRA (Jan. 10, 2018), https://www.jdsupra.com/legalnews/uniform-act-to-regulate-virtual-68645/ (explaining the proposed act and stating the act "contains a three-tiered regulatory structure that is designed to provide legal stability to virtual currency transactions while accommodating innovation.").

[30] MAREK DABROWSKI & LUKASZ JANIKOWSKI, VIRTUAL CURRENCIES AND CENTRAL BANKS MONETARY POLICY: CHALLENGES AHEAD (European Parliament June 2018), available at http://www.europarl.europa.eu/cmsdata/149900/CASE_FINAL%20publication.pdf (emphasis added).

[31] *Id.* at 26.

[32] *Id.* at 5.

[33] *Id.*

state can introduce its own currency in the EU.[34] Many EU leaders, including Vice President of the European Commission Valdis Dombrovskis, have expressed concern about how digital assets can be used for money laundering and the financing of illicit activities.[35] On December 15, 2017, the European Council and the European Parliament agreed amend the 4th Anti-Money Laundering ("AML") Directive,[36] and thus the 5th AML Directive[37] was brought to fruition. This directive will bring virtual currency exchanges and custodian wallet providers under the umbrella of the existing European AML legislation.[38] Once incorporated into national legislation of the EU member states, these exchanges and custodians will be obligated to register with the appropriate authority within their jurisdiction and must comply with a set of guidelines that will give national investigators greater access to information, in their fight against illicit activities.[39] The 5th AML Directive contains the first legally binding definition of VCs for EU member states and is the most significant regulatory action implemented in the rules of VCs on the supranational level.[40] The European Court of Justice ("ECJ") has held[41] that for tax purposes, VCs should be treated as a currency rather than a commodity; having exemption from the Value Added Tax ("VAT") according to the current EU laws and regulations.[42] The ECJ has been recognized without objection by the totality of EU member states and their courts, thus VCs will be exempt from taxation across all jurisdictions of the EU.[43] The EU, very publicly and in the international lens, have been working hard on creating a uniformed set of guidelines and laws within the EU that work to create an optimal environment for cryptocurrencies.

Canada, being the first country in the world to establish tax laws that apply to virtual currencies, perhaps has the most cohesive and developed system of regu-

[34] Mario Draghi, President of the ECB & Vítor Constâncio, Vice-President of the ECB, Press Conference at Frankfurt am Main (Sept. 7, 2017) (transcript available at European Central Bank, https://www.ecb.europa.eu/press/pressconf/2017/html/ecb.is170907.en.html.)

[35] Vladis Dombrovskis, Vice-President Eur. Comm'n, Remarks at the Roundtable on Cryptocurrencies at Brussels (Feb. 26, 2018) (transcript available at European Commission, http://europa.eu/rapid/press-release_SPEECH-18-1242_en.htm).

[36] Directive of the European Parliament and of the Council, EUR. PARL. DOC. (EU 2015/849) (2015), available at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2015_141_R_0003&from=ES.

[37] Directive of the European Parliament and of the Council, EUR. PARL. DOC. (COM 2016/028) (2016), available at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016PC0450&from=EN.

[38] Stefan Stankovic, *Cryptocurrency Regulation in the European Union*, CRYPTO BRIEFING (Aug. 23, 2018), https://cryptobriefing.com/cryptocurrency-regulation-european-union/.

[39] *Id.*

[40] *Id.*

[41] Case C-264/14, Skatteverket v. Hedqvist, 2015 E.C.R. 718, available at http://curia.europa.eu/juris/document/document.jsf?docid=170305&doclang=EN.

[42] Directive of the European Parliament and of the Council, EUR. PARL. DOC. (COM 2016/028) (2016).

[43] *Id.*

lations.[44] Cryptocurrencies are not considered legal tender in Canada, but the usages of digital currencies are allowed.[45] The Canada Revenue Agency publicly stated and characterized cryptocurrency as a commodity.[46] Further, the agency asserted that the use of cryptocurrency to pay for goods or services should be treated as a barter transaction.[47] The Canada Revenue Agency added that,

. . .[w]here digital currency is used to pay for goods or services, the rules for barter transactions apply. A barter transaction occurs when any two persons agree to exchange goods or services and carry out that exchange without using legal currency. For example, paying for movies with digital currency is a barter transaction. The value of the movies purchased using digital currency must be included in the seller's income for tax purposes. The amount to be included would be the value of the movies in Canadian dollars.[48]

As noted above, because cryptocurrencies are a commodity under Canadian law, Canadian citizen must report any gains or losses generated from the disposition of cryptocurrency, and cryptocurrency should be treated as capital when filing taxes.[49] Companies dealing with cryptocurrencies are required to register with the Financial Transactions and Reports Analysis Centre of Canada ("Fintrac") and must comply with record keeping, reporting, and a variety of other compliance programs under Bill C-31, which was given the Royal Assent in 2014.[50] This law also applies to virtual currency exchanges operating outside of Canada that their service effects persons or entities in Canada.[51] However, because of Canada's parliamentary system, Bill C-31 and its changes were never "commenced."[52] Examined further, Parliament passes legislation, the Governor General gives it Royal Assent and it becomes a law. However, the law does not go into force until it "commences."[53] Bill C-31's virtual currency amendments are currently classified as "Amendments Not in Force." Thus, corporations that deal in cryptocurrencies are not regulated money services businesses ("MSBs") under the law.[54]

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[44] Mariam Al-Shikarchy et al., *Canadian Taxation of Cryptocurrency . . . So Far*, LEXOLOGY (Nov. 14, 2017), https://www.lexology.com/library/detail.aspx?g=6283077e-9d32-4531-81a5-56355fa54f47 (stating that in Canada digital currencies are subject to the Income Tax Act and the Exercise Tax Act).

[45] *Digital Currency*, FINANCIAL CONSUMER AGENCY OF CANADA, https://www.canada.ca/en/financial-consumer-agency/services/payment/digital-currency.html (last visited Apr. 20, 2019).

[46] Mariam Al-Shikarchy et al., *supra* note 44.

[47] *Id*.

[48] *Guide for cryptocurrency users and tax professionals*, CANADA REVENUE AGENCY, https://www.canada.ca/en/revenue-agency/programs/about-canada-revenue-agency-cra/compliance/digital-currency/cryptocurrency-guide.html (last visited Apr. 20, 2019).

[49] *Id*.

[50] Economic Action Plan, R.S.C. 2014, c. 31 (Can.).

[51] *Id*. at § 255(2).

[52] Christopher Casper, *Bitcoin and Cryptocurrency Laws in Canada - A Comprehensive Guide*, COINIQ (JULY 23, 2018), https://coiniq.com/bitcoin-and-cryptocurrency-laws-in-canada/.

[53] *Id*.

[54] *Id*.

ii. China & Japan

China has not passed any legislation in relation to the regulation of cryptocurrencies and regulators are not recognizing cryptocurrencies as legal tender.[55] In 2013, the People's Bank of China ("PBOC") ruled that cryptocurrencies are not currency, but rather a VC.[56] The practice of acquiring a profit through initial coin offerings ("ICOs") is completely banned in China.[57] Chinese central government regulators issued the "ICO Rules", which state, ICOs that promote cryptocurrencies through the sale and circulation of tokens are, in essence, engaging in the illegal acts of public financing without official authorization.[58] The ICO Rules prohibit cryptocurrency trading platforms from: engaging in the conversion of legal tender into cryptocurrencies or vice versa, purchasing or selling cryptocurrencies, setting prices, or providing any other related agent services.[59] Financial institutions are prohibited from, in any form, providing any type of service to cryptocurrencies.[60] Cryptocurrencies have been highly regulated, and even recently, China has moved to discourage Bitcoin mining.[61] In January 2018, China's Leading Group of Internet Financial Risks Remediation requested that local governments remove existing, preferential policies for Bitcoin mining companies and actively direct the withdrawal of such companies from the Bitcoin mining business.[62] Due to these increased regulations by local governments, many Bitcoin mines in China have stopped operating. On July 6, 2018 the People's Bank of China reported that eighty-eight VCs trading platforms and eighty-five ICO platforms, have all withdrawn from the market.[63] China was once the

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[55] Laney Zhang, *Regulation of Cryptocurrency: China*, THE LAW LIBRARY OF CONGRESS, https://www.loc.gov/law/help/cryptocurrency/china.php#_ftn1 (last updated July 13, 2018).

[56] TipRanks, *Crypto In China: Past, Present, And Future,* NASDAQ (Dec. 17, 2018), https://www.nasdaq.com/article/crypto-in-china-past-present-and-future-cm1070028.

[57] PBOC, CAC, MIIT, SAIC, CBRC, CSRC, and CIRC, *Announcement on Preventing Financial Risks from Initial Coin Offerings* (Sept. 4, 2017), http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/3374222/index.html (in Chinese), archived at https://perma.cc/N88N-5CV5 (hereinafter *Announcement on ICOs*). Saheli Roy Choudhury, *China bans companies from raising money through ICOs, asks local regulators to inspect 60 major platforms*, CNBC (Sept. 4, 2017), https://www.cnbc.com/2017/09/04/chinese-icos-china-bans-fundraising-through-initial-coin-offerings-report-says.html. *See* Greg Pilarowski& Lu Yue, *China Bans Initial Coin Offerings and Cryptocurrency Trading Platforms*, PILLAR LAW (Sept. 21, 2017), http://www.pillarlegalpc.com/en/news/2017/09/21/china-bans-initial-coin-offerings-and-cryptocurrency-trading-platforms/ (describing the end of Bitcoin in China and noting that BTCChina, world's second largest Bitcoin exchange by volume as of October 2014, completed shutdown by September 30, 2017 giving its customers less than two weeks notice).

[58] *Announcement on ICOs, supra* note 57.

[59] *Id.*

[60] Xie Xu, *China to Stamp Out Cryptocurrency Trading Completely with Ban on Foreign Platforms*, S. CHINA MORNING POST (Feb. 7, 2018), http://www.scmp.com/business/banking-finance/article/2132009/china-stamp-out-cryptocurrency-trading-completely-ban.

[61] Bitcoin Mining is used interchangeably with cryptocurrency mining throughout this paragraph.

[62] Wu Yujian et al., *China Clamps Down on Preferential Treatment for Bitcoin Mines*, CAIXIN (Jan. 4, 2018), https://www.caixinglobal.com/2018-01-04/china-clamps-down-on-preferential-treatment-for-bitcoin-mines-101193622.html.

[63] Laney Zhang, *China: Government Indicates All Virtual Currency Platforms Have Withdrawn from Market,* THE LAW LIBRARY OF CONGRESS (July 12, 2018), https://www.loc.gov/law/foreign-news/article/china-government-indicates-all-virtual-currency-platforms-have-withdrawn-from-market/.

most active market for cryptocurrency trading on exchanges (mainly Bitcoin). Further, Bitcoin that was traded with Chinese Yuan, at one point, accounted for over ninety percent of the global trading in Bitcoin and now has plummeted to near extinction at a mere one percent of global trading.[64]

In Contrast to China, Japan arguably has the world's most progressive regulatory climate for cryptocurrencies. Since April 2017, cryptocurrency exchange businesses operating in Japan have been regulated by the Payment Services Act ("PSA").[65] Under the PSA, cryptocurrency exchange businesses must be registered, keep records, take security measures, and take measures to protect customers[66] Further, the PSA defines "cryptocurrency" as a property value and not legal tender.[67]

In December 2018, the Financial Services Agency ("FSA") published a draft report which outlined the newest framework for addressing cryptocurrencies and ICOs.[68] In the report, the FSA addresses the fact that technological advancements are transborder and reflects on the importance of collaboration with other international regulatory bodies in the world of cryptocurrencies.[69] The FSA, in regards to ICO regulation, explained that specific tokens are subject to regulation based on how they are structured.[70] ICOs would be under the purview of the Financial Instruments and Exchange Act.[71] As of now there is little to no opposition to the proposed measures and the draft is expected to form the new regulations. In August 2018, the FSA commissioner, explained that the agency has no plans to hinder to shut down the cryptocurrency sector and would like to see this sector grow under appropriate regulation.[72]

b. Issues of the Current Non-uniformity & Recap on Classifications

As we have seen, the growth of cryptocurrencies has been met with countless, different, legislative and regulatory frameworks. Many international bodies respond with approval of the functionality of cryptocurrencies, while other national jurisdictions prohibit and restrict the use of blockchain technology and cryptocurrencies. The array of different perspectives shines light on the inadequate governance and oversight of a uniformed authority. Given the decentralized nature over cryptocurrencies, international bodies struggle with the idea of independent ver-

64 *Id*.

65 Payment Services Act, Act No. 59 of 2009, amended by Act No. 62 of 2016.

66 *Id*.

67 *Id*.

68 *Japan Reveals Expectations for Crypto Industry Self-Regulation,* CRYPTOCURRENCY, https://criptoglobalcurrency.com/2018/12/27/japan-reveals-expectations-for-crypto-industry-self-regulation/ (last visited Dec 12, 2018).

69 *Id.*

70 *Id.*

71 *Id.*

72 Samburaj Das*, No 'Excessive' Regulation: Japan's New FSA Chief Backs Crypto Industry Growth*, CCN (Aug. 24, 2018), https://www.ccn.com/no-excessive-regulation-japans-new-fsa-chief-backs-crypto-industry-growth/.

sus dependent oversight. The lack of clear legal class for cryptocurrencies could lead to differential treatment and repercussions of different International financial institutions, governments and authorities.

While analyzing the international perspective of classifications, since cryptocurrencies are used for exchanges of goods and services online and fulfilling all the characteristics of the economic definition of money, many argue cryptocurrencies should be treated as money.[73] Institutions like the CFTC and the Central bank of Finland have classified cryptocurrencies as commodities.[74] Many believe classifying cryptocurrencies as commodities rather than money avoids anti-money laundering laws.[75] The emergence of complex ICOs, where investors who invest in a new token (cryptocurrency) are given numerous rights, such as dividends from investment and voting rights, have been ruled as investment contracts.[76] The U.S., SEC in particular, have stated these contracts are under securities and the European Securities Law Market Authority have stated, depending on how the token is structured, it may fall under their securities laws.[77]

In sum, the discussion around legal classification is extremely polarized, within and across borders causing extreme chaos and confusion for international regulations and governance. Many countries have tried to implement regulations to better address blockchain technology and strengthen data security.

IV. GDPR Fosters Conversations for a Uniformed Regulatory System on Data Security

The EU's new GDPR will be applied to every company across the continent.[78] This top-down set of regulations, that addresses individual data privacy concerns, repeals and replaces the European Commissions' ("EC") Data Protection Directive 95/46/EC.[79] The GDPR treats digital privacy as a fundamental right, thus the law is extended to any business or consumer that exchanges data within the EU.[80] The GDPR went into effect on May 25, 2018.[81]

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[73] Gikay, *supra* note 19.

[74] *Id.*

[75] *Id.*

[76] *Id.*

[77] *Id.*

[78] Michael Roque, *Why GDPR Matters for Cryptocurrencies,* CRYPTOLERANCE (Mar. 25, 2018), https://www.cryptolerance.com/why-gdpr-matters-for-cryptocurrencies/.

[79] Dalmacio V. Posadas, Jr., *The Internet of Things: The GDPR & the Blockchain may be incompatible.* 21 NO. 11 J. INTERNET LAW 1 (May 2018) (explaining that as the Internet of Things ("IoT") continues to rapidly expand one of the many concerns is data-security and privacy. The author further suggests that some believe that Blockchain Technology can provide adequate data-security and privacy, in the same way it has provided data-security and privacy for Bitcoin while others believe the GDPR provides sufficient protections).

[80] *Id.*

[81] GDPR, *supra* 1

a. Background, Territorial Scope & Compliance

After three years of negotiations, on December 17, 2015, the European Parliament came to an agreement on the final draft of the GDPR.[82] The GDPR has a far-reaching effect in that it: "applies to the processing of personal data of data subjects who are in the [EU] by a controller or processor not established in the [EU]."[83]

The GDPR embodies this international push for a more unified framework of addressing individual's privacy concerns due to emergent technology and the use of the internet. The GDPR's reach is far beyond the EU because many data processors reach the EU, subsequently being subject to their laws.[84] Further, extraterritorial applicability in the framework of the GDPR means that data processors within the blockchain related service providers will be affected by the regulations due to the transnational nature of blockchains and cryptocurrency engagements.[85]

GDPR compliance is costly. Small data-driven businesses within the EU may be doomed due to the cost of compliance, and then non-compliance fees.[86] Worldwide companies based outside the EU, which are subject to EU law, may decide to block Europeans from using their services or even terminate their EU operations.[87] A recent survey, of U.S. businesses, shows that seventy percent of businesses will spend anywhere between $50,000 to $1 million to comply with the GDPR standards.[88] Interestingly enough, compliance is much cheaper than non-compliance and the infringement penalties can reach as high as $22 million.[89] However, the financial consequences do not outweigh the societal benefits of the GDPR. Under this new framework, EU citizens have fundamental rights to their data, to rectify, to object, and access at will.[90]

b. GDPR vs. Blockchain Technology

Blockchains immutability, as an inherent characteristic, makes it not compatible with the GDPR. The right to be forgotten is a major concept that comes from the rights given to consumers from the GDPR. Article 17 of the GDPR mandates that the data subject . . ."shall have the right to obtain from the controller the

82 *Id*.

83 General Data Protection Regulation 2016/679, art. 3(2).

84 Posadas, *supra 79*.

85 Stefan Stankovic, *GDPR vs. Blockchain - Technology Against The Law*, CRYPTO BRIEFING (June 19, 2018), https://cryptobriefing.com/gdpr-vs-blockchain-technology-against-the-law/.

86 *Id*.

87 *Id*.

88 Robert Abela, *Netsparker Surveys US Based C-Levels on GDPR Compliance Find vulnerabilities in your websites before hackers do,* NETSPAKER (Apr. 12, 2018), https://www.netsparker.com/blog/web-security/gdpr-compliance-2018-survey-results/.

89 *Id*.

90 Stankovic, *supra* 85.

erasure of personal data concerning him or her without undue delay and the controller shall have the obligation to erase personal data without undue delay."[91]

The GDPR's right to be forgotten is evidently designed for a system where data is centrally stored and processed. Thus, this right to be forgotten is incompatible with decentralized blockchains and cryptocurrencies.[92] To break this down, decentralized blockchains do not rely on a central authority (like the World Bank) to process data, therefore, this idea of a third party or data controller to erase personal data from a blockchain is not accomplishable and doesn't comply with GDPR regulations. Further, the backlash from laissez fair minded citizens would be detrimental to society, and pro GDPR authorities, due to the fundamental ideology of blockchain technology. The question begs: does the transnational transfer of data due to the blockchain of the cryptocurrency directly oppose the provisions of the GDPR? If the answer is yes, then jurisdiction and compliance issues come directly into effect. Consequently, blockchains and the GDPR cannot work under the same framework.

V. Cryptocurrency Fosters Criminality

Cryptocurrencies non-compliance with the GDPR is not the only obstacle in their way. Many national authorities have targeted cryptocurrencies as a tool that enables illicit activities. Cryptocurrencies, just by their design, makes it very attractive for parties to perform illicit transactions. Criminals and terrorist can use cryptocurrencies as a mechanism to move and store illicit funds while evading regulatory and criminal guidelines in place. With no central authority there is no oversight to properly police the perpetrators. Tracking and tracing funds to the criminals creates heavy burdens on law enforcement as there are no uniformed or easy way to properly pinpoint the acts of money laundering and other criminal activities.

Cryptocurrencies, intrinsically, have a pseudonymous nature to them, which means that it is wholly anonymous other than the owner's public key on the blockchain[93]There are an array of complex methods of camouflaging transactions through "tumbling" and "mixing" that further safeguards the user's privacy and makes the transacting untraceable on the blockchain.[94] Individual's identities remain anonymous due to these peer-to-peer transactions.[95]

a. Virtual Terrorism- Dark web

To date, there has been no indication that cryptocurrencies have been used to fund criminal activity, but independent acting terrorists that have used cryptocur-

[91] General Data Protection Regulation 2016/679, art. 17.

[92] Stankovic, *supra* 85.

[93] Joan Murphy et al., *Silk Road 101: How the "Darknet" Works*, USA TODAY (last updated Jan. 27, 2015), https://www.usatoday.com/story/tech/2015/01/16/silk-road-ross-ulbricht/21824475.

[94] *Id.*

[95] *Id.*

rencies. These actions foreshadows frightening possibilities of transnational crimes in the future.[96]

A 2015 Europol report highlights the fact that Bitcoin has been a tool in "high-profile" investigations involving payments of criminals. Further, cryptocurrencies were used in over forty percent of illicit transactions in the EU.[97] Users of cryptocurrencies may access dark websites, which is a publicly downloadable router network implanted to conceal Internet Protocol ("IP") addresses for the users.[98] Thus, the network conceals the identity and location of those using cryptocurrencies on the dark web. Marketplaces, like the Silk Road, are used as a forum to buy and sell illicit goods and services.[99] In many of these marketplaces cryptocurrencies are the only acceptable currency used.[100] To convert these funds from cryptocurrencies to dollars, users must seek the services of a crypto exchanger. There is a plethora of unlicensed money transmitters which allows users further anonymity during the transaction through the exchange.[101] Consequently, these unlicensed money transmitters and the users are subject to criminal prosecution.[102]

VI. Proposed Steps for a Uniformed Regulatory Framework

There are no norms, or *jus cogens*, regarding the use of cryptocurrencies in international law. Thus, it is key that countries and international actors come together to expose options for regulatory frameworks to address rise in concern of criminal activities and transnational compliance issues. With varying views to regulating Bitcoin, with countries like Japan fully supporting the digital market currency to countries like China who have led countless strikes against the market, regulation becomes increasingly difficult.

Already we are seeing initiatives of international collaboration to combat the threat of cryptocurrency tax crimes.[103] Countries such as the U.S., Australia, Canada, the United Kingdom, and the Netherlands, have come together to form the Joint Chiefs of Global Tax Enforcement (J5).[104] This initative is incredibly im-

96 Nikita Malik, *How Criminals And Terrorists Use Cryptocurrency: And How To Stop It,* FORBES (Aug. 31, 2018), https://www.forbes.com/sites/nikitamalik/2018/08/31/how-criminals-and-terrorists-use-cryptocurrency-and-how-to-stop-it/#7b04821f3990.

97 EUROPOL, THE INTERNET ORGANISED CRIME THREAT ASSESSMENT (IOCTA) (2015), available at https://www.europol.europa.eu/activities-services/main-reports/internet-organised-crime-threat-assessment-iocta-2015 (last visited Jan 1, 2019).

98 Nina Marino, Jennifer Lieser, Casey Clark, *The Dark Side of Bitcoin*, 41-SEP L.A. LAW 36, 38 (2018) (referring to the U.S. DEP'T OF HOMELAND SEC., RISKS AND THREATS OF CRYPTOCURRENCY (2014); FIN. ACTION TASK FORCE, VIRTUAL CURRENCIES: KEY DEFINITIONS AND POTENTIAL AML/CFT RISKS (2014)).

99 *Id.*

100 *Id.*

101 *Id.*

102 *Id.*

103 Jimmy Aki, *International Coalition Set to Tackle Cryptocurrency Tax Crime,* BITCOIN MAGAZINE (July 3, 2018), https://bitcoinmagazine.com/articles/international-coalition-set-tackle-cryptocurrency-tax-crime/.

104 *Id.*

portant as the world has seen a rapid increase in cybercrimes especially at the hands of cryptocurrencies. Through the Joint Chiefs of Global Tax Enforcement, countries can share information to reduce the likelihood of organized criminals and tax evaders using new technology to manipulate the system and exploit vulnerable persons for their illegal gain. Cryptocurrencies enables a new global criminal community that transcends boundaries. Thus, global leaders must come together to increase pressure and reach to inhibit illegal activity.

The effect of regulations, such as the GDPR, has been felt all around the world in the cryptocurrency community. The EU with the GDPR places emphasis on the individual rights to privacy. Data protection in the EU is considered a fundamental right. On the other side of the coin, the U.S. looks at personal data as property of the entity holding said data; thus, making data transfer between different countries and their entities much more complex.

A solution to counteract this apparent incongruity is to determine a suitable framework for blockchain technology itself since the regulatory and legal issues with cryptocurrencies are governed by existing domestic frameworks. In this new wave of cyber currency, with transnational differences on the topic, global harmonization is vital for this global market. Common policy is needed to prevent risk of criminal activities and to empower predictability and common practices between all parties involved in the transaction to avoid jurisdiction issues in this borderless market.

An international agreement on blockchain principles would allow for uniformity across jurisdictions and require countries to adhere to the newly created international regulatory norms. An international agreement would establish common standards while allowing each signatory to impose additional regulations as desired. Without an international agreement, money launderers, tax evaders, and terrorist can take advantage of the definitional challenges and different views on regulation internationally. As cryptocurrency is a global concept with exchanges possible in any country, without uniformity, mass confusion exists and the marketplace remains out of control.

Ultimately there needs to be guidance and conversation of uniformed regulations at the G20 level. These regulations need to cover the issuance of digital money by ICOs and create rules to protect against market manipulation. Organizations like the Financial Action Task Force ("FATF"), an intergovernmental body formed to fight money laundering and terrorist financing, must take the lead to regulate cryptocurrencies. While many actors in the virtual currency industry oppose regulation because of the costs of compliance and fears that regulation will hinder innovation, the complex relationship between technology and governance is much more than innovation and statutory definitions.

Developing countries around the world have passed stringent regulations on blockchain and cryptocurrency solutions. Many countries around the world have banned ICOs and cryptocurrencies, while the U.S. regulates ICO's in the same manner that they regulate other securities. These approaches have only served as a mode of removing the benefits of ICO's while not fully addressing the criminal aspects.

a. The Solution Broken Down

International policymakers at all levels of governments must consider utilizing new solutions, such as blockchain technology, to prevent future data breaches. These legislators should enact a uniformed data-breach notification and data protection statute that preempts an international data-breach law. This statute should be designed and implanted by an array of hybrid international authorities in cryptocurrencies, money laundering, terrorist financing and ICO's. This statute would act as the promulgator of regulation concerning data collection, blockchain regulation on anonymity and right of erasure, and would create a specific department for international cybersecurity. A specialized Department for International Cybersecurity could promote international compliance, harmonization on laws and jurisdiction, and serve as an information clearinghouse for businesses regarding data-breach related issues. Like the GDPR regulations, the statute must require businesses to notify all affected consumers of a data-breach occurrence that results in personal information disclosure, within a reasonable time of no more than thirty days from breach. With no international means of uniformed jurisdiction, this statute should suggest significant civil procedures and penalties against companies who do not comply with data-breach regulations.

VII. Conclusion

While countries continue to express ambivalence about cryptocurrency technology and struggle to come to grip with blockchain regulatory solutions, we see an increase worry in data security protection. The main question arises: will international regulators work together? As blockchain technology and cryptocurrencies transcends borders, domestic regulators must tackle breaches of their laws by facilitating global coordination and harmonizing a uniformed set of regulations regarding data security. Figuring out how to regulate and enforce laws in a virtual currency world that can operate anonymously across borders causes severe issues. These issues include using cryptocurrency to: (1) illicit crimes, such as, financing terrorism, and money laundering; (2) promote tax evasion by hiding income; and (3) defraud individuals and companies through market manipulations. Regulation is needed, not to change the decentralized nature, but to increase security levels. The aim of a uniformed set of regulatory practices is to bring legal order to a currently unregulated market. The uniformed framework needs to be implemented to oversee the main service provider activities, ICO's, as well as intermediaries, wallet providers, exchanges and other bodies or individuals in these digital financial regulations.