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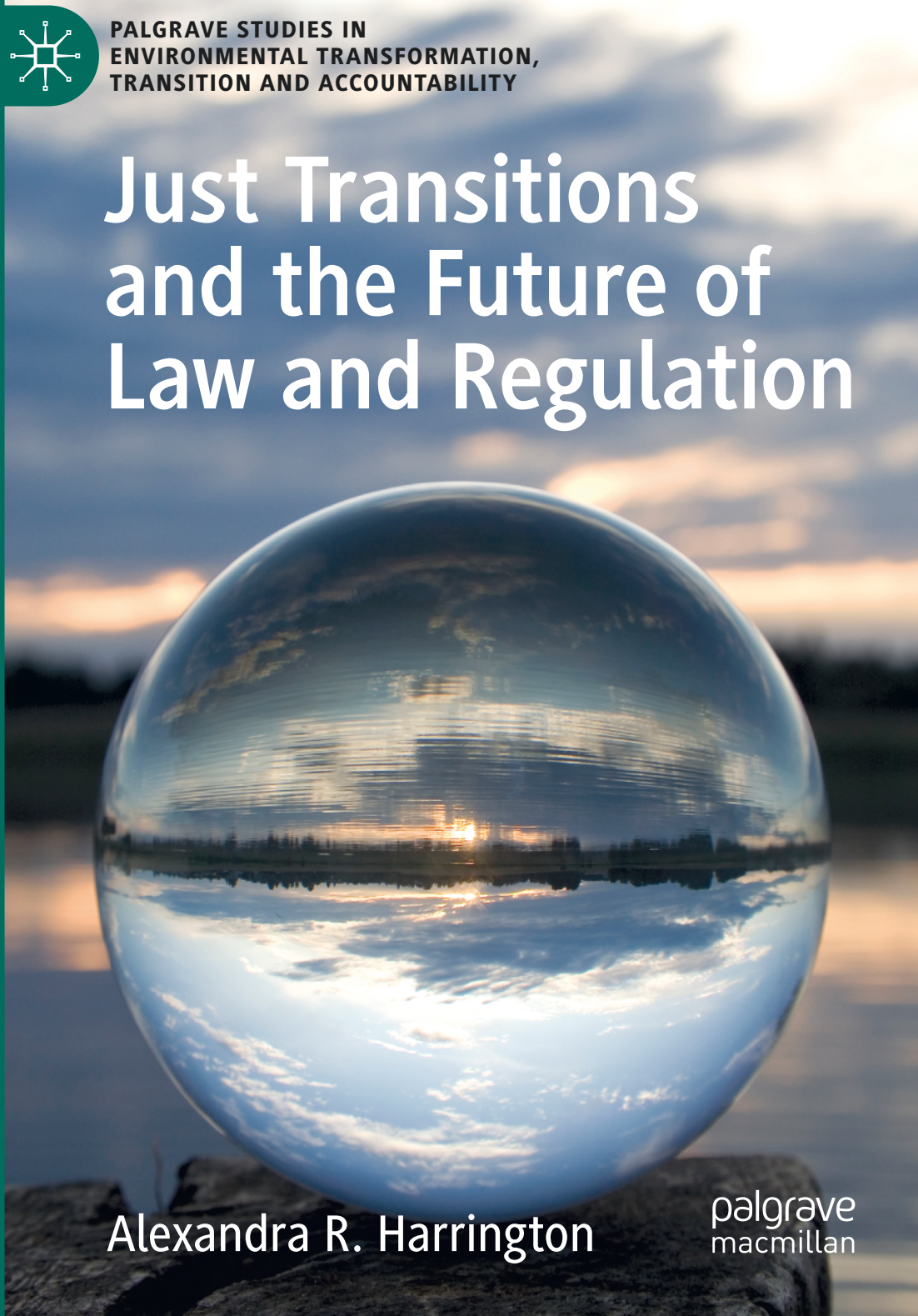
Just Transitions and the Future of Law and Regulation



Alexandra R. Harrington

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For my family, now and always

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Book writing is a journey, and this book has allowed me to travel across geographies, experiences and understandings even in the very depths of the Covid-19 pandemic and the closing of so many borders. The lessons from the pandemic are deeply rooted for everyone and will certainly mark those of us who experienced it with a common knowledge that has brought together past generations over similar shared struggles. One of the impacts of the pandemic from my perspective is the way in which it has necessitated every person in every country and across every sector of society and profession to transition from the lives of 2019 to the lives of 2022 and beyond. In experiencing this personally and watching it unfold in the world around us, I came to perceive the profound importance of articulating a theory of just transitions that serves a world scarred by pandemic loss and trauma as it responds to these stresses, charts new paths to recovery and resilience, and addresses the concomitant challenges posted by climate change. Although this theory is intended to function across disciplines, locales, industries and identities, it is united by a foundational core rooted in international norms that are reflected in international law—both hard law regimes and soft law regimes—as well as in the regulations crafted to implement and oversee these norms. This theory builds on my previous books and writings, none of which would have been possible without the fantastic family members, friends and professional colleagues I have the privilege of including in my life.

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Contents

Abbreviations

BBB	Build Back Better
CBD	United Nations Convention on Biological Diversity
CCS	Carbon Capture and Storage
CCUS	Carbon Capture, Utilization and Storage
CEDAW	Convention on the Elimination of all Forms of Discrimination Against Women
Charter of Fundamental Rights	Charter of Fundamental Rights of the European Union
CO_2	Carbon dioxide
Constitution Treaty	Treaty Establishing a Constitution for Europe
CoP	Conference of the Parties
Covid-19	SARS-CoV-2
CRC	Convention on the Rights of the Child
CRPD	Convention on the Rights of Persons with Disabilities
EBRD	European Bank for Reconstruction and Development
ESG	Environmental, Social and Corporate Governance
EU	European Union
FDA	Foreign Direct Assistance
GHGs	Greenhouse Gases
Hydrogen Strategy	Hydrogen Strategy for a Climate-Neutral Europe

ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
IEA	International Energy Agency
ILO	International Labour Organisation
IMO	International Maritime Organization
INDCs	Intended Nationally Determined Contribution
Industrial Strategy	EU Industrial Strategy
IRENA	International Renewable Energy Agency
JTF	Just Transition Fund (EU)
JTM	Just Transition Mechanism (EU)
Kyoto Protocol	Kyoto Protocol to the United Nations Framework Convention on Climate Change
LNG	Liquid Natural Gas
LULUCF	Land Use, Land Change and Forestry
MDGs	Millennium Development Goals
MERS	Middle East Respiratory Syndrome
Methane Strategy	EU Strategy to Reduce Methane Emissions
Migrant Workers Convention	International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families
NBS	Nature Based Solutions
NDCs	Nationally Determined Contributions
OECD	Organization for Economic Cooperation and Development
Offshore Strategy	EU Strategy on Offshore Renewable Energy
Paris Agreement	Paris Agreement on Climate Change
PPE	Personal Protective Equipment
Rio Declaration	Rio Declaration on Environment and Development
SARS	Sudden Acute Respiratory Syndrome
SDGs	Sustainable Development Goals
SIDS	Small Island Developing States
SMEs	Small and Medium-Sized Enterprises
Straddling Stocks Agreement	Straddling Fish Stocks Agreement
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
UK	United Kingdom of Great Britain and Northern Ireland
UN	United Nations

UNCCD	United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa
UNCLOS	United Nations Convention on the Law of the Sea
UNCSD	United Nations Convention on Sustainable Development
UNEP	United Nations Environment Programme Organization
UNESCO	United Nations Education, Scientific and Culture
UNFCCC KCI	Katowice Committee of Experts on the Impacts of Implementation of Response Measures
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
UNSC	United Nations Security Council
US	United States of America
VNRs	Voluntary National Review
WB	World Bank
WHO	World Health Organization
WIM	Warsaw Implementation Mechanism on Loss and Damage

CHAPTER 1

Introduction

1 Introduction

Transitions of any kind are at once filled with exhilarating possibilities and fraught with potential difficulties. Often, transitions are surrounded by controversy and can be polarizing within communities or countries, stressing the tensions between the need to move forward and the entrenchment of rules and norms from tradition which are antithetical to change. Despite this, transitions are also inevitable and essential in many contexts but particularly in the context of law and regulation since law, and associated regulatory processes, can only maintain its role as a framework within which communities and individuals function if it indeed reflects the norms of these constituencies. Certainly, there are areas of contest between existing legal and regulatory approaches and proposals for future changes, however these changes are typically navigated through a series of existing governance systems to produce compromise than requiring a strict tethering to the past. Throughout the book, there are references to just transition, referring to the singular concept of a transition from one sector with a limited parameter of impacts and impacted constituencies, and to just transitions, which reflects the understanding that the undertaking of a transition cannot be considered as having singular effects. This dichotomy is essential to the framework of the book and the arguments contained therein.

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Against these understandings, this book addresses the ways in which just transitions have developed and expanded from a rallying cry of American unions seeking to protect members from the ravages of coal mine closures without a legal requirement for assistance in the transition to an international law construct bridging multiple concerns and constituencies. This book is founded upon an understanding of just transitions as a truly profound statement on the ways in which law and regulation can continue to grow without causing unfettered difficulties or inequities to those who must be affected by necessary transitions. It is a fundamentally holistic and equitable view of just transitions, one which seeks to move the concept out of the coal mining and energy processes for decarbonization and into new forms of climate-responsive sectors and beyond. The book further argues that the Covid-19 pandemic and its effects can be seen as a large-scale transition in health, society, economy and environment which has included a series of legal and regulatory measures that have emerged in most instances without a concerted grasp on their impacts in the short or long term.

Having analysed how the pandemic has brought about transitions and can be viewed as helping or hindering the advancement of just transitions in legal responses to crises, the book then argues that just transitions as a framework can be extended further still. Indeed, the book argues that this extension will be necessary in order to continue efforts at crafting responses to predicted and unforeseen future issues that will require a transition and can best bring about lasting legal and regulatory changes guided by just transitions. Since the time the manuscript for this book was first submitted to the date of publication, a powerful example of the need for just transitions to be expansive and accommodate the unforeseen occurred in the form of the February 2022 Russian Federation invasion of Ukraine. While the world community awaits the results of this war, there is no question that the peace will require economic, social and environmental transitions on a mass scale, and that they must be achieved with justice and equity in order to hope for the creation of a lasting peace.

History teaches that transitions in sources of energy are inextricably linked with evolutions in technology and innovation.[1] Thus, from a purely historical point of view, efforts to shift away from carbon-intense sources of energy and industry should not be surprising, particularly given

[1] IMF, *IMF Working Paper: Riding the Energy Transition: Oil Beyond 2040* (IMF, WP/17/120, 2017).

the rapid pace of technological advancement in the twentieth and twenty-first centuries.[2] And yet, the history of innovation can often be seen as working parallel to or in conflict with the wish of multiple actors to retain the status quo in order to preserve current jobs, social structures and sources of economic power.[3] As has been noted, "[a]ny transition away from the current fossil fuel-based energy systems will not only involve massive changes in energy production and infrastructure but will also impact workers in these industries, their families, and the communities in which they live."[4]

There is no denying the power of climate change as a legal concern before or during the pandemic. Although the time of pre-pandemic policy might seem far off in many sectors, climate emergencies and disasters were very much on the agenda by 2019, with political units in dozens of countries issuing declarations of emergency based on the climate crisis by the time of UNFCCC CoP 25 in December 2019.[5] Concomitantly, the years between the Paris Agreement's adoption and the Covid-19 pandemic saw an increase in legal and regulatory systems including just transitions in their explicit and implicit provisions relating to climate change response.[6] While transitions in the energy sector are unquestionably essential to accomplishing international and national commitments for climate change, they will not in fact be sufficient to completely facilitate this accomplishment.[7] For this reason, transitions will have to occur throughout a multitude of sectors, industries and fields, including

[2] See generally ibid.

[3] Ibid.; European Commission, *Making a Just Transition in the EU in the Context of the 8th Environment Action Programme: An Assessment of Existing Indicators and Gaps at the Socio-Environmental Nexus, with Suggestions for the Way Forward* (European Commission, 2021).

[4] Sandeep Pai, *A Systematic Review of the Key Elements of a Just Transition for Fossil Fuel Workers* (Smart Prosperity Institute, Clean Economy Working Paper Series, 2020), 2.

[5] See David Selby and Fumiyo Kagawa, 'Climate Change and Coronavirus: A Confluence of Crises as Learning Moment' in Padraig Carmody, Gerard McCann, Clodagh Colleran, and Ciara O'Halloran (eds), *COVID-19 in the Global South* (Bristol University Press, 2020).

[6] See George Piggot et al., *Realizing a Just and Equitable Transition Away from Fossil Fuels* (Stockholm Environment Institute, 2019).

[7] Ibid.

those forming foundations of economies at the sub-national, national and regional levels.

The definition of just transitions is somewhat nebulous, leading to multiple views on its contents. Some have asserted that there are two common definitions,

> First, the phrase is used to mean that the transition to a low-carbon society should be fair to the most vulnerable populations. The current fossil fuel-based economy has been characterized by inequality and environmental injustice, or environmental hazards that are inequitably distributed. The new, low carbon economy should not repeat or exacerbate these injustices; in fact, the transition is a new opportunity, indeed an obligation, to counteract them. The second meaning of "just transition" calls for protecting workers and communities who depend on high-carbon industries from bearing an undue burden of the costs of decarbonization. 8 It proposes that the shift to a low carbon economy will affect certain livelihoods disproportionately, and that this impact should be mitigated.[8]

Others have asserted that just transitions should be defined as encompassing a series of socio-technical transitions, though this is an economics and political science-based approach rather than a legal attempt at crafting a definition.[9]

Further, some have posited definitions that focus solely on just transitions in the energy sector, for example

> a just energy transition is a negotiated vision and process centred on dialogue, supported by a set of guiding principles, to shift practices in energy production and consumption. It aims to minimize negative impacts on workers and communities with stakes in high-carbon sectors that will wind down, and to maximize positive opportunities for new decent jobs in

[8] Ann M. Eisenberg, 'Just Transitions', *Southern California Law Review* 92 (2019), 273, 275–276.

[9] Frank W. Geels, 'The Multi-level Perspective on Sustainability Transitions: Responses to Seven Criticisms', *Environmental Innovation and Societal Transitions* (2011), 24–40; Frank W. Geels, 'The Impact of the Financial–Economic Crisis on Sustainability Transitions: Financial Investment, Governance and Public Discourse', *Environmental Innovation and Societal Transitions* 6 (2013), 67– 95; Peter Newell and Dustin Mulvaney, 'The Political Economy of the 'Just Transition'', *The Geographical Journal* 179(2) (2013), 132–140.

> the low-carbon growth sectors of the future. It strives to ensure that the costs and benefits of the transition are equitably shared.[10]

Relying on the earliest uses of just transitions in the US labour context, the ILO has articulated several critical points for its definition, notably

> Two key features of the original claim for a just transition had a lasting effect on future interpretations. First, it should not be reduced to "welfare" … as there is a claim for public responsibility to facilitate and actively support a transition for the common interest (Labour for Sustainability 2017). The second is that decarbonization is a planned transition (with clearly defined objectives) and as such it cannot be handled as "just another transition" that affects workplaces and livelihoods. It needs dedicated and holistic policy approaches.[11]

Further definitions of just transitions and ways in which the concept can function across settings and industries have been offered in the conjunction of human rights and business concerns, namely

> Just transition lends itself to implementation as a site-or-operation-level-, sectoral-, regional-, or economy-wide process. It is a relatively flexible and evolving concept, and has been associated with different formulations and initiatives that vary both in their breadth (particularly the extent to which they extend beyond workplaces to consider the implications of transition for communities and their rights), and depth (the extent to which just transition is framed as entailing transformation of – or merely adjustment to - political and economic systems). At sectoral level, the coal and finance sectors have received particular attention, and most just transition initiatives to date have been implemented in high-income rather than middle- or low-income countries. But change is afoot on both fronts, and just transition is now being applied across an increasingly wide range of sectors and countries.[12]

[10] Anna Zinecker et al., *Just Energy Transitions—Action Needed for People and the Climate: Real People, Real Change: Strategies for just energy transitions* (IISD, 2018), 2.

[11] ILO, *Just Transitions Towards Environmentally Sustainable Economies and Societies for All* (ILO ACTRAV Policy Brief, 2018).

[12] IHRB, *Just Transitions for All: Business, Human Rights, and Climate Action* (IHRB, 2020), 6.

In setting the stage for conception and implementation of just transitions, some scholars have emphasized that there are three critical principles,

> 1) energy transition strategies should be long-term and align both with agreed climate goals and commitments to improving social equality; 2) transition planning should be participatory, applying both distributive and procedural justice, and taking into account those who will be affected by transition processes across the socio-economic system; and 3) transition planning processes should be taken as an opportunity to redress systemic injustices that exist under the current fossil fuel dependent social, political and economic paradigm.[13]

Additionally, it should be noted that issues of gender balancing and the recognition of the impacts of transitions on women, children, families and communities have become more prevalent in just transitions literature.[14] This is a necessity for implementing the holistic potential of just transitions to ensure a durable solution for the issues raised in shifting sectoral employment.[15] It is also critical for addressing currently emerging and future issues because they are increasingly likely to cause multiple harms to vulnerable and under-included populations, such as women and girls. This is particularly the case in situations where disasters have triggered the responses in question. Similarly, if defined and implemented in a fulsome way, just transitions have the power to be a source of support and advancement for those with disabilities, including those who might have been marginalized as part of the workforce previously.[16] In the face of a pandemic which has brought discussions of gender-related disparities to the forefront of many States and international discussions, it is essential

[13] Just Transition Commission Scotland, *Just Transitions: A Comparative Perspective* (2020), 2.

[14] See Tonia Novitz, 'Engagement with Sustainability at the International Labour Organization and Wider Implications for Collective Worker Voice', *International Labour Review* 159 (2020), 463; Kirsten E. H. Jenkins, *Implementing Just Transition After COP24* (Climate Strategies, 2019).

[15] Oliver W. Johnson, et al., 'Intersectionality and Energy Transitions: A Review of Gender, Social Equity and Low-Carbon Energy', *Energy Research & Social Science* 70 (2020), 101774.

[16] ILO, *Green Jobs and Just Transition for Climate Action in Asia and the Pacific* (ILO, 2019).

to note that these impacts are reflected in many current working conditions and must be addressed so as to create an inclusive transition across energy and other sectors.[17]

Building on these insights as well as the lessons generated throughout the course of research and analysis, the definition of just transitions used throughout the book is, at heart, that it must be understood to be a philosophy of inclusion and equity in decision-making that impacts multiple constituencies, with the very strong likelihood of advantaging some while disadvantaging others unless steps are taken to ensure that these disadvantages are addressed in an appropriate way, recognizing the inherent dignity of the individuals and communities impacted as well as the impacts on future generations.

2 Book Summary

Following this introductory chapter, the book is divided into four additional chapters. Chapter 2 begins with a very brief discussion of the origins of just transitions before turning to the ways in which it has expanded into the international law realm and the national and sub-national realms. The chapter will discuss how the legal and regulatory steps to implement carbon neutrality and carbon negativity are devised, particularly at the national and even sub-national levels, and how these steps have generated an increasing tension between aspirations and entrenched practices.

First, the chapter discusses the development of just transitions in the *United Nations Framework Convention on Climate Change* (UNFCCC) system, including the *Kyoto Protocol to the UNFCCC* and, most recently, the *Paris Agreement on Climate Change* and associated policy outcomes from UNFCCC Conferences of the Parties (CoPs) 24 (held in Katowice, Poland, in 2018), 25 (held in Madrid in 2019) and 26 (held in Glasgow in 2021). This portion of the chapter also traces the development of just transitions through the adoption of the Sustainable Development Goals (SDGs) by the United Nations General Assembly (UNGA) in 2015.

The chapter will note that the international community has progressed in its understandings of the concerns which form the central tenets of just transitions—namely, justice, equity, inclusion in opportunity,

[17] See EBRD, *Report of the Board of Directors to the Board of Governors: Strategic and Capital Framework 2021–25* (2020), paras 62, 63.

access to training and ability to participate in new sectors, and environmental protections. Starting from the point at which these concepts were included in treaty regimes without articulation as part of the just transitions concept for law or regulation, there has been a steady movement towards inclusion of just transitions as a necessary element of environmental and social policy.

Second, the chapter charts the growth of just transitions within the context of the European Union, as a supranational entity, and various national settings, including those where sub-State entities have been heavily involved in developing and implementing applicable policies. The specific States discussed are Australia, Belgium, the Czech Republic, France, Germany, Hungary, Ireland, Poland, the UK and the US. The various States discussed are different in many ways and yet highlight vital understandings for just transitions as a whole. From these examples, it is clear and strong national action to legislate and regulate in relation to carbon reduction plans, the closure of highly polluting mines and energy sources, and generating methods to address the impacts of this is palpable. However, this must be done in a way that leaves open the possibility for future changes and needs rather than responsive to pollical pressure or rushed into following a disaster. The chapter notes that it is clear that some of the most powerful and efficient actors in the process of decarbonization and just transitions usage are sub-State entities which have greater understandings of the needs on the ground and the necessary constituencies to involve in addressing them. It also discusses the ways in which public–private collaborations at the sub-State level have forged a space for the advancement of just transitions as well.

In Chapter 3, there is an analysis of the ways in which current and future climate-responsive transitions have occurred and are occurring across sectors under international, national and, where applicable, subnational law and regulatory systems. This chapter discusses innovations in various new and emerging forms of renewable energy sources and industries. Unlike the discussions in Chapter 2, the purpose of these discussions is not connected with the transitional impacts on the carbon sector, but rather on the transitions to these resources as just and equitable as a matter of legal and regulatory practice.

First, Chapter 3 examines renewable energy sector transitions outside the scope of purely coal phase-outs and sectoral analysis and extending into hydrogen, digitalization and other existing and emerging forms of renewables. As this section discusses, throughout the renewables sector,

there is a stress on the need to transition to new sources of energy that are in the process of being rendered fully useable and this innovation cycle is projected to continue well into the future. In the renewables sector, then, just transitions can be used as a framework for ensuring that laws and regulatory systems at all levels are constructed around the need for fluidity and expansion rather than rigidity as had been more commonly used for coal and oil energy sources.

Second, Chapter 3 examines agriculture, land use and forestry sector transitions. The discussion in this section reflects the tensions existing between these sectors as potential carbon sinks and large-scale emitters of carbon depending on the methods used and choices made. Thus, the legal and regulatory regimes used across the spectrum of international, national and sub-national law are crucial to ensuring that these industries are able to function for the benefit of consumers, workers and the climate. In the agricultural setting, the observable efforts at transitions focus on facilitating a shift away from these practices and towards environmentally safe and sustainable practices that maximize food security and the viability of the farming sector across the spectrum from small-scale and artisanal farmers to agri-food corporations. Indeed, the agriculture sector is somewhat unique in transition discussions because of the breadth of actors it includes and their varying size and role as employers. At the same time, just transitions in forestry sector practices will need to include the international community, States, sub-State entities and the communities traditionally living within or near forests to be exploited. Further, the workforce traditionally employed by the forestry sector to engage in logging and similar forest clearing practices must be included and provided with protections similar to those adopted in the context of coal mining and extractive industries.

Third, Chapter 3 examines finance and economics sector transitions. Just transitions in finance and economic sectors are at once quite unique from the other sectors discussed in this chapter and also fundamentally linked to them. The unique quality comes at the level of level banking, investment and financial institutions themselves, as transitions in these highly corporatized sectors tend to be equated with ensuring funding and support to operations that comply with legal and regulatory requirements, including those reflected in ESG and corporate social responsibility tenets. Shareholders and investors are, in this context, the primary constituencies to which such corporate actors are responsible, and just transitions would also require an extension of their fiduciary duties in this relationship to

ensure that they are acting within the appropriate standards. On the other hand, just transitions in the finance and economic sectors can be seen as inherently linked to ensuring that those receiving financial support are treated according to legal and regulatory requirements as well as with fairness in situations where they are less sophisticated actors than the entities providing funding.

Fourth, Chapter 3 examines industrial sector transitions, largely in the context of the circular economy promotion efforts in the EU as well as potential efforts to expand outward from the EU to other areas. Regardless of the geography involved, the section asserts that the idea of just transitions in the industrial sector context as it relates to the circular economy must be an inclusive one which understands the many sectors implicated in efforts to ensure a continued lifespan for products. Indeed, this aspect of the circular economy, while ecologically appealing, could be seen as potentially the most disruptive to justice and equity given the impacts it could have on jobs and production across many sectors. With this in mind, just transitions in the circular economy context must include laws and rules recognizing these impacts and seeking to mitigate them through the inclusion of impacted constituencies throughout the planning, implementation and future innovation phases.

Fifth, Chapter 3 examines blue economy sector transitions, which cover a broad swathe of sub-sectors in law and practice. It asserts that, regardless of the form taken, just transitions to the blue economy will require measures to ensure inclusion of those traditionally engaged in fishing and maritime industries in terms of education and reskilling as well as support for continuing their practices where appropriate. In the context of maritime shipping and transportation, just transitions will need to be focused on the provision of opportunities for the workforce to find new and comparable employment or, where appropriate, to receive training on new innovations to the sector. Additionally, due to the global importance of the oceans and maritime ecosystems, just transitions in the blue economy should include broad efforts to preserve and protect these resources. Since there are a number of nationally and internationally recognized protected sites and sites of international significance existing in the oceans and maritime ecosystems, this is a particularly important element of ensuring their continued viability for current and future generations.

Sixth, Chapter 3 examines the potential insights regarding transitions which can be gleaned from international reporting systems, particularly Nationally Determined Contributions (NDCs) as part of the Paris Agreement and Voluntary National Reviews (VNRs) as part of the Sustainable Development Goals. These systems represent a broad swathe of development status and concerns yet, when taken together, demonstrate the importance of just transition in efforts to promote sustainable, climate-responsive transitions that are in accordance with international commitments as well as national and sub-State needs.

In Chapter 4, the book shifts focus to non-climate-related transitions in the context of Covid-19 pandemic responses. The chapter moves from analysing the ways in which just transitions have been, are currently being, and should be used in future climate-responsive transitions apart from the coal extractives and energy sector to reviewing the ways in which just transitions have informed and will continue to inform pandemic response and recovery laws, rules and policies. These laws, rules and policies are collectively referred to as pandemic response transitions because of the ways in which they represent a profound shift in the current and future understandings of the balance between emergency responses and just responses. At the same time, the chapter stresses that pandemic responses should be viewed as sites of transition in the legal and regulatory spheres at present and that these transitions will continue into the future, although there is no guarantee that they will be equitable or just without the direct incorporation of just transitions tenets.

First, Chapter 4 provides an overview of Covid-19 pandemic responses and recovery measures in terms of various impacts at the labour, economic, environmental and social levels. These are often elements that are either overlooked or underestimated in terms of durability of effects and, it is asserted, constitute forms of transitions in themselves. It also sets the stage for where the world was heading in the major climate, biodiversity and sustainable development issues immediately on the eve of the pandemic's outbreak in order to frame the transitions that were anticipated and the necessarily reactive shifts that have happened instead.

Second, Chapter 4 examines Covid-19 response transitions generally in order to highlight the areas in which transitions have emerged as a negative, especially for vulnerable and marginalized communities and their many increased forms of susceptibility due to the responses adopted by States and sub-State entities as well as in multiple sectors of economic activities.

Third, Chapter 4 examines healthcare sector transitions and notes that, while pandemic responsive laws, rules and policies tend to place healthcare at the centre of funding and resource allocation, they do not necessarily take into account the multiple facets of need in the sector or among those working as part of it. In examining these responses to the pandemic at the national level, the need for inclusion of just transitions in continuing pandemic responsive healthcare sector law and regulations is clear, as is the need to use just transitions as a frame for post-pandemic planning in the sector. However, many aspects of pandemic responsive healthcare sector policies have resulted in inequity, unequal treatment and significant stresses to those working in the sector. Thus, the pandemic has exposed areas of gaps in healthcare sectors across the globe, suggesting that there is an important place for just transitions in healthcare transitions to the "new normal" of an emergency.

Fourth, Chapter 4 examines finance and economic sector transitions and stresses that these types of policy responses incorporate many tenets of just transitions into State responses to the pandemic in the financial and economic sectors. Further examples of financial and economic sector transitions that can be seen as advancing just transitions include funding to sub-State entities to address locality specific issues, provision of job training and job search assistance, expanded incorporation of the vital role played by small and medium-sized enterprises in national economies and the associated need to provide them with specialized assistance, and the inclusion of green growth, green financing and green energy as part of multiple BBB and general post-pandemic recovery plans. On the other hand, some aspects of the pandemic response transitions in the finance and economic sector hinder the incorporation of just transitions as a core element of the legal, regulatory and policy choices made. Key examples of this include the inability of States to counteract—and, in some circumstances, the culpability of States in generating—severe supply chain issues that cause market shortages and price increases, restrictions on the import and export of certain goods when those measures are left in place longer than necessary or are motivated by xenophobia rather than science, and impacts of lockdowns, travel restrictions and supply chain issues on multiple industries, most notably the garment, transportation, construction and manufacturing industries. These economic responses have been and continue to be responsible for unemployment, inaccessibility of vital goods, food security stresses and food poverty, and instability for SMEs despite governmental assistance.

Fifth, Chapter 4 examines agriculture and food sector transitions and notes that food security issues have been inextricably linked with pandemic responses. As a result, incidences of food insecurity and food poverty have drastically increased throughout States at all points on the development sector and many States have been compelled to respond through additional assistance in the form of food deliveries or stipends to those threatened by hunger. At the same time, inabilities to harvest or plant crops have caused lasting damage to agricultural operations across the globe, causing concern over the potential for future food insecurity.

Sixth, Chapter 4 examines tourism sector transitions, highlighting that this is perhaps the most pandemic devastated sector at the global level, with estimates of sector job losses estimated to reach more than 150 million people worldwide. In this context, the tenets of just transitions are critical to ensuring that methods of addressing an emergency do not cause such grave harm in other sectors without the creation of systems of offsetting those impacts.

Seventh, Chapter 4 examines governance transitions, stressing that governance of the Covid-19 pandemic is an extremely complex issue that has evolved—and continues to evolve—over the course of the pandemic and associated variants. Overall, pandemic response transitions in the governance sector demonstrate the need for just transitions concerns to be included because of the large and, often, durable powers which governance systems created to handle the pandemic have wielded. Within this context, it is essential that the transition to new forms of governance mechanisms and policy priorities be completed using equity and justice principles which ensure the inclusion of all impacted constituencies as soon as practicable and, at the very least, give weight to their views until that point.

In Chapter 5, the book refocuses on the future and examines the ways in which just transitions can be seen as reflected in tools to address emerging and anticipated future issues. After mapping the route taken by just transitions to date, and its flexibility in the face of expanding opportunities for use, the chapter then moves on to propose a future for just transitions. This future is one in which there are a number of pressing issues competing for legal and regulatory attention yet each has the ability to be analysed through and advanced by the use of the just transitions framework. These future scenarios will demonstrate the ways in which just transitions can be expanded to respond to a variety of circumstances

because, at heart, it must be understood to be a philosophy of inclusion and equity in decision-making that impacts multiple constituencies, with the very strong likelihood of advantaging some while disadvantaging others unless steps are taken to ensure that these disadvantages are addressed in an appropriate way, recognizing the inherent dignity of the individuals and communities impacted as well as the impacts on future generations. Using this definition, the parameters of just transitions can be seen as infinite in the construction of future law and regulation.

First, Chapter 5 examines future Covid-19 pandemic and post-pandemic transitions, noting that States are facing and likely will continue to face significant questions regarding operational priorities and funding allocations. In the immediate face of an emergency, incurring massive State debts to ensure the safety and financial stability of its populations is, arguably, an appropriate way of applying the just transitions framework to minimize the impacts of a bad situation. Moving forward, however, it can be expected that States and sub-State entities will face increasingly difficult choices in funding priorities and capacities when having to implement budget laws with fewer resources. This will likely include decisions over which industries and actors must be saved in the event of continued financial pressures and which should be allowed to fail so that resources can be directed to other areas of priority.

The choices necessitated by these scenarios are difficult and will doubtless cause severe impacts to individuals and economic sectors in each State or sub-State entity where they must be made. At the same time, these choices must be made since the alternative would be even more extensive financial and societal catastrophe. This type of decision is one in which the just transitions framework can be used to guide difficult decisions and provide avenues of assistance, including non-economic assistance, to those directly impacted. In recognizing the need for just results, just transitions would bring a balance to concerns that only certain powerful individuals or segments of the economy would be benefitted at the expense of those with less power. The incorporation of equity as a core element of the laws and rules necessary for making these decisions would function in a similar way and would, at least in theory, provide wide avenues for public participation in these decisions.

Additionally, pandemic and post-pandemic transitions will also require a focus on the way forward in terms of education and training at all levels of the spectrum. Inherent in these types of planning decisions are the needs to balance often limited educational resources between the needs

of the greatest number of students and the needs of those who would be cut off from access to education in the event of future online learning use. These are the types of balancing situations for which just transitions can serve as an essential framework to ensure that justice and equity concerns are placed at the heart of these discussions and the legal and policy shifts which result.

Second, Chapter 5 examines future human rights transitions, notably in the context of threats to human rights laws through pandemic governance, impacts on Indigenous communities, and cultural and traditional heritage protections. In the context of pandemic governance practices, this section asserts that the application of just transitions to decisions regarding the contours of emergency pronouncements, their duration, and the ability of State actors to use them for the purposes of derogating from international human rights law might seem overly optimistic. Yet, if it were to be adopted as a national framework for making these decisions, albeit with the understanding that such evaluations would need to be made with haste and in light of the heightened circumstances, just transitions could serve as a tool to balance between the siege mentality which can accompany any form of emergency and the needs of multiple constituencies throughout the State. This would also allow for a greater political legitimacy for pandemic regimes within and without the State setting.

In the context of Indigenous communities, this section notes that just transitions would be a vital framework for mitigating the current impacts of transitions in governmental policies relating to Indigenous communities as well as ensuring that future transitions in practice do not suffer from the same legal and regulatory infirmities. It would require States and sub-State entities to comply with the letter and spirit of international and national legal commitments and ensure respect for the rights guaranteed to Indigenous communities. The recognition of the particularized needs and dignity of Indigenous communities that is inherent in the just transitions framework which this book argues has emerged would also offer an opening for dialogue and inclusion in laws and rules that are reflective of broader experiences and needs than those constructed based on those of the majority community alone. In the Indigenous community context, just transitions can be viewed as offering a significant framework to overcome entrenched discrimination and devaluation while also ensuring that there is no return to these practices in future law or policy. These advances would also generate a potential link with current and

future efforts at transitions in the agriculture and forestry sector given the deep connections between Indigenous traditional knowledge, land and forestry conservation and agriculture.

Further, in the cultural and traditional heritage context, the section asserts that given the essential links cultural and traditional heritage provide for multiple communities and, as recognized by UNESCO, for current and future citizens of the world, the need to include this value in development and planning decisions is crucial. Just transitions in this context can provide a framework that extends beyond the immediate needs of a constituency to include those who benefit from cultural and traditional heritage now and in the future. It is thus a tool for bringing those who would otherwise be potentially outside the scope of review and planning into the core aspects of its formulation.

Third, Chapter 5 examines climate justice and litigation transitions noting that the justice aspect of just transitions is quite clear, although the parameters of who and what species should be covered by this concept of justice are open for debate. Climate justice and litigation also provide avenues for addressing the inequities caused by climate change and environmental degradation. Thus, applying the just transitions framework would provide an avenue for recognizing the harms suffered as well as the inherent injustice of the environmental transitions which underlie them. In this way, climate justice and litigation can be seen as vehicles through which the just transitions framework can be applied to foster inclusivity and responsiveness of legal and regulatory systems even when it is not necessarily in the larger interests of the State, sub-State or private interests.

Fourth, Chapter 5 examines future generations and transitions. It stresses that just transitions and the rights of future generations, as well as intergenerational equity, are essentially interrelated in that they require the expansion of the framework to include equity and justice for future generations who will be impacted by the transitions proposed. It is for this reason that they are discussed here, as they are as essential to expanding the understanding and application of just transitions as just transitions are to ensuring their continued place in decision-making.

Fifth and finally, Chapter 5 examines technology transitions. This section notes that the just transitions framework can be seen as offering a tool to ensure that highly technical efforts to regulate emerging innovations are done in a way that balances the potential for public good offered by the technology and the potential for inequity and injustice posed to a

wide range of constituencies. It should not be seen as a tool for legislative or regulatory bodies to stifle innovation or threaten inherent rights to intellectual property that are recognized throughout international and national laws, but rather as a tool to ensure that the innovations are done for the benefit of many and with limited negative impacts.

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CHAPTER 2

Legal and Regulatory Background

1 Introduction

The concept of just transitions as a legal or societal construct is relatively new, originating in the US in the 1980s as part of union efforts to ensure that workers were not left behind in the transition away from coal mining.[1] From that point onward, a symmetry has emerged between the ways in which many unions, especially those in the mining sector, have reacted to environmental issues and advocacy by environmental advocates.[2] This is often contrary to perceived benefits and media portrayals,[3] yet hints at a more robust understanding of the impacts of the mining sector's environmental impacts by those directly engaged in its quotidian

[1] Peter Newell and Dustin Mulvaney, 'The Political Economy of the 'Just Transition'', *The Geographical Journal* 179(2) (2013), 132–140; IHRB, *Just Transitions for All: Business, Human Rights, and Climate Action* (IHRB, 2020), 6; Just Transition Commission Scotland, *Just Transitions: A Comparative Perspective* (2020), 2.

[2] Todd E. Vachon and Jeremy Brecher, 'Are Union Members More or Less Likey to Be Environmentalists: Some Evidence from Two National Surveys', *Labor Studies Journal* 41 (2016), 185; Bob Baugh and Jacob Rickert, 'Good Green Jobs', *International Union Rights* 17(1) (2010), 15; Brian Kohler, 'Decent Jobs or Protection of the Environment?', *International Union Rights* 17(1) (2010), 12.

[3] See Vachon & Brecher, *supra* note 2.

A. R. Harrington, *Just Transitions and the Future of Law and Regulation*, Palgrave Studies in Environmental Transformation, Transition and Accountability, https://doi.org/10.1007/978-3-031-06182-0_2

implementation. This, in itself, suggests a shift within the philosophies that occurred with time for refinement and nuance to manifest.

Simply viewing just transitions as originating in the nexus between workers' rights and the shift from carbon and remaining fixed there, as has been advocated by some,[4] is a dangerous practice that would remove a potentially powerful legal and regulatory tool from responses to a number of stressors to the continuation of established industries. Instead, the theoretical framework of this book demonstrates that, while paying homage to the foundational nexus from which just transitions emerged is critical to grasping it as a concept, this nexus is the beginning rather than the end. In this understanding, there are multiple facets of law, policy and economic factors which are integral and build upon each other to create a sophisticated tool for addressing current and evolving challenges. Placing an emphasis on the economic aspects of just transitions is obviously quite important,[5] however, failing to take into account the social and socio-economic impacts and changes inherent in a durable application of just transitions risks a shallow version of the potential power of just transition to affect long-term change. For these reasons, this chapter sets out parameters of the legal and regulatory background applicable to the development of just transitions in a largely carbon and labour nexus-oriented context. Subsequent chapters then build on and expand the scope of these connections.

2 Origins of Just Transitions in Law and Regulation

Since its inception in the labour rights and union sectors, the concept of just transitions has been inextricably linked to labour law and regulations. This is especially true in the international law sphere, where just transitions have been embraced and shaped by several international organizations, notably the International Labour Organization.[6] It should be noted that although the generally accepted view is that just transitions

[4] See Ann M. Eisenberg, 'Just Transitions', *Southern California Law Review* 92 (2019), 273; Tonia Novitz, 'Engagement with Sustainability at the International Labour Organization and Wider Implications for Collective Worker Voice', *International Labour Review* 159 (2020), 463.

[5] Eisenberg, *supra* note 4.

[6] See ibid.

as an articulated construct originated with the US labour movements in the 1980s, the EU has suggested that the European Coal and Steel Community actually took significant first steps in its generation through the creation of the Fund for Retraining and Resettlement of Workers decades beforehand.[7] This assertion stems from the fact that the Fund was intended to effectively achieve many of the underlying goals of just transitions, albeit for reasons of economic necessity rather than environmental considerations.[8]

The concept of just transitions remained very much entrenched in political rhetoric rather than law or regulation for much of its early life, and indeed the politics of the concept often saw a blurring of its contours.[9] Internationally, in name the concept remained dormant in the legal context although a close reading of major international law treaty systems emerging from the 1990s onward demonstrates that core elements of just transitions theory were being incorporated under different rubrics. Despite the fact that these forms of incorporation are tacit rather than overt it is vital to understand the ways in which they emerged, evolved and have formed the basis for more overt recognition in international law.

In 1992, the international community came together for the United Nations Conference on Environment and Development (Rio Conference) and, ultimately, to create three seminal international environmental law treaties—the *United Nations Framework Convention on Climate Change* (UNFCCC),[10] the *United Nations Convention on Biological Diversity* (CBD)[11] and the *United Nations Convention to Combat Desertification* (UNCCD).[12] Together, these treaties represent efforts to legally address and mitigate the most pressing challenges to the environment at the time, and certainly these issues have only become even more

[7] European Commission, *Impact Assessment Accompanying the Document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the Regions: Stepping Up Europe's 2030 Climate Ambition* (COM(2020) 562 final, 2020), 17.

[8] Ibid.

[9] Ibid.

[10] *United Nations Framework Convention on Climate Change* (1992).

[11] *United Nations Convention on Biological Diversity* (1992).

[12] *United Nations Convention to Combat Desertification* (1992).

important in subsequent years.[13] Shaped by the role of sustainable development law and principles, these treaties recognized the ways in which social, economic and environmental pillars could be brought together to craft holistic legal remedies to multifaceted issues. Of these three treaty regimes, and the systems they created, the most critical from the perspective of just transitions is the UNFCCC, which, as discussed below, has taken a significant role in generating laws and norms entrenching just transitions as part of the legal and regulatory responses to climate change.

The UNFCCC was founded on the awareness that "human activities have been substantially increasing the atmospheric concentrations of greenhouse gases, that these increases enhance the natural greenhouse effect, and that this will result on average in an additional warming of the Earth's surface and atmosphere and may adversely affect natural ecosystems and humankind."[14] It recognizes that developed States have both played a key role in the current, deteriorating state of the global environment and were the main recipients of economic benefits as a result, leading to the understanding that there is a need to balance increasing environmental protection, laws and rules[15] with the idea that "responses to climate change should be coordinated with social and economic development in an integrated manner with a view to avoiding adverse impacts on the latter, taking into full account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty."[16] This is, arguably, an endorsement of the foundational concepts of just transitions in that it seeks to ensure the involvement of communities potentially impacted by measures to address climate-associated issues as well as the use of equity principles to ensure that these communities are not harmed for the greater good of the global community without receiving assistance.

A core principle of the UNFCCC is that of common but differentiated responsibilities, which reflects this dichotomy between the expectation for developed State contributions and efforts toward reducing emissions and

[13] See ibid.; UNFCCC, *supra* note 10; UNCCD, *supra* note 11.

[14] UNFCCC, *supra* note 10 at preamble.

[15] Ibid.

[16] Ibid.

counteracting climate change and the contributions expected from developing and least developed States.[17] This principle is reinforced in the commitments agreed to by State Parties to the UNFCCC, which include pledges to

> [t]ake climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change.[18]

The concept of common but differentiated responsibilities has become an entrenched element of international and national law, informing multiple international treaties, regional and supranational entities' law and national laws.[19] It is also, arguably, an implicit methodology for just transitions application in the broader sense since it requires States to transition away from the practices that have been responsible for climate change yet do so in a just manner that does not cause unequal harm to less developed States and their citizens.

As a framework, the UNFCCC text acknowledges the need for ongoing and updated legal instruments that take into account new and evolving scientific knowledge regarding climate change over time. To address this need, and to administer the terms of the UNFCCC as well as necessary and proposed updates to it, the UNFCCC created a dedicated Secretariat entity as well as an annual Conference of the Parties (CoP), which has become the source of the subsequent instruments now comprising the UNFCCC system.[20]

In the 1997 Kyoto Protocol, State Parties created a framework for implementing carbon trading markets, and for various aspects of carbon credit generation across the international sphere and development

[17] Ibid. at art 3(1).

[18] Ibid. at art 4(1)(f).

[19] See Duncan French, 'Developing States and International Environmental Law: The Importance of Differentiated Responsibilities', *International and Comparative Law Quarterly* 49 (2000), 35.

[20] UNFCCC, *supra* note 10 at arts 7, 8, 16, 17.

systems.[21] Additionally, the Kyoto Protocol designated several industries and economic sectors as needing focus in terms of climate change adaptation and mitigation within States and at the international law. These areas included agricultural activities, energy sectors, forestry management, markets and investments, transportation and waste management.[22] The thread of common but differentiated responsibilities is woven throughout the Kyoto Protocol, ensuring that the ways in which climate responsibilities are addressed are equitable to the States involved.[23] At the same time, the Kyoto Protocol includes requirements for technology transfers and similar methods of developed States providing technological support and assistance to developing and least developed States.[24] There are many important elements of technology transfer in the context of climate change, however what is less frequently discussed is the idea that technology transfer efforts—and, indeed, requirements—are methods of achieving just transitions by providing all States with the resources necessary to effect durable and sustainable transitions across multiple sectors.

Unlike the majority of international treaty regimes and systems, the Kyoto Protocol's terms largely expired in 2011. Following several years of negotiations, the international community ultimately adopted the Paris Agreement on Climate Change (Paris Agreement) in December 2015. The chronology of the Paris Agreement's final adoption is an essential element for understanding the motivations behind its terms especially as it relates to concepts of sustainable development as a legal and regulatory necessity.

Issues of just transitions featured in the UNFCCC CoPs convened between 2011 and the 2015 adoption of the Paris Agreement. Indeed, during CoP 22 in Marrakech, State Parties included the creation of the Working Group on Just Transition and Decent Work in the terms of the broad outcome document, the Marrakech Partnership for Global Climate Action.[25]

[21] *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (1997).

[22] Ibid. at art 2(1)(a).

[23] Ibid. at art 10.

[24] Ibid.

[25] Marrakech Partnership for Global Climate Action, https://unfccc.int/climate-action/marrakech-partnership-for-global-climate-action, accessed 10 February 2022; see also

From the outset, it should be noted that, in September 2015, the United Nations General Assembly (UNGA) adopted the Sustainable Development Goals (SDGs) as the successor entity to the Millennium Development Goals (MDGs).[26] The MDGs were a set of eight goals and issue areas that the international community chose to designate for national and international attention and, where appropriate, eradication by 2015.[27] Fundamentally, the MDGs were statements regarding the international community's views on the most pressing issues following it from the previous millennium into the new millennium.[28] Without expressly stating it, many aspects of the MDGs were intended to further aspects of just transitions, notably relating to the goal of "achiev[ing] full employment and decent work for all, including women and young people,"[29] as well as promoting primary school education access for all[30] and reducing gender-based barriers to education throughout the primary and secondary education systems,[31] and ensuring that sustainability considerations are included in environmental policymaking.[32] The MDGs have been criticized as unsuccessful in that they failed to achieve the bulk of their targets, including those bearing on just transitions.[33] However, it is important to note that strides were made toward their implementation across many States and that efforts were made to incorporate them into aspects of international organizations' operations.[34]

Despite these issues, the UNGA decided to continue the system of designated goals and associated targets for the international community to meet in order to generate progress toward the major issues facing

Kirsten E. H. Jenkins, *Implementing Just Transition After COP24* (Climate Strategies, 2019).

[26] See Millennium Development Goals, https://www.un.org/millenniumgoals/, accessed 10 February 2022.

[27] Ibid.

[28] Ibid.

[29] Ibid. at target 1.B.

[30] Ibid. at target 2A.

[31] Ibid. at target 3A.

[32] Ibid. at target 7A.

[33] See Alexandra R. Harrington, *International Law and Global Governance: Treaty Regimes and Sustainable Development Goals Implementation* (Routledge, 2021).

[34] Ibid.

international society, States and their citizens.[35] In the years prior to 2015, the UNGA and associated UN entities conducted extensive reviews and consultations with multiple constituencies to determine the necessary changes and evolutions for subsequent sets of international goals for advancement.[36] After so doing, the UNGA designated 17 goals, 169 targets accompanying them, and several hundred indicators for the measurement of progress toward them under the rubric of the Sustainable Development Goals (SDGs).[37] The SDGs are intended to function as individual areas of focus and accomplishments that also work together to further the larger goal of advancement within and across borders.[38] They are thus holistic and non-siloed in a way that differentiates them from the MDGs. Chronologically, the SDGs predated the Paris Agreement by approximately three months, and a review of their terms evidences that the international community was very much thinking of them as interlocking systems in many ways, including in the just transitions context.

In SDG 1, the articulated goal to "end poverty in all its forms everywhere" includes targets that address ending extreme poverty, making significant steps in lowering poverty rates across all genders and for children as well as adults, and creating national poverty floors.[39] Importantly for the just transitions context, Target 1.4 provides that States are to "ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance"[40] and, recognizing the specific links between environmental vulnerability and poverty, Target 1.5 provides that States will "build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and

[35] See ibid.

[36] See ibid.

[37] See ibid.

[38] UN DESA, The 17 Goals, https://sdgs.un.org/goals, accessed 10 February 2022.

[39] SDG 1, targets 1.1, 1.2, 1.3, https://sdgs.un.org/goals/goal1, accessed 10 February 2022.

[40] SDG, target 1.4, https://sdgs.un.org/goals/goal1, accessed 10 February 2022.

disasters."[41] Taken together, these aspects of SDG 1 provide quintessential guides for how to address poverty concerns that are inherently linked to the promotion of transitions across all aspects of law and society and that they are done in a way that includes justice for those already experiencing or likely to experience poverty.

SDG 2 addresses issues in food security, ending hunger and encouraging sustainable agricultural practices.[42] Agriculture plays a critical role in SDG 2 through Target 2.3, relating to the need for significant increases in agricultural productivity for farming operations of all sizes, particularly those that are small-scale and conducted by marginalized farming groups.[43] This Target includes parameters for creating equity in land use and land rights for farming operations as well as for market access and the ability to access investment funding.[44] Notably, Target 2.4 seeks for States to "ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality."[45] The ability to access food and enjoy food security is essential to ensuring societal equity whether in the context of individuals or States. SDG 2 affirms this and also highlights the essential functions of agricultural workers and farmers which, as set out in Chapter 4, are essential to the growth and development of just transitions as a concept.

Education is the focus of SDG 4, seeking to promote equality in access and opportunity for all members of a State's population regardless of gender or other identity.[46] Expanding on the terms of the MDGs, SDG 4 advances the focus to ensure access and opportunity for all to both primary and secondary school education as well as opportunity for studies at university level and at vocational and technical levels.[47] Of particular

[41] SDG 1, target 1.5, https://sdgs.un.org/goals/goal1, accessed 10 February 2022.

[42] SDG 2, https://sdgs.un.org/goals/goal2, accessed 10 February 2022.

[43] SDG 2, target 2.3, https://sdgs.un.org/goals/goal2, accessed 10 February 2022.

[44] Ibid.

[45] SDG2, target 2.4, https://sdgs.un.org/goals/goal2, accessed 10 February 2022.

[46] SDG 4, https://sdgs.un.org/goals/goal4, accessed 10 February 2022.

[47] SDG 4, target 4.3, https://sdgs.un.org/goals/goal4, accessed 10 February 2022.

importance for the perspective of developing and entrenching just transitions is Target 4.4, providing that States will "substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship."[48] This is later reflected in Target 4.6, which seeks to ensure universal literacy and numeracy for children and young adults, as well as for a significant portion of adults in each State.[49] Included in the overall parameters of SDG 4 is the understanding that education and training should be continuous and made available across the spectrum of age and identity, with the aim of allowing for lifetime learning.[50] Given the fundamental stress just transitions in the labour context places on access to education and reskilling, SDG 4 is critical to entrenching just transitions within international customary law and State practice.

One of the universal principles connecting the 17 SDGs is that of gender equality. In SDG 5, devoted to gender issues specifically, Target 5.5 is critical to the structuring of just transitions frameworks and inclusiveness of all members of society rather than only directly impacted workers. Target 5.5 commits States to "recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate."[51] Concomitantly, Target 5.6 provides that States will "ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life."[52] Relatedly, in SDG 10 on reduced inequalities, States commit to "adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality."[53] Combined, the terms of SDGs 5 and 10 reflect the need for inclusiveness in crafting State laws and policies across a spectrum of issues, and especially inclusiveness for vulnerable and

[48] SDG 4, target 4.4, https://sdgs.un.org/goals/goal4, accessed 10 February 2022.

[49] SDG 4, target 4.6, https://sdgs.un.org/goals/goal4, accessed 10 February 2002.

[50] SDG4, https://sdgs.un.org/goals/goal4, accessed 10 February 2022.

[51] SDG 5, target 5.5, https://sdgs.un.org/goals/goal5, accessed 10 February 2022.

[52] SDG 5, target 5.6, https://sdgs.un.org/goals/goal5, accessed 10 February 2022.

[53] SDG 10, target 10.4, https://sdgs.un.org/goals/goal10, accessed 10 February 2022.

marginalized communities. These concepts are core elements of just transitions as it has developed thus far in law, society and economics, and are also critical to the visions of just transitions in current and future settings that are asserted throughout the course of this book.

Renewable energy generation and promotion are addressed in SDG 7, "ensure access to affordable, reliable, sustainable and modern energy for all."[54] There are three essential targets in SDG 7, covering the parameters of the renewables section from "universal access to affordable, reliable and modern energy services"[55] to ensuring a more sustainable energy mix at the global level to doubling international energy efficiency rates.[56] Renewable energy is discussed throughout this chapter as a method through which efforts to decarbonize have been balanced with just transitions. At the same time, and as will be discussed in Chapter 3, there are emerging climate issues that will be heavily tied to the promotion of renewable energy in a sustainable and just manner.

Perhaps the most fundamental SDG from the perspective of just transitions is SDG 8, specifically titled "promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all."[57] Throughout SDG 8, there is a focus on the incorporation of sustainability and inclusion at macro and micro-economic policy levels, implemented through assistance to businesses at all levels of size.[58] Decent work and job development that is economically beneficial and environmentally sustainable is emphasized as core to SDG 8, including the need for States to "devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products."[59]

[54] See SDG 7, https://sdgs.un.org/goals/goal7, accessed 10 February 2022.

[55] SDG 7, target 7.1, https://sdgs.un.org/goals/goal7, accessed 10 February 2022.

[56] SDG7, targets 7.2, 7.3, https://sdgs.un.org/goals/goal7, accessed 10 February 2022. See also Oliver W. Johnson, et al., 'Intersectionality and Energy Transitions: A Review of Gender, Social Equity and Low-Carbon Energy', *Energy Research & Social Science* 70 (2020), 101774. For a discussion of the impacts of the SDGs on energy policy and the concept of community energy, see Annalisa Savaresi, 'The Rise of Community Energy from Grassroots to Mainstream: The Role of Law and Policy', *Journal of Environmental Law* 31 (2019), 487–510.

[57] SDG 8, https://sdgs.un.org/goals/goal8 accessed 10 February 2020.

[58] Ibid.

[59] SDG8, target 8.9, https://sdgs.un.org/goals/goal8, accessed 10 February 2022.

Continued access to educational, training and employment opportunities for young adults is also emphasized as an issue of importance for decent work.[60] Indeed, it has been suggested that there is an inherent link between the construct of decent work under international law norms and the recognition that the future of labour sector transitions will draw heavily from concepts of environmental law.[61] Each of these provisions works in tandem with the terms of the UNFCCC's Just Transition of the Workforce, and the Creation of Decent Work and Quality Jobs policy document.[62] It is perhaps obvious to state that SDG 8 is foundational to the ways in which just transitions are conceived of in law, regulation and practice and will continue in this function until at least the end of the SDG cycle in 2030.

In SDG 9 there is a focus on sustainability and resilience in the infrastructure sector, the generation of knowledge and innovation, and processes of industrialization.[63] Included in the scope of SDG 9 is the commitment of States to "develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all,"[64] "upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities"[65] and "increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and

[60] SDG 8, target 8.6, https://sdgs.un.org/goals/goal8, accessed 10 February 2022.

[61] See Nuna Zekic and Bas Rombouts, 'Decent and Sustainable Work for the Future? The ILO Future of Work Centenary Initiative, the UN 2030 Agenda for Sustainable Development, and the Evolution of the Meaning of Work', *UCLA Journal of International Law and Foreign Affairs* 24 (2020), 317. As has been noted, "Traditionally, labor law has not been concerned with the question whether work performed by workers is sustainable socially, environmentally, or even economically." Ibid. at 322.

[62] See UNFCCC, Just Transition of the Workforce, and the Creation of Decent Work and Quality Jobs, https://unfccc.int/documents/226460, accessed 10 February 2022.

[63] See SDG 9, https://sdgs.un.org/goals/goal9, accessed 10 February 2022.

[64] SDG 9, target 9.1, https://sdgs.un.org/goals/goal9, accessed 10 February 2022.

[65] SDG 9, target 9.4, https://sdgs.un.org/goals/goal9, accessed 10 February 2022.

their integration into value chains and markets."[66] Infrastructure forms an indispensable element of the ways in which States and private actors are able to provide basic and advanced services to the communities and individuals they serve. SDG 9 connects these essential elements with the understanding of the needs for equity and inclusion that are tied together in concepts of just transitions and sustainable development.

Similarly, SDG 11 seeks for States to commit to "make cities and human settlements inclusive, safe, resilient and sustainable."[67] This builds off the slum-focused terms that had been used in the MDGs in a more limited context and instead takes a broad understanding of human settlement concerns that addresses inequalities, the provision of essential infrastructural services and a stress on affordability for all levels of society.[68] SDG 11 recognizes that there is a causal link between cities and environmental damage and that this must be minimized to enhance sustainability.[69] Additionally, SDG 11 recognizes the increasingly vital role of disaster planning, committing States to "significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations."[70] The objectives encapsulated in SDG 11 are connected in many ways to those in SDG 12 relating to the creation and use of sustainable consumption and production.[71] This includes a focus on the natural resource extractives sector as well as food production and the use of sustainability as a factor in public procurement context.[72] Food and commodities access is an important element of life, and justice, in all communities, be they rural or urban. SDGs 11 and 12 combine to interconnect these concepts and advance the inclusion of equity and justice in disaster and future planning,

[66] SDG 9, target 9.3, https://sdgs.un.org/goals/goal9, accessed 10 February 2022.

[67] SDG 11, https://sdgs.un.org/goals/goal11, accessed 10 February 2022.

[68] SDG 11, target 11.1, https://sdgs.un.org/goals/goal11, accessed 10 February 2022.

[69] SDG 11, target 11.6, https://sdgs.un.org/goals/goal11, accessed 10 February 2022.

[70] SDG 11, target 11.5, https://sdgs.un.org/goals/goal11, accessed 10 February 2022.

[71] SDG 12, https://sdgs.un.org/goals/goal12, accessed 10 February 2022.

[72] Ibid.

which, as the Covid-19 pandemic has made clear, cannot be overstated in importance or impact.

Environmental concerns and climate change are addressed in the combination of SDG 13, directly relating to climate change,[73] SDG 14, relating to marine life, ecosystems and resources,[74] and SDG 15, relating to land-based life, ecosystems and resources.[75] It must be noted from the outset of any discussion that SDG 13 contains a footnote which expressly acknowledges the UNFCCC and associated system as the international treaty regime with jurisdiction over climate change.[76] In this way, the SDGs and the UNFCCC system are linked and should be understood as complementary. In Target 13.2, the SDGs are clear that climate change issues and analysis must be mainstreamed into national legal and regulatory systems, which should also focus on ensuring that States increase their disaster response capacities, resulting in direct links with just transitions.[77] Given the correlation between climate change impacts, environmental protection and just transitions, the terms of SDG 13 themselves represent an advancement in the understanding of how to balance these priorities. At the same time, the stated relationship between the SDGs and the UNFCCC system—including aspects relating to just transitions—means that just transitions should be considered an important element of the SDGs in the environmental context.

Issues relating to fishing practices are addressed in SDG 14, which commits States to "effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics."[78] Further, Target 14.5 provides that States will act to

[73] SDG 13, https://sdgs.un.org/goals/goal13, accessed 10 February 2022.

[74] SDG 14, https://sdgs.un.org/goals/goal14, accessed 10 February 2022.

[75] SDG 15, https://sdgs.un.org/goals/goal15, accessed 10 February 2022.

[76] SDG 13, https://sdgs.un.org/goals/goal13, accessed 10 February 2022.

[77] SDG 13, targets 13.1, 13.2, https://sdgs.un.org/goals/goal13, accessed 10 February 2022.

[78] SDG 14, target 14.4, https://sdgs.un.org/goals/goal14, accessed 10 February 2022.

> prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation.[79]

Forest resources and management are included in the terms of SDG 15, particularly those relating to the incorporation of sustainability concerns and efforts to provide additional protections to biodiversity resources.[80] As discussed in the subsequent chapters, forestry is a critical site of innovation and stress in the climate context and plays a part in the development of pandemic and post-pandemic responses. Additionally, the blue economy constitutes a form of response to climate stressors that will continue to grow and require sectoral changes to be achieved in a just and sustainable way.

Between the UNGA's approval of the SDGs and the UNFCCC's adoption of the Paris Agreement, the ILO Member States agreed to the terms of the *Guidelines for just transitions towardsenvironmentally sustainable economies and societies for all*.[81] The Guidelines emphasize the directly cross-cutting principles of the decent work agenda and sustainable development, including ensuring that there are protections for the labour sector and the environment in crafting climate-responsive laws and policies.[82] Among the principles articulated in the Guidelines are "[c]oherent policies across the economic, environmental, social, education/training and labour portfolios need to provide an enabling environment for enterprises, workers, investors and consumers to embrace and drive the transition environmentally sustainable and inclusive economies and societies,"[83] and

[79] SDG 14, target 14.5, https://sdgs.un.org/goals/goal14, accessed 10 February 2022.

[80] SDG 15, https://sdgs.un.org/goals/goal15, accessed 10 February 2022.

[81] International Labour Organisation, *Outcome of the Tripartite Meeting of Experts on Sustainable Development, Decent Work and Green Jobs* (ILO, GB.325/POL/3, 2015).

[82] Ibid.

[83] Ibid. at art 19(d).

> these coherent policies also need to provide a just transition framework for all to promote the creation of more decent jobs, including as appropriate: anticipating impacts on employment, adequate and sustainable social protection for job losses and displacement, skills development and social dialogue, including the effective exercise of the right to organize and bargain collectively.[84]

Through the Guidelines, the ILO stressed that just transitions must be accomplished in a context-dependent manner based on the needs of each State and that the overall goal of implementing just transitions should be to generate a cycle of job growth and empowerment across multiple sectors.[85] To implement these principles and goals, the Guidelines stress the importance of incorporating just transitions in the labour context as a matter of State national laws and rules, as well as linking them to the reporting elements of the SDGs and climate-related reporting requirements.[86]

Several months after the UNGA adopted the SDGs, the State Parties to the UNFCCC adopted the Paris Agreement during CoP 21.[87] The Paris Agreement is founded on the inclusion of common but differentiated responsibilities and reflects a more nuanced understanding of the social and economic aspects of climate change as well as of the scientific status of climate change.[88] Just transitions features as an articulated element in the preamble of the Paris Agreement, which notes that the Agreement was created "taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities."[89] The Paris Agreement preamble also expressly addresses poverty eradication, food security, climate justice and biodiversity protections, and public participation as foundational concerns upon which its terms are built.[90]

[84] Ibid. at art 19(e).

[85] Ibid. at art 20(1).

[86] Ibid. at art 21.

[87] See Bridget Lewis, 'The Rights of Future Generations Within the Post-Paris Climate Regime', *Transnational Environmental Law* 7(1) (2018), 69–87.

[88] See *Paris Agreement on Climate Change* (2015) preamble.

[89] Ibid.

[90] Ibid.

The Paris Agreement requires State Parties to file Nationally Determined Contributions (NDCs) to assess national and global progression toward implementation of the Agreement.[91] Under the terms of the Paris Agreement, States filed Intended Nationally Determined Contributions (INDCs) at the outset and then are required to file full NDCs at five-year intervals.[92] Following the submission of full sets of NDCs, the Paris Agreement then requires the undertaking of a global stocktake to assess the efficacy of the Agreement's terms at the global level as well as the challenges faced in implementation.[93] The NDC filings are to be reflective of the common but differentiated responsibilities principle in their evaluation and can be amended between filings.[94]

Adaptation and mitigation measures form a central core of the Paris Agreement and allow for the generation of laws and rules that entrench these measures across the spectrum of industries, economic sectors and societal concerns in each State Party.[95] Article 6 of the Paris Agreement encourages State Parties to work together to assist in creating sustainable and environmentally meaningful laws and policies that address the impacts of climate change as well as their drivers.[96] This includes the use of market and non-market mechanisms for climate change response and funding.[97] In the adaptation context, the Paris Agreement provides that the State Parties

> acknowledge that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into

[91] Ibid. at arts 3, 4.

[92] Ibid. at art 4.

[93] Ibid.

[94] Ibid.

[95] Ibid. at art 6.

[96] Ibid. at arts 6, 7.

[97] Ibid.

> relevant socioeconomic and environmental policies and actions, where appropriate.[98]

In Article 8, the Paris Agreement addresses climate change-related loss and damage concerns and endorses the Warsaw International Mechanism for Loss and Damage associated with Climate Change (WIM) to serve as the governance body to oversee the implementation of these terms.[99] Included in the WIM are many elements of disaster planning and preparedness, including economic elements and resiliency as well as predictive efforts.[100] Further to the provisions of the UNFCCC, the Paris Agreement commits developed Stated to provide financing for the implementation of its terms by developing and least developed States,[101] as well as for technology transfers.[102] In addition, the Paris Agreement creates capacity-building obligations for the benefit of developing State Parties.[103]

Echoing the provisions of the SDGs, Article 12 of the Paris Agreement commits State Parties to "cooperate in taking measures, as appropriate, to enhance climate change education, training, public awareness, public participation and public access to information, recognizing the importance of these steps with respect to enhancing actions under this Agreement."[104] Throughout the Paris Agreement are a number of provisions which authorize the creation of subsidiary bodies and mechanisms to promote the implementation of the Agreement and State obligations that are part of the UNFCCC system.[105] These mechanisms have begun to take up just transitions as part of their review processes, and others

[98] Ibid. at art 7(5).

[99] Ibid. at art 8.

[100] Ibid.

[101] Ibid. at art 9.

[102] Ibid. at art 10.

[103] Ibid. at art 11.

[104] Ibid. at art 12.

[105] See generally ibid.

are further empowered to do so in the future, including the Paris Agreement Committee on Compliance, which was operationalized during the successive CoPs 24 (Katowice), 25 (Madrid) and 26 (Glasgow).[106]

Three years later, the Katowice Rulebook, created during CoP24 in Katowice, Poland, provided further amplification of the structures and parameters to be used by various mechanisms as well as specific requirements for the implementation of the NDCs and associated reporting requirements.[107] Fittingly for the setting of CoP 24 in the Silesian region of Poland that has historically been linked to coal mining and energy, an important outcome was the signing of the Silesia Declaration on Solidarity and Just Transition.[108] In this Declaration, multiple heads of State Parties recognized that

> addressing climate change requires a paradigm shift towards building a low greenhouse gas emission and climate resilient economies and societies for all that offers substantial opportunities and ensures continued high growth and sustainable development, while ensuring a just transition of the workforce that creates decent work and quality jobs.[109]

These leaders further recognized that the populations of developing and climate vulnerable States will require additional assistance in implementing just transitions.[110] The Silesia Declaration highlights the needs of men and women to be included in the implementation of just transitions, and emphasizes that urban settlement areas play a particularly

[106] See UNFCCC Cop 24, https://unfccc.int/process-and-meetings/conferences/past-conferences/katowice-climate-change-conference-december-2018/sessions-of-negotiating-bodies/cop-24, accessed 10 February 2022; UNFCCC CoP 25, https://unfccc.int/cop25, accessed 10 February 2022; UNFCCC CoP 26, https://unfccc.int/conference/glasgow-climate-change-conference-october-november-2021, accessed 10 February 2022.

[107] See Katowice Outcome Documents, https://unfccc.int/documents/185180, accessed 10 February 2022; Harro van Asselt, Kati Kulovesi, and Michael Mehling, 'Negotiating the Paris Rulebook', *Carbon & Climate Law Review* 12(3) (2018), 173–183.

[108] Silesia Declaration on Solidarity and Just Transition, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwibyLKLo4D2AhVagFwKHbP4B3oQFnoECAYQAQ&url=https%3A%2F%2Fdata.consilium.europa.eu%2Fdoc%2Fdocument%2FST-14545-2018-REV-1%2Fen%2Fpdf&usg=AOvVaw010tGyKImtWq_H7L0gZDkY, accessed 10 February 2022.

[109] Ibid. at preamble.

[110] Ibid.

significant role in pollution and climate drivers.[111] Thus, the Silesia Declaration notes the need to balance equity for all genders and for vulnerable populations with the need to address and counteract climate drivers, especially those in urban areas.[112] Among the other action items, the Silesia Declaration linked reporting on just transitions efforts with the filing of NDCs moving forward as well as creating connections between the Paris Agreement's implementation mechanisms and those of the SDGs.[113]

As part of the CoP 26 outcomes, the UK Presidency announced the creation of the Energy Transition Council, representing a coalition of over 20 UNFCCC State Parties as well as international organization representatives. The foundations of the Energy Transition Council are

> A rapid and just transition to clean power is vital, to meet the goals of the Paris Agreement for avoiding dangerous climate change and limiting global warming to 1.5 degrees Celsius. The transition offers huge opportunities for jobs and growth, clearer air, and improved public health. It can also boost energy access, energy efficiency and energy security. The transition is already under way … but it needs to accelerate. The power sector accounts for a quarter of global greenhouse gas emissions. The pace of the global transition to clean power needs to at least quadruple over the next decade if we are to meet our Paris goals.[114]

Specifically, the Energy Transition Council has decided to take up the following issues for future examination in the international realm:

> a) Making clean power technologies the preferred option for countries investing in new power generation, with the aim of doubling the rate of investment in clean power by 2030; b) Developing policy and regulatory frameworks to attract the private sector to help deliver and finance these investment needs; c) Supporting people and communities heavily reliant on the coal economy to make a secure and just transition to clean power and other economic opportunities, ensuring that no one is left behind; d) Enabling the delivery of SDG7, harnessing centralized and decentralized clean energy solutions to achieve universal

[111] Ibid. at 2, 3.

[112] Ibid.

[113] Ibid. at 6.

[114] CoP26 Energy Transition Council, https://www.gov.uk/government/publications/cop26-energy-transition-council-summary-statement, accessed 10 February 2022.

> access to sustainable, affordable, modern energy by energy transition.[115]

Thus, in the space of approximately three decades, the international community has progressed in its understandings of the concerns which form the central tenets of just transitions—namely, justice, equity, inclusion in opportunity, access to training and ability to participate in new sectors, and environmental protections. Starting from the point at which these concepts were included in treaty regimes without articulation as part of the just transitions concept for law or regulation, there has been a steady movement toward inclusion of just transitions as a necessary element of environmental and social policy.

At the same time, it must be noted that this progress has been made largely in terms of soft law and customary law inclusion of just transitions per se. Even the Paris Agreement includes explicit references in the preamble, although subsequent outcomes from CoPs 24 (Katowice), CoP 25 (Madrid) and CoP 26 (Glasgow) have further entrenched just transitions as part of the Paris Agreement and UNFCCC governance systems. Given the dichotomy between international legal concerns touched upon by and reflected in just transitions and the need to implement them at the national and sub-national levels, the international realm is the necessary place to start these discussions but cannot be the place where it ends. Instead, as set out below, the State level must be reviewed for progress and innovation.

3 Supranational and National Incorporation and Development Generally

International law forms the structure through which many aspects of just transitions-related polices have been adopted at the supranational and national levels. Indeed, many States have been pushed toward transitions in a variety of sectors as a result of their international law commitments—be they hard or soft law commitments—and certainly issues of sustainability, justice and equity have been incorporated in these undertakings. Additionally, a number of States have engaged in activities to reduce carbon emissions in connection to coal-based activities and foster

[115] Ibid.

just transitions implementation at the same time. This section addresses some of the most prominent State and, in the European Union setting, supranational, responses to these efforts. The EU is arguably the most necessary site for discussing the emergence of laws and policies that advance just transitions across multiple sectors and constituencies. Various EU Member States are highlighted in this section based on their actions as sovereigns—and, often, home to active sub-State entities—to support just transitions in the extractives sector. Additional States from across the globe are discussed in terms of their recent and progressive actions toward expanding the law surrounding and application of just transitions within their systems. As noted in Chapter 1, while some of these States, perhaps most notably the US, UK and Poland, have served as historically important locations for development or contest regarding just transitions, they are examined here in terms of more forward-looking actions rather than historical case studies, of which there are already many outstanding examples.

3.1 European Union

In 1961, decades before the official creation of the European Union (EU), the Member States of the Council of Europe adopted the European Social Charter to promote harmonization of policies and ensure the rights of those in rural and urban areas throughout Europe.[116] Predating the articulation of just transitions by at least two decades, the European Social Charter nevertheless created many rights that are crucial to the ways in which just transitions has been and can continue to be implemented in the EU context. Critical among these are:

> 1) Everyone shall have the opportunity to earn his living in an occupation freely entered upon; 2) All workers have the right to just conditions of work; 3) All workers have the right to safe and healthy working conditions; 4) All workers have the right to a fair remuneration sufficient for a decent standard of living for themselves and their families; 8) Employed women, in case of maternity, and other employed women as appropriate, have the right to a special protection in their work; 9) Everyone has the right to appropriate facilities for vocational guidance with a view to helping him choose an occupation suited to his personal aptitude and interests;

[116] *European Social Charter* (1961) preamble.

> 10) Everyone has the right to appropriate facilities for vocational training; 14) Everyone has the right to benefit from social welfare services; 15) Disabled persons have the right to vocational training, rehabilitation and resettlement, whatever the origin and nature of their disability.[117]

In connection with these rights, the European Social Charter entrenches the right to work as an individual right that is to be protected by the State, including educational and training access rights.[118] Expansion of the right to just conditions of work includes terms relating to payment, days off and working hours.[119]

Relatedly, as an amplification of the European Social Charter's terms, in 2000 the Charter of Fundamental Rights of the European Union (Charter of Fundamental Rights) was adopted.[120] The Charter of Fundamental Rights includes academic and vocational training access within the scope the right to education, explicitly stating that the right to training is a continuous one.[121] Further, equality of rights for women and men is guaranteed under the Charter of Fundamental Rights, as is the integration of citizens with disabilities into their communities.[122]

Under the Charter of Fundamental Rights, the parameters of the right to work have changed somewhat, now providing that the right includes

> 1) Everyone has the right to engage in work and to pursue a freely chosen or accepted occupation; 2) Every citizen of the Union has the freedom to seek employment, to work, to exercise the right of establishment and to provide services in any Member State; [and] 3) Nationals of third countries who are authorised to work in the territories of the Member States are entitled to working conditions equivalent to those of citizens of the Union.[123]

[117] Ibid. at pt I.

[118] Ibid. at pt II art 1.

[119] Ibid. at pt II art 2.

[120] Charter of Fundamental Rights of the European Union (2000), https://ec.europa.eu/info/aid-development-cooperation-fundamental-rights/your-rights-eu/eu-charter-fundamental-rights_en, accessed 10 February 2022.

[121] See ibid. at art 14.

[122] See ibid. at arts 23, 26.

[123] Ibid. at art 15.

In conjunction, the Solidarity chapter of the Charter of Fundamental Rights provides for rights of collective assembly and bargaining, and fair and just working conditions—relating to "health, safety and dignity" and working hours restrictions—as well as social assistance, and special rights and protections for children and young adults engaged in work.[124] Further, environmental protection provisions are under the rubric of the Solidarity chapter, which provides "a high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development."[125]

The intervening years between the 1961 Charter of Fundamental Rights and the 1993 founding of the EU in Maastricht saw the development of a European consensus regarding areas of common interest at the legal, societal, economic and environmental levels. Indeed, as the shared sense of solidarity between States could be seen in the steady progress toward the creation of the EU, the shared sense of necessity for economic transitions to be just and equitable could be seen in the development of these principles and their endorsement by would-be Member States of the EU in their own case law as well as in agreements and other international law tools signed onto.[126] By the time Treaty of Maastricht on European Union was signed in 1993, the idea of a union between European States had grown from the foundations upon the European Coal and Steel Community in the post-war period.[127] The European Coal and Steel Community was an effort to tie together States torn apart by World War II and to unite frequently conflicting interests through the generation of a common market for coal and steel products regarded as essential to revitalizing many European economies and to the rebuilding efforts undertaken by the vast majority of the continent following the infrastructural damage of a prolonged war.[128] Rather ironically, the two products used as the basis for unification efforts are products which the EU is seeking to vastly reduce production and use of, in the context of coal,

[124] Ibid.at ch IV.

[125] Ibid. at art 37.

[126] See Treaty of Maastricht on European Union (1993), https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3Axy0026, accessed 10 February 2022.

[127] Ibid.

[128] See ibid.

and to change in order to reduce emissions from, in the case of steel. By the time of the Treaty of Maastricht, this momentum had shifted to include, among other things, protections for workers, inclusion rights for those seeking to enter the labour market and a number of social protections.[129] The Treaty of Maastricht on European Union thus formed the bedrock upon which the EU has grown and adopted a series of laws, rules and policies expanding on the powers granted in 1993. Included in these, as discussed below, are many having overt and tacit impacts on the growth and expansion of just transitions.

The Treaty Establishing a Constitution for Europe (Constitution Treaty) was signed in 2004 and created a significant system of rights, obligations and governance mechanisms for States and citizens.[130] From the outset, the Constitution Treaty includes sustainable development as a core EU objective, providing that

> the Union shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance. It shall combat social exclusion and discrimination, and shall promote social justice and protection, equality between women and men, solidarity between generations and protection of the rights of the child.[131]

Fisheries policy as it relates to shared marine biological resources is a designated area of exclusive EU jurisdiction under the Constitution Treaty, as is the development of a common commercial policy.[132] Areas of shared jurisdiction between the EU and Member States under the Constitution Treaty include, in relevant part, non-conservation-related fishing policies, social policies, agricultural policies, environmental protection, transportation policy, energy policy and public health issues.[133] Employment laws and policies are also to be the subject of coordinated efforts

[129] See ibid.

[130] Treaty Establishing a Constitution for Europe (Constitution Treaty) (2004).

[131] Ibid. at art I-3(3).

[132] See ibid. at art I-13.

[133] See ibid. at art I-14.

between the EU and Member States.[134] Additionally, the EU is vested with supportive, coordinating or complementary jurisdiction for several other areas, including human health, education and vocational training programming and industrial policy.[135]

In 2012, the EU Member States adopted the Treaty on the Functioning of the European Union (TFEU) in order to define the ways in which the emerging supranational organization would achieve its purposes and goals.[136] Taken together with the Treaty of European Union, the TFEU vests the EU with jurisdiction to address issues in or work with Member States to address a number of topic areas, including public health, industry, tourism, education and administration of laws and rules.[137] Quite early in its provisions, the TFEU provides that "in defining and implementing its policies and activities, the Union shall take into account requirements linked to the promotion of a high level of employment, the guarantee of adequate social protection, the fight against social exclusion, and a high level of education, training and protection of human health"[138] and that EU priority areas are to include mainstreaming of environmental protection and sustainable development.[139] Issues such as fishing and agricultural practices as regarded as being of national concern but also subject to EU-wide policies and common restrictions,[140] with similar restrictions on the ability of Member States to regulate transportation practices in most circumstances.[141]

Member States undertake obligations regarding imposing labour restrictions and encouraging positive employment practices in both the TEU and the TFEU. Under the TFEU's terms,

> Member States and the Union shall, in accordance with this Title, work towards developing a coordinated strategy for employment and particularly for promoting a skilled, trained and adaptable workforce and labour

[134] Ibid. at art I-15.

[135] Ibid. at art I-17.

[136] Consolidated Treaty on the Functioning of the European Union (2012).

[137] Ibid. at 6.

[138] Ibid. at 9.

[139] Ibid. at 13.

[140] See ibid. at tit. III.

[141] Ibid. at tit. VI.

> markets responsive to economic change with a view to achieving the objectives defined in Article 3 of the Treaty on European Union.[142]

Additionally, the EU and its organs are required to coordinate, promulgate and oversee the labour and employment laws and rules of Member States and the organization as a whole, with attendant reporting tasks.[143]

Relatedly, in terms of social policy, the TFEU is clear that

> The Union and the Member States, having in mind fundamental social rights such as those set out in the European Social Charter signed at Turin on 18 October 1961 and in the 1989 Community Charter of the Fundamental Social Rights of Workers, shall have as their objectives the promotion of employment, improved living and working conditions, so as to make possible their harmonisation while the improvement is being maintained, proper social protection, dialogue between management and labour, the development of human resources with a view to lasting high employment and the combating of exclusion.[144]

Achievement of these requirements is deemed to be a consultative act between the EU and the Member States in relation to oversight of working conditions, employment health and safety oversight and improvement, provision of social guarantees to all workers, contractual rights for all workers and concomitant obligations for employers, engagement with workers in a consultative system, portability of labour and limitations of restrictions on who can work in a Member State, and promoting equality in employment.[145]

The TFEU makes it clear that the Member States are vested with obligations regarding educational rights, access and content, provided that they further the overall aims of the EU.[146] Included in this is the provision of opportunities for vocational training, which can be supplemented by EU assistance where appropriate.[147] In light of the Covid-19 pandemic responses discussion in Chapter 4, it should be noted that the TFEU

[142] Ibid. at tit. IX, art 145.

[143] See ibid. at tit. IX.

[144] Ibid. at tit. X art 151.

[145] See ibid. at art 153.

[146] See ibid. at tit. XII.

[147] Ibid. at art 166.

grants the EU significant and wide-ranging powers relating to public health policy and protection, while at the same time preserving many aspects of Member States' enforcement abilities in these spheres.[148]

In terms of environmental protection, the TFEU provides the EU with powers to create an EU-wide environmental policy which reflects several articulated objectives, namely "preserving, protecting and improving the quality of the environment, protecting human health, prudent and rational utilisation of natural resources, [and] promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change."[149] These policies are to include the polluter pays principle and the precautionary principle, and are to be based on assessments of the state of scientific knowledge regarding the environment generally, the state of the environment in the EU, the impacts of the policies and the balance with EU and regional needs for development.[150] Concomitantly, the EU is vested with powers over generation of energy policies as well as oversight abilities for Member State implementation.[151] It is similarly given complementary powers to Member States in the tourism sector.[152]

By 2019, the EU was preparing to launch a new framework for addressing climate change, environmental protection and green growth by adopting the European Green Deal (EU Green Deal). Set against the backdrop of threats from climate change and rampant loss of biodiversity at the global level, the EU Green Deal

> aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. It also aims to protect, conserve and enhance the EU's natural capital, and protect the health and well-being of citizens from environment-related risks and impacts.[153]

[148] See Ibid. at tit XIV.

[149] Ibid. at art 191(1).

[150] Ibid. at art 191(2), (3).

[151] Ibid. at tit XXI.

[152] Ibid. at tit XXII.

[153] European Green Deal, https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en, accessed 10 February 2022, 2.

From the outset, it expressly incorporates the SDGs as part of the essential parameters and policy justifications for the terms used.[154] The timing of the EU Green Deal is also telling in that it occurred less than a month before UNFCCC CoP 25, during which it was used as a catalyst for many States to make regulatory commitments to attaining net zero by 2050. The EU Green Deal itself functions in many ways as a framework within which the goal of achieving net zero and climate ambition as set out in the Paris Agreement are crafted at the EU and Member State levels.[155]

This is the setting in which the first concrete steps were taken toward the adoption of an overarching EU Climate Law.[156] The EU Green Deal seeks to catalyse the integration of climate ambition across multiple economic and social sectors within and between the Member States as well as at the organizational level.[157] Included in these sectors is renewable energy, which Member States are tasked with implementing for the purposes of advancement and reducing energy poverty.[158] Further areas of dedicated focus within the EU Green Deal include green and sustainable building and renovations,[159] sustainable mobility and transportation,[160] Farm to Fork innovation in food, agriculture and food security,[161] preserving ecosystems and biodiversity resources including the blue economy,[162] and pollution reduction.[163] Core strands connecting these sectors include the promotion of just transition, green financing and

[154] Ibid. at 2–3.

[155] Ibid. at 2.1.1; See also Ruven C. Fleming and Romain Mauger, 'Green and Just? An Update on the 'European Green Deal'', *Journal for European Environmental & Planning Law* 8 (2021), 164–180 (emphasizing the ways in which Covid-19 and related impacts have required the EU to craft a more broadly based implementation plan for the EU Green Deal).

[156] EU Green Deal, *supra* note 152 at 2.1.1.

[157] See generally ibid.

[158] Ibid. at 2.1.3.

[159] Ibid. at 2.1.4.

[160] Ibid. at 2.1.5.

[161] Ibid. at 2.1.6.

[162] Ibid. at 2.1.7.

[163] Ibid. at 2.1.8.

climate finance and investment, leading to the creation of the Just Transition Mechanism (JTM) and Just Transitions Fund (JTF).[164] Accordingly, EU Member States have been required to submit reports on implementation and compliance with the purposes and terms of the Green Deal.[165] The Green Deal has spawned multiple pieces of law and policy at the EU and Member State levels which have direct bearing on the principles and fundamental concerns underpinning just transitions.

Of fundamental importance for this book is the decision of the EU to create the JTF as a method of implementing the EU Green Deal. While a highly useful example of green finance and investment that demonstrates the breadth of issues associated with fashioning a comprehensive just transitions framework in the EU Member States, the JTF is limited in scope to the transitions from the fossil fuels sector or the renewables sector.[166] In the methodology of the JTF, there are four essential elements necessary for effecting a durable just transition at a general level, "it must be locally driven, include targeted welfare and labour policies, be included in a long-term strategy for the decarbonisation and development of local economies, and allow for regular assessments and modifications."[167] Moving to the EU-specific context, the JTF has established "strong mechanisms to ensure social dialogue and the involvement of communities throughout the whole transition process; consistency with other EU programmes and policies; structured based on clear phaseout goals and decarbonisation pathways consistent with the objective of climate neutrality by 2050" for core objectives.[168]

In the just transitions and decarbonization context, the EU has noted that there will be what it views as secondarily impacted fields, for example, steel and cement, which will suffer impacts sufficient to warrant transitions rather than seeing broad swathes of the sector collapse without planning.[169] At the same time, the JTF has identified sectors which will

[164] Ibid. at 2.2.1, 2.2.2.

[165] Ibid. at 2.1.2.

[166] See European Commission, Clean Energy Transition—Technologies and Innovations, Accompanying the Document Report from the Commission to the European Parliament and Council (COM(2020) 953, 2020).

[167] Ibid.

[168] Ibid.

[169] Ibid. at 17–19.

benefit from the necessary transitions for accomplishment of net zero and climate ambition targets and signalled that these sectors will need to plan for a positive transition that requires newly trained workers.[170] To better plan for the necessary transitions, the JTF has identified Member States likely to experience the most severe losses and those needing to ensure a better trained work force.[171] Among the EU Member States, Poland, Germany, Romania, Bulgaria and Spain are highlighted as being most likely to suffer severe impacts from the transition away from coal and fossil fuels.[172] Despite the focus on State level economic analysis, the JTF has emphasized the essential role played by sub-national governmental entities in the generation and application of laws and rules for just transition.[173] Funding decisions of the JTF are to be made in favour of projects that are focused on three central areas, land restoration, social concerns and economic revitalization.[174]

What can be overlooked from the legal and regulatory perspective is the JTF's articulation of a vision of just transitions that is unified by many essential elements but must still be given flexibility to be malleable in the face of varying needs between communities and forms of transition.[175] Set against this understanding, the JTF has proposed a set of just transitions indicators to be used in assessing policies and progress. The philosophy behind this is that existing indicators for social, economic and environmental progress work well in their designated fields of focus however they do not overlap with each other sufficiently to allow for the types of holistic modelling and evaluations needed in the just transitions context to result.[176]

The New Industrial Strategy for Europe (Industrial Strategy), adopted in early March 2020, the EU highlights the need for a transition in industrial strategies that is both sustainable and allows for continued European

[170] Ibid.

[171] Ibid. at 20.

[172] Ibid. at 21.

[173] Ibid. at 25–27.

[174] European Parliament, *Briefing: Assessment of the Just Transition Fund Proposal* (2020), 3.

[175] See ibid.

[176] See ibid.

economic power in the industrial sector.[177] At the same time, the Industrial Strategy is clear that current industries and practices must change in order to meet European and international laws, providing

> all industrial value chains, including energy-intensive sectors, will have a key role to play. They will all have to work on reducing their own carbon footprints but also accelerate the transition by providing affordable, clean technology solutions and by developing new business models. To become more competitive as it becomes greener and more circular, industry will need a secure supply of clean and affordable energy and raw materials. Stepping up investment in research, innovation, deployment and up-to-date infrastructure will help develop new production processes and create jobs in the process.[178]

Thus, the Industrial Strategy continues the momentum of incorporating requirements for change across all sectors of industry in the EU with the need for sustainability, accessibility and inclusion for consumers and for those workers who will be impacted as a result. This furthers the links between just transitions and environment while also expanding the ideas behind this nexus to the industrial sectors where they had previously been less targeted.

An element of this transition is the use of digitalization and digital technology as a means to advance national economies and various sectors.[179] Included in the parameters of the Industrial Strategy is the combination of the Single Market Enforcement Action Plan and the Single Market Barriers Report which, taken together, highlight the challenges to implementation of the Industrial Strategy as well as potential methods for overcoming them.[180] Another critical element of the Industrial Strategy is the use of skills training and retraining systems in order to ensure that there are workers able to meet the technical requirements of green and sustainable jobs, and that these jobs, in turn, constitute decent work.[181]

[177] New Industrial Strategy for Europe (Industrial Strategy), https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/european-industrial-strategy_en#documents, accessed 10 February 2022, 1.

[178] Ibid. at 2.2.

[179] Ibid. at 2.3.

[180] Ibid. at 3.1.

[181] Ibid. at 3.6.

In the July 2020 Hydrogen Strategy for a Climate-Neutral Europe (Hydrogen Strategy), the EU stressed the potential for hydrogen to serve as a sustainable source of energy that can also result in carbon emissions reductions at the broader level.[182] The Hydrogen Strategy includes this increase in targeted use of hydrogen for energy purposes as an element of Covid-19 recovery planning elements such as increases in energy sector investments for green economic growth.[183] Several phases of implementation are envisaged in the Hydrogen Strategy, notably phase 1 (2020–2024), in which

> the strategic objective is to install at least 6 GW of renewable hydrogen electrolysers in the EU and the production of up to 1 million tonnes of renewable hydrogen, to decarbonise existing hydrogen production, e.g. in the chemical sector and facilitating take up of hydrogen consumption in new end-use applications such as other industrial processes and possibly in heavy-duty transport.[184]

The second phase (2025–2030) will require hydrogen "to become an intrinsic part of an integrated energy system with a strategic objective to install a least 40 GW of renewable hydrogen electrolysers by 2030 and the production of up to 10 million tonnes of renewable hydrogen in the EU."[185] Finally, in the third phase (2030—2050) "renewable hydrogen technologies should reach maturity and be deployed at large scale to reach all hard-to-decarbonise sectors where other alternatives might not be feasible or have higher costs."[186] Throughout all these phases, there are key areas of sectoral overlap, notably in the transportation and fuels industries.[187] Through the Hydrogen Strategy, the EU makes it clear

[182] See Hydrogen Strategy for a Climate-Neutral Europe (Hydrogen Strategy), https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwi0opmhqoD2AhWKYMAKHTXtA_IQFnoECAYQAQ&url=https%3A%2F%2Fec.europa.eu%2Fenergy%2Fsites%2Fener%2Ffiles%2Fhydrogen_strategy.pdf&usg=AOvVaw2iwcGeqPYL2Pv0qpM26cdq, accessed 10 February 2022, 1.

[183] Ibid.

[184] Ibid. at 2.

[185] Ibid.

[186] Ibid.

[187] Ibid. For a discussion of the need for the EU to transition in the transportation sector, see also Beatriz Perez de las Heras, 'La Union Europea en la Transicion hacia la Neutralidad Climatica', *Revista Espanola de Decrecho Internacional* 72 (2020), 117, 135.

that the expectation of future growth or refinement in the technology surrounding known forms of renewable energy is not an excuse to refrain from implementing the resource when it is viable in the present day. It illustrates the legal and regulatory focus of the EU on developing renewable energy as a cycle of development and growth rather than as a statically existing form of energy resource. This is critical for the renewables sector, and especially for innovation as part of it, and implicitly highlights the need for just transitions to anchor a system where education and reskilling are constantly available in the face of emerging energy sources and skills needed to accompany them.

Just transitions elements feature prominently in the EU's Strong Social Europe Communication, which seeks to ensure that all members of society have access to continuous training and skills updates so as to provide a cutting-edge European workforce for the future.[188] This Communication envisions an efficient system for determining skills needed and providing training in them through the involvement of the Member States, workers, employers and communities.[189] The Communication is expressly linked to the EU Green Deal and the JTF structure, allowing it to be regarded as working in tandem with both to promote the evolution of green technologies in an inclusive manner.[190] In conjunction with the universal training concepts, the EU Regions have focused on issues of youth engagement with and potential benefit from just transitions.[191] This undertaking has demonstrated that the young adult section of the population is concerned about the types of just transitions methods being used since these methods will impact their futures.[192] With this in mind, there is an emphasis on finding ways to engage the youth segment of the population in discussions, dialogues and future policy planning for transitions and their impacts in a manner that promotes many tenets of intergenerational equity as well.[193]

[188] A Strong Social Europe for Just Transitions (2020), https://www.google.com/search?client=firefox-b-d&q=Strong+Social+Europe+, accessed 10 February 2022, 3.

[189] See generally ibid.

[190] Ibid. at 5.

[191] Youth for a Just Transition (2020), https://ec.europa.eu/regional_policy/en/information/publications/guides/2021/youth-for-a-just-transition-a-toolkit-for-youth-participation-in-the-just-transition-fund, accessed 10 February 2022.

[192] Ibid.

[193] See ibid.

Subsequently, the EU adopted the Strategy to Reduce Methane Emissions (Methane Strategy) in 2020 as an indication that the scope of the EU Green Deal extends beyond carbon and decarbonization efforts.[194] As stressed in the Methane Strategy, methane is impactful in perpetuating environmental degradation but was not subject to EU regulation in the same way as carbon and other GHGs.[195] The Methane Strategy includes an analysis of the industries to be affected by emissions reductions, beginning with energy, industrial and mining sectors and extending into agricultural and waste sectors.[196] Thus, the Methane Strategy recognizes that carbon is not the only significant climactic threat posed by current economic and social practices in the EU and that separate strategies must be adopted to address the scientific, technical, economic, environmental and social impacts of reducing emissions in the sector. This necessarily includes a shift in employment practices and skills across a broad spectrum of sectors, and the Methane Strategy is a tool to foster understanding of how to address and include this reality in current and future planning.

In the EU setting, efforts to reform public procurement practices at the supranational level as well as within the individual Member States have largely focused on environmental and, to a more limited extent, social reforms. However, examining these types of changes reveals that the shift in awareness represents a form of just transitions in that it ensures a recentring of public procurement from issues of economics and compliance to a deeper understanding of the impacts procurement makes on vendor choices in the economic and social context.[197] Although commentators have noted that the procurement context does not offer a chance for significant reform in these sectors because the contracts offered are often of limited duration,[198] the steady incorporation of these factors in the

[194] See EU Strategy to Reduce Methane Emissions (2020), https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjn19njq4D2AhUUi1wKHcL9DeoQFnoECBAQAQ&url=https%3A%2F%2Fec.europa.eu%2Fenergy%2Fsites%2Fener%2Ffiles%2Feu_methane_strategy.pdf&usg=AOvVaw0lZgL41GnkF51PQgIx7d-S, accessed 10 February 2020.

[195] Ibid.

[196] Ibid. at 2–3.

[197] See Ania Zbyszewska, 'Labor Law for a Warming World? Exploring the Intersections of Work Regulation and Environmental Sustainability: An Introduction', *Comparative LaborLaw & Policy Journal* 1 (2017).

[198] Ibid.

bidding process itself is arguably a far more durable shift. In itself, this book asserts that this type of shift in public procurement law and practice represents a form of just transition in that it is a transition of practices throughout a sector intended to have a social, economic and environmental benefit but, nevertheless, requires adaptation of existing practices in a way that includes those who will be most directly impacted.

As a central element of the EU Green Deal, in 2021 the EU Climate Law was ultimately enacted. The Climate Law amplifies the commitments made by the Member States and the EU as part of the Paris Agreement.[199] Transitions are included in the scope of the EU Climate Law from the preamble, providing

> [i]n light of the importance of energy production and consumption for the level of greenhouse gas emissions, it is essential to ensure a transition to a safe, sustainable, affordable and secure energy system relying on the deployment of renewables, a well-functioning internal energy market and the improvement of energy efficiency, while reducing energy poverty. Digital transformation, technological innovation, and research and development are also important drivers for achieving the climate-neutrality objective,

onward.[200] In many ways, the EU Climate Law envisions the broad spectrum of sectors to which the just transitions framework can be applicable, particularly when requiring that national adaptation strategies and plans from the Member States include "the particular vulnerability of the relevant sectors, inter alia, agriculture, and of water and food systems, as well as food security, and promote nature-based solutions and ecosystem-based adaptation."[201]

As part of the EU's climate laws and regulatory system, Member States are required to file a National Energy and Climate Plan (NECPs) for information and review purposes by designated oversight bodies within the EU structure. Explicit reference to transitions connected to the confluence of the energy sector and environmental concerns can be found

[199] European Climate Law (2021), https://ec.europa.eu/clima/eu-action/european-green-deal/european-climate-law_en, accessed 10 February 2022.

[200] See ibid. at preamble (11).

[201] Ibid. at art 5(4).

throughout these State NECP as well as the EU's evaluations of them.[202] For example, as noted in the Swedish NECP, "the energy policy must therefore create the conditions for effective and sustainable energy use and a cost-effective energy supply in Sweden, while minimising the damage to health, the environment and climate and facilitating the transition to a sustainable society."[203] From the EU Climate Law emerges a broader understanding of the anticipated impacts of transitioning to renewable energy sources as well as climate-friendly industrial practices and the roles that technological innovation can play in them. Thus, an area of opportunity overlaps with an area of need for continued access to education and reskilling to ensure a properly trained workforce. Hydrogen is also a core element of most EU Member State climate neutrality strategies.[204] Additionally, the majority of these strategies stress the importance of including the circular economy as a central component of climate neutrality systems.[205]

Another common theme in the NECPs is the need for involvement of all levels of government in order to implement meaningful tools for achieving national, regional and international laws.[206] The Spanish NECP includes a focus on just transitions that fuses the just transitions strategy with the energy and climate foundations needed for the NECP analysis, stressing that the national plans anticipate energy transitions will generate an increase in employment.[207] During the review phase, the EU Commission noted that this was good progress but that the information provided failed to address the issues of the types of jobs to be generated through the energy transition and the forms of skills training or retraining needed

[202] European Commission, Assessment of the Final National Energy and Climate Plan of Ireland (SWD(2020) 906 final, 2020), 3; European Commission, Assessment of the Final National Energy and Climate Plan of Finland (SWD(2020) 925 final, 2020); European Commission, Assessment of the Final National Energy and Climate Plan of Estonia (SWD(2020) 905 final, 2020), 3.

[203] Ministry of Infrastructure, Sweden's Integrated National Energy and Climate Plan (2020), 7.

[204] Portugal, *Long-Term Strategy for Carbon Neutrality of the Portuguese Economy by 2030* (2019), 27.

[205] Ibid. at 63.

[206] See Sweden, *supra* note 203 at 9–10.

[207] See European Commission, Assessment of the Final National Energy and Climate Plan of Spain (SWD(2020) 908 final, 2020).

for current employees to make the transition.[208] In reviewing Slovenia's NECP, the EU Commission noted that national information on just transitions in the coal sector, a key aspect of the nation's economic activity, was provided but that the information needed to be tailored to discuss the specific efforts taken and impacts expected in the most affected regions.[209] Similar concerns were raised regarding the Polish NECP's discussion of just transitions, which were found to be lacking in specificity.[210] These concerns were echoed in the Czech NECP evaluation, which was found to lack significant grounding in the social and economic realities of transitions in the coal mining sector that is a core element of the national economy.[211]

When assessing the Slovakian NECP, the EU Commission found that the just transitions analysis for job impact was vague and also failed to take into account the fact that impacts from energy transitions will continue for several decades.[212] However, the French NECP received commendation for the comprehensive nature of its job transition provisions since they included a discussion of issues in skills gaps.[213] At the same time, the EU Commission has praised States, such as Malta, for directly incorporating just transitions concerns and transition impacts in impact assessments.[214] Greece also received endorsement for its just transitions plan, which focuses on methods to ensure continued and sustained job growth in the renewables sector and ties this to projected increases in energy security.[215]

[208] See European Commission, Assessment of the Final National Energy and Climate Plan of Sweden (SWD(2020) 926 final, 2020), 6.

[209] European Commission, Assessment of the Final National Energy and Climate Plan of Slovenia (SWD(2020) 923 final, 2020), 3.

[210] European Commission, Assessment of the Final National Energy and Climate Plan of Poland (SWD(2020) 920 final, 2020), 3.

[211] European Commission, Assessment of the Final National Energy and Climate Plan of Czechia (SWD(2020) 902 final, 2020), 19.

[212] European Commission, Assessment of the Final National Energy and Climate Plan of Slovakia (SWD(2020) 924 final, 2020), 3.

[213] European Commission, Assessment of the Final National Energy and Climate Plan of France (SWD(2020) 909 final, 2020), 3.

[214] European Commission, Assessment of the Final National Energy and Climate Plan of Malta (SWD(2020) 917 final, 2020), 3.

[215] European Commission, Assessment of the Final National Energy and Climate Plan of Greece (SWD(2020) 907 final, 2020), 13.

In reviewing the NECPs, the EU Commission has emphasised that information regarding energy, climate policy and associated implementing regimes must be provided, as must information relating to impacts on subsidiary and connected sectors. For example, land use, land change and forestry (LULUCF) is an area found to be lacking analysis and articulated policies in several NECP filings.[216] Further, the EU Commission has used the NECPs to stress the need for just transitions policies to include skills training as well as efforts to reduce and address energy poverty.[217] As an example, in the Croatian NECP review, the EU Commission suggested the use of assessment tools to generate a deeper understanding of the ways in which just transition are effectively or ineffectively implemented.[218]

The 2020 Strategy of Latvia for the Achievement of Climate Neutrality by 2050 places social justice and welfare concerns at the core of the planned national responses for climate neutrality laws and practices.[219] Included in this is the idea of a "socially just transition," which is defined as "social dialogue is ensured, the specific features and possibilities of each sector of national economy are taken into consideration."[220] In addition to the energy and fuels extractives sector, Latvia has identified the forestry, agriculture, transport and waste management sectors as the highest level of pollution rates in the country.[221] The Strategy reiterates the role of

[216] See Sweden, *supra* note 208 at 2; Slovenia, *supra* note 209 at 2; Poland, *supra* note 210 at 2; European Commission, Assessment of the Final National Energy and Climate Plan of Latvia (SWD (2020) 903 final, 2020), 4.

[217] See Sweden, *supra* note 208 at 3; Slovenia, *supra* note 209 at 7; European Commission, Assessment of the Final National Energy and Climate Plan of Luxembourg (SWD(2020) 915 final (2020), 3; European Commission, Assessment of the Final National Energy and Climate Plan of Lithuania (SWD(2020) 914 final, 2020), 6; Latvia, *supra* note 216 at 6; European Commission, Assessment of the Final National Energy and Climate Plan of Hungary (SWD 2020) 916 final, 2020), 3; European Commission, Assessment of the Final National Energy and Climate Plan of Germany (SWD(2020) 904 final, 2020), 3; European Commission, Assessment of the Final National Energy and Climate Plan of Denmark (SWD(2020) 903 final, 2020), 6; European Commission, Assessment of the Final National Energy and Climate Plan of Bulgaria (SWD(2020) 901 final, 2020), 3.

[218] European Commission, Assessment of the Final National Energy and Climate Plan of Croatia (SWD(2020) 910 final, 2020), 6.

[219] Latvia, *Strategy of Latvia for the Achievement of Climate Neutrality by 2050* (2019), 12.

[220] Ibid. at 13.

[221] Ibid. at 23–24.

municipal governments in implementing the necessary elements for cooperation to achieve the legal and regulatory systems for reaching carbon neutrality.[222]

As part of the Dutch Strategy, there is a stress on the need to transition to hydrogen as a preferred source of sustainable energy for the nation.[223] This Strategy surveys the ways in which the energy transition is translated across the major sectors in the Dutch economy, emphasizing the need to include all levels of public and private actors. For example, in regard to the built environment, the Strategy provides

> with regard to the built environment, the Netherlands is making full use of the time available to realise the transition. It is making a start now, so that it will be able to use the full 30-year period to realise this drastic transition. The focal points of this strategy are a district-oriented approach under the supervision of the municipalities and the development of heating plans. These are intended to lend shape to the transition at the district level.[224]

In the Portuguese Strategy, there is a major focus on innovations in the agriculture and forestry sectors in order to ensure that LULUCF measures are adopted and, more broadly, that agricultural production is transitioned to a more permanently sustainable concept.[225] Additionally, the Strategy notes the need for core structural changes in terms of law and regulation of these sectors so as to allow for innovation and sustainable growth.[226] In terms of just transitions *per se*, the Strategy highlights the need to ensure a phased and coordinated system of transitions from the coal sector to renewables sectors in order to ensure that impacted workers are provided assistance and reskilling as necessary.[227] As the Strategy explains, it is "crucial to ensure that national and European support frameworks are oriented towards research and technological development alongside comprehensive investment in education, professional and vocational training in line with the new paradigms of national

[222] Ibid. at 34.

[223] Netherlands, *Long Term Strategy on Climate Mitigation* (2019), 5–6.

[224] Ibid. at 6.

[225] Portugal, *supra* note 204.

[226] Ibid.

[227] Ibid. at 86.

business sectors that aim to (re)qualify the workforce to ensure a fair transition."[228] The Spanish Strategy pledges support for just transitions in the climate context by stating that it is to be considered as occupying a central place in the national planning and legal frameworks.[229]

Also in the European context, the efforts of the European Bank for Reconstruction and Development (EBRD) regarding green growth and just transitions promotion should be noted as well. While not legally binding *per se*, the EBRD's policies of supporting the Green Economy Transition create significant norms in the investment and financing spheres.[230] By providing the means to finance State projects aimed at fulfilling obligations under national law, EU law and international law, the EBRD's policies can be seen as working in tandem with legal requirements.[231] Similarly, since they are related to contractual provisions necessary for their enforcement, they form at the very least the backbone of contractual law innovations in the transitions space.[232]

The EU provides an understanding of how a supranational organization can grow in terms of its own functions and identity alongside issues such as environment, social and economic concerns that form the foundation of just transitions across multiple sectors. Although largely tied to the concept of labour rights, the EU is an example of how the expansion of just transitions as a legal and regulatory tool exists across a broad swathe of law and policy generally.

3.2 Australia

In Australia, as in several other States with strong unions and increasing efforts to decarbonize, there has been a complex relationship between the support of environmentalism and transitioning from coal and steel by labour unions.[233] Despite the potential for job losses undermining

[228] Ibid.

[229] Spain, *Estrategia de Decarbinizacion a Largo Plazo 2050* (2020), 7.

[230] EBRD, *Report of the Board of Directors to the Board of Governors: Strategic and Capital Framework 2021–25* (2020).

[231] Ibid.

[232] Ibid.

[233] Darryn Snell and Peter Fairbrother, 'Toward a Theory of Union Environmental Politics: Unions and Climate Action in Australia', *Labor Studies Journal* 83 (2011).

aspects of the unions' core efforts at employee security and vested rights, many Australian unions have been important actors in the development of climate-responsive policies.[234] In some ways, the affected Australian unions have acted a politically predictable way by seeking to ensure that efforts to reduce the carbon sector, particularly in the emissions trading sphere, are attached to international benchmarks which are nearly impossible to fulfil.[235] On the other hand, union efforts have included support for legislative proposals relating to decarbonization and climate change commitments when they contain provisions that would ensure education and training for members likely to be made redundant.[236]

The Australian economy has benefitted from the mining and extractives sector across many resource areas. One of these resources has historically been coal mining, which in turn supported the use of coal-fired power plants, especially in the Latrobe Valley area.[237] Although Australia is currently a major exporter of coal on the international market, there have been stresses in the market and attendant pressures based on international, national and state environmental laws which resulted in closures of the Hazelwood power generating facility in the Latrobe Valley.[238] To address these impacts, the State of Victoria created the Latrobe Valley Authority as the oversight body for transitions and the administration of technical, social and economic assistance.[239] Part of the Authority's functions include education and skills training while other efforts have focused on the use of an Economic Growth Zone designation to attract new businesses with reduced taxes and other incentives.[240]

Additionally, it must be noted that the politics of climate change, decarbonization and just transitions has been inherently subject to the vicissitudes of national politics. In 2017, the Australian Senate saw the introduction of the Coal-Fired Power Funding Prohibition Bill, an effort to

[234] Ibid.

[235] Ibid.

[236] Ibid.

[237] European Commission, *Case Study: Latrobe Valley Authority, Australia* (2019).

[238] Ibid. at 2.

[239] Ibid.

[240] Ibid. at 2–3.

> prohibit the Commonwealth Government (the Commonwealth) or an authority of the Commonwealth from funding the refurbishment, building, purchasing or assisting in the transfer of ownership of, a coal-fired power station. It would also enable financial assistance or support for the purposes of providing transition assistance to affected workers or managing the closure of a coal-fired power station.[241]

This bill was introduced to advance climate issues as well as efforts to address carbon pricing costs throughout the country and the impacts of the Hazelwood closure.[242] Although unsuccessful, it is important to demonstrate how these efforts have been viewed in legal and regulatory norm creation.

Subsequent discussions among Australian governance committees highlighted concerns regarding ensuring the use of just transitions ideology in the closure of coal-fired power plants and the overall national plans to move away from these forms of energy supply pursuant to commitments under the Paris Agreement.[243] Included in these discussions was a focus on energy security during the coal phaseout process, raising another element of just transitions from the perspective of broader societal impacts as well as those working at the facilities slated for closure.[244] A year later, the Senate requested that the Environment and Communications References Committee conduct an inquiry into the ways in which climate change and future impacts would require transitions in a variety of sectors.[245] At the core infrastructural level, the Committee identified the need for updates to existing building practices and transitions in the construction industry moving forward in order to ensure that the built environment will be able to withstand current and projected future climate change-related weather issues.[246] At a fundamental level,

[241] Australia, The Senate, *Environmental and Communications Legislation Committee* (2017), 2.

[242] Ibid. at 5–6.

[243] See generally Australia, The Senate, *Final Report: Environmental and Communications Legislation Committee, Retirement of Coal Fired Power Stations* (2017).

[244] Ibid. at 19–22.

[245] See generally Australia, The Senate, Environmental and Communications References Committee, *Current and Future Impacts of Climate Change on Housing, Buildings and Infrastructure* (2018).

[246] See Ibid. at ch 2.

the Committee's findings indicate the need for future transitions in the governance sector *per se* so as to create a responsive system for addressing emerging and unexpected threats stemming from climate change and associated risks.[247] Relatedly, the Committee's findings noted the responsibility borne by corporate actors in Australia in terms of assessing and reporting climate risks in their operations and fields of focus.[248] Land use planning is discussed in the Committee's findings although this is considered to be something for which the State governments, as well as cities and municipalities, are in better positions to regulate to address climate change impacts and risks.[249]

Australia provides insights into the ability of States and sub-national governments to work together for the accomplishment of environmental and economic transitions that incorporate the social aspects necessary for just transitions to occur even in the face of significant opposition to the transition itself. Certainly, the closure of facilities engenders a great deal of political contestation and controversy, as well as concerns for the fate of the communities served from an employment and energy source perspective. Yet, Australia demonstrates how combined governmental efforts can be effectively used to address at least some of these concerns. At the same time, the continued push for legislation and legislative government involvement in efforts to address climate issues through transitions even when not politically expedient illustrates an important tactic for establishing a base upon which future law and regulation can be built. Thus, the Australian example is intended to show how systems can be used to create a strong foundation for law and regulation in the transition context even when the short-term likelihood of success is limited.

3.3 Belgium

After over a century of engagement with the coal mining industry, the Limburg area of Belgium has struggled to overcome the economic and social impacts of these mines closing three decades ago.[250] Within the

[247] See generally ibid.

[248] Ibid. at ch 3.

[249] See ibid. at ch 4.

[250] European Commission, *Case Study: Genk's Ongoing Transition* (2019), 1.

region, the mining city of Genks faced significant issues in handling attendant unemployment and underdevelopment issues.[251] Initially, these gaps in employment were filled with largely automotive manufacturing opportunities although this was a short-lived experiment that ultimately ended when these manufacturing plants closed.[252] Following this, the region slowly began to assess the cultural value of the former mining sites as sites of heritage that could be preserved to showcase the history of the region.[253] These efforts resulted in the incorporation of such entities in the understanding of the region's history and served as a catalyst for development that facilitated cultural heritage site preservation alongside the generation of new jobs and industry that focused on technological development.[254] However, there is a concern that the types of jobs generated in the Genks region cannot be filled by those left unemployed by the mining and automotive sectors since they require differing skill sets.[255] In the process of determining whether to preserve the former mining sites under the rubric of cultural heritage, the region lost some of these sites to decay and demolition, bringing attention to the need for concerted planning in transition settings.[256]

The brief inclusion of Genks in this chapter is intended to demonstrate the ways in which sub-State entities have attempted to step into an existing void created by transition that have not been managed in a just manner and provide alternate sources of support. Certainly, Genks is somewhat fortunate in that the cultural heritage of the region was deeply connected to the coal mining industry, allowing for the legitimate capitalization on the abandoned practices and infrastructure as part of the unique heritage of the region. This is not entirely uncommon, however, as set out in other examples below, and allows Genks to be used as an example of how non-legal and regulatory systems can be used to facilitate a post-hoc just transitions where standard sources have failed.

[251] Ibid. at 1.

[252] Ibid. at 2.

[253] Ibid.

[254] Ibid. at 2–3.

[255] Ibid. at 4.

[256] Ibid.

3.4 Canada

As a part of the national efforts to reduce carbon emissions and meet international commitments to net zero emissions, Canada has identified the coal mining and energy sectors for phasing out and restructuring.[257] The transition process must be considered as part of the overall continuum of realities in the Canadian extractives sector, where efforts at legally requiring shifts from high-intensity emissions generating activities are occurring simultaneously with the global drop in prices for many of these resources.[258] To assist in implementing these concepts and ensure that this transition is conducted in a planned and equitable fashion, the Government of Canada created the Task Force on Just Transition for Canadian Coal and Power Workers and Communities.[259]

In 2019, the Canadian Government made a public commitment to the inclusion of a Just Transition Act as part of its legislative priorities.[260] To date, this has not been proposed or adopted although many of the same concerns which could have been well-addressed from a legal perspective in such an act are included in Canadian efforts to implement a sustainable recovery plan from the Covid-19 pandemic. However, the Canadian Government has created the Task Force on Just Transition for Canadian Coal Power Workers and Communities in recognition of the pressures which national commitments under the Paris Agreement will likely cause in certain extractive industry sectors.[261] The established purposes of the Task Force are "providing knowledge, options and recommendations to the Minister of the Environment and Climate Change on implementing a just transition for workers and communities directly impacted by the accelerated phase-out of coal fired power in Canada."[262]

[257] Ibid. at 4.

See Environment and Climate Change Canada, Task Force on Just Transition for Canadian Coal Power Workers and Communities, Terms of Reference (2019), 1.

[258] Stockholm Environment Institute, *Examining Risks of New Oil and Gas Production in Canada* (2020), 4.

[259] Government of Canada, *A Just and Fair Transition for Canadian Coal Power Workers and Communities* (2018), 2.

[260] See ibid. at 4.

[261] See Environment and Climate Change Canada, Task Force on Just Transition, *supra* note 257.

[262] Canadian coal power workers, *supra* note 260.

At the provincial levels, Ontario and Alberta have been among the most proactive in establishing programmes to implement energy sector transitions and ensure that they are accompanied by elements of just transitions including worker education and skills training.[263] The Alberta example is insightful for the ways in which provincial authorities can work together with privately owned extractives entities to engage in planning for just transitions implementation.[264]

Canada provides insights into ways for strong federal systems to use soft law and policy elements at the national level to generate dialogue leading to insights for future legal and regulatory developments for transitions that have been informed by participation from multiple impacted constituencies. Arguably, the pressures to produce a great deal of forward movement on just transitions in the extractive sector are quite high, although they can also be mitigated by the fact that this is only a consultative body, and that actions by the Task Force are meant for information purposes rather than trying to craft laws and regulations amidst deep divides. This type of task force can be viewed as unfulfilling given the entrenchment of the extractives industry, especially coal, in Canada and the need to severely curtail its current operations in order for the State to meet its international climate commitments. However, in this situation, several of the most impacted provinces have stepped into the gap and provided insights into how a soft law effort to address just transitions at the national level can be paired with a more robust legal and regulatory effort at the sub-State level to craft a response that is based on knowledge of the needs and complexities of the situations on the ground in the impacted communities. Thus, there is a potential for replication of this model in the future in Canada and beyond provided this balance can be maintained and respected.

3.5 Czech Republic

As in Poland, the coal industry formed an essential element of the Czech economy from the 1700s onward and is also a major source of energy

[263] See ibid.

[264] Ibid.

at the national level.[265] The Czech Republic has been home to several important coal mining and energy production sites that are increasingly being identified for closure and restructuring.[266] In this context, the Czech government, along with various sub-national and private actors, has generated a just transitions effort for the workers and communities already impacted or likely to be impacted in the future.[267] At the same time, the issue of transitioning away from coal mining and energy generation continues to represent a deeply complex political issue.[268] Unlike many other European States, efforts at decarbonization in the Czech Republic date to the 1980s, when it was still part of Czechoslovakia, and were informed by several visible environmental disasters associated with mining operations as well as increasingly severe issues in air quality and human health.[269] The legal measures passed in response were difficult to govern and implement, with the result that many of the same questions and concerns over how to transition remain nearly forty years later.[270]

In the Czech context, Karlovy Vary serves as an example of the issues facing coal-centred areas in the nation as they address the need to transition. Historically, Karlovy Vary as a region treated employment in the coal sector as an inherently stable concept, leading to the entrenchment of it within communities and community identities throughout.[271] It should be noted that the region, while dependent on coal for a portion of employment and revenue, is also home to a thriving tourism sector and is the site of well-known health spas that are served by natural resources present in the region.[272] This must, of course, be viewed with some concern as to the impacts of Covid-19-related travel restrictions on the

265 Lukas Lehotsky and Mikulas Cernik, 'Brown Coal Mining in the Czech Republic—Lessons on the Coal Phase-Out', *International Issues & Slovak Foreign Policy Affairs* 28 (3/4) (2019), 45, 47.

266 European Commission, *RE:START-Strategy for Economic Restructuring of Czech Coal Regions* (2019).

267 Ibid.

268 Lehotsky and Cernik, *supra* note 265 at 47.

269 See ibid. at 48–49.

270 See ibid. at 49.

271 See Marie Shaikocki and Andrea Broughton, *Employment Creation Opportunities and Future Skills Requirements in the Karlovy Vary Region* (EC, 2020) pt I at 8–9.

272 Ibid. at pt I at 5.

durability of the sector.[273] Still, there are several other major sources of employment within the region that are not as likely to feel the impacts of the pandemic to the same extent.[274] Workers in the coal sector tend to be increasingly older members of the workforce and, while over half have completed some form of vocational training, they are not generally among those who have completed higher levels of education.[275] It is projected that a significant number of workers in the coal sector will be made redundant in the coming years and that many of them will be the long-term employees in the sector, who are often in the least optimal position for reskilling and training efforts.[276]

There is a cautionary tale in the commendable way that the Czech efforts to address environmental and safety concerns relating to mining evolved in practice. At a time when it would have been very difficult to enact such legislation in many parts of Europe, the Czech authorities did so as a response to a catastrophe that polarized the political scene as well as the legal landscape. However, the ways in which the laws were drafted and envisioned implementation, as well as governance, were untenable for durable progress, showing themselves to be historically less than helpful in achieving just transitions. This gap can be seen in the ways that Karlovy Vary has functioned to the present day and the deeply seated issues for the workforce and surrounding communities should these facilities cease to operate. The lack of provisions for just transitions in the original legislation thus set the stage for current and future difficulties in achieving just transitions given the realities of the existing mining workforce and the need for them to retrain.

3.6 France

Often overlooked in the discussion regarding transition, particularly in the mining and extractives sector, is the history and cultural heritage of these sites within the region and for the larger nation in which they are located. Indeed, there is a cultural component to these sites that has qualified some

[273] Ibid. at pt I at 7.

[274] Ibid. at pt I at 5.

[275] Ibid. at pt I at 10–11.

[276] See ibid. at pt I at 12.

for recognition by UNESCO as world heritage sites.[277] In the Lewarde area of France, formerly a site of coal mining activities, the decision was made that the closure of these mining facilities as active sites should be used as an opportunity to explore and incorporate their cultural heritage into the heritage of the region.[278] Ultimately, these efforts were successful and Lewarde itself is now a UNESCO-designated site.[279] This transition has generated new jobs in the tourism sector and has allowed the former workers at the mines to have a greater connection to these efforts by contributing knowledge and personal stories to the site and serving as guides at the site's facilities.[280]

Lewarde is included in this chapter because it reinforces the ability of just transitions to be understood as not limited solely to involving transitions to the same sector or employment within the same sector. Indeed, the transition from mining to tourism is quite dramatic yet was accomplished through a combination of local, national and international efforts that included using international law and organizations as a foundation.

3.7 Germany

At the level of national legislation, the Energiewende encapsulates the German plans to reform the energy sector and effect the transition to sustainable energy sources that promote carbon neutrality.[281] This has generated an ongoing tension between the application of the law and the intentions behind it and the coal and energy sectors that have been dependent on each other in ways that make it difficult to decouple without drastic transitions.[282] The Energiewende is a major component of the German plans to meet carbon emission reductions targets, however, it does not stand alone and, in recognition of the need to move beyond the energy sector in order to accomplish German commitments at the EU

[277] See UNESCO, Lewarde (Nord) Fosse Dollye, Centre Historique Minier, https://whc.unesco.org/en/documents/176688, accessed 10 February 2022.

[278] European Commission, *Case Study: The Lewarde Mining History Centre* (2019), 1–2.

[279] Ibid. at 2.

[280] Ibid.

[281] See Germany, Energiewende (2016); Stefan Bößner, *Turning Energy Around:: Coal and the German Energiewende* (SEI, 2016).

[282] See Bößner, *supra* note 281.

and international levels, the government has identified additional areas for emissions reductions.[283] These sectors include transportation and heating at the individual and corporate levels.[284]

The German Coal Commission was created in 2018 as a group of public and private sector actors involved in the coal and energy sectors.[285] The Commission was part of the German Government's 2016 Climate Action Plan, which set the groundwork for the ways in which German climate and energy policy has emerged in the post-Paris Agreement ratification era.[286] The following year, the Commission released a set of recommendations for just transitions in Germany in order to achieve a full phase-out of the coal sector by 2038.[287] In these recommendations, the Commission called for a new law governing the implementation of just transitions at the national level that would include approximately 40 billion Euros in dedicated funding for transitions in the lignite mining field.[288] These funds are intended to be shared across the range of impacted workers, employers and communities in Germany to facilitate just transitions in an equitable fashion.[289]

In an urban example, the city of Bottrop in the Ruhr Valley has emerged from its seat as a traditional site of coal mining community centre to become an industrialized area that has transitioned to low-carbon activities.[290] The Ruhr Valley as a whole was historically linked with coal mining activities as well as the production of steel.[291]

[283] Germany 2020 Energy Policy Review (2020), 14–15.

[284] Ibid. at 15.

[285] Just Transition Commission Scotland, *Just Transitions: A Comparative Perspective* (2020), 37; Alexander Reitzenstein, *A Climate for Ambition? Germany's Commission for 'Growth, Structural Change, and Employment' and Its Mandate to Phase Out Coal* (E3G, 2018); Alexandere Reitzenstein and Rebekka Popp, *The German Coal Commission—A Role Model for Transformative Change?* (E3G, 2019).

[286] Reitzenstein, *supra* note 385 at 2.

[287] *Just Transitions: A Comparative Perspective*, *supra* note 285 at 37.

[288] Ibid. at 38.

[289] Ibid.

[290] European Commission, *Case Study: InnovationCity Ruhr: Model City Bottrop* (2019), 1.

[291] J. Minji Cha, 'A Just Transition: Why Transitioning Workers into a New Clean Energy Economy Should Be at the Center of Climate Change Policies', *Fordham Environmental Law Review* 29(2) (2017), 196, 211.

Bottrop demonstrates the need for multiple sectors in the public and private sphere to work together in order to achieve an innovative and sustainable system for carbon related transitions.[292] These achievements are the result of Bottrop's success in a Ruhr-based competition for areas wishing to include innovation and cross-sectoral cooperation for the accomplishment of decarbonization.[293] Key areas for transition focus include the building and construction sector, renewables sector, decentralized power sector and overall sustainable urban planning.[294] Throughout the process of implementing these transitions, Bottrop is an example of how critical management of citizens' understanding and expectations of projects can be as well as the need to engage all citizens in the implementation of transitions.[295]

The Rhenish area of Germany has been similarly impacted by the shift from lignite-based mining and energy and, in response, the regional government acted to create a regional development agency to assist in the transition.[296] While other entities discussed in this section frequently focus on the provision of education and reskilling to workers and communities, the Rhenish authorities decided to focus mainly on attracting new businesses and industries to the region.[297] These gaps have been filled to some extent by private actors that have come into the region—or were already in the region—and provide training for their workers.[298]

Germany provides an understanding of ways in which multiple legal and regulatory responses can be combined to create a national push/pull for transitions at the same time that sub-national actors in the public and private spheres can work together to empower just transitions. The Energiewende provides a wide-ranging legal and regulatory system in which energy transitions must occur throughout Germany in order to meet international commitments despite the fact that these transitions will severely effect the coal sector that has served as a core of the national

[292] *InnovationCity Ruhr*, *supra* note 290 at 1.

[293] Ibid. at 2.

[294] Ibid.

[295] Ibid. at 3; see also Cha, *supra* note 291 at 211–215.

[296] European Commission, *Case Study: Regional Development Agency Rhenish Lignite Mining Area* (2019), 1–2.

[297] Ibid. at 3–4.

[298] See ibid. at 3.

economy for centuries. This very much serves as a push toward transitions. The pull in the German national example comes from the German Coal Commission, which is designed with the understanding that there is no option but to effect transitions in the energy sector and that this governance system instead offers the opportunity for impacted constituencies to assist in planning the laws and rules which will bring these changes to life.

Additionally, the Bottrop and Rhenish examples provide insights into how sub-State entities can be catalysts of just transitions without—or in spite of—national contributions in the legal, regulatory or planning spheres. While Bottrop provides more lessons in public–private actions which ensure a transition, and a just transition in particular, away from the coal sector than the Rhenish area, both serve as tales of how transitions can be governed and implemented effectively with cooperation.

3.8 Hungary

In Hungary, an example of transitions from a slightly different form of resource extraction to the generation of renewable energy and new technologies can be found in the Matra Power Plant facility.[299] Previously, Matra had been the source of lignite mining activities sustained the area surrounding it. However, market pressures combined with the adoption of new national laws to reduce production and use of coal resulted in the need to transition the plant away from its traditional sources of power.[300] In this scenario, private industry stepped in to begin the transition process, as the owners of Matra started to experiment with a variety of new fuels and energy sources as well as developing a broader industrial park area on the plant's lands.[301] This process has continued and allowed the Matra's ownership to expand the scope and functions of the plant, thus creating new jobs and allowing opportunities for those with new skills to join the workforce.[302] In this context, the successes and potential

[299] European Commission, *Case Study: Transforming the Lignite-Fired Matra Power Plant into Part of a Renewable Energy Cluster* (2019), 1.

[300] Ibid. at 2.

[301] Ibid.

[302] Ibid. at 2–3.

demonstrated by Matra must be understood against the backdrop of an accommodating legal and regulatory structure.[303]

While Matra is a relatively brief case study, it is important for an understanding of how just transitions has grown in the private sector as well as the public sector and at the global level. The adoption of national laws requiring reductions in coal emissions certainly represented a significant motivation for Matra's decision to begin transitioning to renewable and alternate forms of energy production. However, the scale at which it has undertaken these efforts is reflective of a corporate policy shift rather than solely a push from the legal and regulatory sectors. Although many of the energy sources under consideration by Matra are still in the experimental phases, and the full impacts of the transition to these sources on the existing workforce is not yet known, the willingness of a major corporate actor to take such actions can be seen as a transition in itself.

3.9 Ireland

Somewhat different from other States discussed, Ireland faces an issue of transition in the energy sector based on the harvesting and use of peat as a fuel source rather than coal or lignite. Peat has been a historically prevalent source of heating for much of Ireland and Scotland, however the modern peat industry is more densely concentrated on the Midlands area.[304] This area comprised 4 counties located near the centre of Ireland that feature a variety of settlement patterns.[305] The region is characterized by some of the lowest levels of educational advancement in Ireland and the highest concentrations of blue-collar workforce.[306] In Ireland, the peat industry is controlled by the Bord na Mona, a public entity, which works with the public Electricity Supply Board to provide energy services to the region.[307] Thus, a noted concern is that transitions from

[303] Ibid. at 3.

[304] European Commission, *Regional Profile: Midlands, Ireland* (2019), 2.

[305] Ibid.

[306] Ibid. at 4.

[307] Ibid. at 6; Andrea Broughton and Paul Dowling, *Future Employment and Skills in the Irish Midlands* (EC, 2020), 3.

peat harvesting and electricity will require the mitigation of job losses as well as significant sources of energy for the region.[308]

Among those working in the peat harvesting and energy sectors in Ireland, there is a decided trend toward middle age and lower education levels when compared to similar sectors.[309] Efforts at transitioning existing energy sources and jobs to those focused on new technologies such as biomass have been largely hindered by issues in the planning and permitting processes.[310] Additionally, the Bord na Mona and the Electricity Supply Board have been responsible for providing housing to many employees in the region, in turn fostering communities and social arrangements that would be imperilled by a transition without planning to mitigate the losses of jobs as well as these social benefits.[311] The Midlands area has also been identifying as lacking in both transportation infrastructure and digital infrastructure, two areas which are stressed as requiring attention and development to facilitate the transition from peat sectors.[312]

In response, the Government of Ireland has convened the Midlands Regional Transition Team as a mixture of public and private actors, including the Irish Just Transitions Commissioner, with the mission to generate, evaluate and implement proposals for how to effectively implement the transition from the peat industry.[313] The EU has played and continues to play a role in this process and it is anticipated that funding for selected proposals will come from the EU as well as the Government of Ireland.[314] Further, the Bord na Mona and the Electricity Supply Board have begun to diversify their holding and operations, creating at the very least small-scale opportunities for jobs in the non-peat sector that will be sustainable into the future.[315] The Bord na Mona has also attempted to address some of the anticipated job losses from the transition by offering selected workers voluntary redundancy payment packages.[316]

[308] *Regional Profile: Midlands, Ireland* at 8.

[309] Ibid. at 9.

[310] Ibid.

[311] Ibid. at 12.

[312] See Broughton and Dowling, *supra* note 307 at 7.

[313] See European Commission, *Midlands Engagement Process* (2020), 2.

[314] Ibid. at 2.

[315] Broughton and Dowling, *supra* note 307 at 4.

[316] Ibid.

In October 2020, the Government of Ireland published the Midlands Pathway to Transition plan as a means to facilitate a just transition in the Midlands.[317] The Pathway aims to provide guidance for the short and long-term cycles of the transition and functions as an evolving set of plans that can be tailored as needed to respond to emerging issues and changing implementation dynamics.[318] It builds on the Midlands Regional Transition Team and the impacts of the Midlands transition being accepted as part of the EU Coal Regions in Transition Initiative for support and assistance.[319]

The Irish situation is an important example of the difficulties in transitions when they involve public and/or public–private entities that have come to dominate the field of service provision, infrastructure and employment in an area lacking other sources of development. In many ways, earlier decisions of the Irish government regarding reliance on peat for energy and not developing infrastructure for transportation of energy or people that was not reliant on the peat industry has created the current transitions issues facing the Midlands region. These regulatory decisions allowed the entrenchment of the industry to the point where transitions will be extremely difficult and require the involvement of all sectors and constituencies. Additionally, this example highlights the role that an outside entity such as the EU can play in bridging the concerns raised by just transitions for States facing significant economic costs from them as well as the need to implement related policies in order to meet domestic and supranational commitments.

3.10 Poland

Despite the international and EU-based commitments it has entered into, the Polish government has manifested an intention to continue reliance on coal and coal-related sectors of the economy for the foreseeable future.[320] This is quite controversial within Poland, and there are many sub-national and private actors seeking to effect just transitions away from

[317] European Commission, *Midlands Pathway to Transition* (2020), 3.

[318] Ibid.

[319] Ibid. at 4.

[320] European Commission, *Regional Profile: Silesia* (2019), 6.

the coal sector.[321] Where national policies evince the intention to stay with coal as a significant economic and energy resource, these policies still are grounded in the need to shift to newer production technologies.[322] Regardless of the political rhetoric, the current status of Poland as home to over half of the 50 most polluted cities in Europe and the continued strains pollution places on the health sector will continue to demand innovation and efforts at transitions.[323] Additionally, as part of the EU ETS, Poland faces requirements to follow its commitments to reduce carbon emissions across sectors and to promote the use of renewable energy sources.[324]

In assessing the viability and challenges of transitioning from coal in the Polish context, the World Bank has articulated the following insightful set of considerations,

> in fact, the ultimate economic impact of a reduction in coal jobs and production will depend primarily on (a) whether displaced workers can find a job in another sector, occupation, or location; (b) whether businesses can create new, less coal-dependent, firms; and (c) the generosity of retirement packages and severance payments—and their cost for current and future taxpayers. Factors such as demographic changes and overall economic activity will also shape the eventual impact of the energy transition on labour markets.[325]

Examining the likely impacts of coal transitions in current and future scenarios, the World Bank has also noted an anticipated reduction in direct effects on workers due to lessons from previous reductions to the coal mining workforce in the 1990s.[326] It cautions, however, that these are estimates for impacts on individual workers and do not take into account effects felt by families and communities.[327] This is echoed in the World Bank's findings that the overall impacts of transitioning from

[321] Ibid.

[322] Ibid. at 7.

[323] See WB 132,871 at 1.

[324] Ibid. at 4.

[325] Ibid. at 31.

[326] Ibid. at 31–32.

[327] Ibid.

coal will be quite small in terms of Polish GDP although this does not measure the social and political perceptions of these impacts.[328]

Silesia has historically served as the chief coal mining and energy producer in Poland while also occupying an important place in the global coal market.[329] Coal mining in Silesia dates to the 1700s and grew steadily as an essential industry for the region, attracting workers from Poland and Germany.[330] The coal industry in Silesia has experienced several blows throughout the recent decades, resulting in periodic stresses in its functioning and the closure of some mines as well as increasing pressure for decommissioning of the remaining installations.[331] At the same time, the Silesian region is the most heavily populated area in Poland, with many communities and cities existing in connection with the mining and energy sectors that were so coal-dependent.[332]

Within Silesia, while many areas have seen a steady decrease in unemployment rates per se, the highest number of unemployed workers remains in the coal and energy sectors.[333] Within the coal sector, there has traditionally been an imbalance of male labourers, many of whom are lower skilled than counterparts in other occupations and who are also the only members of their families to work outside the home.[334] Increasingly, these workers are likely to be classified as middle-aged men rather than members of younger generations.[335] At the same time, due in part to a highly unionized labour system in the sector, coal miners earn on average more than counterparts in other industries even when these counterparts are more highly educated and skilled, acting as an inhibiting factor for voluntary migration from the coal sector to other industrial sectors.[336] Early retirement options for workers in the Polish coal sector can make staying in increasingly anachronistic jobs attractive when faced with the option of retraining and a longer working life in

[328] Ibid. at 34.

[329] *Regional profile: Silesia*, *supra* note 320 at 5.

[330] Ibid. at 5.

[331] Ibid. at 2, 6.

[332] Ibid. at 5.

[333] Ibid.

[334] Ibid. at 6–7.

[335] Ibid. at 6.

[336] Ibid. at 7.

another sector.[337] For those considering a transition to another sector of the economy, it has been noted that construction and manufacturing tend to be the most attractive options based on the levels of education and training required.[338]

In response to the existing closures and subsequently abandoned industrial facilities, the Marshal's Office of the Silesia Voivodeship began a project to identify and restore these sites for other uses, be they museums and historical sites or business and residential development. This effort included working with scientists to generate geospatial analysis of the sites and the surrounding resources available to them, such as water.[339] At the same time, in 2019 Silesia adopted the Regional Transformation Action Plan, which sought to create a higher living standard for those in Silesia, increase the ability of the regional economy to compete in "modern environmental technologies," and develop new and creative industries in the region.[340] Transitions away from entrenched and environmentally damaging industries are envisioned as central to the Action Plan, with a stress on the human health issues involved as well.[341] In another example, the city of Walbrzych, transitions and revitalization efforts post-coal mining and energy production have focused on the creation of a special economic zone, referred to as "Invest-Park," which offers advantageous tax incentives to businesses relocating in the area.[342]

Any discussion of transitions in the coal mining and energy sector would be incomplete without including Poland, which has long been at the heart of the sector domestically, throughout Europe and at an international level. In Poland, the tensions between the rhetoric of politics and the practical need to transition from coal in order to meet international commitments and address the health concerns of the population are visible. Given the demographics of much of the mining and extractives workforce in the State, it is also an example of the difficulties in achieving

[337] Ibid.

[338] Ibid.

[339] Ibid.

[340] Ibid.

[341] Ibid.

[342] European Commission, *Case Study: Walbryzch Special Economic Zone "INVEST-PARK" Poland* (2019), 1–2.

just transitions through education, reskilling and new job opportunities when much of the transitioning workforce is reasonably close to retirement and lacking an impetus to switch jobs.

Set against this, however, the examples from Silesia demonstrate the need for strong local governance mechanisms to continue the process of transitions and promote just conditions for them when national policies are in flux. These examples also stress the need for private sector cooperation and motivation to engage in innovation as elements of sub-State efforts in this regard.

3.11 The United Kingdom of Great Britain and Northern Ireland

In November 2021, the UK hosted UNFCCC CoP 26 in Glasgow as one of the first major convenings of a treaty regime governance system since the outbreak of the Covid-19 pandemic. The decision to hold CoP 26 in the UK was announced in 2019 during the Chile/Madrid CoP 25 and was used to motivate significant policy movement in the UK context. At the same time, the award was in many ways reflective of progress already made by the UK in adopting climate goals as matters of legal and regulatory reforms, notably the shift to net zero and associated plans to phase-out coal by 2025.[343]

Prior to CoP 26, the UK published its Industrial Decarbonization Strategy in March 2021.[344] As part of the Strategy, there is an articulation that transitions must happen in sectors other than strictly the coal and energy sectors, with additional area of focus including extractives and mining and metals, food production, chemicals and associated industries, paper and pulp, oil and gas, lower-impact manufacturing and industry and glassmaking.[345] While the Strategy notes that, taken together, these sectors account for only a sixth of emissions in the UK, it also stresses that transitions must take place across all aspects of the economy in order to meet international and national legal commitments to achieving net zero emissions.[346]

[343] Chris Littlecott, *UK Coal Phase Out: The International Context* (E3G, 2016).

[344] Alice Garvey and Peter Taylor, *Industrial Decarbonization Policies for a UK Net Zero Target* (Centre for Research into Energy Demand Solutions, Oxford, 2020).

[345] Ibid. at 1.

[346] Ibid.

The Strategy notes that there will be necessary transitions across the UK as a whole as well as within the devolved territorial areas and that these will need to be tailored throughout the process of reaching net zero.[347] Public procurement is highlighted as an element of entrenching green growth within the governmental sector as well as providing a platform to bridge public and private commitments to climate targets.[348] Development and entrenchment of new and renewable energy sources and efforts at carbon capture technology implementation were incorporated into the Strategy as a component of energy transitions.[349]

Following on from the Strategy, the UK has crafted the Ten Point Plan for a Green Industrial Revolution to serve as a guide for achieving climate change related commitments as well as the challenges brought by the Covid-19 pandemic.[350] The Plan is comprised of

> advancing offshore wind, driving the growth of low carbon hydrogen, delivering new and advanced nuclear power, accelerating the shift to zero emissions vehicles, green public transport, cycling and walking, jet zero and green ships, greener buildings, investing in carbon capture, usage and storage, protecting our natural environment, and green finance and innovation.[351]

The North of England has seen many of the same stressors from coal transitions as experienced in Scotland, and these have led to questions of disenfranchisement and disconnect between those in the region and the national government.[352] While this pattern began in the 1970s and 1980 with initial industrial transitions, it has continued into the current day through the real and potential impacts of climate restrictions as well as the

[347] Ibid. at 18.

[348] Ibid. at 42–43.

[349] Ibid. at 46–50; see also Sustainable Development Solutions Network, *Pathways to Deep Decarbonisation in the United Kingdom* (2015).

[350] See Her Majesty's Government, *Ten Point Plan for a Green Industrial Revolution* (2020), 7.

[351] Ibid.

[352] See Joshua Emden and Luke Murphy, *A Just Transition, The Need for Long-Term Policy Certainty in the Energy Sector: Realising the Opportunities of Decarbonisation in the North of England* (IIPR, 2019), 15.

fallout from Brexit and the pandemic.[353] Northern England provides an example of issues that can occur with the perception of providing new jobs and opportunities as part of a transition versus the reality that these jobs are often lower wage and lower prestige positions that are unattractive to those transitioning from the coal and industrial sectors.[354] Additionally, where education and training options are provided, there have been issues that include the need to relocate for jobs that have been newly created in the renewables sector, which represents a personal impact as well as a larger impact on communities and societies built on the mining and extractive sector.[355]

Also in 2021, the UK Government officially adopted a policy under which it will no longer provide foreign development assistance (FDA) to overseas fossil fuel-based energy projects.[356] There are exceptions to this policy shift that primarily involve continued funding for projects involving transitions and phasing out of fossil fuel use in energy.[357] Included in this heading is the use of market reform, limited use in infrastructural capacity generation and efforts to develop carbon capture and sequestration.[358] Additionally, the UK released a dedicated strategy for the use of hydrogen as part of the transition to a low-carbon economy.[359] This includes the use of hydrogen for heating decarbonization as well as buildings and construction, energy and industry as well as the transportation sector.[360]

[353] See ibid.

[354] See ibid.

[355] See ibid. at 25–27.

[356] Department for Business, Energy & Industrial Strategy, *Aligning UK International Support for the Clean Energy Transition* (UK Government, 2021), 1.

[357] Ibid.

[358] Ibid. at 4.

[359] Committee on Climate Change, *Hydrogen in a Low Carbon Economy* (UK Government, 2018).

[360] Ibid. at 7–8.

3.11.1 Scotland

Examples from Scotland demonstrate the destructive and indelible impacts of transitions in the mining and extractives industry when undertaken without a concerted plan that involves public and private actors.[361] Certainly, transitions in the coal mining sector are not new to the Scottish economic context since there were several stages of shifts in employment and industrial operations from the 1940s onward.[362] From the outset, the early periods of transition were marked by disjointed efforts to deindustrialize and change forms of mining operations and became sites of contest between legal and political interests at the national level and at the local Scottish level.[363] Indeed, the seeming gap between national planning and local effects was used as a tool in various political agitations for increased devolved powers and outright independence for Scotland.[364]

From the late 1970s and early 1980s onward, these issues of tension between levels of governance and implementation became dramatic and the durable legacy of the Thatcher regime's policies are still visible in the legal and political realities of coal transitions decades later.[365] When these industries ceased to operate in parts of Scotland, they did so with a dramatic impact on employment and employment opportunities, families and communities.[366] In this scenario, the Scottish Government created the Oil and Gas Task Force to oversee responses and a designated fund, the Oil and Gas Transition Training Fund, to provide financial and educational assistance to impacted workers and their families.[367] The goal of this training was to provide employment that also met the needs of current and emerging industries in Scotland.[368] It has become responsive to present and anticipated future needs by allowing those who are

[361] European Commission, *Case Study: Oil & Gas Transition Training Fun, Scotland* (2019).

[362] Ewan Gibbs, *Coal Country* (University of London Press, 2021), 225.

[363] Ibid. at 225–226.

[364] Ibid. at 226.

[365] Ibid. at 226–233.

[366] *Case Study: Oil & Gas Transition Training Fun, Scotland*, *supra* note 361.

[367] Ibid. at 2.

[368] Ibid.

likely to lose their jobs to receive skills training in addition to those who have already become unemployed.[369]

In 2015, Scotland adopted the Fair Work Convention with the goal of ensuring "that, by 2025, people in Scotland will have a world-leading working life where fair work drives success, wellbeing and prosperity for individuals, businesses, organization and society."[370] As used in the Convention, "fair work" is defined as "work that offers effective voice, opportunity, security, fulfilment and respect; that balances the rights and responsibilities of employers and workers and that can generate benefits for individuals, organisations and society."[371]

Additionally, Scotland's mining and energy sector currently includes controversial forms of unconventional oil and gas such as shale gas—derived from hydrofracking activities—and shale oil and coalbed methane.[372] In response, the UK Government and Scottish authorities have included these forms of energy in plans for CCS and CCUS activities.[373]

3.11.2 Wales

While much of the just transitions literature and policy initiatives focus among the devolved territories in the UK has been concentrated on Scotland, Wales is also engaging in efforts to decarbonize.[374] In 2020, Wales marked a step in the decarbonization process with the closing of the final operative coal-fired power plant in the territory.[375] The UK Climate Change Commission has reviewed the proposals for Wales and noted that it will also benefit from the transition efforts that emphasise the incorporation of equity, Welsh identity and culture and community bonds.[376] The

[369] Ibid.

[370] Fair Work Convention Scotland, *Fair Work Convention Framework* (2018), 5.

[371] Ibid. at 7.

[372] Committee on Climate Change, *Scottish Unconventional Oil and Gas* (UK Government, 2016), 16–17.

[373] Ibid. at 18.

[374] Committee on Climate Change, *Advice Report: The Path to a Net Zero Wales* (UK Government, 2020).

[375] Committee on Climate Change, *Progress Report: Reducing Emissions in Wales* (UK Government, 2020), 15.

[376] *Advice Report: The path to a Net Zero Wales*, *supra* note 374 at 16.

Welsh transition is aimed at changing forms of energy sources used and consumed within the territory rather than the mining sector *per se*, particularly in the face of an estimated increase in population growth, building rates and transportation sector in the future.[377] Land use and agricultural practices are included under the rubric of emissions reductions and transitions in Wales.[378]

3.11.3 Northern Ireland

The emissions and transition issues facing Northern Ireland represent a different set of concerns than the rest of the UK. Northern Ireland is characterized by an agricultural sector-based emissions rate that is approximately three times that in the rest of the UK territories and an energy sector that is less dependent on the use of gas than the other devolved territories.[379] The territory is unusual in that the LULUCF sector does not constitute a carbon sink in terms of forestry resources but instead is a source of carbon.[380] Given the dynamics of the Stormont Agreement, Northern Ireland has been able to enter into an energy sharing agreement with the Republic of Ireland because it has more extensive devolved powers in the energy sector than the other devolved territories.[381] The coal mining and energy sector is not as prominent in Northern Ireland although the need for transitions to renewable energy sources remains an essential element of the overall policy for emissions reduction.[382]

Overall, the UK and devolved entity discussion emphasizes the need for an evolving understanding of just transitions that takes into account different populations, sectors, resources and governance options in crafting responsive laws and regulations. The importance of national action which also accommodates the direct and progressive involvement of sub-State entities is instructive even in situations where these relationships are not as formalized as they are under the legal system adopted in the UK. This reflects not only the differing legal priorities of these entities but also the differing cultural and societal priorities present in States with multiple sub-State entities having unique traditions.

[377] Ibid. at 18–19.

[378] Ibid. at 19.

[379] Committee on Climate Change, *Reducing emissions in Northern Ireland* (UK Government, 2019), 9.

[380] Ibid.

[381] Ibid.

[382] Ibid. at 13.

3.12 United States of America

As the credited birthplace of just transitions in the theoretical and practical settings, it is perhaps not surprising that the ties between just transitions in labour and environmental relations is still the predominant view of the concept in the US. At the same time, however, there is an emerging element of the environmental and climate justice theory in the US which seeks to expand aspects of the concept to other communities impacted by environment and climate issues as well as the laws and rules adopted to address them.[383] This attempted expansion has been done in a way that can be seen as blurring the lines of just transitions into other legal arguments and broader policy arguments regarding poverty and societal equity.[384] Indeed, authors in this field often speak of a just economy in a way which is not necessarily parallel to the more traditional understandings of the rationale for just transitions.[385]

Before the Covid-19 pandemic began, members of the US Congress and Senate proposed legislation known as the Green New Deal, seeking to promote the transition away from coal and carbon-intense industry and energy in the US.[386] This introduction, which occurred in 2019 and was timed ahead of the 2020 presidential election cycle, received much attention even though it still remains a proposal and was not adopted into law.[387] It is an understatement to assert that the pandemic changed the scope of dialogue in the US, however environmental and climate issues played a role in the debates of the presidential election cycle, and coal in particular was made into a political issue. Perhaps the most jarring characteristic of these debates was that they were polarized to see coal and the communities that supported it as either entirely positive or negative, seeming to foreclose the potential for a space in which just transitions could be used as a bridge.

[383] See Shelley Welton and Joel Eisen, 'Clean Energy Justice: Charting an Emerging Energy Agenda' *Harvard Environmental Law Review* 43 (2019), 307.

[384] See ibid.

[385] See ibid.

[386] Nicholas Bryner, 'The Green New Deal and Green Transitions', *Vermont Law Review* 44 (2020), 723.

[387] Ibid.; See Jonas J. Monast, 'The Ends and Means of Decarbonisation' *Environmental Law Review* 50(1) (2020), 21.

The text of the 2019 Green New Deal proposal was, in itself, a combination of many elements that have been involved in legal and policy debated regarding climate issues. This was especially true in proposals for emissions reductions, efforts at job security promotion, infrastructural increases, environmental sustainability and concepts of justice that seek to address historically marginalized communities.[388] Certainly, some of the social elements were included to address other issues of the day in the US at the time rather than their direct connection to climate change issues and responses.[389] The fundamental purposes underlying the proposed Green New Deal were

> (A) to achieve net-zero greenhouse gas emissions through a fair and just transition for all communities and workers; (B) to create millions of good, high-wage jobs and ensureprosperity and economic security for all people of the United States; (C) to invest in the infrastructure and industry of the United States to sustainably meet the challenges of the 21st century; (D) to secure for all people of the United States for generations to come- (i) clean air and water; (ii) climate and community resiliency; (iii) healthy food; (iv) access to nature; and(v) a sustainable environment; and (E) to promote justice and equity by stopping current, preventing future, and repairing historic oppression of indigenous peoples, communities of color, migrant communities, deindustrialized communities, depopulated rural communities, the poor, low income workers, women, the elderly, the unhoused, people with disabilities, and youth.[390]

The Green New Deal was not the only proposed solution to the need for carbon emissions reductions in the US, and resulting transitions in sectors, and indeed other proposals have sought to decouple the social elements of the process from the purely environmental ones.[391] Outside the coal mining and energy sector, much of the US' emissions come from aspects of heavy industry including cement and concrete, chemicals, aluminium

[388] See Bryner, *supra* note 386 at 726; Monast, *supra* note 387.

[389] See Bryner, *supra* note 386 at 726–727; Monast, *supra* note 387.

[390] Ibid.; HR 109 (2019), 5–6.

[391] See Monast, *supra* note 387.

and iron and steel.[392] These are often classified as "hard to abate" sectors, reflecting the issues inherent in transitions for them.[393]

Given the federal structure of the US legal system and the increasingly polarized debates regarding climate change, emissions reductions, energy transitions and coal production, it is perhaps not surprising that the US states have stepped in to fill the voids left in federal policy.[394] Over the past decades, several US states have emerged as leaders in environmental and climate issues and continue to take up this mantel of implementing innovative laws and rules to address topics that the federal government will not or in which federal regulation is viewed as sub-par.[395]

Of these climate progressive US states, California is arguably the most visible given that it has set the standard for clean emissions requirements for the automotive industry within the US and, indeed, is used as a measure on the global automobile emissions scale.[396] The same efforts to achieve meaningful emissions standards can be seen in the uptick in environmental and climate justice focus that has been adopted by the California legislature. As will be argued in the coming chapters, the concept of environmental and climate justice can be seen as a form of framework to which just transitions can be applied more broadly, making California's efforts necessary to understand in this context. In adopting the Global Warming Solutions Act of 2006, California took steps toward fostering environmental and climate justice as theoretical tools in law and regulatory processes by addressing the social-economic aspects of shifting emissions practices in addition to the scientific and economic aspects of carbon trading systems.[397] The Global Warming Solutions Act established the California Air Resources Board as the primary governance body for adopting and implanting emissions rules in the State, and it

[392] LeadIt, *To Decarbonize US Industry, Look to Federal and State-Level Partnerships* (2018), 3.

[393] Ibid.

[394] For a discussion of this dichotomy, see Alice Kaswan, 'A Broader Vision for Climate Policy: Lessons from California', *San Diego Journal of Climate & Energy Law* 9 (2017–2018), 83.

[395] See ibid.; Alice Kaswan, 'Energy, Governance, and Market Mechanisms' *University of Miami Law Review* 72 (2018), 476, 515–517; Alexandra B. Klass, 'Eminent Domain Law as Climate Policy', *2020 Wisconsin Law Review* 49 (2020).

[396] See Kaswan, *supra* note 394; Monast, *supra* note 387.

[397] See Kaswan, *supra* note 394.

continues to function in this capacity, overseeing a broad remit of emitting industries that includes energy, agriculture, industrial operations and transportation.[398]

Still, the Board has encountered opposition within the environmental and climate justice communities because it continues to allow methods of emissions trading as part of the implementation package for climate change policy in the state.[399] These communities assert that there is an inherently unjust aspect of the theory behind the capital-based emissions trading system as well as the prevalence of continued emissions impacts to fall on vulnerable and marginalized communities.[400] Within these arguments there is a different concern than that often raised in the just transitions concept of equity since traditional just transitions have focused on impacted workers, families and communities while the arguments that continue in California are more focused on a broad-based set of concerns over poor and marginalized communities feeling the brunt of emissions impacts.[401] However, and as discussed in the forthcoming chapters, there is a potential for the just transitions framework to be shifted in order to address all of these issues rather than being used for polarization.

California has been joined by an increasing number of US states that are seeking to legally require transitions to renewables, often in the context of using the existing regulatory system carried out through administrative agencies and other tools of governance.[402] These newly adopted requirements typically involve highly technical and nuanced transitions in the percentages of renewables to be incorporated into a state's energy portfolio and offerings from power companies operating in the state. Many of the states involved in these legal and regulatory changes, such as New York, already govern their energy supply through the use of auction systems and are now redefining the parameters of these systems. This is, from an energy transition perspective, a critical shift, although the necessarily complex and market-based nature of these

[398] Kaswan, *supra* note 394.

[399] Ibid.

[400] Ibid.

[401] See generally ibid.

[402] See Klass, *supra* note 395.

systems can remove the direct connection to just transitions issues from their implementation.[403]

At the same time, it has been noted that the inclusion of economic and social elements in the energy transition process across many US states has resulted in the potential for wide-ranging changes.[404] The ways in which various US states have responded to these issues linked social and energy transition policies demonstrates the importance of flexibility in the US transitions model since states are faced with very different considerations and stressors which must be addressed.[405] Similarly, within most US states, the vast majority of energy law and regulation happens under the auspices of administrative agencies or bodies.[406] These entities are given many of the same overall tasks at a topical level yet are also vested with significantly different powers, jurisdiction and areas of sub-focus depending on the State involved and the types of energy issues faced.[407] In this context, it should be noted that some states have chosen to address just transitions through these administrative entities while at least one has created a governance body that is devoted entirely to the concept of just transitions in conjunction with shifts in energy sources.[408] While there is some variation between the entities created by each state, there has been a marked trend toward the incorporation of individual and civil society voices in the agency hearing and decision-making process regarding energy policy and associated impacts.[409]

Colorado has established a dedicated Just Transition Office to oversee the transition from mining and extractive activities in the State.[410] The articulated purposes of the Office include

> (a) Identify or estimate, to the extent practicable, the timing and location of facility closures and job layoffs in coal-related industries and their impact

[403] See ibid.

[404] See Shelley Welton, 'Electricity Markets and the Social Project of Decarbonization', *Columbia Law Review* 118(4) (2018), 1067.

[405] See ibid.

[406] Ibid.

[407] Ibid.

[408] Ibid. at 838.

[409] See ibid. at 912–913.

[410] Colorado, CO 8-83-503 (2022).

> on affected workers, businesses, and coal transition communities and make recommendations to the just transition advisory committee . . . as to how the office can most effectively respond to these economic dislocations; (b) Provide administrative, logistical, research, and policy support to the just transition advisory committee's work.[411]

Education and retraining efforts are deemed to be critical to the Office's work.[412]

In 2021, Executive Order No 221, established the Office of Climate Action and the Green Economy as part of New Jersey's governance system.[413] The terms of Executive Order 221 lightly reference just transitions however the parameters of work assigned to the Office include to

> coordinate the policymaking processes of Executive Branch departments and agencies with respect to all climate change and green economy issues, coordinate climate policy and green economy advice to the Governor, ensure that climate and green economy policy decisions and programs are consistent with the Governor's stated goals and that those goals are being effectively pursued, and monitor implementation of the Governor's climate policy and green economic agenda.[414]

The explicit incorporation of just transitions within this framework is assigned to the evaluation of impacts of the green economy and green growth on just transitions of the State's workforce.[415]

The State of New York has created the Climate Action Council with a working group on just transition forming part of its structure.[416] The Council represents a joint enterprise between representatives of the labour regulatory sector and the environmental sector, with the aim of creating policies for the development of new, green-oriented jobs at the same time

[411] Colorado, CO 8-83-503 (3) (2022).

[412] Colorado, CO 8-83-503 (6) (2022).

[413] See New Jersey Executive Order No 221 (2021).

[414] Ibid. at para 1.

[415] Ibid. at 13(c).

[416] See New York Environmental Conservation Law 75-0103 (McKinneys 2022).

as seeking to craft education and training programmes for those impacted by the transition.[417] Similar provisions have been adopted in Vermont.[418]

From 2020 onward, legislative activities involving just transitions increased at the US state level, with notable clusters of states seeing efforts that were largely brought in connection with climate change response measure proposals. In California, one such effort sought to "declare that a climate emergency threatens the State, the nation, the planet, the natural world and all of humanity."[419] One of the key reasons for the proposed law was States to be the realization that "marginalized communities worldwide, such as people of colour, immigrants, indigenous communities, low-income people, those with disabilities, and homeless people, are already disproportionally affected by climate change and must benefit from a just transition to a sustainable and equitable economy."[420] In 2021, the Legislature saw the proposal of the "Greenhouse Gas Reduction Fund: California Jobs Plan Act of 2021," which was created with the understanding that "it is the intent of the Legislature to enact the California Jobs Plan Act of 2021 to establish the framework needed to ensure a just transition for communities."[421]

In 2021, the Colorado Legislature saw the proposal of a bill for "Environmental Justice Disproportionate Impacted Community," which sought to include environmental equity and justice considerations in Colorado's legal and regulatory processes.[422] Massachusetts has seen the proposal of laws that would require the opening of a just transitions office within the Department of Labor so as to address the rising efforts at transitions in the energy sector.[423] Rhode Island has seen the introduction of measures that "establish[ ] the first Green Justice Zone, a model that may be replicated in future years to ensure that all communities throughout the State have clean air and clean water."[424] Included within these systems is a specific category for "just transition zones," in which

[417] Ibid.

[418] Vermont, 10 VSA 591 (2022).

[419] California HB Bill 1453 (2021).

[420] Ibid.

[421] California SB Bill 680 (2021).

[422] See Colorado HB Bill 1290 (2021).

[423] Massachusetts HB Bill 2246 (2021).

[424] Rhode Island HB Bill 5674 (2021).

workers and future members of the workforce are provided training and education sufficient for them to become employed in green industry.[425] Texas has also seen the filing of bills proposing similar forms of assistance in education and training for those impacted by the energy transition.[426] Given the heavy role of the extractives industry in Texas such measures are an important way to begin the transition process to renewables while employment opportunities.[427] In Hawaii, the Legislature saw the introduction of a concurrent resolution "Declaring a Climate Emergency and Requesting Statewide Collaboration Toward an Immediate Just Transition and Emergency Mobilization Effort to Restore a Safe Climate."[428] In this resolution, there is a continued linkage between the energy sector and the need for just transitions in the State of Hawaii.[429]

In the US case study there is a clear understanding that concepts of just transitions have—and will continue to—evolve to meet the realities and pressures of the time. Whereas just transitions began as a labour-based theory of how mines which were closing largely due to economic inefficiency should handle the transition in a just way for those feeling the main impacts, the concept itself has transitioned to something that is included in laws and legislative proposals at the national and State levels to address a swathe of concerns. There are certain limitations to this evolution, as it continues to see just transitions linked to climate issues. This is, without doubt, a necessary linkage, however, it does ignore the potential for just transitions to serve as a means of addressing issues at a larger scale, as discussed in Chapter 4. At the same time, the US example serves as a reminder that even international leaders can suffer from significant and impactful divisions in areas such as just as transitions. One need only review the number of US states that have not yet addressed just transitions in any context to see that there is still a long evolutionary road for its entrenchment in the laws and rules of all actors in such a strong—and strongly divided—federal system.

[425] Ibid.

[426] Texas HB Bill 3894 (2021).

[427] Ibid.

[428] Hawaii Joint Res 55 (2021).

[429] Ibid.

4 Conclusions

Just transitions has emerged from a limited context of labour rights in the face of an existential crisis for workers and communities provided little to no recourse when their lives and livelihoods were threatened with uncertainty. It is no longer the province of unions and labour rights supporters—although it is still very much embraced by them—and has reached into the core of legal and regulatory systems at the national level across the globe as well as in international law. And yet, it is often better understood as being part of these national and international systems through the ways in which they incorporate the essential tenets of just transitions into legal and regulatory practices rather than being incorporated by name. Advances have certainly been made in this regard, especially under the Paris Agreement regime and the Sustainable Development Goals, however significant areas of advancement remain.

The evolution of just transitions in international law has taken place largely in the context of the 1992 UNFCCC, creating the system which enabled the adoption of the Kyoto Protocol and, subsequently, the Paris Agreement. In this setting, a steady progression has occurred through which many aspects of environmental and climate law which necessitate and promote the transition from carbon-emitting sources were adopted, in turn adding pressure to decarbonize through the closure of coal and other highly polluting mining and energy sectors. This then required the international system to take note of the social and economic impacts of such transitions and to adopt a series of measures aimed at ensuring sustainability and equity in the process of climate-responsive policy implementation.

Concomitantly, the international community has itself transitioned from the very much aspirational Millennium Development Goals to the Sustainable Development Goals which, as described in this chapter, enshrine a significant amount of the core aspects of just transitions across a number of settings and for the benefit of all constituencies, especially those traditionally vulnerable and marginalized groups. Although largely regarded as soft law, the SDGs nevertheless have proven effective as tools of change despite the pressures of the pandemic and will be discussed throughout the following chapters as sources of information on transitions across multiple sectors.

From the supranational and national law discussions in this chapter, several trends emerge in terms of the use of just transitions in the more

traditional contexts and in evolving contexts relating to decarbonization. The EU, as a supranational entity, has progressed throughout the three decades since it was founded and now includes explicit laws and regulatory systems geared toward just transitions as well as those with implicit elements that are foundational to just transitions. Still, the majority of laws and rules are in the context of climate change and, while they expand concerns to areas such as hydrogen and methane, they continue to use the framework of environmental necessity as a starting point.

The various States discussed are different in many ways and yet highlight vital understandings for just transitions as a whole. From these examples, it is clear that strong national action to legislate and regulate in relation to carbon reduction plans, the closure of highly polluting mines and energy sources, and generating methods to address the impacts of this is paramount. However, this must be done in a way that leaves open the possibility for future changes and needs rather than responsive to political pressure or rushed into following a disaster. Public procurement decision-making, long the province of administrative and regulatory systems, can be shifted into a more central role in legal efforts to achieve durable State-based change in practices through just transitions.[430] Concomitantly, it is clear that some of the most powerful and efficient actors in the process of decarbonization and just transitions usage are sub-State entities which have greater understandings of the needs on the ground and the necessary constituencies to involve in addressing them. Further, the sub-State entities have demonstrated deftness in generating meaningful relationships with the private sector in order to facilitate transitions to new sectors and industries rather than seeing the demise of entire communities. Finally, the role of the private sector has been emphasized as a critical component for achieving just transitions even where it might be difficult to find a national willingness to undertake such activities.

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CHAPTER 3

Current and Future Climate-Related Transitions

1 Introduction

Coal is perhaps the most visible extractive resource subject to efforts at phase-out due to its carbon emission impacts and associated environmental damages, however other extractives are also expected to be phased-out in the short and long term.[1] Among the resources to be affected by environmental regulation as well as market-based forces is oil, which was already facing significant challenges prior to the Covid-19 pandemic and has seen these challenges increase from 2020 onwards.[2] At the same time, the commencement of hostilities in Ukraine in February 2022 has highlighted the need for all States, especially those reliant on Russian supplies of oil, to diversify their immediate suppliers as well as systemic choices for energy. As outlined in Chapter 2, it is clear that the international community is legally committed to addressing climate issues and reducing climate-related impacts through law, rules, economic, scientific and societal transitions that reflect just transitions principles on a grand scale. Despite this, it is clear that addressing climate-related issues and vulnerabilities will require significant transitions beyond the

[1] IMF, *IMF Working Paper: Riding the Energy Transition: Oil Beyond 2040* (IMF, WP/17/120, 2017).

[2] See ibid.

A. R. Harrington, *Just Transitions and the Future of Law and Regulation*, Palgrave Studies in Environmental Transformation, Transition and Accountability, https://doi.org/10.1007/978-3-031-06182-0_3

coal sector, as global emissions rates and global warming rates have yet to see necessary declines as determined by climate science.[3] This includes shifting to the use of existing varieties of renewable resources as well as supporting the development of emerging forms of renewables. When discussing transitions in the energy sector, it should be remembered that innovation and market structure features multiple actors, ranging from entrenched fossil fuel producers seeking to shift their operations to scientists and innovators seeking to develop new technologies in new areas to public and public–private enterprises tasked with traditional and new forms of energy production and provision.[4]

This Chapter discusses innovations in various new and emerging forms of renewable energy sources and industries. Unlike the discussions in Chapter 2, the purpose of these discussions is not connected with the transitional impacts on the carbon sector, but rather on the transitions to these resources as just and equitable as a matter of legal and regulatory practice. The chapter draws heavily on reporting from States made in compliance with the Nationally Determined Contributions (NDCs) filing requirements under the Paris Agreement on Climate Change (Paris Agreement) and the Voluntary National Reviews (VNRs) under the Sustainable Development Goals (SDGs). The necessary caveat to using these sources of information is that they are, as a matter of course, generated by States themselves rather than by independent entities. However, they are vital sources of consolidated and updated information and are used here to provide insights into how those in control of the legal and regulatory authority in each State have used them to generate policies relating to the renewables sector.

2 Renewable Energy Sector Transitions

As discussed in Chapter 4, the pandemic has caused loss and disruption across all aspects of law and society, and the ways in which the

[3] See IPCC, *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, eds. Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J. B. R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (Cambridge University Press, in press); IRENA, Global Renewables Outlook 2020 (2020), 15–16.

[4] See Elisa Asmelash and Ricardo Gorini, *International Oil Companies and the Energy Transition* (IRENA, 2021).

world responds to these issues in the short, medium and long term will have a lasting impact. This is true across a variety of sectors which have seen and will continue to see the need for transitions and is essential to understanding the future of the renewable energy sector overall.[5] Indeed, the International Renewable Energy Agency (IRENA) has stressed the need for regional coordination in the renewables transition in order to support individual State efforts to implement international and national legal commitments in a setting flexible enough to acknowledge and incorporate the regional stressors and positive assets for adapting in energy and beyond.[6]

Additionally, in terms of spurring climate-responsive policies and renewable energy transitions, it should be highlighted that pandemic recovery laws and financing packages have been used for advancement as well as for the further entrenchment of existing fossil fuel-focused corporate entities.[7] The latter can be couched in maintaining jobs and tax revenue stemming from these corporations' activities however this must be assessed against the risk of creating over-reliance on industries that have been identified for transitions in order to meet climate and associated commitments.[8] Support for these actors, including financing for new operations such as pipelines, can also be argued to undermine efforts at public engagement regarding the need to transition away from fossil fuels.[9] In this context, pandemic-related assistance to the fossil fuel industry can be seen as potentially perpetuating the concept of "carbon lock-in," whereby existing carbon extractives and carbon-intense sectors become indelibly part of the economic and policy structure of an area to the point that it inhibits the introduction of alternate energy sources as viable options.[10]

[5] IRENA—Global Renewables Outlook 2020, *supra* note 3 at 15.

[6] See ibid. at 17; IRENA, *The Post-COVID Recovery: An Agenda for Resilience, Development and Equality* (International Renewable Energy Agency, 2020), i; Zoha Shawoo and Cleo Verkuijl, *Building Back Better Through Climate Plans* (Stockholm Environment Institute, 2020), 1.

[7] Shaoo and Verkuijl, *supra* note 7 at 2.

[8] See ibid.

[9] See generally ibid.

[10] Peter Erickson, Sivan Kartha, Michael Lazarus, and Kevin Tempest, 'Assessing Carbon Lock-In', *Environmental Research Letters* 10 (2015); Peter Erickson and Michael

As noted throughout Chapter 2, the use of hydrogen, especially green hydrogen, has been incorporated into legal and regulatory schemes for addressing climate change in a variety of settings, including through the EU Hydrogen Strategy.[11] Green hydrogen is often regarded as a bridge between currently used, carbon-intensive forms of energy and renewable energy sources provided it is properly converted to meet definitions of green hydrogen rather than blue or standard/grey hydrogen.[12] Notable among these schemes is the European Union's Hydrogen Strategy, a product of the EU Green Deal that has wide-ranging potential impacts across the transition to renewable in the EU as a whole and within the individual Member States.[13] Green hydrogen practices have been identified by scientific and policy bodies as having significant value in the renewables sector across the globe.[14] States such as Australia, Japan, Chile and Morocco, representing a set of States ranging across the spectrum of climate-responsive laws and policies, have adopted laws and rules promoting the use of green hydrogen as an energy alternative.[15] Hydrogen is not only being sought for inclusion in new energy technology systems because of its potential for emissions reductions but also because of pressures on oil supply which have caused global markets to seek optional sources of energy.[16] This has been stressed in the EU's Hydrogen Strategy as well as the UK's policy reports regarding the ways in which green hydrogen can be adapted to fit the energy and associated needs of multiple sectors within the national economy.[17]

Lazarus, *Examining Risks in New Oil and Gas Production in Canada* (Stockholm Environment Institute, 2020).

[11] See *supra*, ch. 2.

[12] See IRENA, *Green Hydrogen: A Guide to Policy Making* (IRENA, 2020).

[13] See EU Hydrogen Strategy (2020).

[14] IRENA, *Green Hydrogen Cost Reduction* (IRENA, 2020), 8.

[15] Ibid. at 19–25.

[16] Ibid. at 19.

[17] See EU Hydrogen Strategy, *supra* note 13; Committee on Climate Change, UK Hydrogen in a low Carbon Economy Report, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjRuvDy04H2AhVRSsAKHY6WC-UQFnoECA8QAQ&url=https%3A%2F%2Fwww.theccc.org.uk%2Fpublication%2Fhydrogen-in-a-low-carbon-economy%2F&usg=AOvVaw1cRBjOGsp2cX5ogQwG4C1Z, accessed 10 February 2022.

Issues of energy and emissions transitions can be viewed as a largely developed State issue, a paradigm that has doubtless been furthered through the use of the Annex systems in the UNFCCC, Kyoto Protocol and Paris Agreement implementation systems.[18] The entrenchment of obligations in the climate change arena that is tied to the development status of a State advance common but differentiated responsibilities and associated legal, equitable, social and sustainable development principles. Yet this focus can result in the removal of non-Annex I States from discussions regarding innovation in transitions throughout climate-related sectors. Some of these effects can be mitigated through the filing of Nationally Determined Contributions (NDCs) under the Paris Agreement and the Voluntary National Reviews (VNRs) under the Sustainable Development Goals (SDGs) since each filing system requires all States to report on their activities.[19]

Mitigating climate impacts in developing and least developed States can advance the interests of innovation in energy, agriculture, forestry and other sectors, as discussed below. These innovations, and broader climate change impacts, represent significant forms of transitions in the developing and least developed State context not only because they require changes to existing industry, consumption and production patterns but also because they offer the opportunity for inclusion in and expansion of economic systems.[20] Transitions stemming from energy and climate change innovations also have the potential to advance just transitions in that they can be tied to remedying existing and future inequalities within States.[21]

Transitions away from carbon-intense sectors and energy sources will have a major impact on the ways in which the mining and extractive sectors function, however these sectors will continue to be the site of transitions internally because they continue to share a prominent place in

[18] See *United Nations Framework Convention on Climate Change* (1992); *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (1997); *Paris Agreement on Climate Change* (2015).

[19] See Paris Agreement, *supra* note 18; UNDESA, Sustainable Development Goals, https://sdgs.un.org/goals, accessed 10 February 2022.

[20] For a discussion of the existing impacts of climate change in the African context and potential mitigation, see World Bank Group, *The Next Generation Africa Climate Business Plan* (WBG, 2020).

[21] See generally ibid.

global energy and economics.[22] These transitions will include shifting to differing forms of minerals extracted, changes in the extractive techniques used, and changes in the conditions of extraction.[23] As explained by the World Bank, "a low-carbon future will be very mineral intensive because clean energy technologies need more materials than fossil fuel-based electricity generation techniques."[24] This will entail a set of shifting demand for various minerals as the forms of renewable energy experience greater or lesser demand, which in turn will create a situation where transitions and transition planning will be necessary to meet the mineral requirements and protect those engaged in minerals and extractives industries from fluctuations in the market.[25]

Digitalization efforts represent a transition in many forms of economic activities and employment sector issues as well as climate issues. Part of this involves a focus on the incorporation of block chain technologies in the planning and accomplishment of energy transitions.[26] Similarly, advanced technology is critical to the use of CCUS as a source of energy transitions and to facilitate the transition between new forms of energy innovation.[27] This will necessitate the facilitation of investment and infrastructural capacity realignment to fund and achieve CCUS as a viable energy source and method of addressing elements of the carbon energy cycle.[28] It will also involve elements which require shifts in education and job skills, as well as the willingness of employees to transition from carbon-intense jobs to CCUS.[29]

Efforts to encourage and implement a just transition to renewable energy are most frequently discussed in the international and national

[22] World Bank Group, *Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition* (WBG, 2020); IEA, *The Role of Critical Minerals in Clean Energy Transitions* (IEA, 2020).

[23] See Minerals for Climate Action, *supra* note 22.

[24] Ibid. at 11.

[25] See generally ibid.

[26] See World Bank Group, *Using Blockchain to Support the Energy Transition in Transition and Climate Markets* (WBG, 2020).

[27] See IEA, *Energy Technology Perspectives 2020: Special Report on Carbon Capture Utilisation and Storage* (IEA, 2020).

[28] See ibid.

[29] Ibid.

contexts. However, the immediate impacts of these transitions are fundamentally impactful on sub-national actors, especially cities, towns and municipalities which are served by or home to energy generating operations.[30] For this reason, sub-national actors should be included in the legal and regulatory planning process for the energy sector as well as for transitions in multiple economic sectors impacted by climate change and climate-responsive measures.[31] The nexus between energy transitions and urban areas further emphasizes the ways in which digitalization and efforts to create "smart" cities can be advanced to ensure the equitability and justice of transition application.[32]

Thus, throughout the renewables sector, there is a stress on the need to transition to new sources of energy that are in the process of being rendered fully useable and this innovation cycle is projected to continue well into the future. In the renewables sector, then, just transitions can be used as a framework for ensuring that laws and regulatory systems at all levels are constructed around the need for fluidity and expansion rather than rigidity as had been more commonly used for coal and oil energy sources. This requires the availability of education and skills training for current and future generations of workers and that these be viewed as ongoing needs throughout the life of the worker and the sector rather than a discrete target as would typically be the case when picking a career or vocational path. Additionally, given the intent of some renewables to be used as bridges between carbon reduction and carbon-neutral practices, the labour and market structures should be crafted in a way that anticipates and can accommodate closures of or major changes to these industries rather than waiting until the moment when these issues first appear to start planning for them.

The application of just transitions in the renewables sector also requires legal and regulatory systems that can support the infrastructure needed to deliver these forms of energy to consumers, including the ability to upgrade or retrofit as necessary in light of anticipated innovations into the future of the resource. Innovation and support for renewable energy

[30] See IRENA, *Renewable Energy Policies for Cities 2021* (IRENA, 2021).

[31] See ibid.; Derik Broekhoff, Molly Webb, Ipek Gensü, Angela Picciariello, and Andrew Scott, *Decarbonising Electricity: How Collaboration Between National and City Governments Will Accellerate the Energy Transition* (Stockholm Environment Institute, 2020).

[32] Broekhoff et al., *supra* note 31 at 10–11; UNEP, *The Weight of Cities: Resource Requirements of Future Urbanization* (UNEP, 2018).

sources from the international community, States and sub-State entities is, without question, essential, however without these infrastructural capacities the transition will be incomplete at best. This is both counterproductive and could generate instability in the renewables sector as a source of attractive and steady employment, which would raise serious issues for the viability of the sector.

3 Agriculture, Land Use and Forestry Sector Transitions

The combination of transitions in the land use, forestry and agricultural settings has been emphasized for effecting energy shifts and decarbonization.[33] This reflects the tensions existing between these sectors as potential carbon sinks and large-scale emitters of carbon depending on the methods used and choices made. Thus, the legal and regulatory regimes used across the spectrum of international, national and sub-State law are crucial to ensuring that these industries are able to function for the benefit of consumers, workers and the climate.

Included in the agricultural sector proposals for transitions is the idea of shifting patterns of consumption regarding carbon-intensive and environmentally negative crops and livestock as well as general efforts to reduce the energy consumption of the sector overall.[34] Proposed transitions also include the limitation or prohibition of environmentally damaging forms of farming, crop tilling and land clearance at the national and sub-national levels so as to create a progressive set of laws and rules within which agricultural practices must adapt.[35] Taken together, these efforts to transition practices within the agricultural sector will require farmers, pastoralists and those in feeder industries to learn new skills, necessitating the creation of methods to provide reskilling and campaigns to introduce the need for these transitions.[36] The latter is particularly important for agriculture in rural and traditional settings, where there

[33] See e.g., Committee on Climate Change, Land Use: Principles for a Net Zero UK (UK Government, 2020).

[34] See e.g., ibid. at 8–10.

[35] Ibid. at 9–10.

[36] See ibid. at 10–11.

are often more deeply rooted cultural connections to farming methods.[37] Within the agricultural transition system, involvement of the private sector in the form of individual consumers making informed decisions as well as large corporate entities making similar choices and private equity providing funding and investment support for large, small and medium entities seeking to adapt to these shifts is and will continue to be critical.[38]

Agriculture represents a site of severe threat from climate-related impacts and potential benefits from transitions stemming from innovation. This is true in a global sense, yet in each State—and often between sub-State units—the issues facing agricultural output, workers and the communities dependent upon them are different and increasingly require transitions to ensure viability.[39] These issues are tied to food security at the local, national, regional and international levels,[40] an issue which has taken on significantly changed dynamics since the onset of the pandemic.

The focus in agricultural transitions must be placed on not only transitions in terms of lowering emissions and switching energy sources or farming methods, but also on the use of chemicals and pesticides for furthering agricultural activities.[41] This has been an issue in agricultural practices across the globe for many years given the emerging knowledge regarding the potential damage caused by pesticides to those consuming agricultural products, agricultural sector workers who are exposed to pesticides daily, and the general environment in which they are deployed.[42] Environmental and ecosystems concerns include the immediate site of application as well as soil and groundwater since pesticides have been found in resources far outside the areas in which they have been used.[43] Additionally, depending on the pesticide, there can be widespread damage to surrounding ecosystems when species targeted by pesticides are

[37] See ibid.

[38] Ibid. at 11–13.

[39] See generally Next Generation Africa Climate Business Plan, *supra* note 20.

[40] Ibid. at 33.

[41] See European Commission, *Report from the Commission to the European Parliament and the Council, On the Experience Gained by Member States on the Implementation of National Targets Established in Their National Action Plans and on Progress in the Implementation of Directive 2009/128/EC on the Sustainable Use of Pesticides* (2020).

[42] See ibid.

[43] See ibid.

removed or have reduced populations.[44] As a result, multiple States and the EU have become prominent in implementing legislative and regulatory systems that ban or severely curtail the overall use of pesticides and seek to ensure that safe, sustainable alternatives are used.[45]

Agriculture and food security issues have been adopted as part of the series of policies and directives stemming from the EU Green Deal, perhaps most comprehensively the "Farm to Fork" Strategy for a Fair, Healthy and Environmentally-Friendly Food System.[46] The Farm to Fork Strategy seeks to address many of the Covid-19 pandemic-related food security issues discussed in Chapter 4 as well as the overall parameters of ensuring that there is a stable, sustainable supply chain across the food and agriculture sector.[47] Included in the Farm to Fork Strategy is the involvement of farmers in using CCS and CCUS as methods of remediating carbon emissions and ensuring the incorporation of the circular economy at the public and private levels.[48] Recognizing that agriculture represents only part of the food security sphere, the Farm to Fork Strategy addresses sustainable fishing and fisheries practices as part of its larger umbrella.[49]

Forests and forestry practices have played and will continue to play an essential role in the development of climate responses in varied ways. Perhaps the most obvious is the reduction and control of unregulated and damaging logging and forest clearing practices, along with concomitant efforts to protect land use, soils and related resources found in the forest context.[50] These transitions seek to reduce emissions and carbon-generation capacities stemming from the use of forests and forest-connected ecosystems, inherently requiring shifts in economic focuses and employment patterns.[51] On the other hand, the forestry sector is the

[44] See ibid.

[45] See ibid.

[46] European Commission, *Report from the Commission to the European Parliament, the Council the European Economic and Social Committee and the Committee of the Regions: A Farm to Fork Strategy for a Fair, Healthy and Environmentally Friendly Food System* (2020).

[47] Ibid.

[48] See generally ibid.

[49] Ibid.

[50] Inevitable Policy Response, *The Inevitable Forest Finance Response: Investor Opportunities* (IPR, 2020), 3–4.

[51] Ibid.

site of efforts at redevelopment of the inherent natural resources and ecosystems they contain in order to increase the presence of carbon sinks at the national and international level.[52] These efforts at transitioning the ways that society, government and industry conceive of forests and forestry resources represent a fundamental shift in centuries of relationships to such ecosystems.[53] At the same time, there is a strong link between the development of forest resources as sites of protection and carbon mitigation and the use of nature-based solutions (NBS), which cuts across all aspects of uses for and conservation planning of natural resources in order to further climate responsiveness and international climate commitments.[54] These concepts connect to the Convention on Biological Diversity and its means of implementation as well as the Paris Agreement.[55]

The ability of effective transitions options across the forestry sector depends on the commitment of the constituencies involved and the ability to secure financing, although a benefit of the forestry sector is the ability of responses to occur at the small or large scale while still achieving at least some measurable benefits.[56] From the legislative and regulatory perspective, the preservation of forestry lands and resources involves the adoption and implementation of international legal commitments as well as the careful adoption, restructuring and tailoring of multiple national and sub-national laws, particularly in terms of land use, planning and zoning.[57]

In the context of land use and agriculture, there is a delicate balance between ensuring food security and livelihoods of farmers and farm workers on the one hand and the development of a reliable and profitable industry on the other. In many places, this has translated to the primacy of agri-food businesses as key actors in the market, which indelibly undermines the role of traditional agrarian societies and the cultures with which they are connected. At the same time, shifting to mass, commercialized

[52] Ibid.

[53] Ibid. at 4–5.

[54] Ibid.

[55] See *United Nations Convention on Biological Diversity* (1992); Paris Agreement, *supra* note 18.

[56] See generally The inevitable forest finance response, *supra* note 50.

[57] See ibid. at 8–9.

agricultural operations has resulted in observed environmental damage to the soil and surrounding ecosystems through the use of pesticides, chemicals and generally harmful farming practices in order to achieve maximal crop outputs. Thus, in this setting the observable efforts at transitions focus on facilitating a shift away from these practices and towards environmentally safe and sustainable practices that maximize food security and the viability of the farming sector across the spectrum from small-scale and artisanal farmers to agri-food corporations. Indeed, the agriculture sector is somewhat unique in transition discussions because of the breadth of actors in includes and their varying size and role as employers.

Regardless of the size of the enterprise, it is clear that transitions are happening in the agricultural and land use sectors and that these transitions are now the subject of efforts to ensure just and equitable methods of change to farming practices. Additionally, just transitions in this context must be viewed as including justice and equity concerns for consumers who are dependent on the products of the agricultural sector for their survival. Transitions must thus be conducted so as to ensure that the food supply is not threatened in the process and that the results do not include price increases that trigger food poverty for those who are unable to afford them. Similarly, just transitions here must also be thought of as extending to States and the international community, especially developing and least developed States, since globalized agriculture markets mean that fluctuations in availability and price can have devasting impacts across borders.

Many of the same considerations can be seen as underlying the forestry sector and just transitions, although it perhaps goes without saying that the issues of food security and food poverty do not exist in this setting. They are, however, replaced with issues of supply for the creation of such fundamental construction as houses and schools. Indeed, the forestry sector has been critical to the destruction of multiple ecosystems and carbon sinks to the point where efforts such as REDD and REDD+ have been created at the international level in order to provide States with an incentive to preserve their forest resources and ensure that their use is sustainable.[58] When seen in this way, just transitions in forestry sector practices will need to include the international community, States,

[58] UN REDD Programme, https://www.un-redd.org/, accessed 10 February 2022; UNFCCC, What Is REDD+?, https://unfccc.int/topics/land-use/workstreams/redd/what-is-redd, accessed 10 February 2022.

sub-State entities and the communities traditionally living within or near forests to be exploited. At the same time, the workforce traditionally employed by the forestry sector to engage in logging and similar forest clearing practices must be included and provided with protections similar to those adopted in the context of coal mining and extractive industries.

4 Finance and Economics Sector Transitions

In the context of current and future transitions, climate-related, energy sector, or otherwise, the role of States, the international community and sub-national entities should be viewed as working in tandem with private investment and financing.[59] The private sector has embraced the idea of funding these transitions through the commitment of economic resources and the incorporation of environmental, social and governance (ESG) standards to ensure compliance with the green agenda, corporate social responsibilities for investors and national law provisions.[60] These concerns are reflected in the lending and financing activities of public banking institutions as well. These scenarios have dual results in that they provide requirements for the institutions to follow within their own corporate governance as well as for recipients of funding to mainstream into their activities.[61] Echoes of these concerns can be heard in proposals for new regional banking mechanisms as well, most often seeking to bridge environmental and just transition promotion with inclusion and promotion of SMEs.[62]

Very similar concerns are part of the evolving understanding of investor practices to assist in implementing climate change-related projects at the same time as furthering just transitions.[63] Perhaps the strongest statement

[59] Grantham Institute, *Climate Change and the Just Transition: A Guide for Investor Action* (Grantham, 2018), 4.

[60] See ibid.

[61] See EBRD, *Report of the Board of Directors to the Board of Governors: Strategic and Capital Framework 2021–25* (2020).

[62] Francesco Seatzu, 'Towards a Mediterranean Development Bank', *Indian Journal of International Economic Law* 4 (2011), 87, 101; see also Palesa Shipalana, *Green Finance Mechanisms in Developing Countries: Emerging Practice* (South African Institute of International Affairs, 2020); Sejal Patel, Clare Shakya, and Neha Rai, *Climate Finance for Hydropower Incentivising the Low-Carbon Transition* (IIED, 2020).

[63] See e.g., Principles for Responsible Investment, *Investor Priorities for the EU Green Deal* (PRI, 2020).

on the interrelationship between these concerns in the investment context comes from the Principles for Responsible Investment created under the auspices of a collaborative project between the UNEP and the United Nations Global Compact.[64] These Principles reflect the commitment of institutional investors to

> incorporate ESG issues into investment analysis and decision-making processes; … be active owners and incorporate ESG issues into our ownership policies and practices; … seek appropriate disclosure on ESG issues by the entities in which we invest; … promote acceptance and implementation of the Principles within the investment industry; … work together to enhance our effectiveness in implementing the Principles; … report on our activities and progress towards implementing the Principles.[65]

In the commercial context more broadly, the International Chamber of Commerce has offered three Principles for a Just Transition,

> 1) recognize a just transition of the workforce and the creation of decent quality jobs in the Nationally Determined Contributions; 2) ensure that government policies enable workers and their communities to have the skills capabilities and investments needed to thrive in the face of transformative change; 3) include business – a key stakeholder and agent for the delivery of a just transition – in climate policy planning at all levels.[66]

These Principles were adopted in 2018 and, in the context of the pandemic and post-pandemic recovery, assume even greater import for the business and commercial sectors.

In the private banking context, similar issues arise regarding the need to incorporate ESG into lending and financing operations, although there is a stronger tension between meeting ESG requirements, maintaining legal and regulatory requirements, meeting shareholder expectations and

[64] See Principles for Responsible Investment, *How to Invest in the Low-Carbon Economy* (PRI, 2020), 2; Principles for Responsible Investment, *Fiduciary Duty in the 21st Century: California Roadmap* (PRI, 2020); Principles for Responsible Investment, *Fiduciary Duty in the 21st Century* (PRI, 2020).

[65] See How to Invest in the Low-Carbon Economy, *supra* note 64 at 2.

[66] International Chamber of Commerce, Principles for a Just Transition (2018).

ensuring continued profitability.[67] Many questions of just transitions and climate financing for the private sector stem from the need to ensure that climate justice and equity considerations are taken into account when providing financing.[68] This includes lending and financing assistance mechanisms that foster the development of small and medium-sized enterprises (SMEs) seeking to become active in transitions and related activities.[69]

Just transitions in finance and economic sectors are at once quite unique from the other sectors discussed in this chapter and also fundamentally linked to them. The unique quality comes at the level of banking, investment and financial institutions themselves, as transitions in these highly corporatized sectors tend to be equated with ensuring funding and support to operations that comply with legal and regulatory requirements, including those reflected in ESG and corporate social responsibility tenets. Shareholders and investors are, in this context, the primary constituencies to which such corporate actors are responsible, and just transitions would also require an extension of their fiduciary duties in this relationship to ensure that they are acting within the appropriate standards.

On the other hand, just transitions in the finance and economic sectors can be seen as inherently linked to ensuring that those receiving financial support are treated according to legal and regulatory requirements as well as with fairness in situations where they are less sophisticated actors than the entities providing funding. This would be particularly true in the context of SMEs, as it can be inferred that the financial institutions involved are more sophisticated actors and come to the relationship with unequal bargaining power.

5 Industrial Sector Transitions

Issues of industrial sector transitions in the climate context have been addressed from a policy perspective in the EU Industrial Strategy, reflecting the need for adaptation and flexibility in the face of climate issues as well as the need to implement changes in an equitable way that

[67] See e.g., Grantham Institute, *Banking the Just Transition in the UK* (Grantham, 2019).

[68] Ibid.

[69] Ibid. at 3.

complies with the letter and spirit of EU requirements.[70] Included under the rubric of the Industrial Strategy are the chemicals sector, construction and building, steel and connected industries and sustainable mobility of persons and resources within the EU's boundaries.[71] The Industrial Strategy emphasizes the core role of the circular economy in transitions across the industrial bases of the EU's economy as well as in the development of future industries and industrial adaptation.[72]

Concomitant with the Green Deal, the EU adopted the New Circular Economy Action Plan for a Cleaner and more Competitive Europe (Circular Economy Action Plan) in March 2020.[73] As the Circular Economy Action Plan explains,

> the EU needs to accelerate the transition towards a regenerative growth model that gives back to the planet more than it takes, advance towards keeping its resource consumption within planetary boundaries, and therefore strive to reduce its consumption footprint and double its circular material use rate in the coming decade.[74]

In creating a durable plan for incorporating circularity principles into economic activities in the EU, the Circular Economy Action Plan uses existing laws and directives as well as policy plans to bring together areas of transition ranging from green public procurement to plastics to buildings and design.[75] The Circular Economy Action Plan can in many ways be seen as working in tandem with the EU Council's Decision on the System of Own Resources of the European Union, which requires Member States to create assessments of own resources and methods

[70] See European Commission, *Communication from the Commission to the European Parliament, the Council, the Council, the European Economic and Social Committee and the Committee of the Regions: A New Industrial Strategy for Europe* (2020).

[71] Ibid.

[72] See generally ibid.

[73] European Commission, *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A New Circular Economy Action Plan for a Cleaner and More Competitive Europe* (2020).

[74] Ibid.

[75] Ibid. at 3–4.

through which they can be used as part of the economic cycle of the State and, at a larger level, the EU as a whole.[76]

Thus, emerging industrial sector transitions to critical concepts such as the circular economy can be seen as providing an understanding of the next generation in just transitions. The fact that the EU has been the predominant legislative and regulatory body in this sector's transitions is limiting in a certain sense and yet provides a blueprint for others to follow—or not, depending on the successes of the EU's efforts—which is similar to the EU's adoption of the Green Deal, Hydrogen Strategy, Methane Strategy, Farm to Fork Strategy, Offshore Strategy and the ambitious new EU Climate Law. Regardless of the geography involved, the idea of just transitions in the industrial sector context as it relates to the circular economy must be an inclusive one which understands the many sectors implicated in efforts to ensure a continued lifespan for products. Indeed, this aspect of the circular economy, while ecologically appealing, could be seen as potentially the most disruptive to justice and equity given the impacts it could have on jobs and production at across many sectors. With this in mind, just transitions in the circular economy context must include laws and rules recognizing these impacts and seeking to mitigate them through the inclusion of impacted constituencies throughout the planning, implementation and future innovation phases.

6 Blue Economy Transitions

In international law, rules governing essential issues of oceans rights and responsibilities are enshrined in the United Nations Convention on the Law of the Sea (UNCLOS) and associated agreements.[77] The UNCLOS system establishes such core elements of jurisdiction as State sovereignty over defined national waters, boundaries of international waters, State sovereignty over seabeds and seabed resources, and permissible activities in international waters.[78]

[76] Council Decision of 14 December 2020 on the system of own resources of the European Union, I.424/1 (15 December 2020).

[77] *United Nations Convention on the Law of the Sea* (1982); Jennifer J. Silver, Noella J. Gray, Lisa M. Campbell, Luke W. Fairbanks, and Rebecca L. Gruby, 'Blue Economy and Competing Discourses in International Oceans Governance', *The Journal of Environment & Development* 24(2) (2015), 130.

[78] UNCLOS, *supra* note 77; Silver et al., *supra* note 77 at 130.

Concomitantly, issues regarding pollution and degradation of the oceans as well as shared water resources between States and significant water resources—such as lakes and rivers—located inside a State have come to the fore of international climate dialogue and policy.[79] The origins of this dialogue are widely traced to the 2012 Rio+ 20 Conference convened by the United Nations Conference on Sustainable Development. At this Conference, some of the first references to the concept of the "blue economy" were introduced and rapidly joined by the twin concept of "blue growth."[80]

From this starting point, the contours of the blue economy have been refined, and the IRENA has explained it to be

> [e]nergy harnessed from the oceans, through offshore renewables, can contribute to the decarbonisation of the power sector and to other end-use applications that are relevant for a blue economy (for example, shipping, cooling and water desalination). Nascent ocean energy technologies – including wave, tidal, ocean thermal energy conversion and salinity gradient energy – can make use of this enormous potential in line with overall sustainable energy and economic development.[81]

However, caution—and careful regulation—is necessary in order to ensure the development of oceans-based energy in a way that optimizes the power of the resource yet preserves and protects the many forms of biodiversity and ecosystems in the oceans.[82] Given the nature of oceans and seas as regulated by international law in some areas, regional law in others and national law, as well as the regulation of shared resources such as straddling fish stocks, the transition to these types of resources will require significant coordination and scientific understandings. These types of legal responses would also necessitate a flexibility in terms and ability to be updated given the changing nature of scientific knowledge and predicted issues such as those associated with long-term siting of offshore wind farming.[83] While there have been some strong areas of pushback against the incorporation of the renewables sector in maritime

[79] Silver et al., *supra* note 77 at 130.

[80] See generally ibid.

[81] IRENA, *Fostering Blue Economy* (IRENA, 2020), 8.

[82] Ibid. at 9.

[83] Ibid. at ch 2.2.

practices, particularly in the fields of maritime labour, IRENA and other entities have emphasized the potential job and economic benefits from the transition to the renewables sector.[84]

Following the adoption of the Green Deal and associated policies, the EU created a working group to study issues of sustainability and climate change in relation to the blue economy. After conducting extensive research, the working group generated a definition that has become the heart of EU blue economy planning moving forward,

> [a] sustainable blue economy promotes economic growth, social inclusion and improved livelihoods while ensuring the environmental sustainability of the natural capital of the oceans and seas. . . the sustainable blue economy encompasses all sectoral and cross-sectoral economic activities related to the oceans, seas and coasts. It comprises emerging sectors and economic value based on natural capital and non-market goods and services through the conservation of marine habitats and ecosystem services.[85]

In its blue economy reports, the EU has identified multiple areas that are involved in the overarching sector, the vast majority of which are either experiencing transitions due to the climate or pandemic issues.[86] Included under the heading of blue economy are maritime shipping and transportation, ship building, port administration and activities, tourism, living and non-living resources and associated maritime ecosystems, water safety and access, blue energy generation, minerals and natural resources, defence and water security, maritime infrastructure and entities supporting it, environmental protection and conservation and digitalized systems for maritime governance.[87]

In conjunction with the EU Green Deal, the EU Strategy to Harness the Potential of Offshore Renewable Energy for a Climate Neutral Future (Offshore Strategy) sets out a guide for the scientific and economic transitions necessary for the further development of the offshore sector.[88] The Offshore Strategy provides a nuanced understanding of the energy

[84] See ibid. at ch 4.1.

[85] European Commission, *Sustainability Criteria for the Blue Economy: Main Report* (2021), 16.

[86] See Ch 4, *infra*.

[87] See Fostering the Blue Economy, *supra* note 81.

[88] See ibid.

capacities of the multiple maritime resources in the EU region and is tailored accordingly.[89] It also emphasizes the need to include maritime spatial planning technology as part of the offshore energy transition to ensure efficient and durable sources of energy.[90]

Offshore energy transitions are at the centre of the UK North Sea Transition Deal, through which the government of the UK and private extractive industries for oil and gas resources in the North Sea region are working towards decreasing emissions and environmental impacts.[91] The North Sea Transition Deal includes a dedicated focus on the use of CCUS technologies to assist in securing carbon emission reductions from the extractives sector.[92] Supply chain shifts and tightening of supply chain controls regarding sources of energy for the North Sea extractives sector form another core area of the Transition Deal.[93] The North Sea Transition Deal offers a way for a sector deemed vital to UK security and economic functioning to continue operations and also contribute to the national emissions reduction targets.[94] Additionally, it represents a unique example of a sector that is often associated with the emissions stemming from its product being able to implement emissions reform in its own operations.[95] While issues of use continue to surround the oil and gas sector, the ability of the sector to contribute to global efforts to address the pace of climate change represents a systemic form of transition that can be governed to ensure the holistic consideration of potentially impacted workers. This transition can also change the ways in which the sector functions as part of the national and economic economy by requiring supply chain changes that reach through multiple feeder industries.

Additionally, these forms of energy transition have the potential to impact on fishing practices and communities, coastal communities and

[89] See ibid.

[90] See European Commission, *EU Strategy on Offshore Renewable Energy Strategy* (2020), https://energy.ec.europa.eu/topics/renewable-energy/eu-strategy-offshore-renewable-energy_en, accessed 10 February 2022, 4.

[91] See Department for Business, Energy & Industrial Strategy, North Sea Transition Deal (UK, 2020).

[92] Ibid.

[93] See ibid.

[94] See ibid.

[95] See generally ibid.

those otherwise engaged in maritime occupations. In terms of the latter populations, it should be noted that the maritime industry, particularly the maritime transport industry, has begun the journey towards the use of renewable energy sources rather than the traditional fossil fuels base used in shipping practices.[96] In recent years, much of these transition efforts have focused on liquified natural gas (LNG) as the predominant form of more climate-efficient energy.[97] Indeed, as a result the maritime sector has seen a dramatic uptick in storage facilities for LNGs at ports across the world and a concomitant rise in its acceptance as part of the climate change responses offered by the industry.[98] Other forms of innovation and transition are being developed to further shift the focus away from LNG, which is not considered to be the most emissions reducing option, suggesting a series of transitions in the industry moving into the future.[99] Energy transitions are also occurring—and likely to expand—as part of desalination plans, which are increasingly important in areas threatened by drought and water resource contamination due to climate-related pressures.[100]

Efforts to address these increasingly complex aspects of pollution and oceans resource degradation have expanded and now include those aimed at addressing the impacts of plastics and similar consumer products that have reached a critical mass capable of causing permanent damage to marine ecosystems.[101] This is an important regulatory evolution in itself and, particularly in the realm of plastics, will have impacts on consumer and producer patterns that will necessitate transitions in these fields.[102]

At the same time, as law and regulation attempt to address issues in fishing practices, such as illegal and unregulated fishing, this suggests that there will be a need for transitions in the fishing sector from the traditional

[96] Fostering Blue Economy, *supra* note 81 at ch 3.1; World Bank Group, *Charting a Course for Decarbonizing Maritime Transport* (WBG, 2021).

[97] Ibid.

[98] Ibid.

[99] See ibid.

[100] See Fostering Blue Economy, *supra* note 81 at ch 2.

[101] See ibid.

[102] See Silver et al., *supra* note 77 at 130.

and small-scale fishing communities to the high-volume, commercialized fishing operations.[103]

Taken together, the multiple aspects of the blue economy offer a multi-faceted hope for new energy sources, sustainable food sources and the rehabilitation of the ocean as an essential setting for biodiversity as well as the world's largest carbon sink. The transition to the blue economy is highly technical in many ways, particularly in terms of generating new forms of energy or facilitating the cleaning of polluted waters, and will require the generation and consistent updating of legal and regulatory frameworks across the international, national and sub-State governance systems. On the other hand, it is remarkably simple from the perspective of encouraging sustainable fishing practices and providing education on these practices.

Regardless of the form taken, just transitions to the blue economy will require measures to ensure inclusion of those traditionally engaged in fishing and maritime industries in terms of education and reskilling as well as support for continuing their practices where appropriate. In the context of maritime shipping and transportation, just transitions will need to be focused on the provision of opportunities for the workforce to find new and comparable employment or, where appropriate, to receive training on new innovations to the sector. In many ways, seafarers, dock workers and others engaged in the maritime transport sector can be seen as analogous to coal miners in the issues they face should there be a significant alteration to their current job and community. This will require the deployment of many similar responses to those used in the coal and extractives sectors, albeit it tailored to meet the particularized needs of the maritime labour force and the communities which it supports. Given the entrenchment of maritime labour in many societies, this has the potential to prove quite challenging, and communities in which maritime transportation drastically reduced the workforce without a legal requirement to include efforts which would advance just transitions offer stark understandings of how severe these impacts can be.

Additionally, due to the global importance of the oceans and maritime ecosystems, just transitions in the blue economy should include broad efforts to preserve and protect these resources. Since there are a number of nationally and internationally recognized protected sites and sites of international significance existing in the oceans and maritime ecosystems, this is a particularly important element of ensuring their continued

[103] See ibid.

viability for current and future generations. This is an example of an intersection between just transitions and intergenerational equity that would require legal and regulatory responses at all levels, from the local to the international. As part of this, just transitions in the blue economy will necessitate the inclusion of coastal communities even where a proposed activity would be in international waters should it be established that there is a significant potential impact on these communities.

7 International Reporting Tools for Transition Insights

Throughout international law, there are multiple provisions for State Party reporting requirements to a designated organizational body as part of the compliance and oversight process.[104] Typically, these reports are reviewed by the appointed entity for compliance with the terms of the treaty regime and, once this review is complete, the reviewing entity will provide a written statement regarding areas of strengths and weakness.[105] Often these are accompanied by suggestions for future legal and implementational reforms.[106]

Among the international law instruments using these types of reporting and oversight functions, the Paris Agreement, as a hard law treaty regime, and the SDGs, as a soft law regime, offer important insights for the discussion of current and emerging manifestations of just transitions outside of the coal and traditional energy sectors. As discussed at the beginning of this chapter, it is for this reason that the Nationally Determined Contributions (NDCs) required by the Paris Agreement and the Voluntary National Reviews (VNRs) required by the SDGs are reviewed below.

7.1 NDCs as Tools of Transition Insights

One of the outcomes from CoP 25 in Madrid was an explanation of how the consideration of gender and gender-responsive policies should be incorporated into the NDCs under the auspices of the Lima work

[104] See Alexandra R. Harrington, *International Organizations and the Law* (Routledge, 2018).

[105] Ibid.

[106] Ibid.

programme.[107] Thus, the first round of full NDCs includes this essential aspect of just transitions for any form of sector or transition.

Algeria's INDC stresses that it is in the process of enacting laws and rules to address the emissions rates from the most polluting sectors it the national economy, including not only energy but also the industrial sector, transportation sector, building and construction sectors, agriculture and forestry sectors and, overall, to promote environmental preservation.[108] As noted, in the INDC filing, the need for laws and rules generating results in these sectors and for the nation as a whole to adopt them as a matter of practice is reiterated in the number of existentially challenging environmental events Algeria has faced and continues to face.[109]

Antigua and Barbuda identified the water sector as a key sector in need of reform for emissions reductions.[110] With this in mind, the State's INDC has set a target of the water sector being completely powered by renewable resources by 2030, with the same target established for the health, food and emergency response sectors.[111] At the time, there was an identified need to generate new laws and rules to make these targets binding, and the INDC placed further stress on ensuring that building codes were updated to reflect the national emissions reduction targets.[112]

Just transitions in the process of implementing the Paris Agreement have been adopted as a core element of Argentinian law and policy on climate change and environmental reforms. As described in the 2020 NDC, Argentina's commitment

> contemplates the eradication of poverty by the promotion of a just transition, addressing the needs of the entire population and guaranteeing integrated and sustainable development, without affecting future generations. In line with this, the Second NDC has been built based on 15 principles that guide the design, implementation, monitoring and evaluating of all national adaptation and mitigation actions: United Nations 2030

[107] See FCCC/CP/2019/13/add.1 (2019).

[108] See Algeria, Intended Nationally Determined Contributions (3 Septembre 2015), 3.

[109] Ibid. at 4–5.

[110] Antigua and Barbuda, Intended Nationally Determined Contribution (15 October 2015), 2.

[111] Ibid. at 2.

[112] Ibid.

> Agenda and Sustainable Development Goals; Federalization; Participation; Human rights; Just transition; Equity; Gender; Interculturality; Health; Community-based adaptation; Comprehensive Risk Management; Innovation, Science and Technology; Environmental education; Ecosystem-based adaptation; Energy security; Food security; [and] Transparency, accuracy, comparability, consistency and completeness.[113]

The laws and rules adopted by Argentina in order to further these targets have focused on overall planning for climate responses as well as significant efforts at reductions in the highest emitting sectors, namely energy, agriculture—including livestock and agriculture, forestry and buildings and construction.[114]

In the Bahamas' NDC filings, the duality of needing to advance development and infrastructural capacity across all of the territory while also needing to address the rates of emissions stemming from the transportation and energy sectors is emphasized.[115] Although there is an inherent clash between these priorities and their methods of enshrinement in national laws and policies, the NDC stresses the ways in which transitions can effectively be used to unite advances in both priority areas.[116] While sharing many similar environmental and economic traits, Barbados has used its NDC filings to emphasize the importance of mitigation and energy transition strategies in meeting its climate commitments.[117] Realizing the impacts of climate change in Barbados in the short and long term, the filings note that transitions towards climate responsiveness have been included in a number of national legal regimes, regulatory systems and policies.[118]

Paris Agreement commitments and the systems for implementing them have been incorporated into the broader system for sustainable development law and policy adaptation in Belize.[119] In the NDC, Belize

[113] Argentina, Segunda Contribucion Determinada a Nivel Nacional de la Republica Argentina (2020), 10.

[114] See ibid. at 13–17.

[115] Bahamas, Intended Nationally Determined Contributions (2015).

[116] See generally ibid.

[117] See Barbados, Intended Nationally Determined Contributions (28 September 2015).

[118] See ibid.

[119] Belize, Nationally Determined Contribution (2020), 1.

emphasizes that the need for transitions in mitigation and adaptation in critical sectors such as agriculture and fishing, which have seen issues at a sectoral level due to climate-related impacts as well as the broader threats declines in each sector pose to national food security.[120] As will be discussed in Chapter 4, the food security concern has only been exacerbated by the Covid-19 pandemic. More than a driver of emissions, Belize states that the tourism industry is an essential sector at the national level that is facing major threats from climate-related changes in ecosystems and increased natural disasters.[121]

To meet climate obligations and ensure the mainstreaming of multiple constituencies into the transition processes needed to effect it, Brunei Darussalam created a "Whole-Nation approach" in the governance sector.[122] This approach bridges the public and private sectors as well as multiple government portfolios in order to ensure that transitions—and the laws and rules relating to them—will be holistically generated.[123] As part of these efforts, the NDC notes that the Government of Brunei is seeking to encourage economic sector transitions to the services and information sector since it is viewed as more sustainable, less carbon-intensive and likely to grow into the future.[124]

Burundi's INDC explains the priorities of adopted climate frameworks and policies as "to engage in a transition toward a green economy. Burundi Vision 2025 makes a firm commitment to prioritizing the country's protection and rational management of the environment such that Burundians can live in a protected, properly managed setting."[125] In this context, the tensions between transitions from conflict and instability to a durable peace and between high-level emissions reductions and climate commitments can be seen.[126] At the same time, Burundi's NDC demonstrates the ability to fill these gaps by ensuring elements of a just transition are used.[127] The NDC sheds light on necessary capacity-building for

[120] Ibid. at 9.

[121] Ibid. at 10.

[122] Brunei Darussalam, Nationally Determined Contributions (2020), 3.

[123] Ibid.

[124] Ibid. at 4.

[125] Republic of Burundi, Intended Nationally Determined Contributions (2015), 1.

[126] Ibid.

[127] See ibid.

implementing these transitions in a post-conflict State at a legal and regulatory level.[128] Similar interrelationships can be found in the NDC from the Democratic Republic of Congo, which contains descriptions of the many ways in which law and policy regarding the protection of natural resources from climate vulnerabilities form a bedrock for reconstructing a stable State that can utilize its resources responsibly and equitably.[129] Colombia's NDC states the role of just transitions in the context of the labour sector as part of the holistic nature of responses to climate change law and realities.[130] It envisions climate reactive measures as part of an overall system for promoting peace, sustainability and inclusion in the laws and policies of the State.[131]

Benin's NDC evidences a legal and regulatory commitment to using climate-responsive policies as a tool for advancing the development of an advanced and resilient workforce with the aim of "(i) incorporating climate issues into Benin's strategic sectoral operational plans, so that they may be low-carboned and more climate- resilient for its sustainable development and (ii) providing Benin with a sustainable human resource base to address climate change."[132] This is set against the needs of the State to reduce emissions and take steps to mitigate climate-related issues such as coastal and beach erosion and agricultural degradation.[133]

Cabo Verde places emphasis on its inherent climate vulnerability as shaping the parameters of its NDC.[134] It identifies sectors needing to transition to carbon-neutral or low-carbon status as energy, transportation, forestry, waste, building and construction, fishing and tourism.[135]

[128] Ibid. at 11–12.

[129] See CPDN Republique Democratique du Congo, Soumission de la Contribution Nationale Prevue Determinee au Niveau National au Titre de la Convention des Nations Unies sur les Changements Climatiques(2015).

[130] Colombia, Actualizacion de la Contribucion Determinada a Nivel Nacional de Colombia (2020), 1.

[131] Ibid.

[132] Benin, First Nationally Determined Contribution Under the Paris Agreement (2015), 9.

[133] Ibid.

[134] Cabo Verde, 2020 update to the First Nationally Determined Contribution Under the Paris Agreement (2015).
(2021).

[135] Ibid. at 5–6.

It also outlines the need to assess climate-related impacts and transition impacts on already vulnerable populations including women and children.[136] Emergency planning that is anticipatory of new and increased threats can be seen as another form of just transition necessary in this context, as it relates to the building of response resources as well as ensuring that the wider-ranging elements of emergency planning incorporate broad swathes of the population.[137]

Chile has seen much political dialogue surrounding climate and environmental issues since the signing of the Paris Agreement, and indeed these issues are at the heart of many proposals for constitutional revisions that have been offered during the process of rewriting the Chilean constitution which began in 2020.[138] Chilean law has moved steadily towards climate responsiveness and incorporation of the Paris Agreement's terms at the legislative, administrative and judicial levels.[139] This progress specifically includes just transitions and the SDGs as elements of environmental law and policy.[140] It also recentres the focus of national climate policy from energy and extractives to waste management and disaster planning.[141] Forestry, especially LULUCF, has been identified as a positive carbon sink rather than an emission-generating sector, which is a notable accomplishment.[142] Chile's NDC emphasizes the need to include circular economy planning to meet climate ambitions as well as provide social and economic benefits generally.[143]

Costa Rica's legal and policy reactions to climate change-related issues and international commitments are expressly linked with its commitments under the SDGs and to the concept of sustainable development generally.[144] In its 2020 NDC, Costa Rica expressly discusses the deep connections between just transitions, climate response and sustainable development in existing and envisioned future responses to facilitate Paris

[136] See generally ibid.

[137] See ibid. at 12–13.

[138] Chile, Nationally Determined Contribution (2020).

[139] See ibid. at 11–13.

[140] Ibid. at 12.

[141] See ibid. at 14.

[142] Ibid. at 17.

[143] Ibid. at 49–51.

[144] See Costa Rica, Contribucion Nacionalmente Determinada (2020).

Agreement obligation achievement and implementation of the SDGs.[145] These connections are intended to be cross-sectoral and are not limited to any particular form of transition.[146]

Cuba's NDC reflects the need to incorporate environmental and climate commitments into the Bases of the Economic and Social National Development Plan for the period from 2020 to 2030 since the purposes of the Plan are to promote economic development while also ensuring emissions reductions.[147]

Dominica's INDC places prominence on its long-standing efforts to address the impacts of climate change and environmental degradation through law and policy frameworks.[148] It provides insights into the forms of environmental damage already suffered by the State, and the larger Caribbean region *per se*, in addition to areas that are projected to experience damage in the future.[149] To meet Paris Agreement commitments, Dominica emphasizes transitions to renewable energy sources including geothermal, solar, wind and oceans sources, as well as their use in high-emissions sectors.[150]

Much of Indonesia's INDC is dedicated to the forestry sector, which plays a main role in efforts to decarbonize both in the conduct of the forestry industry and by serving as a carbon sink benefitted by reforestation activities.[151] Indonesia has established a phased reduction in high-emissions sources of energy and focuses on increasing the renewables sector.[152] Iceland's NDC references the incorporation of just transitions as essential to the accomplishment of its commitments under the Paris Agreement although this is generally linked to accomplishing

[145] Ibid. at ch III.

[146] Ibid.

[147] Cuba, First Intended Nationally Determined Contribution (Updated) (2020), 3.

[148] Commonwealth of Dominica, First Intended Nationally Determined Contribution (15 September 2015), 4–5.

[149] Ibid.

[150] Ibid. at 8–11.

[151] Republic of Indonesia, First Intended Nationally Determined Contribution (2015), 2–3.

[152] Ibid. at 3.

gender equality, which has a constitutional element not shared by just transitions.[153]

Grenada has undertaken efforts to transition from largely fossil fuel-based energy to renewables that utilize easily accessible resources including solar energy.[154] Initially, these plans also included the development of geothermal energy as another source of renewable energy for Grenada, however the subsequently filed NDC has indicated that the costs of this transition are too high for the nation to pursue without international assistance.[155]

In Burkina Faso, the Paris Agreement commitments are combined with many aspects of the SDGs in order to create climate policies that focus on assisting rural and vulnerable communities with transitions to new forms of energy and sustainable practices.[156] The NDC highlights efforts to ensure that there is a balance between expanded economic opportunity in traditional sectors such as farming as well as in new industries as part of transitions towards meeting commitments under both international regimes.

Given the location, it is perhaps not surprising that island States, such as the Marshall Islands, have placed an emphasis on transitioning to oceans and tidal resources as new energy sources that promote environmental and sustainability commitments.[157] Solar energy is another sector which the State has identified as being important for development.[158] This will require transitions in the main polluting sectors in the State, particularly terrestrial and marine transportation, energy generation and heating and cooking sources in rural and underdeveloped areas.[159] These transitions are identified as also having the potential to serve as a

[153] Iceland, Updated Nationally Determined Contribution (2015), 7.

[154] Grenada, First Intended Nationally Determined Contribution (2015), 1.

[155] See Grenada, Second Intended Nationally Determined Contribution (2020), 14.

[156] Burkina Faso, Intended Nationally Determined Contribution (2015), 10–12.

[157] Republic of the Marshall Islands, Intended Nationally Determined Contribution (21 July 2015).

[158] Ibid.

[159] Ibid.

method of addressing entrenched societal issues including gender inequalities, economic disparities and gaps in the ability to respond to natural disasters.[160]

The Seychelles' INDC discusses the importance of research and continued development of knowledge regarding climate-related issues and impacts in generating impactful responses to climate vulnerability and obligations under the Paris Agreement.[161] This should be viewed as a method of advancing just transitions because it allows for refining of the policies used based on their impacts as well as emerging methods of effecting transitions in a variety of sectors.

In 2020, several months into the Covid-19 pandemic, the Republic of Korea announced the Korean Green New Deal as an effort to promote shifts to the green economy, meet national and international emissions reduction targets and address the increasing challenges of meeting the economic challenges stemming from the pandemic.[162] The Korean Green New Deal is grounded on three core pillars,

> green transition in cities/spatial planning/living infrastructure, diffusion of low-carbon and distributed energy, and establishment of innovative green industry ecosystems. A total of KRW 73.4 trillion will be invested by 2025 and the Green New Deal will facilitate GHG emissions reduction and help sustaining climate-resilient recovery. The next 5 years of implementing the Green New Deal will serve as a lever for achieving the updated NDC including the 2030 national GHG reduction target and green transition toward carbon neutrality.[163]

India's INDC stresses the complexities faced at the national level when implementing the Paris Agreement in a comprehensive way within a country having vastly different levels of development, economic activities, social concerns and climate-related impacts.[164] It thus highlights efforts to increase energy transitions in major metropolitan areas while also planning the expansion of energy services to rural areas and the need

[160] Republic of the Marshall Islands, 2050 Climate Strategy (2018), 6.

[161] Republic of Seychelles, Intended Nationally Determined Contribution (2015), 4–5.

[162] See Republic of Korea, First Nationally Determined Contribution (30 December 2020), 4.

[163] See ibid.

[164] India, Intended Nationally Determined Contribution to UNFCCC (2015).

to coordinate transitions in activities and natural resource consumption in multiple sectors of the economy.[165]

Andorra has used the requirements for NDCs to evaluate the fusion of its obligations under both the Paris Agreement and the SDGs including the ways in which policy formulation for the transition to renewable energy sources has been expanded to incorporate perspectives from women, children and traditionally marginalized communities.[166] It has also highlighted the need to expand the scope of changes for emissions reductions into the transportation and vehicles sector rather than remaining focused solely on the energy sector.[167] Further, changes in agriculture and forestry practices are emphasized as forming an additional element in national planning.[168] Similarly, North Macedonia's NDC treats achievement of gender and other vulnerable community inclusion that would fulfil obligations under the SDGs as an element of meeting aspects of commitments under the Paris Agreement.[169] This includes the ways in which principles and methods for implementing circular economy elements are included in sustainable development and climate-related laws and policies.[170] North Macedonia's inclusion of just transitions is keyed to the breakdown of the State into multiple regions and the tailoring of responses for policies to implement the Paris Agreement based on the needs of the regions. While only one of these regions is targeted for ensuring "just transitions" explicitly, the remaining energy and economic changes in the other regions will implicitly require transitions.[171]

The Republic of Georgia has used its latest NDC to provide an extensive definition of vulnerable populations viz a viz climate change and associated impacts, specifically "children and adolescents, women, elderly persons, persons with disabilities, persons with chronic diseases, and eco-migrants displaced as a result of disasters caused by climate change or those, who are threatened to be eco migrated due to the climate

[165] See ibid.

[166] See Andorra, Contribucion Determinada a Nivel Nacional (2020), 4.

[167] Ibid. at 7.

[168] Ibid. at 8.

[169] Republic of North Macedonia, Enhanced Nationally Determined Contribution (2020), 6.

[170] Ibid.

[171] Ibid. at 12.

change."[172] By providing such a diverse yet nuanced understanding of those vulnerable to climate change impacts, the NDC is then able to stress the ways in which laws and policies have evolved to ensure transitions across energy and other critical sectors for emissions reduction commitments as well as social equity.[173]

Social and economic concerns are incorporated into Cambodia's 2020 NDC updates, which seek to address the need for inclusion of women and other traditionally vulnerable and marginalized groups in the development of climate policy.[174] Included in these groups are children and young adults, who are to be provided with education on environmental issues and the need for transitions across sectors, which can be seen as a form of transition at the social and education level as well.[175] Further, efforts to create coordination in the cross-sections between public and private sectors for the promotion of transitions in emissions practices in Cambodia have included measures to foster the circular economy.[176]

In 2019, the Democratic People's Republic of Korea (DPRK) used supplemental materials to its NDC filing to indicate an intent to shift energy sources to wind, oceans and tidal and nuclear sources so as to implement commitments under the Paris Agreement.[177]

7.2 VNRs as Tools of Transition Insights

As detailed in the Czech VNR, poorly regulated forestry and logging activities combined with an unanticipated infestation of highly destructive insects has resulted in a shift in the forestry and land use sector becoming a source of carbon emissions rather than the standard carbon sink as in previous practice.[178] This, combined with increases in emissions from the transportation sector and less than projected progress in the renewables

[172] Georgia, Updated Nationally Determined Contribution (2021), 11.

[173] See generally ibid.

[174] Kingdom of Cambodia, Updated Nationally Determined Contribution (2020), i.

[175] Ibid. at 44–45.

[176] Ibid. at 48.

[177] Democratic People's Republic of Korea, Updated Nationally Determined Contribution (19 September 2019).

[178] Czech Republic, Second Voluntary National Review of the 2030 Agenda in the Czech Republic (2021), 35.

sector, has resulted in the need to offer additional national funding assistance to encourage transitions in these sectors.[179] Such funding has been extended to transitions in the agricultural and industrial sectors, where a similar lack of progress in transitions makes it unlikely that national policies and EU commitments will be met by benchmark dates.[180] At the same time, the Czech Republic has adopted a governance structure that is focused on just transitions and the provision of social support to those impacted by decarbonization transitions.[181] Transitions to the circular economy are included in the parameters of the National Recovery Plan that is intended to move the nation forward to goals and targets by 2040.[182]

Within the 2018 Uruguayan VNR there is a detailed explanation of the ways in which robust laws and regulatory frameworks promoting renewable energy, transitions in the energy sector and the generation of infrastructural capacities for renewables have been combined with expanded governance systems for entrenchment in law, economy and society.[183] To promote transitions in the energy sector, Antigua and Barbuda has focused on the public procurement elements involved in the generation of electricity and is seeking to adopt a law combining renewables promotion measures into existing regulatory requirements.[184] At the same time, the VNR emphasizes the need to include the private sector in efforts to transition at the level of energy generation and energy consumption.[185] Slovenia's VNR discusses its commitment to green public procurement in general and particularly in the energy transitions sector.[186]

Pakistan has committed to using the public sector as a catalyst for energy transitions by requiring assessments of emissions from public

[179] Ibid. at 35–36.

[180] Ibid. at 35–37.

[181] Ibid. at 36.

[182] Ibid. at 61.

[183] See Uruguay, Informe Nacional Voluntario (2018).

[184] Antigua & Barbuda, 2021 Voluntary National Review (2021), 61–62.

[185] Ibid.

[186] Slovenia, Implementation of the Sustainable Development Goals: Second Voluntary National Review (2020), 47.

buildings and undertaking efforts to reduce them by including renewables.[187] It has also created priority areas within the State for the implementation of renewables development and transitions.[188]

In its 2020 VNR, the Democratic Republic of Congo stresses efforts to develop renewable energy sources such as hydroelectric facilities, biomass utilization and geothermal energy as elements which can meet international and national commitments and facilitate a stronger economic base for the State.[189] Thus, in the DRC renewable energy transitions are important for the shift away from carbon-based energy and for efforts to create a sustainable peace in the State through economic advancement.[190] Promotion of renewable energy sources is also incorporated into efforts at modernizing and expanding infrastructure across the spectrum of urban and rural areas.[191] Similar infrastructural transitions are planned in the Mauritanian VNR, which discusses the need to construct and operationalize methods of transporting renewable energy to multiple communities throughout the State.[192]

Mali's first VNR established the role of the renewable energy sector as a core element of the national plans for expanding infrastructure and increasing sustainable development across the spectrum of economic activities in the State.[193] It notes that renewables present a very small percentage of the Malian energy sector and that they are behind both traditionally generated, wood-based energy sources and petroleum energy.[194] Guyana also has adopted a focus on using energy transitions to

[187] Pakistan, Pakistan's Implementation of the 2030 Agenda for Sustainable Development: Voluntary National Review (2019), 41.

[188] Ibid. at 41–42.

[189] Republique Democratique du Congo, Rapport D'Examen Nationale Voluntaire des Objectifs de Developpement Durable (2020), 35.

[190] Ibid. at 36–37.

[191] Ibid.

[192] Mauritanie, Revue Nationale Voluntaire Republique Islamique de Mauritanie (2019), 47–49.

[193] See Republique du Mali, Rapport Nationale Voluntaire sur la Mis en Oeuvre des Objectifs de Developpement Durable (2018), 41.

[194] Ibid. at 41.

support extended access for rural areas under the rubric of the Hinterland Energy Strategy.[195]

To spur growth in multiple sectors and implement transitions to renewable energy sources, Morocco's VNR reiterates the connection between increased wind and solar energy and changes to building codes, residential and industrial energy use, agricultural practices and automotive emissions limitations.[196] To achieve these transitions, Morocco has steadily increased the number of laws enacting their provisions as well as governance systems to address particularized aspects.[197] The State has also created areas to support the generation of new forms of sustainable energy sources and the businesses seeking to commoditize them.[198] Related plans to generate infrastructural capacity as part of facilitating access to the renewable energy sources have been expressed in the Senegalese VNR.[199]

8 Conclusions

This chapter has surveyed some of the most impactful areas of climate-related transitions in current and anticipated future practice. Although some of these transitions are in sectors such as renewable energy and are thus related to efforts to shift away from carbon-intensive sources such as coal and oil, many of them represent unrelated areas in which efforts to reduce emissions and promote sustainability are well underway.

The renewables sector is quite a varied combination of existing and emerging technologies that are constantly being introduced, refined and applied through a steady path of innovation that has impacts from the international to the national to the local. It is the site of vast opportunity for sustainable and viable sources, yet brings with it significant potentials for inequity and injustice should it not be carried out in a way that includes just transitions in all aspects of operations and legal oversight. Indeed, without just transitions as a necessary framework, this chapter

[195] Government of the Co-operative Republic of Guyana, First Voluntary National Review (2019), 37.

[196] Royaume de Maroc, Examen Nationale Voluntaire de la Mis en Oeuvre des Objectifs de Developpement Durable (2020), 91.

[197] Ibid.

[198] See ibid. at 92.

[199] See Republique du Senegal, Revue Nationale Voluntaire (2018), 56–57.

argues that failures of even a few potential renewable energy sources could be devasting to the sector as a whole given the damage and instability for those employed in the failed aspect of the sector as well as their communities and the consumers who have expected to continue being able to utilize the resource. Additionally, the chapter noted that there are some forms of renewables, notably green hydrogen and CCS/CCUS, which are intended to bridge between existing, carbon-intensive sources of energy and future, low-carbon or net zero sources. In this context, just transitions considerations are essential to ensure that those working and depending upon these sources of energy are not harmed when their need inevitably is reduced or shifted.

In the agriculture, land use and forestry sector, the chapter stresses many potential vulnerabilities when shifts in practice occur, be they for climate responsiveness, profit or pandemic responsiveness, and the necessity of just transitions to be used as a holistic framework for law and regulation. The agriculture sector's ambit is noted to be not only those directly involved in farming and cultivation activities but also local, national and international communities that have come to depend on farmers for food security in an increasingly globalized food market. Concomitantly, food poverty stands as a significant threat to those who are not included in the ambit of just transitions for the agriculture sector. Individuals are not the only potentially impacted entities in this context, as States have become dominant actors in the food security sector, thus requiring the expansion of just transitions to include State and even sub-State actors. Similar arguments are advanced in the forestry context as well given the pressures faced by many constituencies in the event on unsustainable forest harvesting and unequal access to timber in the marketplace. The concept of laws and rules at the nexus of just transitions in the forestry sector is asserted to require the inclusion of those who are directly working across the spectrum of associated jobs.

The finance and economics sector is discussed as the necessary site of just transitions to ensure that funding activities are undertaken in a way that protects the structural and institutional constituencies to which financing entities owe duties as well as investors and shareholders to which funders owe fiduciary duties and the recipients of such funding. The latter are of particular importance, it is asserted, because they are often in an unequal position of bargaining power and vulnerable to the more savvy financial industry. Relatedly, at the industrial sector level, just transitions are necessary to ensure that, regardless of the particular aspect of

industry, transitions to more climate-friendly practices are done with an understanding of their impacts on those involved.

The blue economy is discussed in this chapter as a major site of transition for multiple industries, having the potential for combining innovation and ecosystem preservation to create lasting changes. However, each of the many facets of the blue economy requires an expansive understanding of just transitions that looks at all potentially impacted constituencies and accepts that marine resources are of profound importance to even non-obvious groups. The blue economy discussion places an emphasis on the necessity of expanding just transitions to the maritime shipping and transportation sector, where the impacts on the labour market are similar to many aspects of the coal transition.

Finally, the chapter focuses on the ways in which international reporting mechanisms can be used to evaluate the transitions accomplishments and challenges in the context of various States. These States represent a broad swathe of development status and concerns yet, when taken together, demonstrate the importance of just transition in efforts to promote sustainable, climate-responsive transitions that are in accordance with international commitments as well as national and sub-State needs.

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CHAPTER 4

Pandemic Transitions

1 Introduction

The ability of just transitions to be concretized as a framework for law and regulation at all levels, from the international to the national to the local and expanded across multiple sectors and for many motivating factors is a central premise of this book. Since its inception, some have asserted that just transitions as a framework can be taken from the carbon sector and expanded into environmentally protective shifts. This is certainly true as far as it goes but the continued tethering of just transitions to aspects of environmental concerns and climate change policies ignores the larger set of issues and sectors to which it can be applied as a meaningful framework for change and equity. This core thesis of the book has, unfortunately, been given a new and wide-ranging testing ground in the context of the Covid-19 pandemic and proposed environmental policy shifts stemming from it.[1]

[1] Eric Zusman, Erin Kawazu, Andre Mader, Atsushi Watabe, Tomoko Takeda, So-Young Lee, Matthew Hengesbaugh, Takashi Otsuka, Rajeev Kumar Singh, Premakumara Jagath Dickella Gamaralalge, Kazunobu Onogawa, Mark Elder, Zhou Xin, Mustafa Moinuddin, Satoshi Kojima, Pankaj Kumar, Sudarmanto Budi Nugroho, Nandakumar Janardhanan, Neil Aaron Waters, Fernando Ortiz-Moya, Junichi Fujino, Yatsuka Kataoka, Togo Uchida, and Hideyuki Mori, *A Sustainable COVID-19 Response, Recovery, and Redesign: Principles*

A. R. Harrington, *Just Transitions and the Future of Law and Regulation*, Palgrave Studies in Environmental Transformation, Transition and Accountability, https://doi.org/10.1007/978-3-031-06182-0_4

In this chapter, therefore, the book moves from analysing the ways in which just transitions have been, are currently being and should be used in future climate-responsive transitions apart from the coal extractives and energy sector to reviewing the ways in which just transitions as a concept has informed and will continue to inform pandemic response and recovery laws, rules and policies. These laws, rules and policies are collectively referred to as pandemic response transitions because of the ways in which they represent a profound shift in the current and future understandings of the balance between emergency responses and just responses. It must be remembered that these are examples of laws, rules and policies made under extreme pressure and in the exigencies of an ever-evolving global pandemic which has reshaped many aspects of society, economy and governance practices in the space of two years. In this way, these enactments are indicative of how just transitions can function in times of stress and, as discussed in Chapter 5, the need for post-pandemic law and regulation that is responsive to the needs of recovery efforts and for disaster planning that involves just transitions. To provide essential framing, the remainder of this section provides background information on the pandemic and the world it entered at the end of 2019. The chapter then moves on to examine sectoral responses involving just transitions concepts at the international and national levels.

The global and long-duration nature of the Covid-19 pandemic differs from the more recent public health crises such as the SARS outbreak in 2002/2003 and the MERS outbreak in 2012, making the effects on all aspects of social, economic and environmental sectors more difficult to predict.[2] Some level of analogy can be drawn from the 2008 global recession, at least in terms of impacts on economic stability, business viability and employment loss.[3] Such comparisons have emphasized the positive and negative impacts of the global economic recession in

and Applications of the Triple R Framework (Institute for Global Environmental Strategies, 2020).

[2] See Centers for Disease Control, SARS Basic Fact Sheet, https://www.cdc.gov/sars/about/fs-sars.html, accessed 10 February 2022; World Health Organization, Middle East Respiratory Syndrome Coronavirus, https://www.who.int/health-topics/middle-east-respiratory-syndrome-coronavirus-mers#tab=tab_1, accessed 10 February 2022.

[3] Frank W. Geels, 'The Impact of the Financial–Economic Crisis on Sustainability Transitions: Financial Investment, Governance and Public Discourse', *Environmental Innovation and Societal Transitions* 6 (2013), 67–95.

terms of achieving durable changes to social, economic and environmental issues.[4] However, this analogy can only go so far in that the Covid-19 pandemic occurred in the process of a growing climate crisis and exacerbated existing issues in the global oil and gas sectors upon which many States are financially dependent.[5] Among the many lessons to be learned from the Covid-19 pandemic is that the time to prepare for pandemic impacts, and transition based on the lessons of previous pandemics in the future, is in advance rather than as the issues arise. Indeed, while the rapidity of the Covid-19 pandemic caught the international community by surprise, the same cannot be said of the medical community, which had warned of the coming of a pandemic for some time.[6]

The Covid-19 pandemic's appearance occurred at a time when the global economy had largely rebounded from the stresses of the 2008 recession and the financial markets were approaching or exceeding existing record levels. When Covid-19 was declared a global pandemic by the World Health Organization (WHO) in March 2020,[7] momentum for vital elements of international climate and biodiversity law expanding—including significant funding commitments—was in full swing. Indeed, the December 2019 outcomes of the UNFCCC CoP 25 in Madrid furthered the goals of climate finance and investment at the same time that the vast majority of UNFCCC State Parties had made commitments to carbon neutrality, and in some cases even negativity, by 2050 during and immediately following the Conference.[8] Expectations of major advances for the climate change policy arena were thus very high and it was believed that UNFCCC CoP 26, scheduled for November 2020 in Glasgow, UK, would represent a pivotal moment for these expectations to crystallize.

In the biodiversity sphere, a full and ambitious set of targets and goals for the post-2020 period, when the previous Aichi Targets were

[4] See ibid.

[5] See ibid.

[6] See ibid.

[7] See World Health Organization, WHO Director General's Opening Remarks at the Media Briefing on Covid-19—11 March 2020, https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020, accessed 10 February 2022.

[8] See United Nations Framework Convention on Climate Change, CoP 15, https://unfccc.int/cop25, accessed 10 February 2022.

set to expire, had been prepared in advance of the planned May 2020 CBD CoP 16 scheduled to be held in Kunming, China.[9] Given the schedule of CBD CoP meetings occurring every other year, timing was an essential element of these plans and the expected debates surrounding them.[10] Similarly, 2020 was the 5th anniversary of the UNGA adopting the Sustainable Development Goals (SDGs) and plans for the CoP equivalent—the UN High Level Political Forum (HLPF) on Sustainable Development—included a holistic evaluation of the progress made thus far towards meeting the SDGs.[11] Early indications were that more significant investment and politico-legal commitments were necessary for the SDGs to be achieved by the 2030 target date, although political will was moving towards further commitments and there was a significant overlap in momentum from the environmental sector.[12] All of this changed in the weeks leading up to the WHO's pandemic declaration and the advancement of these issues became a more complex effort, although in some instances, such as the biodiversity context, revamping current practices has been looked on approvingly.

2 COVID-19 Recovery Transitions Generally

In 2020, the UN Special Rapporteur on extreme poverty and human rights issued a report on just transitions in the Covid-19 economic recovery setting.[13] The report was focused on the potential for negative impacts stemming from the pandemic on those already categorized as suffering from extreme poverty as well as those who were on the cusp

[9] See United Nations Convention on Biological Diversity, First Detailed Draft of the New Post-2020 Global Biodiversity Framework (2021), https://www.cbd.int/article/draft-1-global-biodiversity-framework, accessed 10 February 2022.

[10] See ibid.

[11] UNDESA, High Level Political Forum on Sustainable Development 2020, https://sustainabledevelopment.un.org/hlpf/2020, accessed 10 February 2022.

[12] See ibid.

[13] United Nations General Assembly, *Interim Report of the Special Rapporteur on Extreme Poverty and Human Rights, Olivier De Schutter: The "Just Transition" in the Economic Recovery: Eradicating Poverty Within Planetary Boundaries*, A/75/181/Rev.1 (7 October 2020).

of this classification prior to the pandemic and have crossed the definitional line as a result.[14] It is commonly accepted that the effects of the pandemic and associated responses have caused nearly 200 million poverty-vulnerable people to cross this threshold into extreme poverty when using a poverty definition of living on $3.20 USD or less in purchasing power parity.[15] Included in this group, and potentially underincluded at that, are those working in the informal economic sector, who are often left especially vulnerable to poverty without social assistance nets.[16] Up to 2 billion people have also been identified as being on the fringes of extreme poverty as a result of the damage Covid-19 has caused to already-precious sectors as well as the informal sector.[17]

At the same time, the report highlights the potential benefits of those who are classified as being in extreme poverty could receive from post-pandemic recovery measures at the national level if they are inclusively tailored.[18] The general premise of the report is that ""Building back better" does not mean returning to the status quo, but instead taking public action towards the eradication of poverty within planetary boundaries."[19] In the Special Rapporteur's report, there is an articulated concern that the pandemic recovery plans used at the global and national levels not perpetuate pre-existing inequalities or be used to provide further funding to unsustainable and inequitable industries.[20] There is a stress on the need to address existing taxation and VAT systems in light of the pandemic's economic impacts, including suggestions that justice and equity concerns regarding poverty be incorporated into new legal and regulatory measures.[21] Overall, the Special Rapporteur's report establishes an asserted set of six components that can be seen as important for post-pandemic just transitions

[14] Ibid.

[15] Ibid. at para 1.

[16] See ibid.

[17] Ibid. at 1.

[18] Ibid.

[19] Ibid. at 2.

[20] See ibid.

[21] See generally ibid.

> (a) financing the economic recovery through progressive taxation schemes; (b) protecting workers and communities affected by the ecological transformation from the impacts on their livelihoods; and (c) investing in areas such as energy, buildings, food and mobility, to capture the "triple dividend" of a cleaner environment, decent jobs and affordable goods and services; as well as moving away from unsustainable consumption-driven growth and the extractive and waste economy towards (d) prioritizing the reduction of inequalities over the unsustainable quest for economic growth; (e) fighting against the premature obsolescence of consumer goods; and finally (f) ensuring that the design and implementation of national action plans are based on social dialogue and the participation of people living in poverty.[22]

In subsequent reports, the Special Rapporteur stressed the role that many of the nationally adopted responses to the economic impacts of the pandemic have played on providing safety nets across many States but continued to emphasize the need to carry on similar measures into the post-pandemic recovery phase and beyond.[23] This is intended to work together with the existing rights to social security and protection as enshrined in the *International Covenant on Economic, Social and Cultural Rights* (ICESCR),[24] *Convention on the Elimination of all Forms of Discrimination against Women* (CEDAW),[25] *Convention on the Rights of the Child* (CRC),[26] *Convention on the Rights of Persons with Disabilities* (CRPD),[27] and *Convention on the Rights of Migrant Workers and Their Families* (Migrant Workers Convention).[28] Later reports discussed the ways in which a number of States have attempted to provide workers, especially young and vulnerable members of the workforce, with the ability to receive additional education and training for new jobs should

[22] Ibid. at para 56.

[23] See United Nations Office of the High Commissioner for Human Rights, COVID-19 Guidance, https://www.ohchr.org/EN/NewsEvents/Pages/COVID19Guidance.aspx, accessed 10 February 2022.

[24] *International Covenant on Economic, Social and Cultural Rights* (1976).

[25] *Convention on the Elimination of all Forms of Discrimination against Women* (1981).

[26] *Convention on the Rights of the Child* (1990).

[27] *Convention on the Rights of Persons with Disabilities* (2008).

[28] *Convention on the Rights of Migrant Workers and Their Families* (2003); see also Covid-19 Guidance, *supra* note 23.

during the pandemic.[29] However, these efforts have not necessarily been applied for optimal changes in the legal and regulatory systems of States at a durable level rather than as a stop-gap or temporary measure.[30] Indeed, it has been observed that the ways in which many States determined amounts of cash payments to their residents and citizens did not reflect the costs of living for those rendered unemployed or under-employed by the pandemic.[31] Of course, it must be noted that many of these systems were intended to provide consumers with stimulus funds that would then be spent to bolster business enterprises rather than used for essential costs or savings.

Gender elements of the pandemic and post-pandemic recovery strategies are essential for planning and, at many levels, will have a profound effect on the ways in which transitions occur across multiple economic sectors and within the larger socio-economic realm.[32] Included in these impacts are exacerbations of domestic violence and abuse along with economic marginalization and increased pressures on women to serve as caregivers, often at a multigenerational level for elderly members of families as well as children and spouses.[33]

There can be little doubt that the Covid-19 pandemic and associated responses have a universal impact and that, at the same time, the character of impact taken assumes many forms within each State.[34] A comparison of Covid-19 related impacts across States tends to emphasize the ways in which the classification of States along the scale of development translate to differences in response capacities and priorities.[35] Whether

[29] See Covid-19 Guidance, *supra* note 23.

[30] Ibid. at pt. III.

[31] Ibid. at pt. III (b).

[32] World Bank Group, *Women, Business and the Law 2021* (WBG, 2021), 1.

[33] See ibid. at ch 2; see generally OECD, The Inequalities-Environment Nexus: Toward a People-Centered Green Transition (OECD Green Growth Papers, 2021).

[34] See e.g., IEA, Financing Clean Energy Transitions in Emerging and Developing Economies (2021), https://www.iea.org/reports/financing-clean-energy-transitions-in-emerging-and-developing-economies, accessed 10 February 2022.

[35] See e.g., ibid.; ITUC, SDGs for Recovery and Resilience in Latin America, https://www.ituc-csi.org/sdgs-for-recovery-and-resilience-in-latin-america, accessed 10 February 2022; Council Regulation (EU) 2020/2094 establishing a European Union Recovery Instrument to support the recovery in the aftermath of the COVID-19 crisis (14 December 2020).

at the national or international level, it is irrefutable that the pandemic has caused catastrophic and likely durable decreases in GDP.[36] Concerns regarding impacts of the pandemic and inequalities in levels and rapidity of recovery responses between Member States have come to the fore of much EU economic and social policy that seeks to ensure parity assistance in these realms.[37] At the same time, the EU has asserted that the responses to the pandemic can be overseen in a way that promotes equity and equality within and between Member States.[38]

3 Healthcare Sector Transitions

It is perhaps axiomatic that the most impacted sector by the pandemic of the global economy is the healthcare sector. And, while pandemic-responsive laws, rules and policies tend to place healthcare at the centre of funding and resource allocation, they do not necessarily take into account the multiple facets of need in the sector or among those working as part of it. Indeed, as noted in the Special Rapporteur's report, referenced above, there is an extensive discussion of the impacts of Covid-19 work schedules, stresses and time away from family members as taking a heavy toll on healthcare workers.[39] This burden is particularly heavy on women in the healthcare women, notably nurses, who typically have heavy caregiving expectations at home as well.[40]

In terms of healthcare sector response, the Bangladeshi VNR explains that the national response policy included the creation and redesignation of certain medical facilities as Covid-19-specific hospitals and treatment centres.[41] This thus required the diversion of staff and resources away from standard medical activities, adding to the stress and difficulties in access experienced by those who are working in the sector as well as

[36] See EU Council Regulation 2020/2094, *supra* note 35.

[37] See ibid.

[38] See Council Regulation (EU, Euratom) 2020/2093, Laying Down the Multiannual Financial Framework for the Years 2021 to 2027 (17 December 2020).

[39] Covid-19 Guidance, *supra* note 23 at pt. III (F).

[40] Ibid.

[41] Bangladesh, Voluntary National Review (2020), https://sdgs.un.org/documents/vnr-2020-bangladesh-report-26035, accessed 10 February 2022, 196–198.

patients needing non-Covid-related treatment.[42] Similar to many States, Bangladesh has provided bonus payments to those working with Covid-19 in the medical sector, however these are fleeting and intended to serve as a method of appreciation rather than a permanent wage increase.[43]

The Moldovan VNR stresses that the Covid-19 pandemic responses at the national level provided a significant set of understandings as to how the healthcare system in the State has evolved to contain gaps in capacity and implementation.[44] This is considered to be a core failing in some aspects of the current efforts at containing and combatting the pandemic as well as generating insights into future health disaster response needed.[45] There have been elements of rapid response to the pandemic which seek to generate momentum towards addressing the healthcare aspects and implementing some sectoral changes.[46] For instance, while some States have adopted measures providing temporary or on-time payments to those working in the health sector who have been exposed to Covid-19 and associated stressors, the Moldavan response has involved a steady increase in payments to these workers as an undertaking which will at least survive the duration of the pandemic.[47]

Although responses to the pandemic are most often thought of in the context of hospitals and large-scale medical facilities, in discussing its responses, Moldova's VNR notes that individual doctors' offices and similar smaller scale entities have seen assistance and support so that they can be sites of safety and continuing provision of steady, non-Covid-related healthcare.[48] Additionally, the system for addressing Covid-19 treatment and recovery has been adopted to include options for home care and visiting healthcare services rather than strictly requiring all patients and exposed individuals to be quarantined in a governmental facility.[49] Another element of the Moldovan response, mirrored in many other State actions as well, is the development of sophisticated and

[42] Ibid.

[43] See ibid. at 197.

[44] Republic of Moldova, Voluntary National Review Progress Report (2020), 17.

[45] Ibid.

[46] Ibid. at 154–155.

[47] Ibid.

[48] Ibid.

[49] Ibid.

rapidly working testing capacities. While these are necessarily targeted towards Covid-19 testing at present, the ability to generate these capacities has long-lasting impacts on how future testing infrastructures will be developed and made operational.[50]

Vaccine campaigns for traditional communicable diseases within Nepal have been particularly hard-hit by the pandemic since they have been disrupted by lockdowns as well as the reallocation of priority funding and resources to fighting Covid-19.[51] Gender inequities are another area in which the Nepalese VNR has noted severe and potentially long-lasting impacts due to the economically and societally vulnerable positions faced by many women.[52]

While most States have experienced the Covid-19 pandemic as a standalone health crisis, there are some States, such as Samoa, for which Covid-19 was the second national health emergency within the last several years.[53] In the Samoan context, an outbreak of measles caused major disruptions which had not been addressed by the time Covid-19 emerged as a global pandemic.[54] Other States were in the process of recovering from natural disasters during the time leading up to March 2020 and are thus continuing to implement recovery plans from these events along with those necessary to recover from the impacts of Covid-19.[55]

Given shortages in healthcare workers, the Azeri government made a decision to allow trained international medical personnel to enter the country and work as a supplement to the existing healthcare system.[56] The Gambia's VNR places emphasis on the ways in which the Covid-19 pandemic have brought existing issues in the healthcare sector into focus, ranging from infrastructural capacity issues to logistical issues including testing and treatment coordination to available workers in the healthcare field.[57]

[50] See ibid. at 155.

[51] See Nepal, National Review of Sustainable Development Goals (2020), 77.

[52] Ibid.

[53] Samoa, Second Voluntary National Review on the implementation of the Sustainable Development Goals (2020), 88.

[54] Ibid.

[55] See Nepal, *supra* note 51 at XIII, 76.

[56] See Republic of Azerbaijan, Third Voluntary National Review (2021), 52.

[57] The Gambia, Voluntary National Review (2020), 2–3.

Sierra Leone has built on the healthcare infrastructure generated through the several years it spent engaged in fighting an Ebola outbreak at the national and regional levels.[58] Although destabilizing, the prior example of the Ebola outbreak only a few years before the onset of Covid-19 has been considered by the government to be a positive fact in that the necessary health infrastructure was already established to a degree and healthcare workers had experience in dealing with emergent public health issues.[59]

Zimbabwe noted severe issues in carrying out a highly necessary malaria treatment and education campaign as a result of the pandemic.[60] This has profound immediate impacts and has the potential to cause lasting impacts on current and future generations damaged by exposure to and consequences of the illness.

The Australian healthcare sector also received significant increases in funding, operational assistance, infrastructural capacity and general support from the beginning of the pandemic.[61] Similarly, Belgium has responded to the pandemic through measures targeted at bolstering capacities of the healthcare sector.[62]

Pandemic response measures in Chad have, first and foremost, been focused on upgrading the healthcare sector, including the construction of new healthcare facilities, renovations of existing facilities, the deployment of mobile hospital units to areas of greatest need, purchasing supplies for medical treatment and the protection of healthcare workers, and provision of technical training to healthcare workers.[63]

[58] See Sierra Leone, 2021 VNR Report on SDGs Sierra Leone (2021), 71.

[59] Ibid.

[60] Zimbabwe, Second Voluntary National Review (2021), 126.

[61] International Monetary Fund, *Addressing the Pandemic's Medium Term Fallout in Australia and New Zealand* (IMF, 2020), https://www.imf.org/en/Publications/WP/Issues/2020/12/11/Addressing-the-Pandemic-s-Medium-Term-Fallout-in-Australia-and-New-Zealand-49931, accessed 10 February 2022.

[62] International Monetary Fund, Policy Responses to Covid-19: Belgium (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[63] International Monetary Fund, Policy Responses to Covid-19: Chad (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

Costa Rica has expanded infrastructural capacity throughout the healthcare sector as part of its pandemic response system.[64] It has also authorized the use of monthly subsidy payments to those who fall below a certain income.[65] Egypt has devoted a significant amount of resources to strengthening the healthcare infrastructures and capacities existing across the country, and had also dramatically increased the wages of medical personnel working as part of the government or university systems.[66]

In examining these responses to the pandemic at the national level, the need for inclusion of just transitions in continuing pandemic responsive healthcare sector law and regulations is clear, as is the need to use just transitions as a frame for post-pandemic planning in the sector. As highlighted throughout the VNRs, the pandemic has resulted in some States allocating significant amounts of funding to the healthcare sector, including for the purchase of personal protective equipment (PPE), construction or purchasing of new health infrastructure ranging from buildings to supplies, and temporary or permanent increases in wages for those working directly on the front lines of the pandemic. These types of responses perhaps obviously advance just transitions in the context of the pandemic healthcare sector because they benefit healthcare workers as well as patients, families and communities. Additionally, the expansion of healthcare facilities to provide Covid-19 testing services and, where available, Covid-19 vaccinations can be seen as advancing the tenets of just transitions provided, of course, that these services are made available on an equitable basis. Concerns over testing access and vaccine equity have come to the forefront of global responses to the pandemic and, as discussed further in the below section on tourism transitions, have resulted in severe questions moving through the remainder of the pandemic and beyond.

However, many aspects of pandemic responsive healthcare sector policies have resulted in inequity, unequal treatment and significant stresses to those working in the sector. As set out above, these issues include a

[64] International Monetary Fund, Policy Responses to Covid-19: Costa Rica (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[65] Ibid.

[66] International Monetary Fund, Policy Responses to Covid-19: Egypt (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

lack of pandemic or disaster preparedness at the national level, failures to train healthcare workers in treating Covid-19, the implementation of policies suspending the provision of non-pandemic medical treatment and vaccination efforts for other communicable diseases, staffing and supply shortages, and the failure to provide healthcare services to vulnerable and marginalized populations in rural and urban areas. Even in the context of an emergency, such failings raise major questions regarding justice and equity for patients, communities and healthcare workers who are all dependent on public and private health services for their survival. Thus, the pandemic has exposed areas of gaps in healthcare sectors across the globe, suggesting that there is an important place for just transitions in healthcare transitions to the "new normal" of an emergency.

It must be noted that several States have experienced the Covid-19 pandemic concurrent with or shortly after outbreaks of diseases ranging from measles to Ebola. In these situations, State responses indicate that where these were concurrent events they resulted in increased pressures but where Covid-19 followed another outbreak there had been a space for applying the lessons from the prior pandemic to ensure a smoother transition to the needs and realities of the pandemic healthcare sector.

4 Finance and Economic Sector Transitions

Covid-19 has caused many disruptions in the supply chain at the international and national levels, with the interconnectedness of the globalized market system being tested by combinations of worker shortages, issues in production of core manufacturing components, reduced bureaucratic functioning and longer customs clearance issues, and the inability of port facilities operating on skeleton staffs to unload maritime cargo effectively.[67] This is indeed a short list of the many factors exacerbating supply change challenges.[68]

From the declaration of a pandemic onwards—and in some cases before this officially occurred—States have adopted laws and rules that call into question some of the core assumptions of the free trading system.[69]

[67] See Sheng Bin, 'The Impact of COVID-19 on Global Value Chains and Its Policy Implications', *Journal of World Trade Organization and China* 10 (2020), 16.

[68] See ibid.

[69] Ibid.; Yang Guohua, 'Multilateral Trading System During the COVID-19 Pandemic', *Journal of World Trade Organization and China* 11 (2021), 21.

In the early phases, pandemic responses in the trade sphere focused on restricting the exportation of PPE, encouraging importation of PPE in some States, restricting the exportation of medicine and vital health supplies, restricting exportation of core food stuffs and commodities, and limitations or outright bans on certain food and agricultural products coming from States associated with mass concentrations of Covid-19.[70] As the pandemic progressed and knowledge of transmissibility increased, the latter measures were often rescinded or reduced although much damage was arguably done to the market reputation of targeted States.[71] After several months, some of the restrictions on PPE were eased as well since domestic production systems and export agreements were able to fill these specific needs.[72] New issues of supply and trade restrictions subsequently emerged with the issues of test availability and shortages and vaccine access.[73] This phase has been of a longer duration as global restrictions on travel began to ease based on test result availability on the one hand and declarations of the need for a vaccine booster prompting continued questions of vaccine equity on the other.[74]

Overall, it has become quite clear that the Covid-19 pandemic has caused stresses to the ways in which energy needs are met, particularly in terms of differing residential and commercial energy settings. The ways in which mechanisms to "build back better" (BBB) for the post-pandemic recovery can serve as an avenue of incorporation for renewable energy sources and decarbonization systems.[75] This is true across the fields of sectoral support as well as stimulus funding, which IRENA in particular has highlighted as an area of opening for the promotion of the renewables sector in many forms.[76] Emphasis has been placed on the fact that

[70] Alexandra R. Harrington, 'Re-thinking WTO DSB Jurisdiction in Light of Pandemic, Climate Change and Other Evolving Threats' in Amrita Bahri, Weihan Zhou, and Daria Boklan (eds), *Rethinking, Repackaging, and Rescuing World Trade Law in the Post-Pandemic Era* (Hart Publishing, 2022). These States included China, Italy and Switzerland and often lasted for multiple months. Ibid.

[71] Ibid.

[72] Ibid.

[73] Ibid.

[74] See ibid.

[75] See IRENA, *The Post-COVID Recovery: An Agenda for Resilience, Development and Equality* (International Renewable Energy Agency, 2020), 11.

[76] See ibid. at 12.

even short-term post-pandemic recovery measures can be used as positive catalysts for generating long-term transitions in the renewables sector.[77] In the context of private actors and activities, institutional investment practices and the generation of funding for renewables in the form of green investment, green bonds and associated funding serve as examples as well.[78]

An unanticipated aspect of pandemic economic and social restrictions has been the pervasive reduction of oil and gas consumption, with concomitant emissions reductions.[79] This has signalled the ways in which it is and will continue to be possible to conceive of transitions in the fossil fuel sector provided they are grounded in recovery policies that view them as durable solutions.[80]

Bangladesh has highlighted experiences on both the supply and demand elements of economic and market structures at the onset of the pandemic and this has continued to manifest itself throughout the duration of the pandemic to date.[81] It has also experienced downturns in domestic and foreign investment rates as a result of the uncertainties surrounding market access, the service sector and the ability to ensure workers are able to physically be present for manufacturing and other positions upon which much economic development depends.[82] The pandemic has resulted in Bangladesh reporting problems in meeting expected benchmarks for the SDGs overall, particularly in terms of SDGs 1 and 4.[83] Many of the issues experienced in relation to achieving SDG 4 have stemmed from the need to implement lockdowns at all levels of education and vocational training, which is consistent with the experiences of the majority of States in the international community.[84] The Bangladeshi VNR discusses the impacts of closures in the garment sector on the national economy as well as on employment and economic status

[77] See ibid. at 15.

[78] See ibid. at 12.

[79] See Zoha Shawoo and Cleo Verkuijl, *Building Back Better Through Climate Plans* (Stockholm Environment Institute, 2020), 1.

[80] See ibid.; Post-Covid recovery 2020, *supra* note 75.

[81] See Bangladesh VNR, *supra* note 41 at 193.

[82] See ibid. at 194.

[83] See ibid. at Annex I.

[84] See ibid. at 194.

of women, who are often employed in these factors and have been without wages and wage assistance for much of the pandemic.[85] As poignantly stated in the VNR, "with regard to 'Leave no one behind', the aspiration of SDGs, it can be said that the pandemic has disproportionately, and more detrimentally, affected members of most vulnerable social groups—including people living in poverty, elderly, persons with disabilities, youth, women, and transgender."[86] In terms of monetary policy, Bangladesh's response has been to emphasize the need for public spending to provide assistance at social and economic levels, increase the coverage and scope of social protections for the most vulnerable, generate financial rescue packages that work with and between industries and increasing the available supply of paper currency.[87]

In Malawi, 2020 estimates were that pandemic-related economic losses amounted to at least $6 billion USD in terms of current and future losses, concentrated in manufacturing, tourism, food and agriculture and transportation sectors.[88] In addition to the immediate impacts on citizens and businesses, the Malawian projections are that these economic impacts will have significant ramifications on the ability of the State to collect tax revenue, further impacting the potential for national assistance to spur growth and recovery.[89] As the VNR points out, this will have a lasting impact on current generations and future generations within the country.[90]

It has become standard practice for States to provide a series of economic assistance measures to sectors across their national and, often, sub-national economies. As a rule, these assistance measures are targeted towards the most effected and negatively impacted sectors and entities within them. This can be seen as logical from the practical standpoint in that it seeks to ensure the continued viability of sectors which are entrenched in the national practice and, at least theoretically, are large-scale employers within their respective States. An example of this can

[85] See ibid. at 195.

[86] Ibid.

[87] Ibid. at 198.

[88] Malawi, 2020 Voluntary National Review Report for Sustainable Development Goals (2020), 91–92.

[89] See ibid.

[90] See ibid. at 92.

be found in the VNR from the Republic of Georgia, which noted that recovery assistance of this kind is intended to benefit the business sector itself as well as provide some element of stability in the workforce overall.[91] Outside of healthcare, the Moldovan VNR places emphasis on the ways in which national funding has been shared to municipalities and other sub-national actors in order to assist them in accomplishing social assistance measures.[92]

Zimbabwe has noted with concern the economic and social impacts of Covid-19 and associated restrictions on vulnerable and marginalized members of society, particularly those with disabilities who were already in need of State assistance prior to the pandemic.[93] The VNR highlights that the vast majority of those with disabilities in Zimbabwe are classed as unemployed and engage in the informal economy, rendering them especially susceptible to severe financial distress due to the damage suffered in the informal sector.[94] Emphasis has also been placed on the ways in which women have been effected and rendered largely more vulnerable to economic and social harms as a result of the pandemic's impact on nearly every aspect of their professional and personal lives.[95]

Like many States, Nepal is dependent in part on foreign remittances to keep families and communities solvent and at or above subsistence levels. Restrictions on movement, economic downturns and economic stresses on those who have left the country have resulted in a decrease in amounts and frequencies of remittances, triggering additional pressures.[96]

Many elements of the Russian Federation's official response planning involve the use of extensive monitoring systems to determine where and how issues of supply chain failures and access issues for essential goods, as well as economic and industrial stresses exist.[97] Subsequently, the Russian

[91] Georgia, Voluntary National Review (2020), 49.

[92] See Republic of Moldova, Voluntary National Review Progress Report (2020), 156.

[93] See Zimbabwe, Second Voluntary National Review (2021), 126.

[94] See ibid.

[95] Ibid. at 129.

[96] Nepal, National Review of Sustainable Development Goals (2020), 78.

[97] Russian Federation, Voluntary National Review of the Progress Made in the Implementation of the 2030 Agenda for Sustainable Development (2020), 27–29.

Federation adopted a series of additional measures intended to supplement its plans in areas of emerging need and concern.[98] Included in these new measures were increased wages for those working in the healthcare sector and exposed to Covid-19, new equipment and facilities for the provision of Covid-related and non-Covid-related medical services, financial and wage protections for SMEs and increased unemployment payment amounts, as well as additional payments to unemployed parents and the provision of online education and training services for those who were rendered unemployed.[99] Other measures have included the reduction of certain contract barriers in the public procurement system.[100]

In the economic sector, the Azeri government has committed to providing assistance to up to 300,000 entrepreneurs impacted by the effects of Covid-19, along with wage assistance to employers in order to ensure that their employees remain employed, the reduction or tolling of tax obligations and filing dates for businesses, and subsidized loans for a number of businesses.[101] Additionally, the government created specific assistance measures for all aspects of the transportation sector, which was and continues to be heavily restricted by pandemic response measures.[102] To spur employment and efforts to undertake infrastructural development, the Azeri government added nearly 100,000 public jobs at the national level.[103]

At the social and economic levels, the pandemic has caused severe stresses to efforts at addressing existing inequalities in the Gambia, preventing new inequalities, and creating effective educational systems.[104] Particular stresses were noted for vulnerable sectors including women, children, the disabled and the elderly.[105]

In the economics sector, the Lao government has established three areas of concentration for policy development, "(i) ensure macro-fiscal stability; (ii) promote inclusive and sustainable growth by expanding

[98] See ibid. at 30.

[99] See ibid. at 30–31.

[100] Ibid. at 31.

[101] Republic of Azerbaijan, Third Voluntary National Review (2021), 47.

[102] Ibid.

[103] Ibid. at 52.

[104] The Gambia, Voluntary National Review (2020), 3.

[105] Ibid.

productive employment (including attracting more private investment in non-resource sectors) and supporting a sustainable resource sector development."[106] In the labour sphere, the Lao government has established the role of recovery measures in generating new incentives for education and reskilling.[107] At the public level, the State has committed to generating a system for national social protection in the wake of the pandemic and also to create a tighter set of laws and rules for worker rights and protections.[108] Post-pandemic recovery measures have been tied to the promotion and deepening of the green economy, including energy sector transitions, disaster and climate risk management that addresses environmental, economic and social concerns and assisting rural communities in protecting ecosystems.[109]

By 2020, Sierra Leone was on the path to implementing a concerted national strategy for economic growth and development however this has been reworked to function as a part of the national efforts to combat Covid-19.[110] Implementation of development and Covid-19 responses in Sierra Leone are set upon five pillars, "a) supply of essential commodities; b) maintenance of local food production; c) continued operations of critical small and medium enterprise; d) prioritising vulnerable populations through social protection; and e) having critical public works sustained to engage especially the youth. Alongside these pillars was a technical group undertaking macro-fiscal recalibrations to inform efforts at maintain macroeconomic stability in the context of COVID financing, while there was also a private sector wide stakeholder engagement."[111]

In terms of governance mechanisms, the monarchy of Bhutan has established a National Covid-19 Taskforce to serve as the coordinating body for all aspects of the necessary responses to the pandemic across sectors.[112] Under monarchical supervision, Bhutan has provided income

[106] Lao People's Democratic Republic, Voluntary National Review on the implementation of the 2030 Agenda for Sustainable Development (2021), 71.

[107] Ibid.

[108] Ibid. at 71–72.

[109] Ibid. at 72.

[110] Sierra Leone, 2021 VNR Report on SDGs in Sierra Leone (2021), 71–72.

[111] Ibid. at 74.

[112] Bhutan, Bhutan's Second Voluntary National Review Report on the Implementation of the 2030 Agenda for Sustainable Development (2021), 8.

assistance and loan repayment subsidies for citizens of the State, including provisions for families with children to receive additional support.[113]

Albania has adopted a series of pandemic response laws aimed at creating stability in the economy and providing social protections.[114] Apart from increases in funding and allocations for the healthcare sector, these laws have introduced a number of social assistance measures as well as protections for SMEs and their employees as well as those who have been made unemployed by the pandemic.[115] It has enacted a series of tax payment deferrals and forgiveness mechanisms with a focus on SMEs.[116] Increased payments for those working in the healthcare field have been consistently authorized and re-authorized throughout the duration of the pandemic.[117]

Algeria has implemented shifts in tax and customs duties for at least a year to provide businesses with additional revenues during the brunt of the pandemic and so as to ensure that necessary goods can be imported and made affordable in the marketplace.[118] It adopted an economic revival plan for 2020–2024 to address pandemic economic stresses and attract new sources of foreign investment to hard-hit sectors such as agriculture.[119]

In Andorra, a system has been implemented for providing those who are unemployed and underemployed with supplemental wages and payments.[120] The telecommunications sector has been highlighted for

[113] Ibid.

[114] International Monetary Fund, Policy Responses to Covid-19: Albania (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[115] Ibid.

[116] Ibid.

[117] Ibid.

[118] International Monetary Fund, Policy Responses to Covid-19: Algeria (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[119] Ibid.

[120] International Monetary Fund, Policy Responses to Covid-19: Andorra (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

significant governmental assistance at the industrial level and at the consumer level so as to ensure continued access and connectivity.[121]

In Argentina, Covid-19 related response and recovery measures have focused on the healthcare sector, heavily impacted aspects of the economy overall, SMEs and ensuring social and economic protections to the most vulnerable and marginalized populations.[122] To spur business stabilization and potential growth, these measures include credit guarantees for businesses across the spectrum of size and function.[123] Similar provisions have been adopted in the Armenian context.[124]

From the outset of the Covid-19 pandemic, Australia has maintained a highly restrictive system of lockdowns and movement restrictions in order to combat the spread of the virus.[125] As part of the policy responses to the pandemic, the Australian government adopted significant efforts to shore up the social and economic situations of the most vulnerable and marginalized members of society.[126] Australia has created a new system to assist those who are unemployed or underemployed in finding jobs and adopted the JobKeeper programme for wage subsidies to help bolster continued employment.[127]

The financial responses adopted by Austria to combat the impacts of the pandemic and ensure a durable recovery have been regarded as some of the most robust in the context of European responses.[128] These measures provide consumers and business sectors with tax deferral

[121] Ibid.

[122] International Monetary Fund, Policy Responses to Covid-19: Argentina (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[123] Ibid.

[124] See International Monetary Fund, Policy Responses to Covid-19: Armenia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[125] International Monetary Fund, Policy Responses to Covid-19: Australia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[126] Ibid.

[127] Ibid.

[128] See International Monetary Fund, Policy Responses to Covid-19: Austria (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

options that meet an immediate need,[129] although, as discussed below, they have the potential to cause durable issues in the ways that the government can move forward with assistance programmes and respond to future disasters or upheavals in the market. Wage subsidies to ensure the continued viability of employment have been adopted alongside more expansive provisions for the scope of those qualifying for unemployment and the benefits they receive.[130] Looking forward, the Austrian pandemic recovery measures also seek to encourage climate mainstreaming in the economy, increase digitalization, innovation and research capacities and infrastructural development.[131]

Bahrain has adopted significant wage subsidies and unemployment support for those in the private sector who have been impacted by Covid-19 and associated public health-based responses.[132] Given the role SMEs play in the economic stability of the State, provisions to protect their viability and to ensure that they will continue to be promoted into the future have been included from the early days of pandemic response planning onwards.[133]

Bangladesh has responded to the pandemic by acting to ensure additional support for the most vulnerable and marginalized populations, including the significant number of people engaged in the informal economy and without wage or similar protections.[134] Pandemic response policies have also provided assistance for those who are homeless or threatened with homelessness as well as those who have lost their jobs from March 2020 onwards.[135] Additionally, several stimulus packages have been used to provide funds for those most in need in Bangladesh and

[129] See ibid.

[130] See ibid.

[131] See ibid.

[132] International Monetary Fund, Policy Responses to Covid-19: Bahrain (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[133] International Monetary Fund, Policy Responses to Covid-19: Bahamas (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[134] See International Monetary Fund, Policy Responses to Covid-19: Bangladesh (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[135] See ibid.

to promote spending for further economic stability.[136] Due to the uncertain duration and extent of the pandemic, the Government of Bangladesh has decided to reallocate funds for projects deemed low priority and place it in a dedicated account that will be available for unforeseen or continuing expenses.[137]

In addition, Barbados has adopted pandemic response and recovery measures that are aimed at upgrading the existing healthcare infrastructure as well as purchasing necessary supplies to test for and treat Covid-19.[138] To assist in the financing of these and other expenditure programmes, the government of Barbados has begun to issue new forms of bonds and debt instruments.[139]

Belgium has also provided, and continues to provide, assistance for businesses and sectors effected by the pandemic and associated restrictions, notably the use of tax payment deferrals and wage subsidies.[140] Additionally, Belgium provides an example of how a State with very strong sub-national entities has provided funding to these entities with the understanding that they will, in turn, be in a better position to generate and implement recovery policies that are responsive to the needs of their respective populations.[141]

The Bhutanese pandemic response measures have been combined with the existing Build Bhutan Initiative, through which the State seeks to fund and develop increases in infrastructural and employment capacities.[142] A key element of the Initiative is the construction industry, which holds the potential for at least short-term job creation as well as the potential

[136] See ibid.

[137] See ibid.

[138] International Monetary Fund, Policy Responses to Covid-19: Barbados (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[139] See ibid.

[140] International Monetary Fund, Policy Responses to Covid-19: Belgium (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[141] Ibid.

[142] International Monetary Fund, Policy Responses to Covid-19: Bhutan (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

for transitions to more sustainable, environmentally friendly materials and practices.[143]

Bolivia's response to the pandemic includes payments to families with children who are required to remain at home while either public or private schools remain closed in response to Covid-19.[144] Families have also had assistance with payments for and rates of assessment related to essential utilities such as water, electricity and gas.[145] At the corporate and SME levels, Bolivia had adopted policies sustaining tax freezes and deferments, as well as expanding the range of potentially deductible costs.[146] At the individual level, Bolivia has extended unemployment protections to all who are unemployed, even in instances where this status occurred before the onset of the pandemic.[147]

In Botswana, the national government has recognized the threat posed by the potential lack of access to essential supplies as a result of pandemic-related pressures on the market and has allocated State resources to purchasing additional fuel, grain and medical supplies to keep in the national reserves.[148] Funding was also provided for infrastructural development in the national water sanitation and storage capacity.[149]

The Brazilian response to Covid-19 at a political and public health level has been, and remains, quite controversial. Despite the public policy debates regarding the nature of and threat posed by the pandemic, the Brazilian government has responded with a series of measures to assist at the social and economic levels.[150] By issuing a proclamation of "public calamity" early in the history of the pandemic, the Brazilian legislature

[143] Ibid.

[144] See International Monetary Fund, Policy Responses to Covid-19: Bolivia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[145] Ibid.

[146] Ibid.

[147] Ibid.

[148] International Monetary Fund, Policy Responses to Covid-19: Botswana (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[149] Ibid.

[150] International Monetary Fund, Policy Responses to Covid-19: Brazil (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

allowed the shifting of massive quantities of funding to areas of greatest need and also removed certain restrictions on governmental spending and debt incursion *per se*.[151]

Bulgaria has responded to the pressures of the pandemic by adopting a number of measures to assist families and vulnerable populations.[152] For example, families including children with disabilities are now receiving increased governmental support payments, and the VAT rates on all aspects of food stuffs have been decreased.[153] At the sectoral level, tourism and agriculture have been designated as major targets for assistance.[154]

In Cambodia, initial funding to address the pandemic involved efforts to increase healthcare capacities and infrastructures.[155] Following this, there have been legal and administrative actions to provide for food subsidies and access as well as direct payments to those classified as poor or vulnerable.[156] Unemployment assistance measures include not only the payment of basic amounts per month for qualifying recipients but also provision of access to education and reskilling programmes.[157]

Cameroon has chosen to employ a series of tax relief measures for businesses that have been severely impacted by the pandemic, including the tourism and hospitality sectors.[158] The State has adopted the practice of subsidizing wages and social security programme payments where employers are unable to afford to pay full rates.[159] Social protection

[151] See ibid.

[152] International Monetary Fund, Policy Responses to Covid-19: Bulgaria (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[153] Ibid.

[154] Ibid.

[155] International Monetary Fund, Policy Responses to Covid-19: Cambodia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[156] Ibid.

[157] Ibid.

[158] Ibid.

[159] International Monetary Fund, Policy Responses to Covid-19: Cameroon (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

measures in Chad have focused on freezing the rates of essential utilities and ensuring that there is a sufficient national stockpile of food in the event of market access issues.[160] Chile's pandemic response and recovery measures have focused on assisting poor and vulnerable members of society as well as the middle class since there is concern that the stresses of the pandemic could cause this group to become increasingly disadvantaged.[161]

From the beginning of the pandemic onwards, the People's Republic of China has been at the forefront of developing responsive policies for public health, economic policy and social protections.[162] The State has increased the available assistance to those who are or become unemployed during the pandemic and enacted policies to provide wage subsidies in order to prevent unemployment to the extent possible.[163] In the Hong Kong Special Administrative Region, significant unemployment benefit systems were deployed in the pandemic context and have been renewed throughout the course of the variants and lockdowns which followed.[164] The HKSAR has adopted measures to promote temporary job creation and restricted payments to residents along with vouchers for the use of digital technologies and access to digital infrastructures.[165] Similar provisions have been adopted in the Macao Special Administrative Region, which has gone further by providing residents with vouchers to use hotels and hospitality venues as a means of stimulus in the tourism sector.[166]

[160] International Monetary Fund, Policy Responses to Covid-19: Chad (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[161] Ibid.

[162] International Monetary Fund, Policy Responses to Covid-19: People's Republic of China (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[163] Ibid.

[164] International Monetary Fund, Policy Responses to Covid-19: People's Republic of China, HKSAR (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[165] Ibid.

[166] International Monetary Fund, Policy Responses to Covid-19: People's Republic of China. SKAR (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

Further, the SKAR has created a system for enhanced education and skills training programmes.[167]

In Colombia, a National Emergency Mitigation Fund was established to coordinate the financial and economic responses of the State.[168] The Fund has authorized spending across a number of sectors, perhaps unsurprisingly with the healthcare sector at the top of these allocations.[169] In addition, the Fund has prioritized tourism, transportation, technological development and coffee growing industries for assistance.[170]

Subsidization of industries facing financial stresses due to the pandemic is at the core of the Croatian economic response to Covid-19.[171] At the same time, the Croatian government has purchased excess stocks of vital goods, including medical supplies and food stuffs, from national businesses in an effort to bolster their continued viability and ensure access to these supplies in the event of future needs.[172] The government has taken steps to ensure continued employment by reducing working hours in struggling industries and promoting the use of temporary workers to fill voids in short-term staffing needs.[173]

In Cyprus, wage subsidies have been adopted as a tool to fight pandemic-related unemployment along with new monthly stipends for families with children and for those with existing health issues.[174] Estonia's plans for pandemic response and recovery have included increases in assistance to businesses across multiple sectors at the national level as

[167] Ibid.

[168] International Monetary Fund, Policy Responses to Covid-19: Colombia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[169] Ibid.

[170] Ibid.

[171] International Monetary Fund, Policy Responses to Covid-19: Croatia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[172] Ibid.

[173] Ibid.

[174] International Monetary Fund, Policy Responses to Covid-19: Cyprus (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

well as within certain designated sub-national regions.[175] Many of the pandemic response and recovery measures adopted by the Republic of Georgia are centred on the banking and financial sectors, including efforts to ensure the stability of lending activities and the liquidity of banks themselves during the time of national crisis.[176] In Guyana, initial pandemic response measures related to tolling or otherwise restricting the applicability of VAT and related tax systems to multiple sectors of the economy as well as individuals.[177] The agriculture sector in Guyana has been receiving stimulus and other funding since the beginning of the pandemic.[178]

Ireland has adopted pandemic response measures providing assistance to those who have become unemployed during the pandemic and allocating approximately 200 million Euros to revamping and supplementing additional educational, skills and vocational training programmes.[179] Substantial funds have also been allocated for assistance to SMEs including grants under the Restart Grant for Enterprises programme and loans through a series of low-cost options.[180]

Jamaica has included payments to both individuals and businesses effected by the pandemic as essential elements of its recovery plans.[181] In the Kyrgyz response to the pandemic there is a concerted effort to ensure

[175] See International Monetary Fund, Policy Responses to Covid-19: Estonia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[176] International Monetary Fund, Policy Responses to Covid-19: Georgia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[177] International Monetary Fund, Policy Responses to Covid-19: Guyana (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[178] Ibid.

[179] International Monetary Fund, Policy Responses to Covid-19: Ireland (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[180] Ibid.

[181] International Monetary Fund, Policy Responses to Covid-19: Jamaica (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

the adoption of laws and rules that promote the short- and long-term viability of SMEs as essential elements of the national economy.[182]

Jordan has tailored its social responses to Covid-19 in order to ensure that highly vulnerable populations, notably those with existing medical issues, the elderly and new mothers, will receive financial assistance.[183] Included in the Korean pandemic responses are policies promoting the development and use of new, green technologies as well as digitalization innovation.[184]

Lithuania added a set of provisions regarding the inclusion of climate change investment and promotion elements as part of the overall recovery provisions at the national level.[185] These provisions also include measures to give financial support to the tourism and agriculture sectors based on the severe nature of losses they have suffered in the pandemic.[186] In Mauritius, the State has adopted a number of pandemic recovery measures, including a specialized assistance fund dedicated for use to support workers and laid off workers in the tourism sector.[187] The government has also created the National Environment and Climate Change Fund with the requirement that it works to promote environmental protection, green growth and transitions to the green economy.[188] In Mongolia, Covid-19 response measures have been aimed at addressing multiple forms of threats to the vulnerable and marginalized members of

[182] International Monetary Fund, Policy Responses to Covid-19: Kyrgyz Republic (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[183] International Monetary Fund, Policy Responses to Covid-19: Jordan (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[184] See International Monetary Fund, Policy Responses to Covid-19: Republic of Korea (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[185] International Monetary Fund, Policy Responses to Covid-19: Lithuania (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[186] Ibid.

[187] International Monetary Fund, Policy Responses to Covid-19: Mauritius (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[188] Ibid.

society, including women, children, the elderly and the disabled, especially in terms of tenuous access to adequate food and basic supplies.[189]

New Zealand's Covid-19 Response and Recovery Fund was created as a dedicated source of funding for recurrent pandemic issues and shifting patterns in Covid-19 infections.[190] Separately, the government has generated multiple additional forms of response methods based on sector and constituency concerns including those linked to tourism and hospitality.[191] Norway, a major international development and disaster assistance funder, has adopted pandemic responses which place an emphasis on including green transitions across the national and international levels.[192]

In the Philippines, the government has undertaken a series of cash payments to multiple constituencies identified as vulnerable and marginalized, including those who are classified as daily workers—and often are part of the informal economy—as well as those meeting established income level thresholds.[193] Poland has seen the adoption of multiple phases of laws and rules seeking to provide an expanding social safety net for workers as well as to provide assistance to SMEs.[194]

As will be a common theme throughout this chapter, pandemic responsive transitions have been intense and less than fully coordinated across nations as well as at the international levels. This unevenness in application is particularly prevalent in responses from the finance and economics sector and even seemingly equitable responses should be examined critically to address the ways in which they will impact future capacities.

[189] See International Monetary Fund, Policy Responses to Covid-19: Mongolia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[190] International Monetary Fund, Policy Responses to Covid-19: New Zealand (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[191] Ibid.

[192] See International Monetary Fund, Policy Responses to Covid-19: Norway (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[193] International Monetary Fund, Policy Responses to Covid-19: Philippines (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[194] International Monetary Fund, Policy Responses to Covid-19: Poland (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

Chapter 5 expands on these questions further, however it should be noted that examples of such measures include tax deferrals and incentives, changes to planned economies where these systems are used—for example, the Lao People's Democratic Republic—and the many forms of additional payments to families, parents educating their children at home during lockdowns and those with vulnerabilities. Extended unemployment payments and wage subsidies to employers who have retained workers but are struggling to do so are also methods which were necessary in the short term yet have the ability to generate financial difficulties for States and those who most rely on them in the future.

For the purposes of this chapter, it should be noted that these types of policy responses incorporate many tenets of just transitions into State responses to the pandemic in the financial and economic sectors. Further examples of financial and economic sector transitions that can be seen as advancing just transitions include funding to sub-State entities to address locality specific issues, provision of job training and job search assistance, expanded incorporation of the vital role played by small- and medium-sized enterprises in national economies and the associated need to provide them with specialized assistance, and the inclusion of green growth, green financing and green energy as part of multiple BBB and general post-pandemic recovery plans.

On the other hand, some aspects of the pandemic response transitions in the finance and economic sector hinder the incorporation of just transitions as a core element of the legal, regulatory and policy choices made. Key examples of this include the inability of States to counteract—and, in some circumstances, the culpability of States in generating—severe supply chain issues that cause market shortages and price increases, restriction on the import and export of certain goods when those measures are left in place longer than necessary or are motivated by xenophobia rather than science, and impacts of lockdowns, travel restrictions and supply chain issues on multiple industries, most notably the garment, transportation, construction and manufacturing industries. These economic responses have been and continue to be responsible for unemployment, inaccessibility of vital goods, food security stresses and food poverty and instability for SMEs despite governmental assistance.

5 Agriculture and Food Sector Transitions

The impacts of Covid-19 on agriculture and food security at a global level became apparently quite quickly after the WHO's official declaration in March 2020.[195] While the immediate effects were arguably felt most heavily by the corporatized agri-food operators and national oversight mechanisms for food security, they were felt by all levels of the agricultural sector in rapid succession.[196] Stresses on food stocks have emerged at the supply and demand ends of the scale, as lockdowns, restrictions on travelling for migrant workers during harvesting times, closure of markets and workers becoming ill due to the pandemic have and continue to cause pressures to supply and hoarding of essential food stuffs by individuals, sub-national governments and national governments resulted in mass increases in demand.[197] Added to these pressures were impacts of closures in the hospitality and tourism sectors, which are literally and figuratively fed by the agricultural sector.[198] Taken together, these impacts have been felt at the core of the agricultural sector and resulted in such devastating situations as starvation due to lack of food in States where

[195] Endashaw Workie, Joby Mackolil, Joan Nyika, and Sendhil Ramadas, 'Deciphering the Impact of COVID-19 Pandemic on Food Security, Agriculture, and Livelihoods: A Review of the Evidence from Developing Countries', *Current Research in Environmental Sustainability* 2 (2020).

[196] See ibid.

[197] See ibid.; Ashok Mishra, Ellen Bruno, and David Zilberman, 'Compound Natural and Human Disasters: Managing Drought and COVID-19 to Sustain Global Agriculture and Food Sectors', *Science of the Total Environment* 754 (2021). For an intensive discussion of migration issues in food security during the pandemic, see Karla Kotulovski and Sandra Laleta, 'The Abuse and Exploitation of Foreign Seasonal Workers: Did the Coronavirus Emergency Worsen Already Precarious Working Conditions in the Agricultural Sector?' (2021); Jessica L. Guarino, Bradley R. Windings, and A. Bryan Endres, 'Beyond Victory Gardens: Bolstering Resilience in Food Crisis Response', *Wake Forest Journal of Law & Policy* 11 (2021), 515; Rohit Sharma, Anjali Shishodia, Sachin Kamble, Angappa Gunasekaran, and Amine Belhadi, 'Agriculture Supply Chain Risks and COVID-19: Mitigation Strategies and Implications for the Practitioners', *International Journal of Logistics Research and Applications* 1 (2020).

[198] See Evagelos D. Lioutas and Chrysanthi Charatsari, 'Enhancing the Ability of Agriculture to Cope with Major Crises or Disasters: What the Experience of COVID-19 Teaches Us', *Agricultural Systems* 187 (2021); Mishra et al., *supra* note 197; Workie et al., *supra* note 195.

farmers were unable to harvest their crops due to the shortage of workers and instead saw them perish in the field.[199]

At the State level, there have been efforts to provide farmers and consumers with assistance and protections in the form of subsidies and other measures to provide financial stability.[200] These have often been combined with governmental efforts to ensure that crops and livestock are transported to market or purchased directly so that national food supplies could be secured.[201] However, the ability of States to engage in such activities was and remains closely correlated to national development status, with the result being that developing and least developed States have been unable to provide such protections to the agricultural sector and citizen base.[202] Thus, pandemic impacts in the agricultural sector have further exacerbated existing issues in food security across the full spectrum of States although these impacts are hardest felt in States that have the least means available to mitigate them.[203]

In terms of labour issues, it should be noted that recent efforts to analyse the long-term feasibility of agriculture activities without migrant worker populations has indicated that this would be very difficult and not conducive to achieving necessary productivity levels.[204]

Food security is a concern reflected in Ecuador's pandemic recovery plans and this has resulted in the direct distribution of food baskets containing essential staples.[205] Similar focus on food security and food access can be found in the responses enacted by Eswatini[206] and

[199] See Lioutas and Charatsari, *supra* note 197; Workie et al., *supra* note 195; Guarino, *supra* note 197.

[200] Lioutas and Charatsari, *supra* note 197.

[201] Ibid.

[202] Workie et al., *supra* note 195; Sharma et al., *supra* note 197.

[203] Workie et al., *supra* note 195.

[204] See European Commission, JRC Technical Report: Meeting Labour Demand in Agriculture in Times of COVID 19 Pandemic (2020).

[205] International Monetary Fund, Policy Responses to Covid-19: Ecuador (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[206] International Monetary Fund, Policy Responses to Covid-19: Eswatini (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

Ethiopia.[207] Indeed, the Covid-19 pandemic began at a time when Ethiopia was facing a severe crop failure due to an infestation of locusts and this issue continues to haunt the State at the time of writing.[208] Ethiopia's plans have also sought to ensure that social and economic support is provided to those in urban and rural areas equally, albeit taking into account the ways in which the needs of such communities will differ.[209] The Gambia has provided food supplies to those qualifying as part of its social functions under pandemic response and recovery measures to promote food security.[210] It has used these measures to further strengthen assistance to farmers through the provision of valuable supplies such as fertilizers in addition to funding.[211] Incorporation of fertilizer and other tools for agricultural cultivation has been used in the pandemic responsive policies and laws adopted in India, as has the distribution of food and related necessities to those qualifying for assistance.[212]

The Nepalese VNR emphasizes the severe and ongoing threats to all aspects of law and society due to Covid-19 induced instabilities in food security, nutritional sufficiency and food poverty among children.[213] To ensure the continued food security and health status of the elderly and the disabled, the Azeri government authorized at-home provision of certain medical services as well as the delivery of food and essential supplies.[214]

Dominica has recognized the pressures faced by small-scale farmers due to the pandemic and thus included cash payments to this portion of the

[207] International Monetary Fund, Policy Responses to Covid-19: Ethiopia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[208] Ibid.

[209] Ibid.

[210] International Monetary Fund, Policy Responses to Covid-19: The Gambia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[211] Ibid.

[212] International Monetary Fund, Policy Responses to Covid-19: India (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[213] Nepal VNR, *supra* note 96 at 76.

[214] Azerbaijan VNR, *supra* note 101 at 52.

agricultural sector within its recovery plans.[215] Other common themes in pandemic responses and recovery plans throughout the Caribbean include the provision of food subsidies to combat food security risks, payments to poor and vulnerable populations, and assistance to the agriculture sector.[216]

Fiji has developed plans regarding agricultural practices within the scope of its pandemic responses.[217] In the Agricultural Response Package, there is an emphasis on the need to provide support to the agriculture sector as such in addition to the promotion of small-scale and at-home agricultural practices including personal gardening.[218] As a subset of agricultural concerns, the Package extends specialized benefits and funding availabilities for the sugar growing industry.[219]

Lesotho has adopted multiple efforts to ensure food security as part of the pandemic response and recovery systems used, including expansion of food stamp programmes, delivery of food packages to those in need of them, and cash payments to those in need of further assistance to purchase food and basic necessities.[220] The focus of Namibia's pandemic recovery efforts is split between efforts to provide a safety net for the most

[215] International Monetary Fund, Policy Responses to Covid-19: Dominica (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[216] See International Monetary Fund, Policy Responses to Covid-19: Monserrat (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022; International Monetary Fund, Policy Responses to Covid-19: St. Kitts & Nevis (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022; International Monetary Fund, Policy Responses to Covid-19: St. Vincent & the Grenadines (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[217] International Monetary Fund, Policy Responses to Covid-19: Fiji (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[218] Ibid.

[219] Ibid.

[220] International Monetary Fund, Policy Responses to Covid-19: Lesotho (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

vulnerable populations and funding to assist the agricultural and business sectors across all sizes and operations.[221]

Food security for residents is at the core of Rwanda's pandemic responses and, as a result, the State has adopted efforts to ensure frequent deliveries of food packages to those in need of assistance as well as payments to farmers meant to facilitate continued agricultural production.[222] In Singapore, the pandemic responses involve mechanisms to provide funding and support to sectors including tourism, agriculture, transportation and construction.[223] The Solomon Islands' response to pandemic stresses includes protections for specific agricultural issues as well as extractives and infrastructural sector development.[224] The Republic of South Africa has adopted measures to address food security at the level of the individual in terms of supply access and the agricultural sector in terms of subsidies and technical support.[225]

Pandemic responsiveness in agricultural sector transitions has shed light on the truly critical place agriculture plays in all States and societies. The impacts of measures determined to be necessary for preserving public health during the public, such as movement restrictions, migrant worker prohibitions and market closures, have had the result of causing devastation in the agriculture sector. As a result, incidences of food insecurity and food poverty have drastically increased throughout States at all points on the development sector and many States have been compelled to respond through additional assistance in the form of food deliveries or stipends to those threatened by hunger. At the same time, inabilities to harvest or plant crops have caused lasting damage to agricultural operations across the globe, causing concern over the potential for future food insecurity.

[221] International Monetary Fund, Policy Responses to Covid-19: Namibia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[222] International Monetary Fund, Policy Responses to Covid-19: Rwanda (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[223] International Monetary Fund, Policy Responses to Covid-19: Singapore (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[224] International Monetary Fund, Policy Responses to Covid-19: Solomon Islands (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[225] International Monetary Fund, Policy Responses to Covid-19: Republic of South Africa (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

6 Tourism Sector Transitions

The fact of dramatic impacts on the tourism sector resulting from the Covid-19 pandemic and associated international, national and sub-nation responses does not come as a surprise given the wide-ranging extent of these measures and their long-term duration.[226] In some ways, tourism impacts represent a source of levelling across States in that nearly all nations derive revenues from the sector and all have had to impose restrictions on travel that have hindered it.[227] At the same time, the ways in which individuals view local, national and international travel has been dramatically impacted by Covid-19 as well and is projected to remain an issue long after travel restrictions are lifted and the pandemic fades. It has become evident that there are phases in the impacts of the pandemic on tourism that reflect the larger phases of the pandemic per se, and even when restrictions have eased, incidents of new variant appearance such as the Omicron variant in November 2021 rapidly triggered new responsive measures that effectively shut down travel in some areas.[228]

Covid-19 vaccines have become the source of hope and also contest within and between States. From the outset, there was concerted pressure from the international community for pharmaceutical companies to develop an effective vaccine and this resulted in the authorization of several vaccine forms in major regulatory systems such as the US and the EU in less than a year.[229] Some States, notably Russia and China, developed vaccines earlier than this, although they have not been adopted on the global level to the same extent as the Pfizer, Moderna and AstraZeneca options that are widely regarded as forming the gold standard across the globe.[230] Soon after these vaccines were approved for use across the US, EU and beyond, questions of equity in vaccine access began to emerge and continue to haunt responses to the pandemic.[231] Vaccine equity issues can be seen in many aspects of tourism sector responses, from decisions to allow vaccinated and/or unvaccinated

[226] United Nations Conference on Trade and Development, Covid-19 and Tourism: An Update (2021).

[227] Ibid.

[228] Ibid.

[229] Ibid.

[230] Ibid.

[231] Ibid.

tourists to travel to destinations to acceptable forms of vaccines for travelling purposes to requirements regarding booster vaccines to vaccination access and priority for those in the tourism sector.[232]

Mask and testing requirements have also impacted the tourism sector in many ways throughout the course of the pandemic. The use of mask mandates has been highly controversial in many countries and at subnational levels, often leading to uncertainty and inconsistency in the application of laws and rules. This has caused concern in the tourism sector in terms of travellers who are uncertain whether to expect compliance with mask requirements at their chosen destination as well as those who bristle at the mask requirements, this causing enforcement issues at the local level as well. Testing requirements prior to travelling as well as upon arrival are a constantly evolving area of practice that has introduced further uncertainty into the tourism sector. Combined with periodic and widespread limitations in test availabilities and changing guidance as to the types of tests required to travel and return home, the testing element of pandemic-related tourism effects has brought a great deal of confusion to the sector and those working as part of it.[233]

Despite the nearly uniform global ramifications of the pandemic on the tourism sector, some States have been impacted far more profoundly than others.[234] This is particularly true in the context of developing States that have a majority of their GDP derived from the tourism and hospitality sectors, notably the Small Island Developing States (SIDS).[235] Beyond the immediate impacts of lost tourism revenue and concomitant jobs impacts, developing States in particular have been faced with fundamental questions regarding the ability of their healthcare systems to support the potential for Covid-19 cases being introduced as a result of travel. This potential burden could be quite high and has caused difficult decisions to be made in efforts to balance public health concerns with economic stability.[236] Further, it is important to note that limitations on

[232] See ibid. For a discussion of tourism sector employee perspectives on Covid-19 safety and response measures adopted at the corporate level, see Marija Sain, 'Corporate Social Responsibility in Times of Crisis: COVID-19', *EU and Comparative Law Issues and Challenges Series* 5 (2021), 706.

[233] See UNCTAD, *supra* note 226.

[234] Ibid.

[235] Ibid.

[236] Ibid.

vaccine access in many developing States have caused additional concerns regarding the potential for exposure risks.[237] This has also been argued to perpetuate the inequalities seen through vaccine equity failures since many locations continue to see a reduced rate of tourists because of fears caused by low vaccination rates.[238]

At an international level, the tourism sector comprised approximately 10% of the global economy in 2019, representing over $9 trillion USD.[239] This was more than three times the amount of the global agricultural sector.[240] In a matter of few months, these figures fell dramatically and projections are that it will be several years at the very least until the industry rebounds to the 2019 levels.[241] In total, estimates regarding the pandemic-related impacts on tourism sector employment indicate that at least 120 million employees are vulnerable to job loss.[242] Throughout the pandemic, estimates indicate that more than 1 million tourism sector jobs have been lost per day during the most intense periods of illness, spread of the illness and national responses to these factors.[243] Additionally, the impacts on SMEs across the world are anticipated to be severe and carry with them lasting effects for economies, communities and individuals.[244] At the same time, the pandemic has triggered a number of concerns regarding the volatility of the tourism sector to the point where it is creating hindrances to investments in the sector.[245]

Given these impacts and the ways in which they have caused current and future projected uncertainties in the market and planning processes moving forward, the World Tourism Organisation and UNEP have stressed the need for sustainable tourism to be included in plans for BBB

[237] Ibid.

[238] Ibid.

[239] Margaux MacDonald, Roberto Piazza, and Galen Sher, *A Simple Guide to Estimating the Impact of COVID-19 on Travel and Hospitality Activities* (IMF, 2020); IMF, *Greening the Recovery* (IMF, 2020); OECD, Tourism Policy Responses to the Coronavirus (COVID-19) (2020); Noga Collins-Kreiner and Yael Ram, 'National Tourism Strategies During the Covid-19 Pandemic', *Annals of Tourism Research* 89 (2021).

[240] Ibid.

[241] Ibid.

[242] Ibid.

[243] See Collins-Kreiner and Ram, *supra* note 239.

[244] Ibid.

[245] See ibid.

and post-pandemic recovery across States at all levels of development.[246] This includes the incorporation of biological diversity preservation, environmental protection, climate change responsiveness and future generations effects as part of these measures.[247] The connections between health and hygiene policies and tourism have been and continue to be stressed as part of an integrated response to a holistic pandemic recovery.[248] Inclusion of vulnerable and marginalized groups as part of post-pandemic planning and recovery has been deemed essential as a general principle and particularly in the context of tourism.[249] Within the tourism sector's industrial governance bodies there is a stress on the need for a new, sustainable and environmentally focused strategy for tourism in the pandemic and post-pandemic worlds.[250] This was most recently reaffirmed in the 2021 Glasgow Declaration: A Commitment to a Decade of Tourism Climate Action, a combination of commitments from States, international organizations, private actors within the tourism sector and non-governmental organizations.[251]

Covid-19 related effects and recovery measures in Aruba have been focused in many ways on the tourism sector, reflecting the role of tourism within the economy as a whole.[252] Concerns over the tourism sector within States where that is a main staple of economic recovery have caused these types of pandemic response measures to become a standard element of national planning. In the Bahamas, assistance to the tourism sector specifically should also be viewed as working in tandem with additional provisions to support relating to those who have been

[246] Ibid.; UN World Tourism Organisation, One planet vision, https://www.unwto.org/covid-19-oneplanet-responsible-recovery-initiatives, accessed 10 February 2022; UN World Tourism Organisation, Principles for Global Tourism Recovery, https://www.unwto.org/news/unwto-launches-global-guidelines-to-restart-tourism, accessed 10 February 2022.

[247] One planet vision, *supra* note 246; Principles for Global Tourism Recovery, *supra* note 246.

[248] Ibid.

[249] Ibid.

[250] See 2021 Glasgow Declaration: A Commitment to a Decade of Tourism Climate Action (2021).

[251] Ibid.

[252] International Monetary Fund, Policy Responses to Covid-19: Aruba (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

rendered unemployed or underemployed as a result of pandemic impacts on tourism.[253] Belize, which has been developing the tourism sector as a potential source of continued jobs and revenue, has undertaken measures to provide financial assistance to the sector and those employed by it as part of its pandemic recovery systems.[254] Barbados has adopted major efforts at support for and assistance to the tourism sector from its first Covid-related policies onwards.[255]

The tourism, hospitality and travel sectors in Croatia have been the subject of further governmental concern and continue to receive assistance in multiple forms given the breadth of the pandemic's effects.[256] The Czech Republic's pandemic responses have recognized the overwhelming impacts felt by the tourism sector and have acted accordingly by creating special grants for tourism and hospitality.[257] Similar grant programmes have been implemented for the agricultural sector.[258] It has also allowed stipends to be paid to those who are either self-employed or own SMEs so as to ensure continued viability of their enterprises.[259]

In the tourism sector, Grenada has made provisions for financial assistance to those who were or formerly were working in the sector, reflecting the long-term impacts of Covid-19 and associated variants on tourism at

[253] International Monetary Fund, Policy Responses to Covid-19: Bahamas (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[254] International Monetary Fund, Policy Responses to Covid-19: Belize (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[255] International Monetary Fund, Policy Responses to Covid-19: Barbados (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[256] International Monetary Fund, Policy Responses to Covid-19: Croatia (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[257] International Monetary Fund, Policy Responses to Covid-19: Czech Republic (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[258] Ibid.

[259] Ibid.

the national level and throughout the Caribbean.[260] These measures are similar to those taken by other States in the Caribbean region.[261]

Egypt has also announced funding and support for the tourism and agriculture sectors in the pandemic response and recovery phases.[262] Additionally, to address the many impacts of the pandemic on the tourism sector, several governance bodies within Guyana have come together to create the Tourism Recovery Action Committee, which will provide a cohesive entity to oversee efforts at supporting the sector through the changing phases of the pandemic.[263]

The tourism sector in Ireland has seen a similar focus for support, including multiple forms of tax deferrals, the dedicated Restart Fund for the Tourism, and the Performance Support Scheme.[264] Montenegro's pandemic recovery laws include major protections for tourism, agriculture and fisheries under the rubric of significantly impacted sectors within the State.[265]

Thailand's changes to laws and policies have allowed for additional funding to farmers throughout the country as well as assistance to the

[260] International Monetary Fund, Policy Responses to Covid-19: Grenada (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[261] See International Monetary Fund, Policy Responses to Covid-19: Monserrat (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[262] International Monetary Fund, Policy Responses to Covid-19: Egypt (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[263] International Monetary Fund, Policy Responses to Covid-19: Guyana (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[264] International Monetary Fund, Policy Responses to Covid-19: Ireland (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[265] International Monetary Fund, Policy Responses to Covid-19: Montenegro (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

tourism sector. In the latter, sources of assistance include funding mechanisms as well as the use of subsidies for tourists when tourism is allowed under the Covid-19 health related protocols.[266]

In the discussion of sectoral transitions occasioned by the pandemic, the tourism sector is arguably the sector which has required the most protective action as a result of the pandemic and State responses to it. Indeed, the tourism sector is a stark example of the ways in which transitioning from the "normal" patterns of practice by a State to an emergency requires careful balancing of public health and safety concerns with attendant impacts which will cause severe damage to many sectors and those employed by or otherwise dependent upon them. In this context, the tenets of just transitions are critical to ensuring that methods of addressing an emergency do not cause such grave harm in other sectors without the creation of systems for offsetting those impacts.

7 Governance Transitions

Governance of the Covid-19 pandemic is an extremely complex issue that has evolved—and continues to evolve—over the course of the pandemic and associated variants. Methods of providing comprehensive and cohesive governance systems within any State are difficult enough when there are multiple issues and constituencies involved.[267] The addition of the pressing economic, social and scientific pressures of Covid-19, including everything from ordering lockdowns to sealing borders to providing healthcare to addressing widespread public fears has caused Covid-19-related governance systems to feel more strain as well as the weight of public expectations.[268]

[266] International Monetary Fund, Policy Responses to Covid-19: Thailand (2022), https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B, accessed 10 February 2022.

[267] See Maria Antonia Tigre, Alexandra Harrington, Natalia Urzola, Alice Kasznar, Amy Van Der Kleyn, Antonio Pulgar, Astrid M. Bernal, Giada Giacomini, Hayley Evans, James R. May, Margherita Birri, Paola Apollaro, Sarah Slinger, Victoria Lichet, Wellington Migliari, 'Environmental Protection and Human Rights in the Pandemic', *Global Pandemic Network Journal* 1 (2022), 317.

[268] Ibid.

In many States, transcending methods of government and theories underlying them, efforts to respond to the pandemic have involved a delicate, difficult to maintain balance of law, rules and responsiveness.[269] This has included the use of declarations regarding states of emergency and similar exigency-based governmental power invocations which have, in some States, caused a backlash based on fears that the pandemic was being utilized to facilitate the implementation of subversions of democracy and human rights.[270] Similar efforts have been undertaken at the international organization level and within regional organizations, with some of the most immediate and coordinated creation of governance systems coming from the supranational European Union.[271]

The Russian Federation acted quickly to ensure that a strong and dedicated governance system was put in place for Covid-19 response.[272] Indeed, the Emergency Response Center to handle Covid-19 was established at the end of January 2020, nearly 2 months before the official WHO declaration of a pandemic.[273] This was rapidly followed by the generation of the Plan of High-Priority Measures by the Russian Federation in order to address the medical, economic and social impacts expected to occur as the result of Covid-19.[274] The foundational elements of the Plan of High-Priority Measures include ensuring access to essential goods and services, providing support to the industries regarded as being at risk, generating support for SMEs, and taking systems-wide actions to reinforce the Russian economy as a whole.[275]

The Azeri VNR described the use of a dedicated Action Plan to address the multiple governance needs associated with the Covid-19 pandemic. As explained in the VNR, the purposes of the Action plan are "not only related to anti-crisis measures, but also as a programme of economic expansion, credit expansion and stimulation of aggregate demand. Since

[269] Ibid.

[270] Ibid.

[271] See Council Regulation (EU) 2020/2094, Establishing a European Union Recovery Instrument to Support the Recovery in the Aftermath of the COVID-19 Crisis (14 December 2020).

[272] Ibid.

[273] See Russian Federation VNR, *supra* note 97 at 27.

[274] Ibid.

[275] See ibid. at 27–29.

it seeks to preserve the social balance and economic development in the post-pandemic period, the wide-ranging support package adopted by the Government also serves to ensure the continuation of activities under the SDGs."[276]

As noted in the Lao PDR's VNR, the changes in educational access and opportunity caused by the pandemic and necessary public health responses have an immediate effect on students and will have an intergenerational impact in terms of the functioning of the educational system and learning delivery.[277] Issues including gender equity in education and the ability of vulnerable and marginalized communities to participate in education are pressing in this regard since the pandemic has resulted in observable reversals of previously made accomplishments.[278]

Swedish responses to the Covid-19 pandemic have been coordinated by the National Pandemic Group convened under the auspices of the Public Health Agency of Sweden.[279] This functions as a multisectoral governance entity with high-level representation from the relevant sectors as well as involving members of civil society and other constituencies as appropriate.[280]

Overall, pandemic response transitions in the governance sector demonstrate the need for just transitions concerns to be included because of the large and, often, durable powers which governance systems created to handle the pandemic have wielded. While it is too soon to fully understand the impacts of creating such entities and establishing a dedicated hierarchy of policy portfolios will have on law and regulation beyond the pandemic, it is certain that a return to pre-pandemic hierarchies is unlikely. Within this context, it is essential that the transition to new forms of governance mechanisms and policy priorities be completed using equity and justice principles which ensure the inclusion of all impacted constituencies as soon as practicable and, at the very least, give weight to their views until that point.

[276] Azerbaijan VNR, *supra* note 102 at 47.

[277] See Lao VNR, *supra* note 106 at 43.

[278] Ibid.

[279] Sweden, Voluntary National Review: Report on the Implementation of the 2030 Agenda for Sustainable Development (2021), 63.

[280] Ibid.

8 Conclusion

The Covid-19 pandemic has fundamentally changed the world and the lives of its citizens regardless of their nationality, place of residence, identity or other status. In some ways, the pandemic has equalized our understandings of humans and humanity in international, national and local responses. However, in the context of the sectors most impacted by the pandemic, this chapter has demonstrated that pandemic response transitions have been uneven at best and at worst have resulted in crippling devastation to sectors such as tourism. In this context, it is not enough to view emergency responses as transitions. Instead, they must be viewed through the core tenets of just transitions since without this perspective there will be an advancement of inequity, inequality and injustice throughout national systems that will forever change the ways in which they function and in which international legal systems exist. Thus, just transitions must be understood as more than a carbon and extractives sector concept and more than a climate-responsive concept to be deployed across multiple sectors. Instead, it must be understood as offering a path for the global community to take in navigating pandemic responses—which are fundamentally transitions—and the future which comes after them in a way that honours the social, economic and environmental commitments of States as a matter of international law and regulation.

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CHAPTER 5

Transitional Future

1 Introduction

Thus far, this book has taken a journey through the ways in which just transitions have developed and been incorporated into law and regulatory systems at the international, national and sub-national levels. Rather than spending the bulk of the previous chapters discussing the intricacies of the first articulations of just transitions and their evolution across the US, UK and several prominent coal producing States in Europe, the book reflected a decision to examine the very modern ways in which just transitions as a concept has evolved into a major lens through which international and national law makers assess issues associated with coal as well as other pernicious areas of law and policy.

This chapter takes the journey further. After mapping the route taken by just transitions to date, and its flexibility in the face of expanding opportunities for use, the chapter then moves on to propose a future for just transitions. This future is one in which there are a number of pressing issues competing for legal and regulatory attention yet each having the ability to be analysed through and advanced by the use of the just transitions framework. These future scenarios will demonstrate the ways in which just transitions can be expanded to respond to a variety of circumstances because, at heart, it must be understood to be a philosophy of inclusion and equity in decision-making that impacts

A. R. Harrington, *Just Transitions and the Future of Law and Regulation*, Palgrave Studies in Environmental Transformation, Transition and Accountability, https://doi.org/10.1007/978-3-031-06182-0_5

multiple constituencies, with the very strong likelihood of advantaging some while disadvantaging others unless steps are taken to ensure that these disadvantages are addressed in an appropriate way, recognizing the inherent dignity of the individuals and communities impacted as well as the impacts on future generations. Using this definition, the parameters of just transitions can be seen as infinite in the construction of future law and regulation.

2 The Journey to the Present

In Chapter 2, discussions focused on the initial birth of just transitions in the 1980s as part of the US labour union movements seeking to protect coal miners and their communities from being left without livelihoods, skills or homes as mining corporations began to view these coal mines as economically no longer viable.[1] The concept of just transitions which first emerged was one which sought to provide those who would have worked for years—and, often, for generations of the same families—in coal mines that posed threats to their health and safety on a daily basis with recompense for being rendered unemployed and unequipped to seek comparable employment in other sectors.[2] This view necessarily challenged the view that freedom of contract, labour rights and educational rights as written in national and sub-national laws were sufficient to ensure their enjoyment without similar systems to enforce them. Inherent in this was a recognition of the dignity of the worker as an individual and as a source of support to his[3] family and community.[4] Thus, just transitions was not only a way of protecting the individual but also a way of protecting his family and the communities which had been created around the mines since these too were largely dependent on the mines for survival.[5] It was a rallying cry in many ways, yet one with a profoundly

[1] See Chapter 2, *supra*.

[2] Ibid.

[3] The use of masculine pronouns throughout this section is done to reflect the reality that the vast majority of coal miners in the US, and around the world, have historically been and continue to be male.

[4] See Chapter 2, *supra*.

[5] Ibid.

humanistic and human rights based theory that has the fundamental rights of individuals and society as a whole.

The plight of these American coal miners entered the field of public awareness and, at the same time, the concept of just transitions was introduced as to the broader public.[6] Concomitantly, the concept of just transitions became a part of labour union parlance in the US and this allowed for the disbursement of the concept across borders through the internationalized structure of many union organizations.[7] In this way, just transitions started the journey from a relatively sheltered context and a fixed location, perhaps most associated with the Appalachian region of the US, that has seen it become a much larger and more powerful framework for guiding governments, international organizations, international governance systems, and sub-national entities as well as non-governmental organizations and private sector actors in creating and implementing law and regulation.

Given the origins of just transitions in the coal sector and the growing knowledge of the connections between coal emissions and global warming as established from the 1970s onwards, it is perhaps not surprising that the concept of just transitions came to be linked with efforts to ensure that environmental protection was not a tool for causing impoverishment in the communities and sectors it sought to regulate. Indeed, while the general consensus is that just transitions crystallized in the US during the 1980s, there are assertions that the Council of Europe—closely linked to the European Coal and Steel Community—provided the first articulation of its principles in 1961.[8] Regardless of the point of origin, just transitions tenets came to be included in the *United Nations Framework Convention on Climate Change* (UNFCCC) treaty regime in 1992, albeit with a focus on social and economic impacts from transitioning away from coal in order to protect the global environment and address the drivers of climate change.[9] From this point onward, tenets of just transitions came to be included in the *Kyoto Protocol to the*

[6] Ibid.

[7] Ibid.

[8] Ibid.

[9] *United Nations Framework Convention on Climate Change* (1992).

UNFCCC,[10] governance mechanisms created by various CoPs within the UNFCCC system and, ultimately, led to explicit references to just transitions in the 2015 Paris Agreement on Climate Change.[11] In the following years, just transitions has come to feature prominently in the form of soft law declarations as well as expert committee creation and evaluation of the NDCs during UNFCCC CoP 24 (Katowice), CoP 25 (Madrid) and CoP 26 (Glasgow). Thus, just transitions was adopted by the international community as a framework for decarbonization efforts that meet with the core aspects of social and economic rights.

At the same time, just transitions concepts have been explicitly and implicitly adopted as part of the 2015 Sustainable Development Goals (SDGs) adopted by the UN General Assembly (UNGA) as the successor entities to the Millennium Development Goals (MDGs).[12] As discussed in Chapter 2, the terms of the SDGs place just transitions at the heart of SDG 8, dedicated to decent work, as well as connecting it to the majority of the 17 goals.[13] The use of so many elements relating to just transitions throughout sectors from climate to gender to anti-poverty strategies and beyond is a critical moment in the evolution of the framework into the broader parameters of international law and normative structures. Even though the SDGs are soft law, they are enormously influential and have been incorporated into national laws and regulations as well as the policies of international organizations, multinational corporations, private sector financing entities, non-governmental organizations and myriad other aspects of public and private law norms.

In multiple laws and rules generated by coal mining and coal energy producing State and sub-State entities there is clear evidence of the inclusion of just transitions as a framework for achieving decarbonization.[14] The lessons from this section of Chapter 2 centre on the interplay of just transitions in national efforts at decarbonization that includes the needs

[10] *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (1997).

[11] *Paris Agreement on Climate Change* (2015).

[12] See Millennium Development Goals (2000), https://www.un.org/millenniumgoals/, accessed 10 February 2022.

[13] See UNDESA, Sustainable Development Goals, https://sdgs.un.org/goals, accessed 10 February 2022.

[14] See Chapter 2, *supra*.

of communities being impacted in a holistic and respectful manner.[15] Other lessons from this portion of the chapter include the ways in which sub-national entities have stepped in to fill the gaps in decarbonization processes involving the closing of coal and other extractives and the potential role of public–private cooperation to achieve these goals.[16] In the examples informing these lessons there is an essential understanding that just transitions tenets inform these efforts and are necessary to provide such collaborations with the greatest chances for success.

Chapter 3 shifts the focus of just transitions from the coal and extractives sectors, and responses thereto, to other current and future areas of climate-related transition. In this context, the chapter analyses the ways in which multiple sectors implicated in GHG emissions—and, often, having the ability to counter them as well—have responded to these pressures using just transitions. Many of these sectors are far more deeply entrenched at the international and national levels than coal or other mining operations and indeed agriculture, forestry and maritime sectors are among the oldest in human history. The transitions needed in these industries are fundamental to the way in which society functions, feeds and houses itself and carries goods. Along with the renewable energy, finance and industrial sectors, they represent the vast majority of economic activities and social needs regardless of the society or State. Thus, the expansion of just transitions to these sectors is both intuitive in that it can act as a bridge throughout the complexities of actors and economic considerations involved, and evolutionary in that it involves the importation of something that started out as a context-dependent theory to a new set of sectors.

Chapter 4 then charts the journey of just transitions into the core of pandemic response transitions occurring in the context of the global Covid-19 pandemic and efforts of States to implement strategies to end it. Pandemic response transitions are inherently reactionary and highlight the treacherous waters facing States and sub-State entities as they must make laws and rules in times of crises where complete information is lacking and analogous past experiences do not lend significant insights. As Chapter 4 highlights, pandemic responses are an inherently fraught balancing attempt between public health and safety measures and

[15] Ibid.

[16] Ibid.

social and economic needs of citizens as well as States and sub-State entities.[17] This is true regardless of the sector involved, although a lesson from Chapter 4 is that there are some sectors which will face devastating consequences regardless of the delicacy of the balance used.[18] In this setting, just transitions can be a framework for determining laws and rules needed to mitigate some or all of the impacts from these inherently damaging decisions.[19] Even in sectors receiving some benefits from pandemic responses, such as the healthcare sector, just transitions tenets have a critical role to play in navigating the negative impacts stemming from the pandemic itself as well as the struggles of policymakers and healthcare professionals to determine appropriate steps to combat a new virus.

3 Future of Just Transitions

The history of just transitions is a fascinating study of how a concept which was initially intended to exist in a relatively closed context can be expanded to the international level when its contents are informed by broad aspects of social and economic equity, and it emerges at a time when other critical issues on the national and global scale are seeking a framework for grounding. This is not to suggest that just transitions has become an international and national legal and regulatory framework through luck or chance, but rather that it was created in such a universally appealing way that it could be adapted to multiple settings depending on the needs of the time and context of the discussion.

Building on this understanding of how the evolution of just transitions in law and regulations has occurred over the past decade, this section offers suggestions for how it can be used to address and provide a framework for emerging and future issues. It must, of course, be noted that these suggestions are being offered with the understanding that any attempt to predict the exact nature of future issues will necessarily suffer from the problem of imperfect information. Indeed, a similar discussion several years ago would likely have included a global pandemic in the most tangential terms. However, as imperfect as our knowledge of the future

[17] See Chapter 4, *supra*.

[18] Ibid.

[19] Ibid.

might be, there are durable issues from the present which will follow for many years and will need to be addressed. Additionally, the ways in which legal and technological advances have been constructed to date indicate a path that will continue to exist even in the face of a differing landscape of future realities. The durability of these advances in the face of unexpected change has, in many instances, already been established in their continuation throughout the Covid-19 pandemic. This durability will be very much needed throughout the peace building and infrastructural recreation of portions of Ukraine devastated by warfare, to say nothing of the necessary role it will have in recreating the economic and social fabric of the nation in time.

3.1 Future Covid-19 Pandemic and Post-pandemic Transitions

The landscape of the world in 2022, at the time of writing, has been drastically and inextricably altered from that which greeted the world as 2019 turned into 2020. Nearly every facet of life, law, regulation, and governance has been directly impacted by the Covid-19 pandemic as well as international, national and sub-national responses to it. These impacts were unforeseeable to many and certainly were unforeseen in the vast majority of legal and regulatory systems existing at any level prior to 2020. However, while the exact nature of Covid-19 was unknown before the onset of the pandemic, the emergence of a pandemic in the near future had loomed for several years in the public health and epidemiology sectors although there was little political or societal will to take steps for advanced planning in this regard.

As noted in Chapter 4, many of the financial and economic sector responses to the pandemic are acutely necessary from the social aspects of law and regulation since support to those who are unemployed, in vulnerable economic or health situations, and facing the potential to have to lay off workers or close businesses is critical. However, the massive spending outlays needed to combat multiple facets of the pandemic raise the spectre of significant issues in State and sub-State funding and expenditure abilities in the short and long term. At the same time, business and financial market contractions have resulted in several years of reduced profits across multiple sectors of international and national economies. There are many impacts of this, including reduced tax revenues collected by State and sub-State entities. Reductions in tax revenues threaten the ability of all States, regardless of the development status, to provide the

core services needed by all citizens for safety and survival. At the same time, many States have adopted stimulus measures—and, in some cases, several rounds of stimulus measures—aimed at providing qualifying citizens with necessary financial resources and, it is hoped, spending these resources in a way that goes back into the local economy.[20] Many of these stimulus packages have included assistance to major industries within a State's financial market, raising questions regarding the utility of propping up certain sectors or actors when they might otherwise not be financially viable.[21]

Should both tax reductions and extensive, unplanned public spending be relatively short-lived, these issues will likely be fixable with little legal or regulatory changes. However, after two years, the Covid-19 pandemic is continuing to infect people and systems, with little sign of stopping in the immediate future. The advent of vaccines and rapid testing combined with the fortunate circumstances of the Omicron variant being relatively low impact for the majority of those infected have allowed for some easing of restrictions in many States. This can be seen as a crucial step towards ending many of the costly pandemic response measures adopted by States and sub-State entities. Despite this, there are persistent concerns that a new and more powerful variant will emerge and plunge the global community back into the deepest recesses of State responses to the threat, including renewed travel restrictions, lockdowns and the closure of non-essential businesses.

Against this backdrop, States are facing and likely will continue to face significant questions regarding operational priorities and funding allocations. In the immediate face of an emergency, incurring massive State debts to ensure the safety and financial stability of its populations is, arguably, an appropriate way of applying the just transitions framework to minimize the impacts of a bad situation. Moving forward, however, it can be expected that States and sub-State entities will face increasingly difficult choices in funding priorities and capacities when having to implement budget laws with fewer resources. This will likely include decisions over which industries and actors must be saved in the event of continued financial pressures and which should be allowed to fail so that resources can be directed to other areas of priority. Similar concerns are also likely at

[20] See ibid.

[21] See ibid.

the international level in terms of impacts of the pandemic and pandemic responses on the ability of even well-established States to provide overseas aid and assistance along the lines of their pre-pandemic and even early pandemic practices.

The choices necessitated by these scenarios are difficult and will doubtless cause severe impacts to individuals and economic sectors in each State or sub-State entity where they must be made. At the same time, these choices must be made since the alternative would be even more extensive financial and societal catastrophe. This type of decision is one in which the just transition framework can be used to guide difficult decisions and provide avenues of assistance, including non-economic assistance—to those directly impacted. In recognizing the need for just results, just transitions would bring a balance to concerns that only certain powerful individuals or segments of the economy would be benefitted at the expense of those with less power. The incorporation of equity as a core element of the laws and rules necessary for making these decisions would function in a similar way and would, at least in theory, provide wide avenues for public participation in these decisions. Examples of these types of involvement can be found in the ways that Canada and Scotland have crafted dedicated governance systems for coal phase-out processes in order to involve all relevant constituencies. Further, recognizing the inherent dignity of those impacted by State and sub-State decisions and ensuring that they are provided with choices and opportunities throughout the decision-making and implementation process would allow for more just outcomes that are better appreciated by all constituencies.

This is in no way to suggest that the necessary transitions in pandemic and post-pandemic economic practice will be easy, politically without consequences or ensure that those impacted are entirely happy with the results. Unfortunately, these types of results are highly unrealistic in the political, legal, economic or societal spheres. Yet, just transitions offer a framework for mitigating and navigating through these decisions and their impacts so that they are as minimally disruptive as possible.

Pandemic and post-pandemic transitions will also require a focus on the way forward in terms of education and training at all levels of the spectrum. When the lockdowns began across the globe, the first response of many governments and educational institutions was to shift to delivery of remote, online learning. There is no doubt that this decision allowed countless children and young adults to continue receiving

educational instruction and remain engaged with their studies and their peers during the most uncertain times of lockdown. The use of online learning also highlighted the critical issues of student poverty and infrastructural poverty in nearly all States, especially for those living in rural areas, Indigenous communities and precarious settlements such as slums surrounding major cities.[22]

In many instances, States, international organizations and private charities stepped in to fill this void in access to the extent possible, however at heart these are issues which must be addressed through legal and regulatory systems in the long term. In this context, future laws and rules will need to transition from pre-pandemic understandings of what is essential for the provision of education and educational infrastructure to post-pandemic understandings that these issues extend well beyond the classroom. There is little question that in-person learning offers most students the best educational experience as well as opportunities to gain vital social and inter-personal skills necessary for participation across all levels of life. However, the pandemic has demonstrated the need to be able to leverage the power of online learning technologies as part of a durable planning and funding system at the State and sub-State levels.

Inherent in these types of planning decisions are the needs to balance often limited educational resources between the needs of the greatest number of students and the needs of those who would be cut off from access to education in the event of future online learning use. These are the types of balancing situations for which just transitions can serve as an essential framework to ensure that justice and equity concerns are placed at the heart of these discussions and the legal and policy shifts which result. A broad understanding of the constituencies involved in these decisions would be accommodated through just transitions as well, facilitating input from parents and caregivers as well as teachers and students. Even in instances where it would be difficult to upgrade infrastructural systems to accommodate students who lack internet connections or reliable power connections, just transitions would provide a method of requiring decision-makers to find other means of inclusion for effected

[22] See Maria Antonia Tigre, Alexandra Harrington, Natalia Urzola, Alice Kasznar, Amy Van Der Kleyn, Antonio Pulgar, Astrid M. Bernal, Giada Giacomini, Hayley Evans, James R. May, Margherita Birri, Paola Apollaro, Sarah Slinger, Victoria Lichet, and Wellington Migliari, 'Environmental Protection and Human Rights in the Pandemic', *Global Pandemic Network Journal* 1 (2022), 317.

students rather than stopping efforts with the decision that specific upgrades could not be implemented.

3.2 Human Rights Transitions

The Covid-19 pandemic has changed many of the ways in which international human rights laws and norms are understood at a very practical level. Indeed, these experiences have translated into calls for more expansive and protective rights and rights protections in many areas ranging from poverty to health to the right to a health environment and beyond.[23]

From the outset, States responded to the pandemic through the utilization of declarations or orders of emergency. These pronouncements, often made by the executive branch without the need for legislative consent—or with little legislative involvement—were necessary for the allocation of certain funds, supplies and military personnel in a number of States. They were also asserted to be necessary for implementing efforts to close national borders, regulate travel and issue lockdowns or movement restrictions. However, from the moment the first of these pronouncements were made onwards there has been a persistent concern in human rights and other legal quarters that these allocations could be used to subvert national laws and rules as well as the application of international human rights laws. In this context, it should be remembered that even the most seminal international human rights treaties, including the *International Covenant on Civil and Political Rights* (ICCPR), contain provisions authorizing State Parties to derogate from many of their commitments in times of declared national emergency or other calamities.[24] Indeed, declarations of states of emergency lasting until unspecified dates in the future and providing the executive with nearly unfettered powers over governance, law making and law implementation did little to quell these concerns.[25] After two years, many of these pronouncements remain in place and even systems in which the legislature has been more

[23] Ibid.

[24] See generally *International Covenant on Civil and Political Rights* (1976); *European Convention on Human Rights* (1953); *American Convention on Human Rights* (1969); *European Social Charter* (1961).

[25] See Tigre et al., *supra* note 22.

involved in pandemic decision-making have chosen to retain authorizations of extensive executive powers in certain areas, including immigration and pandemic policy.[26]

The transition from pre-pandemic to post-pandemic governance responses was quite quick and has relied largely on military and/or natural disaster response precedents for framing power allocations and duration. Each of these situations brings with it a nuanced set of balances between human rights concerns and the need to protect national security interests, and neither of them are intended to adapt to the changing contours of a long-term pandemic. In addition to these functional realties, there is the very real threat that using declarations or orders of national emergency can be used to transition to a permanent state of suspension for a number of crucial human rights laws, especially in States where political tensions and unrest had existed prior to the pandemic. In this situation, the application of just transitions to decisions regarding the contours of emergency pronouncements, their duration and the ability of State actors to use them for the purposes of derogating from international human rights law might seem overly optimistic. Yet, if it were to be adopted as a national framework for making these decisions, albeit with the understanding that such evaluations would need to be made with haste and in light of the heightened circumstances, just transitions could serve as a tool to balance between the siege mentality which can accompany any form of emergency and the needs of multiple constituencies throughout the State. This would also allow for a greater political legitimacy for pandemic regimes within and without the State setting.

As noted above in the education context, the pandemic has brought many issues of inequity and inequality to light with regard to vulnerable and marginalized communities, especially Indigenous communities. Prior to the pandemic, Indigenous communities in States across the world experienced systematic issues of discrimination, non-inclusion or under-inclusion in decision-making processes, lack of access to basic resources, education and employment options, and lack of recognition of even existing legal rights to participation in land use decisions affecting them, to name only a few.[27] Although the *UN Declaration on the Rights of Indigenous Peoples* has been widely endorsed by the vast majority of States

[26] See ibid.

[27] Ibid.

with Indigenous populations and Indigenous communities has recognized rights under international human rights treaties as well as many national legal systems, these rights were often more honoured in the breach during the pre-pandemic period and this situation has not changed during the pandemic.[28]

Indeed, the pandemic and governmental responses to it have effectively been a transition away from many of the rights of Indigenous communities that are at the very least enshrined in international law and national legal codes.[29] Declarations or orders of emergency have been used to suspend laws and programmes which had operated for the inclusion of these communities and communities were either forced into isolation with little ability to protect themselves from or treat Covid-19 or had to adopt their own territorial border closures where States refused to do so.[30]

Perhaps the most devasting form of transition to take place in this context involves the required involvement of Indigenous communities in environmental impact assessments and other forms of impact assessment conducted prior to the authorization of public or private projects having the potential to impact on these communities.[31] Involvement in these processes represents a hard-won victory for many Indigenous communities, including the recourse to international law mechanisms for reaffirmation of these rights and State obligations under them.[32] Prior to the pandemic, advances had been made yet it was still a struggle for Indigenous communities to fully enjoy their legal rights regarding consultation and information in many States. With the onset of the pandemic and associated movement restrictions, States acted to either suspend impact assessment and other land use public hearings or to hold them entirely online.[33] The former, typically allowed pursuant to the terms of declarations of emergency, has resulted in the approval of projects that are highly controversial from the Indigenous community perspective with little to no review of their objections required.[34] The latter has been used

[28] *UN Declaration on the Rights of Indigenous Peoples* (2017).

[29] See generally Tigre et al., *supra* note 22.

[30] Ibid.

[31] Ibid.

[32] Ibid.

[33] Ibid.

[34] Ibid.

to facilitate technical compliance with the terms of land use laws and rules, although in practice Indigenous communities often lack the technology and internet infrastructure to allow them to participate.[35]

In this context, just transitions would be a vital framework for mitigating the current impacts of transitions in governmental policies relating to Indigenous communities as well as ensuring that future transitions in practice do not suffer from the same legal and regulatory infirmities. It would require States and sub-State entities to comply with the letter and spirit of international and national legal commitments and ensure respect for the rights guaranteed to Indigenous communities. The recognition of the particularized needs and dignity of Indigenous communities that is inherent in the just transitions framework which this book argues has emerged would also offer an opening for dialogue and inclusion in laws and rules that are reflective of broader experiences and needs than those constructed based on those of the majority community alone. In the Indigenous community context, just transitions can be viewed as offering a significant framework to overcome entrenched discrimination and devaluation while also ensuring that there is no return to these practices in future law or policy. These advances would also generate a potential like with current and future efforts at transitions in the agriculture and forestry sector given the deep connections between Indigenous traditional knowledge, land and forestry conservation and agriculture.

Relatedly, just transitions can be seen as a framework for the inclusion and protection of cultural heritage and traditional heritage of all societies and communities, which is recognized as a requirement of international human rights law as well as the series of treaties, declarations and recommendations issued by UNESCO. As noted in the blue economy section of Chapter 3, the use of maritime resources in any capacity has the ability to undermine the integrity of areas designated as holding cultural significance under international or national laws. Similar issues are attendant for the development and use of land-based territory and resources.

Given the essential links cultural and traditional heritage provide for multiple communities and, as recognized by UNESCO, for current and future citizens of the world, the need to include this value in development and planning decisions is crucial. Just transitions in this context can provide a framework that extends beyond the immediate needs of a

[35] Ibid.

constituency to include those who benefit from cultural and traditional heritage now and in the future. It is thus a tool for bringing those who would otherwise be potentially outside the scope of review and planning into the core aspects of its formulation.

3.3 Climate Justice and Litigation Transitions

Throughout the opening chapters of this book there has been a discussion of ways in which climate change issues have come to be regulated at the international level through the UNFCCC and, to a somewhat lesser extent, SDG systems. At the same time, and as has been discussed, the EU and the vast majority of States in the international community have adopted laws and rules relating to climate change prevention, adaptation and mitigation. Climate justice efforts represent a next step in this path, one that is focused on the impacts of climate change on individuals, groups and communities and seeks to hold those implicated in causing climate change accountable for their actions.[36] Often, climate justice efforts include climate litigation, through which individual, group or non-governmental organization plaintiffs use national court systems to bring governments and/or private corporations to trial for alleged failures in the climate and environmental context.[37]

These types of claims were historically considered to be somewhat at the fringes of legal practice, however they have become far more entrenched as accepted in major jurisdictions within the past several years. By 2019, the Urgenda Foundation case saw the Dutch Supreme Court agree with the plaintiffs regarding the Netherlands' failures to meet its national and international law commitments regarding emissions, caused the Netherlands to revise its implementation policies even as the pandemic diverted much attention and resources.[38] Similarly, in 2020, the Supreme Court of Ireland issued the Friends of the Irish Environment case in

[36] UNDESA, Sustainable Development Goals: Climate Justice, https://www.un.org/sustainabledevelopment/blog/2019/05/climate-justice/, accessed 10 February 2022.

[37] Ibid.

[38] See Urgenda Foundation, https://www.urgenda.nl/en/themas/climate-case/, accessed 10 February 2022.

which it endorsed the ability of groups with proper standing to challenge the actions of the Irish government in creating plans to implement national climate law requirements.[39]

Climate justice and litigation measures can be seen as extensions of many aspects of the just transitions framework. At their core, climate justice and litigation recognize that there is a fundamental transition in the climate of the Earth and its multiple ecosystems and that this transition is not sustainable for humanity or many species within the natural world. Thus, climate justice and litigation assert that those who have been most involved in environmental and climate destruction, as well as those who have most benefitted from its results, should pay a price and be required to take steps towards remediation, adaptation and mitigation as appropriate. In this context, the entities involved can be States, sub-State entities and/or private corporate or other entities since all have played certain roles in bringing about the current state of the planet and natural resources on it.

The justice aspect of just transitions is quite clear in this context, although the parameters of who and what species should be covered by this concept of justice are open for debate. Climate justice and litigation also provide avenues for addressing the inequities caused by climate change and environmental degradation. These will necessarily differ by community, setting and ecosystem, however what is important is that they are recognized as resulting in inequity and often are the result of cycles of disenfranchisement and discrimination at the national and sub-national level. Thus, applying the just transitions framework would provide an avenue for recognizing the harms suffered as well as the inherent injustice of the environmental transitions which underlie them. In this way, climate justice and litigation can be seen as vehicles through which the just transitions framework can be applied to foster inclusivity and responsiveness of legal and regulatory systems even when it is not necessarily in the larger interests of the State, sub-State or private interests.

[39] See Friends of the Irish Environment, https://www.friendsoftheirishenvironment.org/, accessed 10 February 2022.

3.4 Future Generations and Transitions

Fundamentally connected to climate justice and litigation is the concept of the rights of future generations and, concomitantly, the concept of intergenerational equity. Through these rights it is established that current generations have rights to use natural resources available to them but to do so in a way that does not harm or prejudice the rights of future generations to their use and enjoyment.

Within these rights there is a structure based on the idea of equity between and respect for the generations.[40] Future generations as a legal concept have been included in international environmental law instruments, most recently in the Paris Agreement preamble, as well as human rights treaties and is, increasingly, an element in discussions surrounding international economic laws and their implementation.[41]

As part of the discussion of just transitions as future issues perhaps the most nuanced, critical and yet difficult to predict development is in the area of future generations protection.[42] In a simplistic view, the relationship between future generations and just transitions can be asserted to already exist in the ways that sustainable development law and policy and just transitions have been brought together since future generations are central to sustainable development as a construct.[43] This is of course an important interrelationship and yet it minimizes the relationship which must be seen as existing between future generations and just transitions in the creation of law and regulation at the international, national and, increasingly, sub-national levels.

Initially anchored in dialogue surrounding sustainable development, the rights of future generations and intergenerational equity have expanded to feature prominently in international law, national law and

[40] See Marie-Claire Cordonier Segger, Marcel Szabo, and Alexandra R. Harrington (eds), *Intergenerational Justice in Sustainable Development Treaty Implementation* (Cambridge University Press, 2021).

[41] Bridget Lewis, 'The Rights of Future Generations Within the Post-Paris Climate Regime', *Transnational Environmental Law* 7 (2018), 69.

[42] See ibid.; Cordonier Segger, Szabo and Harrington, *supra* note 40.

[43] See Gro Harlem Brundtland Report, *Report of the World Commission on Environment and Development: Our Common Future* (1987).

sub-national law as well as myriad policies ranging from national to international in scope.[44] They have been used as legal justifications for climate litigation case rulings and have been included in the Paris Agreement and the SDGs as statements of the most currently accepted views of international law in their specialty areas. And, they are intrinsically linked with just transitions in that they require the expansion of the framework to include equity and justice for future generations who will be impacted by the transitions proposed. It is for this reason that they are discussed here, as they are as essential to expanding the understanding and application of just transitions as just transitions are to ensuring their continued place in decision-making.

3.5 Technology Transitions

Finally, no discussion of just transitions as a framework for the future of law and regulation could be considered complete without reference to the rapid advances in technology, especially in Artificial Intelligence, that have come to symbolize the post-millennium world. The Covid-19 pandemic has focused a great deal of attention on the ways in which society uses and interacts with technology, impacting everyone from pre-schoolers to university students to job seekers to medical professionals to grandparents connecting with their children and grandchildren, and beyond. Issues of inequity in technology access in the learning context and in the context of Indigenous communities has already been discussed. However, it should be noted that these types of equity and infrastructural issues continue across nearly all potential applications of technology.

Outside of the pandemic context, rapid developments in technology have resulted in efforts to create responsive laws and regulations that at once foster innovation while also protecting the public from newly evolving issues. A recent example of this is the 2021 EU Artificial Intelligence Act, which seeks to apply a uniform set of laws and rules across EU Member States.[45] This was deemed highly necessary given the potential harms to security, safety and privacy which the EU found to exist.[46] At

[44] Cordonier Segger, Szabo and Harrington, *supra* note 40.

[45] European Union, A European Approach to Artificial Intelligence, https://digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence, accessed 10 February 2022.

[46] Ibid.

the same time, by creating a responsive law the hope is to ensure that innovation is not stultified but rather encouraged to grow in a way that benefits society and its best interests.

In the technology example, the just transitions framework can be seen as offering a tool to ensure that highly technical efforts to regulate emerging innovations are done in a way that balances the potential for public good offered by the technology and the potential for inequity and injustice posed to a wide range of constituencies. It should not be seen as a tool for legislative or regulatory bodies to stifle innovation or threaten inherent rights to intellectual property that are recognized throughout international and national laws, but rather as a tool to ensure that the innovations are done for the benefit of many and with limited negative impacts.

4 Conclusions

As this chapter, and this book, demonstrates that the journey of just transitions has been one of expansion and wider acceptance than was originally envisioned. Rather than getting lost in this enlargement, the fundamental principles of just transitions have remained the same and support the definition of just transitions that has underpinned the book.

The future of just transitions is unpredictable in the sense that all assertions regarding future legal and regulatory needs are speculative and subject to unforeseen exigencies, as highlighted by the Covid-19 pandemic. This chapter has, identified five areas in which just transitions will play a significant role in advancing equity and justice in the future while also remaining flexible enough to adapt to the unpredicted challenges that accompany discussions of the future. Each of these areas—pandemic and post-pandemic transitions, human rights transition, climate justice transitions, future generations transitions and technology transitions—is already the site of connections with just transitions in legal and regulatory contexts. By discussing these contexts and the concerns behind them, the chapter establishes bases for understanding how these relationships will potentially evolve in the future. It reflects the hope of the book project to create a basis for the future of law and regulation that is responsive and just, respectful and equitable, and that seeks to ensure the humanity of all involved constituencies—be they international, national or local—in the face of necessary transitions.

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