

Just Transitions:

a comparative perspective

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Executive summary

The concept of 'just transitions' emerged from the U.S. labour movement in the late 20th century. However, it is only in recent years that it has begun to circulate more widely in national and international policy discourses (see Section 1.1). In general, the term is being deployed to counter the idea that valuing job security and caring for the environment are two mutually exclusive goals, and to broaden out the debate on low-carbon transitions from technical questions around energy system transformation to its social justice implications (JTRC 2018).

In existing policies and literature, 'just transitions' tend to be defined in two different ways (see Section 1.2). The first, stricter definition of the term, drawing on its origins in the labour movement, focuses on the need to offer state support to workers and communities who will lose their livelihoods due to a deliberate shift away from the fossil fuel industry (Eisenberg 2019).

The second, broader definition calls for justice in more general terms, not just for workers. It emphasises the importance of not continuing to sacrifice the well-being of vulnerable groups for the sake of advantaging others, as has been the norm in the fossil-fuel-driven economy. In this definition, justice and equity are understood to form an integral part of the transition towards a low-carbon world. This broader, more radical definition of a "just transition" calls for an ambitious social and economic restructuring that addresses the roots of inequality (Ibid.).

This report draws on examples and literatures that are indebted to both definitions.

It considers how far five different countries (the US, Canada, Germany, Norway and Peru) have gone in terms of embedding the broad principles implied by 'just transition' in their plans, strategies, policies, and activities (see Part Two). The report also draws attention to other processes elsewhere in the world that have been concerned not with the transformation of industrialised economic practices and labour, but rather with other kinds of structural change, particularly around land use, tenure, and ownership in the context of carbon emissions reduction efforts. The first part of the report addresses three key principles that existing literatures have associated with Just Transitions (see Section 1.5). These are that:

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.

Drawing on existing literature, the report goes on to outline a typography of four different possible approaches to just transition (see Section 1.6):

1. *Status quo*: approaches that seek to craft transition processes without modifying the current socio-economic system;
2. *Managerial*: approaches that alter certain rules and arrangements within the existing system;
3. *Structural*: approaches that use procedural and distributive justice mechanisms to modify aspects of the system;
4. *Transformative*: approaches that seek to radically overhaul the current system.

Most of the approaches addressed in the case studies are examples of managerial transition processes, with limited elements of structural change in some cases. Most advanced national just transition planning has tended to take place with respect to specific industries (coal, in particular), with the result that transition processes have had a fairly limited sectoral focus. This has made it less necessary to engage in more complex transition processes that address multiple domains across the socio-economic system at the same time. However, the case of the Ruhr valley, which is discussed as part of the German case study, offers an example of a more ranging and holistic transition process that has been ongoing for decades.

Nonetheless, current transition planning now faces much greater challenges in that it must contemplate a shift away from a more engrained dependency on the oil and gas industry, as well as attending to deep-seated and intractable issues surrounding land use and agriculture, amongst others, in the context of an urgent need to reduce carbon emissions.

The report concludes by offering a range of lessons learned (see Part Three), drawing from the existing policy frameworks, literatures, and transition processes discussed in the report. Among these, the following proposals for current and upcoming transition-planning are made, which are to:

Planning and investment

- Develop early strategic planning;
- Diversify economic activity to attend holistically to a range of issues beyond job substitution and retraining, such as new infrastructures, the development of new green industries, and educational initiatives, amongst others;
- Consider the role of decentralisation of infrastructures, such as energy schemes, and local/community/public ownership of land and other resources in ensuring a fair and equitable just transition;
- Recognise that actions taken in the name of a just transition in one place may lead to problems in others;

Engagement

- Distribute the benefits and burdens of transition equally across the population;
- Develop for this purpose mechanisms for enabling multi-stakeholder participation in transition planning processes, and effective forms of procedural and distributive justice;
- Broaden out transition processes so that they do not focus narrowly on fossil fuel workers, but attend to wider vulnerable populations across the socio-economic system;
- Ensure that new projects speak to people's imaginations and help reorganise aspirations around different possibilities – how to work differently, how to care differently for others and for the environment; how to educate differently; how to build housing; how public participation in political life could expand, etc.;
- Address gender, racial, and class disparities;

Policy development

- Embed just transition in every aspect of legislation, regulation and planning;
- Recognise that whilst centralised strategic planning, regulation and legislation is necessary, transitions are context-specific, and accordingly localities, communities, and regions should lead transition responses;
- Establish appropriate forms of education and expertise for the purposes of a just transition and draw on existing expertise and infrastructures in doing so.

Introduction

Over recent years, accelerating climate crisis has prompted ever more urgent debate around the need to transition away from carbon-intensive energy systems, and an accompanying transformation in the political institutions and socio-economic practices that are entailed in them. Since the 1970s, and particularly in the last 10 years or so, the concept of just transitions has been gaining traction – first within the labour and environmental movements, and more recently in national and international policy circles – as a legal and political framework for addressing the effects of these transformations on workers and communities that depend on the fossil fuel industry.

However, increasingly, as the use of the term has expanded, ‘just transitions’ has been deployed to refer not simply to policies and activities designed to mitigate job losses within the fossil fuel sector, but also to broad-based structural changes aimed at fostering greater equity and social justice across all scales of society.

Background to the report

In April 2019, the newly formed Just Transition Commission, set up by the Scottish Government at the end of 2018, proposed the formulation of a research report to support its work. The remit for this report, as set out by the Commission in its original brief for the project, was twofold.

First, the report was to explore approaches to just transition that have been taken or are being developed in other nations or regions. These approaches were to be outlined, summarising the scope, methodology, their modes of fostering participation and engagement, timelines, perceived risks and benefits, and resultant policy outputs.

Second, it was to offer a literature review, examining evidence from government interventions seeking to manage or minimise the disruption to workers and communities caused by economic structural change, similar to that implied by the move to a carbon-neutral economy.

Key themes

As per the first part of this brief, this report aims to consider – albeit to a limited degree – how far different countries have gone in terms of embedding the broad principles implied by ‘just transition’ in their plans, strategies, policies and activities.

In fulfilment of the second part of the brief, the examples it draws on are not limited to processes designed explicitly in terms of just transition. For example, many of the earlier activities undertaken to support economic diversification in the industrial region of the Ruhr valley, which is explored in the German case study discussed in the second section of the report, preceded the popularisation of ‘just transition’ as a policy process. However, the many references to the region in just transitions literature suggest that the actions implemented there have influenced the shape of just transitions thinking and policy-making not only in Germany (as evidenced through the work of the Coal Commission in the country), but also elsewhere.

The report also draws attention to other processes elsewhere in the world that have been concerned not with the transformation of industrialised economic practices and labour, but

rather with other kinds of structural change, particularly around land use, tenure, and ownership in the context of carbon-emissions reduction efforts.

Case-study selection

The report explores case studies of such varied processes at distinct stages of development in five different countries: Germany, Canada, the US, Peru and Norway. These case studies were selected on several grounds. Canada and Germany were chosen because they demonstrate some of the most well-developed policy frameworks relevant to just transitions – whether they have been explicitly elaborated using the language of just transition or, otherwise, are considered well-aligned with or foundational to just transition principles.

The US was selected because existing literature offers good comparative material on a range of state-, NGO- and federal-led processes in the country.

Given that just transition processes appear to be most well-developed in coal-producing regions and countries, and given the key role played by North Sea oil and gas in sustaining a substantial proportion of Scottish jobs and economic life, Norway was introduced in order to provide an example of how far just transition processes are being pursued in areas with well-established oil and gas industries.

The Peru case, meanwhile, offers an interesting example of a long-term, highly contested, and negotiated process (involving a wide range of state, NGO, multilateral, regional, local and indigenous actors) of developing – through concerted action and campaigning – some degree of social and economic justice for forest-dwelling and indigenous peoples in the context of the introduction of carbon credit schemes aimed at reducing deforestation. Peru is a good example of many developing countries whose primary source of emissions comes from land use, rather than fossil fuels, and the REDD+ program discussed in the case-study points to the kinds of international entanglements and interdependencies playing out in developing countries with respect to carbon emissions reduction. The case also offers insight into some of the ways that developing countries are handling land rights and conflicts over land-ownership in areas that are increasingly highly valued for their rich resources, such as forests. Such examples are of interest in Scotland, given its ongoing debates over land ownership, distribution, and use, as well as forestation.

It is important to note that the processes addressed in the report unfold at different scales. Some are state-led, whilst others have emerged at regional or local levels, through the impetus of regional, municipal or local government, or non-governmental organisations, or indeed a combination of both.

Report structure

The report is structured as follows. **Part One** outlines the scope and background of just transitions, offering a discussion of the origins of ‘just transition’ as a movement and its integration into international discourses. It goes on to address some of the different existing understandings of just transition; current debates over who and what might be included (and excluded) within the scope of a just transition; and some of the principles associated with just transitions. It also maps out some of the key proposed approaches to implementing just transitions. **Part Two** lays out existing examples of just transition and socio-economic

restructuring processes in the five different case study countries: the US, Canada, Germany, Peru and Norway. **Part Three** offers a brief conclusion that draws out some of the key findings from the case studies and reflects on their implications for wider understandings of and approaches to just transition, as outlined in Part One.

A note on the limits of this report

This report is not intended as a piece of primary, original research or a thoroughgoing analysis of how just transitions are addressed in each of the countries included as case studies. Due to the time constraints of the project, it aims instead to offer a brief literature review of existing policy and scholarly literatures, before going on to gather together some of the key policies and processes that incorporate the principles of just transition in each country. The conclusion then draws out potential lessons from these processes that might serve current transition-planning.

As a result of this approach, the report is richest where there is most available literature. This means that certain regions that it would have been interesting to explore in further detail are not addressed in this report (for example, transition processes in the Middle East). In relation to the case studies that were studied, it was occasionally difficult to locate up-to-date material on some of the policy processes, particularly with respect to Norway. In general, because there appear to be few policy processes, as yet, relating to oil and gas transitions, the material on this is more scant. It should also be noted that whilst the report addresses land issues with respect to tenure and carbon offset projects, it does not address just transitions with respect to agriculture.

Finally, it is important to note that this report was commissioned and carried out prior to the Covid-19 lockdown. The effects of the Covid-19 pandemic have exacerbated existing inequalities, impacted heavily on the oil and gas sector, and generated significant debate around the need for a just, green recovery. However, due to the timing of this report's writing, it has not been possible to take these developments and debates into account.

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Part One: The scope and background of ‘just transitions’

1.1 Origins of the term ‘just transition’

The concept of ‘just transition’ was developed by North American trade unions to provide a framework for discussions on the kinds of social and economic interventions necessary to secure workers’ livelihoods in the shift from high-carbon to low-carbon, climate-resilient economies (E3G 2018). The term ‘just transition’ is widely thought to have been coined by the US labour and environmental activist, Tony Mazzocchi, who – referencing an existing federal program to clean up environmental toxic waste – had campaigned for the establishment of a similar “Superfund for Workers”. The proposed superfund was intended to provide workers exposed to toxic chemicals throughout their careers with minimum incomes and education benefits so as to enable them to transition away from their hazardous jobs. When environmentalists complained that the term ‘superfund’ carried too many negative connotations, the proposal’s name was changed to ‘just transition’ (Eisenberg 2019).

Until his death in 2002, Mazzocchi and those that worked with him sought to mobilise the just transition campaign as a means of addressing tensions and creating alliances between the labour and environmental justice movements. Where the latter calls for racial equity and other forms of non-discrimination, the just transitions movement, which seeks to mitigate inequitable effects on livelihoods caused by transformations in energy systems and resource use, is concerned with economic and labour equity. The movements are not dissimilar in that each seeks a distributive component on top of traditional environmentalism’s conservation priorities (Eisenberg 2019). Mazzocchi duly negotiated partnerships with Greenpeace and environmental justice communities and developed environmental educational programs for workers. In this way, driven by the challenges posed by climate change, the just transition movement enabled unions to align their efforts towards providing workers with decent jobs with the protection of the environment (Ibid.).

Having arisen in the context of the 1970s labour movement, the concept of ‘just transition’ has evolved and spread to other areas and domains, from environmental justice groups to the international trade union movement, international organisations and the private sector. Since its inclusion in the preamble of the 2015 Paris Agreement¹, it has also been adopted in global, national and subnational policy circles (Just Transition Research Collaborative 2018).

1.2 What is meant by a just transition? What might a just transition look like?

In general, as suggested above, the concept of ‘just transitions’ is being used to counter the idea that valuing job security and caring for the environment are two mutually exclusive goals, and to broaden out the debate on low-carbon transitions from technical questions around energy system transformation to its social justice implications (JTRC 2018).

However, as the term becomes more popular, it is increasingly understood and used in many different ways. Deployed in the service of a wide variety of ideological views, demands

¹ In the preamble to the Paris agreement, the following wording appears: "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."
(http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf)

for a just transition can range “from a simple claim for jobs creation in the green economy, to a radical critique of capitalism and refusal of market solutions” (Barca 2015: 392, cited in JTRC 2018). This range “can make it difficult to clearly identify what Just Transition stands for. It also raises a series of important questions: What kind of transition do we want? In the interests of whom? And to what ends? Answering these questions implies an in-depth discussion of the meaning of justice in the age of climate change” (JTRC 2018). Despite the diversity of meanings attached to ‘just transition’, in very general terms, two broad definitions predominate:

- a) The first builds on the term as it arose from the U.S. labour movement in the late 20th century (see above), in part in response to the environmental movement. This foundation shapes the term’s stricter definition – the idea that workers and communities whose livelihoods will be lost because of an intentional shift away from fossil fuel-related activities should receive support from the state (Eisenberg 2019).
- b) A second broader definition of ‘just transitions’ calls for justice in more general terms, not just for workers. It emphasises the importance of not continuing to sacrifice the well-being of vulnerable groups for the sake of advantaging others, as has been the norm in the fossil-fuel-driven economy (Ibid.).

In the second definition, the term ‘Just Transition’ is used to refer to the notion that justice and equity must form an integral part of the transition towards a low-carbon world. This broader, more radical definition of a “just transition” calls for an ambitious social and economic restructuring that addresses the roots of inequality (Ibid.).²

1.3 Who and what should be included in a just transition?

How far do the just transition policies of different countries reinforce existing inequalities, such as the under-representation of women and other marginalised groups in fossil fuel governance and employment? Do they transfer biases from one industry to another, without addressing the underlying norms and practices that drive inequality or do they attend to the needs of those who are likely to be most disadvantaged by energy transition? (Piggot et al. 2019). Such questions raise issues around how boundaries should be placed around who and what is included in a ‘just transition’:

- **Drawing a line around particular industries and groups that would be negatively affected by a climate policy and therefore need or merit transitional support is likely to be problematic, given the interdependencies between different sectors and socio-economic groups.** A recent study has noted that existing transition policies tend to ignore the potential cascading impacts of industry closure, such as how the loss of jobs in one industry might flow on to affect others.

² The question of how broadly the term ‘just transitions’ should be applied has been raised by scholars working in the field of environmental law in the US. For example, Ann Eisenberg argues that the term ‘just transition’ should be applied solely in the first sense (given in main text above). This view seems to have arisen specifically out of concerns over the long injustices experienced by those working in the US coal industry. This may be less applicable specifically in the Scottish case, since the North Sea oil industry has been less associated with a long history of abuse – notwithstanding the Piper Alpha disaster and concerns over the safety of offshore work.

For example, the effects of men's unemployment in former coalfields of the UK in the 1980s and 1990s were highly gendered. When coal jobs dried up, there were significant ripple effects for women in mining regions, such as displacement from manufacturing jobs as unemployed male workers sought out new professions, the need to take on the "double-duty" of paid employment and domestic care to fill holes in household budgets, and psychological impacts resulting from a disruption to home life (Piggot et al. 2019). Elsewhere, in Canada, workers in the fossil fuel sector earn significantly higher incomes than accommodation and food services workers in the same communities. Furthermore, fossil fuel workers are disproportionately white and male compared to other sectors. If and when the fossil fuel industry is phased out in Canada, workers in a wide range of sectors will be negatively impacted, and yet it is predominantly fossil fuel workers who benefit from government transition programmes as they are currently envisioned (JTRC 2018).

- **Given the deep entanglements and interdependencies implied by the various effects of globalisation, economic integration (such as the EU single market and shared currency), and global supply chains, there are questions over how far just transitions can effectively be addressed solely at a national level; actions taken in the name of a just transition in one place may lead to problems in others.** For example, within the EU, longstanding industry practices such as German unions' participation in wage restraint have been put in place to promote competitiveness and protect jobs during periods of economic instability. However, such approaches have produced a large trade surplus and impeded growth in southern Europe by deflating the euro (Abraham 2019). By propping up the "German economic model of exportism at the expense of other countries", wage restraint brought deindustrialisation and high trade deficits to Greece, Portugal, Italy, and Spain (Candeias 2013: 6-7, cited in Abraham 2019), eroding southern Europe's ability to recover from the European sovereign debt crisis (Abraham 2019). In Greece in particular, an increasing debt burden and European officials' requirement that the country pursue drastic austerity measures (such as enormous wage cuts, spending cuts, and tax increases)³ have significantly eroded its capacity to decarbonise. Greece is one of Europe's most coal-dependent countries, and the privatisations of its national energy company and utilities (initiated as part of a ranging package of austerity measures) have extended the life of Greek coalfired power plants.⁴ Notwithstanding Greece's commitment to uphold the Just Transition framework,⁵ undertaking a just transition process whilst also undergoing austerity is extremely challenging, since austerity erodes relationships between union members and environmentalists, decentralises collective bargaining and limits governments' abilities to invest in coal-affected regions and protect coal workers from unemployment (Abraham 2019: 7). In this sense, some point out that European trade unionists and social democrats cannot truly square their advocacy for international solidarity with their commitment to international competition (Panitch 1998). Such analyses suggest that applying a business-as-usual approach that seeks to enable a

³ <https://www.theguardian.com/world/2018/aug/19/greeces-bailout-is-finally-at-an-end-but-has-been-a-failure>

⁴ <https://nypost.com/2018/12/19/coal-mining-is-causing-this-small-village-to-sink-into-the-ground/>

⁵ https://cop24.gov.pl/fileadmin/user_upload/files/List_of_Leaders_and_Parties_endorsing_the_Solidarity_and_Just_Transition_Silesia_Declaration_updated.pdf

national-level 'just transition' whilst outsourcing costs elsewhere will not be adequate to the task of implementing a just low-carbon transition in a globalised world.

- **Low-carbon technologies can themselves be the source of injustice.** For example, whilst the rapid growth in renewable energy schemes in the Lower Franconia region in the Federal State of Bavaria in Germany was initially heavily driven by local cooperatives, they quickly became dominated by big corporate investors from outside the region. This shift had the effect of disenfranchising the local community, separating it from a large proportion of its land and hindering its ownership of low-carbon assets. In large part this situation followed from regulations that govern the funding and siting of renewables, which favour larger investors with a greater capacity to tolerate risk. Other examples of unjust low-carbon transitions include the alleged poor working conditions, including child and slave labour, entailed in the Brazilian biofuels industry, as well as health problems caused by toxic wastes from the manufacture of semiconductors, which are central to the solar PV industry. Meanwhile, the construction of a large solar scheme in Gujarat in India has, through the enclosure, commodification and privatisation of land for the development, led to the land dispossession of vulnerable communities (Gambhir 2018). The decision to increase the installation of onshore and offshore wind turbines in Scotland, which may make sense in the context of lowering emissions and potentially ensuring new forms of technical work for Scottish workforces, may have impacts on indigenous and local communities elsewhere in the world whose land is mined for the mineral and metal resources required to supply turbine and generator parts. Such examples highlight that replacing fossil fuels with low-carbon energy sources will not in and of itself address injustices, including the inequitable distribution of environmental hazards and the lack of influence of communities affected by renewable energy infrastructures (Gambhir 2018: 7).

1.4 Persuading workers/communities to support the transition; ensuring broad inclusion of different workers and groups offsets risks of political/social unrest

Some have warned that if just transition policies are not sufficiently inclusive or wide-ranging, there is a danger that certain groups will benefit over others, in turn raising the risk of populism and political unrest. At the COP 22 Climate Summit in Morocco, Jochen Flasbarth, State Secretary of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety warned that a "poorly managed transition from fossil fuels to cleaner forms of energy and industry will lead to a rise in populist and illiberal forces" so the promotion of renewable energy must "leave nobody behind" (King 2016, cited in Abraham 2019). Labour union officials have at times argued along similar lines. Luc Triangle, the general secretary of IndustriALL Europe, has said that the loss of well-paying, stable, skilled jobs in heavy industry drives the anger behind the increasing popularity of European populist parties. Mazzocchi similarly believed workers facing environmental restructuring without support from a proactive labour movement could find fascism attractive (Leopold, 2007, p. 413, cited in Abraham 2019). Triangle argues that risks of political unrest could be mitigated by guaranteeing income security for workers displaced from carbon intensive jobs and

investing heavily in renewable energy to create green jobs (Triangle, 2019, cited in Abraham 2019).

However, Abraham writes that actions taken in the name of 'just transition' can also accentuate inequalities and socio-economic divisions. His criticism seems to be directed particularly at forms of just transition that are being implemented in parts of Germany, particularly the Ruhr Valley, where more precarious coal-workers have not benefitted to the same degree as other, longer-serving workers (this is discussed further in Part Two). Whilst arguing that the concept of just transition maintain its character as a labour policy stemming from the labour movement, Abraham notes that it should include broader social justice goals, including policies such as universal basic income, which would render the government an employer of last resort for those without jobs. Such approaches, he argues, would help to prevent tripartite negotiations over transition policy enabling the "creation of a labour aristocracy, which would fuel contingent workers' resentments of big labour, and abet anti-labour politicians" (Abraham 2019).

1.5 Principles of just transitions: A need for a broader understanding of just transition?

As suggested above, the impacts of energy transitions are likely to extend far beyond just those felt by workers directly employed in the coal, oil and gas industry. This suggests that transition planning should include a broader set of actors and issues, and that more complex interventions than simple job substitution and worker retraining are likely to be needed. Such interventions might include facilitating the introduction of universal basic income, dynamising local communities and economies, and fostering new relationships with land. Such approaches would avoid the need to pick 'winners' and 'losers' of a just transition, and help to generate new regional or sectoral economies, opening the way to more resilient communities that can support the changes to come (Eisenberg 2019).

There is unlikely to be a universal policy approach that ensures an equitable transition in all contexts, given that transitions will look different based on the structure of the industry, workforce and community in each fossil-fuel-dependent region (Piggot et al. 2019). Developing energy transition plans that take into account both climate imperatives and social justice concerns is a challenging endeavour, and there is no simple recipe for a just and equitable energy transition. However, some commentators have established a number of principles that they consider applicable when developing and implementing just transition policies in any context (Piggot et al. 2019). The Stockholm Environment Institute proposes the following:

A. Long-term energy transition strategies that align both with agreed climate goals and commitments to improving social equality

For most countries, this means planning to phase out new fossil fuel development, based on the recognition that further development will likely strand workers, communities and assets as more aggressive climate policies take hold. Ideally, these long-term transition strategies should align with other national development plans focused on social and economic development (such as green job policies and plans for advancing gender equality). Moreover, proactive planning, in a comprehensive way that includes all relevant

stakeholders, will help increase the likelihood of an orderly, rather than disruptive, transition (Piggot et al. 2019).

B. Transition planning that takes into account both distributive and procedural justice, and considers those who will be affected throughout the whole system.

Distributive justice is concerned with the fair allocation of the costs and benefits of a transition. There are a number of important distributive justice questions raised by a fossil fuel phase-down, such as: Which coal mines, oil fields and gas reserves should close first? Who should be compensated for losses? How can transition planning account for non-financial losses, such as loss of culture or identity associated with industry closure? What kind of assistance is needed? How should support across companies, workers, households and communities be distributed to ensure that the existing unequal relations of gender, race, class, age and ability are not exacerbated? Who should pay for just transitions? Should the public pay or the employers who have left regions and workers vulnerable?⁶ SEI notes that there are no simple answers to these questions — decisions will be based in large part on the way fairness is defined, and the criteria used to determine distribution. For this reason, justice scholars argue that an important component of justice is the process through which decisions are made about how costs and benefits are distributed (Piggot et al. 2019).

The *procedural justice* dimension of a fossil fuel transition involves consideration of whose interests and what issues are taken into account in transition planning, and who gets to participate and hold power in decision-making forums. The broad spectrum of interests with a stake in transition planning includes people working in related industries, as well as households and communities that are dependent on fossil fuel revenues. It also includes those who will be adversely impacted by fluctuations in fossil fuel prices as a result of transition reforms, such as low-income households or those struggling to gain energy access. Moreover, an equitable transition planning process should also take into account inter-generational justice concerns, such as the impacts of decisions made today on future generations, or the need to support those historically harmed or marginalised by fossil fuel development (Piggot et al. 2019). In practice, this means transition planning will need to involve more than just those directly affected by industry closure (such as fossil fuel companies and workers). It also will need to include those who will be indirectly affected by changes to their local economy or environment, and those who will be disproportionately affected by shifts in energy costs or provision (such as low-income households).

Opening up the energy planning process, and assisting a wider group of affected actors, will involve a more significant investment of time and resources. Governments could support

⁶ In the US, tobacco companies were involved in funding the TTPP program and the federal Worker Adjustment and Retraining Notification Act (1988) – the WARN Act. The WARN Act was enacted in 1988 in response to the rash of plant closings and layoffs that had occurred in the preceding years. It sought to ensure that workers, their families, and local community leaders had sufficient time to prepare for mass layoffs or plant closures. It obliges employers to provide at least 60-days' notice to employees of a covered plant closure or mass layoff. The Act covers employers who plan to lay off fifty or more employees during any thirty-day period, excluding part-time employees. The Act has been heavily criticised, but the idea could be helpful – perhaps a modernised WARN Act of just transitions law and policy would require 6-12 months' notice and options for assisting workers to retrain and relocate (Eisenberg 2019).

more holistic transition planning by redirecting fossil fuel subsidies, or using revenues generated from resource royalties, permit fees or carbon taxes to fund energy transition efforts. Single instances of legislative reform are unlikely to be adequate for the facilitation of more inclusive forms of transition planning. Whilst administrative law and policy can provide for mechanisms that facilitate communities' ability to pursue transition planning processes, flexible, 'messy', iterative governance approaches that do not necessarily guarantee certain outcomes are likely to be necessary. Such approaches require the involvement of diverse stakeholders in decision-making, equal bargaining between stakeholders, stakeholders with adequate resources and procedural mechanisms to pursue long-term, iterative decision-making or dispute resolution process, information exchange and the pursuit of win-win solutions. These practices would offer more space for recognising the complexity and the inter-relatedness between different aspects of socio-ecological systems (Eisenberg 2019).

C. The planning process should be seen as an opportunity to remedy existing systemic injustices

This could include addressing issues such as the unequal participation of women and other marginalised groups in the energy workforce and decision-making processes, helping households who have struggled with energy access, and improving "sacrifice zones" historically damaged by energy development. The first step in addressing these problems is to gather information about where inequities exist in the current energy system. This requires collecting socio-demographically disaggregated data (that is lacking in most contexts) in order to assess where action is most needed. But data alone will not be sufficient to drive progress — responsive policies and initiatives are also needed. Organisations such as the ILO are leading the charge on creating guidance for developing more holistic transition policies that look beyond simply keeping industry or workers solvent, to also include social dialogue, social protection, and employment rights as key parts of the transition agenda (Piggot et al. 2019).

In summary, Piggot et al. argue, an equitable transition policy should attend to both the distributive and procedural justice dimensions of transition planning. The policy development process should be participatory and designed to ensure the representation of historically marginalised voices, interests and issues in transition plans. What this looks like in practice, however, depends on a number of context-specific factors, including the history of fossil fuel development, the current structure of the industry, the energy mix and availability of alternatives, and existing gender and social inequality norms. Others note that just transition policies should be embedded into national and international frameworks for economic development, climate change and social inclusion.⁷

1.6 Mapping the range of approaches to Just Transition

The Just Transition Research Collaborative, drawing on existing stakeholder and academic classifications from Fraser (1995, 2005), Hopwood et al. (2005) and Stevis and Felli (2015), propose a useful framework for understanding the spectrum of approaches to Just Transition. They identify four ideal-typical forms of just transition, ranging from those that

⁷ <http://www.lse.ac.uk/GranthamInstitute/news/the-just-transition-comes-of-age/>

preserve the existing political and economic status quo to those that envision significantly different futures:

Type of Just Transition	Description	Examples
Status quo	<p>Corporations and free market advocates emphasise the business opportunities associated with a green economy. They do not call for changes to the rules of global capitalism, but rather a greening of capitalism through voluntary, bottom-up, corporate and market-driven changes. States or governments are expected to provide an enabling environment for action, through incentives to businesses and consumers, and objectives such as the Paris agreement. The need to compensate and/or provide new job opportunities to workers who will lose out as a result of the shift to a low-carbon economy is recognised; however, issues around job distribution or negative externalities produced by those jobs (such as degraded land and water in mining communities) do not enter in. Support may take the form of corporate-run job retraining programmes, pension schemes and other forms of compensation for affected workers.</p>	<p>The Ruhr, Germany: Displaced workers receive decent compensation and help in acquiring new jobs. Miners who have worked for at least 20 years can retire at 49 and then receive a monthly stipend until they qualify for a pension. Young miners are given another energy or mining job, or else are re-trained while still receiving decent pay.⁸</p>
Managerial reform	<p>Greater equity and justice are sought within the existing economic system. While certain rules and standards are modified and new ones can be created – on access to employment, occupational safety and health – no changes are made to the economic model and balance of power. Advocates of this approach recognise that the existing fossil fuel regime generates rising inequalities within fossil-dependent communities, and that existing labour standards are ill-adapted when it comes to securing workers’ health and wellbeing. Enterprise-wide planning, as well as social dialogue between unions and employers, are presented as key means to reduce emissions whilst increasing resource productivity.</p>	<p>The International Trade Union Confederation (ITUC), the ILO’s Just Transition Guidelines, a number of national unions, large environmental organisations, and private sector initiatives, including the Sierra Club, support managerial reform rooted in public policies and investments, and call for measures such as skills development, OSH measures, the protection of rights in the workplace, social protection and social dialogue. Workers and their unions are considered both the beneficiaries and drivers of the shift towards a low-carbon world. The ITUC focuses on labour-related issues, but does not question the established economic model. Emphasis is</p>

⁸ Abraham 2019

		placed on social dialogue and tripartite negotiations between governments, unions, and employers as the process through which rights/benefits can be secured.
Structural reform	A structural reform approach attempts to secure both distributive justice and procedural justice, ⁹ implying institutional change. Solutions are not solely produced via market forces or traditional forms of science or technology, but emerge from modified governance structures, democratic participation and decision making, and ownership. ¹⁰ The distribution of benefits or compensation is not granted via top-down mechanisms, but rather is the result of the agency of workers, communities and other affected groups. This type of transition highlights the fossil fuel energy system's embeddedness in society and the structural inequalities and injustices that it produces. ¹¹ This kind of reform might be found at local levels in small, worker/citizen-owned energy cooperatives. But it also entails implementation of new forms of governance that span political boundaries and reassessment of inequitable institutions and structures governing, for example, energy production and global supply chains.	The Trade Unions for Energy Democracy initiative advocates for a Just Transition politics that addresses labour-focused transitions in ways that also foreground the need for socioeconomic transformation and transition of the entire economy. ¹² However, it calls for a shift away from the social dialogue approach used by the ITUC and mainstream unions towards a social power approach, guided by the belief that current power relations must be transformed and that this can only be achieved through public/social ownership and democratic control over key sectors (especially energy). ¹³
Transformative	A transformative approach to Just Transition implies an overhaul of the existing economic and political system that is seen as responsible for environmental and social crises. ¹⁴ In addition to changing the rules and modes of governance, proponents promote alternative development pathways that undermine the dominant economic system built on continuous growth. While workers are an important part of this approach, a transformative Just Transition also involves the dismantling of interlinked	A range of groups, networks and organisations, such as the US-based Labor Network for Sustainability, Cooperation Jackson , the Oregon Just Transition Alliance , the Just Transition Alliance , the Climate Justice Alliance , Grassroots Global Justice Alliance , the Women's Environment and Development Organisation , the Indigenous Environmental Network (IEN)

⁹ Procedural justice entails an inclusive and equitable decision-making process guiding the transition, and collective ownership and management of the new, decarbonised energy system by the different stakeholders—rather than a single interest (see for example McCauley et al. 2013).

¹⁰ Healy and Barry 2017

¹¹ Healy and Barry 2017

¹² Sweeney and Treat 2018:2

¹³ Sweeney and Treat 2018

¹⁴ Hopwood et al. 2005; Healy and Barry 2017

	<p>systems of oppression—such as racism, patriarchy and classism—that are deeply rooted in contemporary societies. Common to the different interpretations of transformation is the notion of aiming for positive and progressive change that overcomes systems and structures that reproduce and exacerbate environmental problems and social injustice.¹⁵ However, there is no coherent vision of the pathways needed to arrive at transformative just transition. The processes required to bring about change are context specific and dependent upon the societal baseline from which it emerges.</p>	<p>and Movement Generation argue that economic inequality can be addressed in concert with environmental and climate justice, and the transformation of prevailing power structures, but that the process must be diversified, decentralised, democratic and community-led.</p> <p style="text-align: right;">Source: JTRC 2018</p>
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The JTRC report further differentiates between these approaches according to how inclusive they are in scope. That is, they take into account how far just transition policies are exclusive (directed at a specific group of actors, in terms of how resources are distributed) or inclusive (designed to benefit society as a whole).

It should be noted that the ‘transformative’ category presented in the typology of transitions above effectively coincides with ‘degrowth’ thinking, which aims to overhaul the growth-based economy. In doing so, it sits uneasily with dominant models of sustainable economics and development that are espoused, for example, by the Sustainable Development Goals (SDGs), and most particularly SDG 8 on decent work and sustainable growth.

Nonetheless, the JTRC report questions whether all the approaches included in the table above could, in fact, all be constituted as just. They note that it is possible to argue that maintaining the status quo is unjust because of the inequities and injustices associated with the current socioeconomic system. They also point out that past efforts at managerial reform have led to “cases of unjust land grabbing and social exclusion”. Accordingly, they argue for “a progressive interpretation of climate justice to overcome exclusionary approaches and rectify the many injustices that result from climate change”. They regard reform-type approaches that work to tweak or modify existing systems as valuable steps towards this goal.

¹⁵ UNRISD 2016. See also Stevis and Felli 2015; Healy and Barry 2017; McCauley and Heffron 2018; Heffron and McCauley 2018

Part Two: Existing policy frameworks for just transitions and other forms of socio-economic restructuring processes

2.1 Where are Just Transitions entering state and public discourse?

The concept of 'just transition' has begun to appear in international conventions and frameworks. In September 2015, the International Labour Organisation adopted a set of just transition guidelines based on dialogues between governments, businesses and trade unions.¹⁶ Shortly afterwards, the Paris Agreement on climate change¹⁷ included in its preamble the need for governments to take 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". In 2018, during COP24, held in Katowice, Poland, over 50 countries¹⁸ formally endorsed the Solidarity and Just Transition Silesia Declaration.¹⁹ Beyond these international fora of state collaboration, at the 2018 conference of IndustriALL, a global union representing 50 million workers in 140 countries in the mining, energy and manufacturing sectors, representatives from 70 trade unions and 50 countries expressed their determination to demand a Just Transition.²⁰

Nonetheless, the concept of 'just transition' has so far gained relatively little traction outside rich, highly developed countries in Western Europe, North America and Australasia. Reasons for the lack of uptake in poorer, less developed countries are likely to include their assertions of the right to economic development, the growth in energy demand, and their relatively lower contribution to greenhouse gas emissions (JTRC 2018). There are also complex political and economic issues at stake here regarding richer countries' past and ongoing forms of resource exploitation and extractive practices to poorer ones, as well as the outsourcing of their production and manufacturing needs to these countries. The structural interdependencies and inequities that have resulted from these arrangements mean that enabling 'just transitions' to emerge in many less developed parts of the world is likely to be at least in part contingent on changes in policy and economic practices in more developed countries (see below for discussion of German economic policy in European countries, such as Greece). How just transition frameworks will need to be adapted in recognition of these interdependencies and the needs of developing countries in the context of them is just one of the many challenges facing the 'just transitions' discourse.

However, as part of its 'Green Initiative', the ILO has initiated a pilot programme to enable less developed countries to adopt and implement employment and social policies in support of national commitments on climate change, using the Just Transition policy framework and

¹⁶ https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_432859.pdf

¹⁷ https://unfccc.int/sites/default/files/english_paris_agreement.pdf

¹⁸ https://cop24.gov.pl/fileadmin/user_upload/files/List_of_Leaders_and_Parties_endorsing_the_Solidarity_and_Just_Transition_Silesia_Declaration_updated.pdf

¹⁹ https://cop24.gov.pl/fileadmin/user_upload/Solidarity_and_Just_Transition_Silesia_Declaration_2_0.pdf

²⁰ <http://www.industrialall-union.org/just-transition-an-idea-whose-time-has-come>

the related ILO guidance.²¹ This work began in Ghana,²² the Philippines²³ and Uruguay²⁴ in 2016. Meanwhile, other developing countries have drawn up ambitious decarbonisation strategies that explicitly reference ‘just transition’. In its ‘Plan de Descarbonización’, for example, Costa Rica notes that it will identify “best practices in the field of just transition and produce plans relevant to the sectors exposed to the greatest impacts”.²⁵

It is also important to note that many policies and practices planned and implemented across both more and less developed countries address the kinds of social justice issues implied by just transition frameworks without any mention of the term. There are different reasons for this. Firstly, as discussed in Part One, the discourse of ‘just transition’ arose in a specific geography, time and context, within the US trade union movement, and particularly emphasises labour rights. It is only one of many different discourses circulating at international levels, and has only begun to be applied internationally within the last decade or so. The terms “environmental justice”, “social justice”, and “climate justice” are likely to have more purchase in areas of the world where many local communities bear the brunt of ecological and social effects caused by the extraction (through mining, the construction of pipeline infrastructures, etc.) of resources usually destined to serve distant, wealthier populations, the impacts of climate change and biodiversity loss (such as drought, flooding, and crop failure), and intersecting economic, social, and racial inequalities.

Secondly, perhaps in part because of its emphasis on labour rights, ‘just transition’ has thus far tended to be applied in the context of employment concerns over the transition of large-scale industries (particularly the coal industry) affected by economic change. Whilst definitions of the term have diversified in recent years as it has gained more traction internationally, it still tends to be applied most readily with respect to areas that are reliant on fossil fuels – and particularly, coal.

Thus, in the case studies that follow, the term ‘just transition’ is mentioned most particularly in more recent national strategic level and regional policy documents designed to support a transition away from fossil fuels (especially coal). The language of just transition duly predominates in policy processes relating to the movement away from coal production in Canada and Germany over the past few years. Regional activities designed to foster transition away from dependence on coal and steel in the Ruhr make less explicit mention of the term because the process of economic and social restructuring in the area began before ‘just transition’ began to enter more mainstream policy discourses.

In the US, we find the term applied intermittently, whereas in Norway’s state policy processes discussed below, it features rarely if at all. In the Peruvian case, which deals more particularly with regional and local land and forestry-related activities, the language of just transition hardly appears, in large part for the reasons given above.

Regardless of whether or not the term is explicitly mentioned, all of the case studies discussed are or have been drawing up policies or implementing measures that are highly aligned with the principles of just transition. Since they apply to the oil, gas and coal

²¹ https://www.ilo.org/global/topics/green-jobs/publications/WCMS_432859/lang--en/index.htm

²² https://www.ilo.org/africa/about-us/offices/abuja/WCMS_617876/lang--en/index.htm

²³ https://www.ilo.org/manila/public/newsitems/WCMS_559814/lang--en/index.htm

²⁴ https://www.ilo.org/global/topics/green-jobs/projects/latin-america/WCMS_559552/lang--en/index.htm

²⁵ <https://minae.go.cr/images/pdf/Plan-de-Descarbonizacion-1.pdf>

industries, as well as land and forestry, they offer useful and interesting insights that are likely to support a well-rounded debate over what a just transition might look like in a country like Scotland.

Nor are just transition processes only state-led processes. Far from it – as the remainder of this report will demonstrate. Regions that have been dependent on mono-industries, such as coal, have frequently begun transition-planning and activities before national governments. Approaches orientated towards facilitating just transitions are taking place at different scales, and many activities related to the broader frame of climate and environmental justice have been taking place for many years, often at local and regional levels. The following section will attempt to offer some examples of this.

In more developed countries, several national and regional governments have recently announced new transition planning processes, including Canada, Germany, Spain, Scotland, New Zealand and the European Union (Piggot et al. 2019). However, as will be shown below, for the most part, existing policies focus on compensating workers and communities directly affected by fossil fuel transitions, rather than on broader gender and social equality concerns. For example, in Canada, researchers have highlighted that policies focused on fossil fuel workers are likely to reinforce inequality. Women and migrants are over-represented in indirect, supportive roles to the sector — such as lower-paid service work and unpaid care work — but since they tend to be under-represented in the sector itself, they would not be covered by proposed worker compensation and re-training policies (Piggot et al. 2019).

The Stockholm Environment Institute also points out that transition planning rarely acknowledges the human rights and other social concerns that may result from a rapid shift in energy sources. If not managed carefully, a transition to alternative energy sources can bring its own array of social ills. For example, the rush to build new hydropower energy sources has raised a number of human rights issues, such as the forced resettlement of communities (Piggot et al. 2019).

2.2 Existing transition processes

This section will address in some detail both national and regional processes across several countries that incorporate, explicitly or otherwise, principles associated with ‘just transitions’. The key case studies addressed are the **United States, Canada, Germany, Peru and Norway**.

The processes discussed in each case are diverse. They include strategic national-level policy frameworks established by taskforces specifically dedicated to the theme of Just Transition (Canada and Germany); regional policy processes, explicitly focused on ‘just transitions’, that have been initiated in areas that are heavily reliant on coal production (Alberta, Canada, and Kentucky, in the US); and historical processes of structural transformation conducted over several decades that began up to decades before ‘just transition’ had begun to circulate in international discourse, but which, in later years, have come to be associated with it (as in the case of the Ruhr, Germany). It also looks at certain policies that make limited mention of the language of just transition in the context of wider decarbonisation and sustainability strategies (such as the US’ Mid-Century Strategies).

These are included in order to point to the ways in which the term is being deployed (or not) in such strategies.

In Germany, Canada and the US, the focus is predominantly on the transition away from coal (and other heavy industries, particularly steel, in Germany). In order to broaden the scope of the study to countries of a similar size to Scotland and with a comparable reliance on the oil and gas industry, the case of Norway is included. It is clear from this case study that Norway’s current policies are more focused on greening its industrial strategies, rather than facilitating a just transition away from oil. The Norwegian case is instructive insofar as it suggests that just transitions policy-making has been applied much less seriously or comprehensively to oil and gas production. This resonates with one general finding in this report; that national-level, and probably also regional-level, just transition processes have been predominantly applied in areas that are heavily reliant on coal production.

Meanwhile, the Peruvian case is introduced in order to draw attention to what is unfolding in places where debates around emissions and resource sustainability centre much more on land and forestry, two themes that are highly relevant for Scotland. Here again, ‘just transition’ goes unmentioned. Instead, the language used tends to be more focussed on indigenous rights with regard to land tenure and environmental justice.

It is important to note that the policies and processes studied here are very far from exhaustive. They are not intended to offer a comprehensive summary of all that is underway relating to just transition in any one of the countries mentioned. Each case study is intended only as a brief snapshot of the sorts of dynamics that are unfolding in the country addressed.

The range of initiatives discussed with respect to each case study are briefly summarised in the table below.

Country	Initiative	Dates	What kind of intervention (e.g. legislative/grant process/other)	Explicit mention of Just Transition?
US - National Transition Processes	The Trade Adjustment Assistance Program (TAA) – or the Trade Act of 1974	1974	Provided assistance to manufacturing workers displaced by reduced restrictions to trade;	No
	Northwest Forest Plan (NWFP)	1994	Provided assistance to timber communities displaced by reductions in timbering on public lands	No
	Tobacco Transition Payment Program (TTPP)	1990s		No
	Clean Power Plan (CPP)	2015-17	Aimed to limit emissions from power plants and mapped out plans for decarbonisation of US economy. Coupled with the Clean Energy Incentive Program (CEIP), which	No. But CEIP’s inclusion recognised need to provide transition support to certain segments of population.

			gives incentives to states to reward early investments in wind/solar generation and energy efficiency schemes, implemented in low-income communities.	
	Mid-Century Strategy	2016	Decarbonisation strategy submitted in fulfilment of Paris Agreement 2015.	Yes, to a limited degree. Mention made of scaling up “targeted support, to ensure [that] all Americans benefit from the low-carbon energy transition”
	Partnerships for Opportunity and Workforce and Economic Revitalization Plan (POWER program)	2015	Congressionally funded initiative established to assist coalfield communities, particularly in Appalachia, facing decline of coal.	Yes. Initiative offers economic and workforce development targeted at coal communities and workers, abandoned coal mine reclamation, and health and retirement security for miners and families.
US – Regional transition processes	Kentuckians for the Commonwealth	1981-	Formed to change laws exempting coal companies from paying tax on coal holdings. Works towards “new balance of power...more authentic democracy, a just and sustainable economy, and a clean energy future” by promoting community organising and direct action across Kentucky.	Yes. A multi-issue organisation of working-class families, it supports and campaigns for land reform, environmental justice and low-income assistance programmes.
	Just Transition Fund (JTF)	2015	Philanthropic fund set up by Rockefeller family and Appalachian Funders Network alongside 6 national and regional partners.	Yes. Aims to make investments that accelerate communities’ ability to respond to energy transition.
Canada – National transition processes	Generation Energy Council	2017	Mandate to advise on how Canada can transition to a reliable, affordable, low-carbon economy in the future.	Council’s 2018 report incorporates concerns related to a just transition into the 4 main pathways it identifies towards a low-carbon future.
	Pan-Canadian Framework on Clean Growth and Climate Change (PCF)	2017	Outlines various measures to mitigate negative impacts of low-carbon transition, including support for research on clean energy technologies, export of clean energy technologies developed in Canada, and pledges hundreds of millions of dollars for clean technology development and deployment.	Mentions job skills development.
	Task Force on Just Transition	2018	Mandated to engage with those affected by the phase-	Yes. In addition to identifying solutions to

	for Canadian Coal Power Workers and Communities		out of coal-production, collect information on the effects of transition, and “identify possible solutions that could support a just and fair transition for Canadian coal power workers and communities” (Government of Canada 2019).	enable a just transition, the Canadian Budget of 2018 dedicated \$35 million over five years to aid skills development and economic diversification activities, to help workers and communities adapt to Canada's transition to a low-carbon economy.
Canada – Regional transition processes	Advisory Panel on Coal Communities	2017	Examined the effects of the coal phase-out on workers and communities and released its recommendations for the provincial government.	Yes
	Coal Transition Coalition (CTC)		The Alberta labour movement formed this coalition of coal-affected unions in the province. This allowed affected unions to pool their resources and to speak with one voice.	CTC's was instrumental in defining the supports that Alberta coal-affected workers would need as part of the transition.
	Coal Community Transition Fund (CCTF)	2017	\$5 million funding program to supports local governments in developing community-level transition strategies, economic diversification plans and otherwise prepare local economies for the closure of coal mines and power plants	
	Coal Workforce Transition Program (CWTP)	2017	\$40 million funding program that provides coal workers with income support, relocation assistance and transition advice, retraining and other resources to help those workers find new jobs.	Yes
Germany – National transition processes	The Coal Commission	2018	Formed to facilitate a coal phase-out and just transition process.	Yes
Germany – Regional transition processes	The Ruhr	1970s-	A series of ongoing processes to transition away from coal and heavy industry.	Not to begin with. More recently, yes.
Peru	REDD+	2008	A variety of regulations and projects designed to support REDD carbon offset schemes.	No
Norway – National Transition processes	Strategy for Green Competitiveness	2017	A strategy laying out opportunities emerging from the 'green shift'.	No

2.3. The United States

2.3.1. Federal programs

i. Past (non-fossil fuel) transition programs

US Federal programs seeking to alleviate the effects of transitioning the economy away from long-established industries are not thought to have been particularly successful. Four of the most prominent instances when federal institutions have authorised transitional policy to address worker and community displacement include the **Northwest Forest Plan (NWFP)**, which provided assistance to timber communities displaced by reductions in timbering on public lands; the **Trade Adjustment Assistance Program (TAA)** – or the Trade Act of 1974 – which provided assistance to manufacturing workers displaced by reduced restrictions to trade; and the **Tobacco Transition Payment Program (TTPP)** – which assisted tobacco farmers displaced by public litigation against tobacco companies in the 1990s (Eisenberg 2019)

Neither the Northwest Forest Plan nor the Trade Adjustment Assistance Program is considered to have successfully mitigated the economic losses addressed. The Tobacco Transition Payment Program may have been more successful in part because many tobacco farmers were near retirement anyway, few depended solely on tobacco-farming income, and tobacco farmers may have been better able to exercise control over their own economic activities as compared to laid-off manufacturing or timber workers. Eisenberg (2019) notes that “directing large aid packages to benefits such as relocation assistance will inevitably be a band-aid approach if those packages do not address the root cause of workers’ and communities’ vulnerability”. She suggests that the root cause is the development of the dependency relationship or mono-economy in the first place, and argues that the very nature of such programs may reflect a ‘too little, too late’ approach to addressing longstanding histories of regional under-investment. She also notes the possibility that federal actors may be too detached from regional realities to meaningfully reshape a region (Eisenberg 2019).

ii. Just transition-related programs

The Obama administration put in place a number of federal initiatives that incorporated just transition principles. Three, in particular, bear mentioning here: The Clean Power Plan, the Mid-Century Strategy (MCS) and the POWER program.

- The **Clean Power Plan (CPP)**, which was unveiled on August 3rd, 2015, aimed to limit emissions from power plants, and mapped out a long-term plan for the decarbonisation of the US economy.²⁶ The CPP emphasised that investments in energy efficiency and renewable energy should be key means of addressing the economic impacts of a coal transition. To facilitate this, the US’ Environmental Protection Agency established the Clean Energy Incentive Program (CEIP) alongside the CPP.²⁷ The CEIP gives incentives to states to reward early investments in wind and solar generation schemes, in addition to demand-side energy efficiency programs, implemented in low-income communities. In this respect, the CPP recognised the need to provide transition support to certain segments of the

²⁶ <http://www.thefiscaltimes.com/Articles/2014/06/02/Pros-and-Cons-Obama-s-New-Carbon-Rule>

²⁷ <https://www.climaterealityproject.org/blog/why-clean-energy-incentive-program-matters>

population, as “employment gains and losses...would be expected to affect different sets of people” (cited in Piggot et al. 2019). In October 2017, under the Trump administration, the Environmental Protection Agency announced the repeal of the Clean Power Plan.²⁸

- After the Paris Agreement in 2015, national and subnational governments of signatory countries were invited to submit (by 2020) **Mid-Century Strategies**, outlining how they would reach their decarbonisation goals. The Executive Summary of the US’ Mid-Century Strategy asserts that it aims to lay out “how the United States can – by 2050 – meet the growing demands on its energy system and lands while achieving a low-emissions pathway, maintaining a thriving economy, and ensuring a just transition for Americans whose livelihoods are connected to fossil fuel production and use”.²⁹ Thereafter, no further explicit mention is made of a ‘just transition’ and references to justice-related issues are limited in the remainder of the document. However, mention is made of scaling up “targeted support, including economic and workforce development, to ensure [that] all Americans benefit from the low-carbon energy transition”. It also notes that “by implementing the MCS over many decades, most American workers and businesses will have ample time to adjust to a changing economy, as they would need to do over any 34-year period”, whilst recognising that “additional support may be needed for low-income households and for Americans who are particularly reliant on a high carbon economy”.³⁰ Here it points specifically to President Obama’s proposed Power Plus Plan (see below). Attention is given to the need to “structure carbon-based incentives” in the land sector, such as “carbon-based payments to farmers, ranchers and forest owners”. Whilst there is mention of the need to work with the wide variety of stakeholders who use and own land in the US – including private landowners, private sector bodies, NGOs, and tribal, local, state and federal government agencies – and to offer them flexibility so that they can decide what strategies will work for them, there are no specific references around equity and justice in this context.
- The **Partnerships for Opportunity and Workforce and Economic Revitalisation program (POWER)** is a congressionally funded initiative established in 2015, under the administration of Barack Obama. It aims to assist coalfield communities in the face of coal’s decline, making federal resources available (in 2015, the budget was between \$28-\$38 million) to support communities and regions – mostly in the cluster of states covered by Appalachia – that have been affected by job losses in coal mining, coal power plant operations, and coal-related supply chain industries.³¹ It was designed as a coordinated effort between multiple federal agencies (in 2015, the Department of Commerce, Department of Labor, Small Business Administration, and the Appalachian Regional Commission contributed funds) with the goal of “aligning, leveraging, and targeting a range of federal economic and

²⁸ <https://www.nytimes.com/2017/10/09/climate/clean-power-plan.html>

²⁹ https://unfccc.int/files/focus/long-term_strategies/application/pdf/us_mid_century_strategy.pdf

³⁰ https://unfccc.int/files/focus/long-term_strategies/application/pdf/us_mid_century_strategy.pdf

³¹ <https://www.arc.gov/funding/POWER.asp>

workforce development programs and resources to assist communities negatively impacted by changes in the coal industry and power sector”.³²

The initiative offers economic and workforce development targeted at coal communities and workers, abandoned coal mine reclamation, and health and retirement security for miners and their families (The White House 2016). To do so, it awards grants to partnerships (applications are invited from collaborations between representatives from government, economic development organisations, workforce development boards, community and technical colleges, businesses, labour unions, and community groups³³) based in communities affected by coal-related job losses. The grants are geared towards helping communities organise and respond on behalf of impacted workers and businesses, develop comprehensive strategic plans that chart their economic future, and execute coordinated economic and workforce development activities based on their strategic plans. Such activities are intended to: (1) diversify economies; (2) create jobs in new or existing industries; (3) attract new sources of job-creating investment; (4) and provide a range of workforce services and skills training, including work-based learning opportunities, resulting in industry-recognised credentials for high-quality, in-demand jobs.

iii. Impacts and Challenges

Given the large-scale change POWER intended to bring about and the short period of its operation, it is too early to assess its longer-term impacts. Nonetheless, a recently published report (Chamberlin and Dunn 2019) evaluating the program’s short-term impact notes a number of outcomes (See Box 1 below) and the following responses from grantees:

- 40% had seen impacts in the area of **social change**, including an increased sense of hope amongst project beneficiaries. Speaking of an education project, one interviewee observed that, “Now children aren’t growing up thinking they’ll finish high school and go into the mines”.
- Over a third reported seeing some early impacts in **economic development**, including industry diversification – a movement away from traditional industries, such as coal or coal supply chain, and towards new industries, including agriculture and food production, gas and energy, and tourism. Potential impacts for economic development also included improvements in quality of life and quality of place, potentially retaining or attracting more people and businesses. Some felt their projects had begun to transform “conventional wisdom about economic development” and others that they had kickstarted a “culture of entrepreneurship and innovation in their regions and communities”.
- Grantees also mentioned the overall vision and guiding principles of POWER as themselves having an impact, particularly in helping to build the credibility of projects, and supporting the establishment of new partnerships. Some grantees noted the value of POWER funds in accelerating activities that were already planned or in

³² <https://obamawhitehouse.archives.gov/the-press-office/2015/03/27/fact-sheet-partnerships-opportunity-and-workforce-and-economic-revitaliz>

³³ <https://obamawhitehouse.archives.gov/the-press-office/2015/03/27/fact-sheet-partnerships-opportunity-and-workforce-and-economic-revitaliz>

place. Others cited the importance of POWER in building hope for revitalisation (Chamberlin and Dunn 2019).

BOX 1: Impacts of the POWER Initiative in Appalachia

As of October 2019, the Appalachian Regional Commission (ARC) has funded 239 projects to help empower communities to create more diverse and sustainable economies under the POWER Initiative. These projects, which touch 312 counties in 11 states, are as diverse as the Appalachian region itself, deploying nearly as many different strategies as there are POWER projects, across six categories:

- **Business Development** projects support access to capital, business incubators, business site development, business technical assistance, entrepreneurship education, and export development.
- **Education & Workforce Development** projects support adult education, career and technical education, educational achievement/attainment, teacher training, and workforce training.
- **Asset-Based Development** projects support arts/culture/tourism and sector-based strategies.
- **Community Development** projects support community facilities, community infrastructure, community revitalisation, and transportation.
- **Civic Entrepreneurship** projects support community capacity and organisational capacity.
- **Health projects** support access to care and health promotion/disease prevention.

Source: Chamberlin and Dunn 2019

Overall, POWER is unlikely to be sufficient to address the losses incurred by deep decarbonisation in the US. However, the program's focus on diverse regional stakeholders and initiatives may put it in a better position to succeed than programs focused more heavily on one approach, such as worker retraining or providing direct subsidies to local governments (Eisenberg 2019).

iv. US Transition Planning: Gaps and Problems

A recently published report has suggested that the overall transition planning approach pursued under the last US administration contained some significant gaps with respect to equity and justice. It notes that the US' Just Transition programs have been **largely reactive** – responding to an existing decline in the underground coal industry – rather than creating a comprehensive vision for transitioning away from all types of fossil fuels (Piggot et al. 2019). Meanwhile, **transition planning for oil, gas, surface coal mining, and other related industries has largely been neglected**. According to the report, the lack of earlier and more proactive transition planning across fossil fuel sectors has several possible implications:

- 1) Younger workers may lack time to build the skills necessary to transfer to other industries, and new workers may be trained up for roles that are in fact disappearing.
- 2) Companies will have less time to shore up pensions and remediation funds and experiment with alternative business models while they remain profitable.

- 3) Opportunities to address existing gender and racial inequalities in the energy sector will be missed. Clean energy jobs in the US appear to follow patterns of exclusion – particularly the under-representation of woman and black or African American workers – that are similar to those affecting the fossil fuel industry. While the US government has implemented green jobs programs that aim to support disadvantaged workers — for example, the Environmental Career Worker Training Program (ECWTP), known until 2014 as the Minority Worker Training Program³⁴ — they have mostly focussed on training for entry-level jobs, rather than addressing structural barriers to participation in the energy workforce and equitable access to decision-making forums. The lack of a comprehensive transition planning process means that there has been no clear opportunity to think holistically about how the fossil fuel transition could be planned in a responsive way to address historic inequality in the energy sector (Piggot et al. 2015).

Moreover, the Obama administration based its plans on assumptions that growth in renewable energy would compensate for any future job losses. While jobs in green energy have been increasing in the US, they are not necessarily located in the same areas as disappearing fossil fuel jobs. The energy transition – as planned by the Obama administration – would therefore have contributed towards greater spatial inequalities in economic opportunity in the US (Piggot et al. 2015).

Others have noted that for displaced workers there are few similarly lucrative, low-skill jobs available as alternatives to mining jobs. Whilst the three principal traditional rural livelihoods — natural resource extraction, manufacturing, and farming — have declined dramatically, the sectors that have come to replace them are lower-paying positions in the service industry. These positions lack the security, culture, and regional influence of traditional livelihoods, and individual losses in wages and security have ripple effects in the region, not least for its tax coffers (Eisenberg 2019).³⁵

³⁴ The ECWTP aims to increase “the number of disadvantaged and underrepresented minority workers in areas such as environmental restoration, construction, hazardous materials/waste handling, and emergency response”. The ECWTP specialises in recruiting young, low-skilled members of the labour force. In general, the ECWTP provides training in basic construction skills; hazardous waste, asbestos, and lead abatement; and safety and health training. The ECWTP also provides preemployment job training, including literacy and life skills to its trainees. Since 1995, the ECWTP has provided instruction and job skills for roughly 9,600 individuals Sciences (National Institute of Environmental Health Sciences 2015).

³⁵ This perspective resonates with dynamics seen in other regions with a legacy of coal production, including in Britain. The effects of deindustrialisation and the decline of mining on British working-class communities have been well-rehearsed. Large numbers of white, working class men lost their livelihoods as traditional industries fell away, and since their skills and experience were not compatible with the demands of the emergent service sector, many of them had limited prospects within the new economic environment. As they were progressively locked out of the labour force, the 1980s saw a sharp increase in long-term unemployment in the areas most affected, particularly in Wales and the midlands, and “in certain locations, generations have passed through the economically active years of the life cycle without any realistic chance of secure employment” (Jackson 1998). Ethnographic research with mining communities has pointed to members’ self-reported belief that “prolonged unemployment, and the inevitable interaction with the welfare state bureaucracy, had

2.3.2 Regional just transition processes

In the US, different regions – many of them grappling with the legacy of coal – have adopted varied approaches to fostering just transitions. In terms of state-led processes, the government of Kentucky has sought to attract new industries to the area in order to facilitate job creation. In 2008, it introduced the **Kentucky Business Incentives** program, which offers tax incentives to companies that meet targets for job creation and hourly wages. In recent years, producers of aerospace parts, steel, brass and other finished products, which make use of the kinds of advanced manufacturing skills associated with coal mining, have established themselves in the state.³⁶ Nearby institutes offer courses to train students for positions in machine building and tool maintenance techniques. Meanwhile, the coal town of Hazard has developed a former surface mine site into a research and testing facility for drone companies, while also offering new skills courses through the local community college.³⁷

At another scale, the grassroots organisation, **Kentuckians for the Commonwealth (KFTC)**, which emerged out of the coal mining region of eastern Kentucky, has adopted a very different approach. It works towards its goal of a “new balance of power...more authentic democracy, a just and sustainable economy, and a clean energy future” by promoting community organising and direct action across the state.³⁸ KFTC was founded in 1981 as the Kentuckian Fair Tax Coalition, which formed to change tax laws that exempted coal companies from paying tax on their coal holdings and to challenge property laws that permitted coal companies to strip mine land without landowner permission, using the broad form deed.³⁹

The Coalition evolved into KFTC, which, which continues to support the Appalachian region. A multi-issue organisation of working-class families, it supports and campaigns for land reform, environmental justice, and low-income assistance programs, and seeks to build skills and confidence amongst its member organisations by offering workshops, leadership roles and mentoring opportunities. Its website notes that KFTC members use a range of strategies

produced a feeling of powerlessness and apathy” amongst them (Diedrich 2000). In the 1990s and 2000s, New Labour had attempted one kind of transition intervention, by spreading wealth towards those areas that had undergone industrial decline through fiscal policy – in particular, by strategically relocating public sector back-office jobs to South Wales and the North East, and introducing tax credits in order to make low productivity service work more socially viable. However, “this effectively created a shadow welfare state that was never publicly spoken of, and co-existed with a political culture which heaped scorn on dependency... New Labour offered ‘redistribution’ but no ‘recognition’...Not only was the ‘spatial fix’ a relatively short-term one, seeing as it depended on rising tax receipts from the South East and a centre left government willing to spread money quite lavishly (albeit, discreetly), it also failed to deliver what many...crave[d] the most: the dignity of being self-sufficient, not necessarily in a neoliberal sense, but certainly in a communal, familial and fraternal sense” (https://www.perc.org.uk/project_posts/thoughts-on-the-sociology-of-brexite/)

³⁶ <https://money.cnn.com/2017/11/08/news/economy/hazard-kentucky-coal-jobs/index.html>

³⁷ <https://money.cnn.com/2017/11/08/news/economy/hazard-kentucky-coal-jobs/index.html>

³⁸ <http://kftc.org/about-us/our-approach>

³⁹ https://en.wikipedia.org/wiki/Broad_form_deed

to achieve “organizing goals, including strategic communications, voter empowerment, non-violent direct action (ranging from letter writing to lobbying to protests and demonstrations), chapter building, grassroots fundraising, alliance building and litigation”.⁴⁰ KFTC is notably decentralised and democratic in structure: with more than 10,500 members across the state, it is governed by a Steering Committee elected by the members. It also has state-wide committees that recommend and implement key parts of its program, and in several localities, members have established local chapters in their county or city.⁴¹

Philanthropic efforts are also underway in Appalachia. In April 2015, the Rockefeller Family Fund and the Appalachian Funders Network created the **Just Transition Fund (JTF)** in conjunction with six additional national and regional foundation partners. The Fund was initially created in response to President Obama’s POWER Initiative (see above). The Fund aims to make direct investments that accelerate communities’ ability to respond to the energy transition and to offer technical assistance that supports “high-level stakeholder groups” in creating “innovative funding streams for transition projects and helping communities understand core transition strategies”. According to its website, JTF grants have “helped inject nearly \$24 million in federal funds to support and scale community-driven transition projects”.⁴²

Elsewhere, in New York state, the **Clean Climate Careers** initiative focuses on accelerating energy efficiency and renewable energy growth in a bid to attract companies specialising in new energy technologies. The initiative aims to create 40,000 new jobs in clean energy by 2020, and as part of its first phase, New York will invest up to US\$1.5 billion in major renewable energy projects, including wind and solar, and significantly expand energy efficiency and solar installations at public buildings. The investment will result in an additional 2.5 million megawatt-hours of electricity a year, representing the country’s largest clean energy procurement by a state (Wei 2018).

2.4 Canada

2.4.1 National just transition processes

As an oil-dependent economy that casts itself as an international leader on climate change, Canada plays out many of the tensions implied by energy transition (JTRC 2018). The country’s government-led efforts to support workers and communities affected by the phase-out of coal offers up a good example of what the Just Transition Research Collaborative has called “managerial reform with a relatively narrow scope” (JTRC 2018; see table at the end of Part One). The production of fossil fuels accounts for around 8% of Canada’s GDP and 15% of the country’s goods exports (Hughes 2018; Government of Canada 2018a, cited in JTRC 2018). More than 200,000 people work directly in the oil, gas and coal sectors — about 1% of the total labour force — and hundreds of thousands more work in jobs indirectly tied to those industries (Mertins-Kirkwood 2018:16, cited in JTRC 2018). In the communities and regions where fossil fuels are produced, the share of jobs and economic activity tied to

⁴⁰ <http://kftc.org/about-us/our-approach>

⁴¹ <http://kftc.org/about-us/our-approach>

⁴² <http://www.justtransitionfund.org/history>

oil, gas and coal is significantly higher. Nearly every job and the entire economy of Fort McMurray, Alberta, for example, in the heart of the tar sands, is dependent on oil production.

The extraction, processing, transportation, and consumption of fossil fuels constitutes the greatest proportion of greenhouse gas emissions in Canada. In order to reduce emissions in line with their international and domestic targets, Canada's federal and provincial governments are starting to take regulatory actions to reduce emissions from coal, oil and gas (Flanagan et al. 2017, cited in JTRC 2018).

On February 16, 2018 Canada committed to the phase-out of coal-fired electricity by 2030 as part of its goal to ensure that 90% of its electricity is drawn from non-emitting sources by the same year (Government of Canada 2018a), building on similar measures already taken by provinces such as Alberta (see below). However, coal-fired energy generation had been in decline long before this commitment was made: in 2005, approximately 16% of Canada's electricity was being generated by burning coal, but by 2016, that number had dropped to 9%, largely due to the closure of all coal-fired generators in Ontario (Government of Canada 2018b). Whilst coal has been an important part of Canada's electricity history, it has been rivalled by hydroelectricity and nuclear power for decades (Zinecker et al. 2018); 67% of Canada's electricity now comes from renewable sources, and 82% is drawn from non-emitting sources, including nuclear.⁴³ The economics of the electricity sector in Canada have meant that a shift away from coal was likely, particularly due to the lower cost of natural gas.

In 2011, roughly 42,000 people were employed in the coal industry sector in Canada, both directly and indirectly (PWC 2012). And in the four provinces where coal is still mined and remains a key part of electricity generation (Alberta, Saskatchewan, New Brunswick, and Nova Scotia), the impacts of phasing out coal-fired electricity are likely to be particularly high, affecting thousands of workers at generating stations and domestic thermal coal mines, up to fifty communities in close proximity to mines and generators, over a dozen generating stations, and nine mines (Government of Canada 2018b).

Labour unions and social and environmental activists in Canada have been advocating for a Just Transition to a cleaner economy for decades,⁴⁴ but the national coal phase-out provoked a new wave of calls for a Just Transition for affected workers and communities. The Alberta Federation of Labour has been an especially strong voice for coal workers in that province, while the Canadian Labour Congress (CLC), Unifor, the United Steelworkers and others have organised nationally on this issue (see, for example, Alberta Federation of Labour and Coal Transition Coalition 2017) (JTRC 2018).

In part due to this advocacy, and in part due to the political power of Canada's oil regions, governments across Canada have begun to outline and implement Just Transition policies. Canada is one of only a few countries explicitly using the language of Just Transition in the context of its climate and labour policies (JTRC 2018). The **Pan-Canadian Framework on Clean Growth and Climate Change** (PCF) (Government of Canada 2017) includes various

⁴³ <https://www.nrcan.gc.ca/science-data/data-analysis/energy-data-analysis/energy-facts/electricity-facts/20068>

⁴⁴ For example, the worker-focused organisation Iron + Earth has published a Workers' Climate Plan (Iron + Earth 2016) that proposes the following: the building of Canada's renewable energy workforce; the manufacturing of renewable energy products; the positioning of existing sector unions, contractors and developers within the energy sector; and renewable energy technologies and industrial-scale efficiency projects (Zinecker et al. 2018).

measures to mitigate negative impacts of low-carbon transition. This includes support for research of clean energy technologies, for job skills development, for export of clean energy technologies developed in Canada, and hundreds of millions of dollars for clean technology development and deployment. Meanwhile, in December 2017, the establishment of the 14-member **Generation Energy Council** was announced. The Council has a mandate to advise on how Canada can transition to a reliable, affordable, low-carbon economy in the future. In 2018, the Council published its report, which incorporates concerns related to a just transition into the 4 main pathways it identifies towards a low-carbon future (see Box 2 below).

Most concretely with respect to Just Transition processes, however, Canadian unions won a commitment to establish a **Just Transition Task Force** to ensure that workers and communities are provided with access to income protection, training and re-employment opportunities, and regional economic-development initiatives for impacted communities. This resulted, in late 2017, in an announcement by the federal government that a Just Transition Task Force — co-chaired by the president of the CLC — was to be set up to study the coal phase-out and make recommendations for federal transition policies by the end of 2018 (JTRC 2018; Government of Canada 2018b).

BOX 2: Opportunities identified by Canada's Generation Energy council

The Generation Energy Council's recent report identifies four main pathways to reach a low-carbon future and associated opportunities:

1. Wasting less energy will result in thousands of new jobs in the energy efficiency sector and could significantly contribute to Canada's emissions reduction target;
2. Switching to clean power will attract businesses that put a premium on clean power, including technology companies, and support the creation of manufacturing jobs related to electric vehicles and batteries in Canada;
3. Using more renewable fuels will support the growth of Canada's renewable fuel sector, creating new jobs and export opportunities that take advantage of Canada's plentiful natural resources;
4. Producing cleaner oil and gas will help garner public support in Canada for new infrastructure projects that will result in local jobs and economic growth, while also renewing the reputation of Canadian oil and gas abroad.

i. The Just Transition Taskforce

Canada's Minister of Environment and Climate Change launched the **Task Force on Just Transition for Canadian Coal Power Workers and Communities** in April 2018. The task force – which is composed of 11 representatives, from unions, the private sector, NGOs, academic and local government representatives – was mandated to engage with those affected by the phase-out of coal-production, collect information on the effects of transition, and “identify possible solutions that could support a just and fair transition for Canadian coal power workers and communities” (Government of Canada 2018b). To support the Task Force's work, the Canadian Budget of 2018 dedicated \$35 million over five years to aid skills development and economic diversification activities, to help workers and communities adapt to Canada's transition to a low-carbon economy (Ibid.).

At the end of 2018, the task force published its report, which included seven principles for a just transition (see Box 3), and a series of recommendations (see Box 4, below). In the report, the task force asserts that “the phase-out will have a ripple effect, impacting not only the workers at the generating stations and mines, but also those who work with the coal power sector, such as contractors and suppliers, railways, and ports. It may also, in some jurisdictions, be felt by electricity consumers who have relatively more affordable electricity rates from coal-fired electricity generation”. It notes too that “just transition means that society shares the costs of transitioning to a low-carbon economy” (Government of Canada 2018b).

Box 3: Taskforce on Just Transition for Canadian Coal Power Workers and Communities: Principles of a Just Transition

1. Respect for workers, unions, communities, and families;
2. Worker participation at every stage of transition;
3. Transitioning to good jobs;
4. Sustainable and healthy communities;
5. Planning for the future, grounded in today's reality;
6. Nationally coherent, regionally driven, locally delivered actions;
7. Immediate yet durable support.

Source: Government of Canada

The report also asserts that the transition away from coal-fired electricity constitutes only one piece of the puzzle, thereby implicitly acknowledging the far greater challenge of phasing out oil and gas production in the country. It states that projections suggest that Canada will decrease its use of fossil fuels starting as early as 2020, and that such a transition “will impact all Canadians, but particularly those workers and communities who directly rely on the fossil fuel industry”. Given this, it proposes that the Government of Canada could undertake a subsequent and broader phase of consultation and analysis on just transition in Canada with industries beyond coal. It adds that any such approach should involve Indigenous peoples, “consistent with Canada’s commitment to renewing nation-to-nation relationships” (Government of Canada 2018b)

ii. Positive Impacts of Taskforce

Zinecker et al. (2018) note the following positive impacts of the Canadian Taskforce:

- **A clear commitment to considering and addressing negative impacts on workers and communities.** Inclusive process and listening constituted a key part of the consultation. The task force visited every affected community to hear concerns and formulate recommendations.
- **The task force was composed of a range of members from diverse backgrounds, including labour, environmental groups, industry, and government, as well as from coal-producing provinces.**
- **The task force benefited from support from the highest levels of government.** Its message was carried by the Prime Minister and the Minister of Environment and Climate Change, signifying the high-level commitment to the phase-out plan, and helping to ensure buy-in from labour leadership and key industry representatives.
- **The Just Transition Task Force can be seen as an initiative to build a coalition for the phase-out among key stakeholders.** While there is apprehension in regions that will be affected by the phase-out, the task force’s beginnings have proceeded relatively smoothly, especially compared to other measures included in the Pan-Canadian Framework, such as carbon pricing (Rabson, 2018).

2.4.2 Regional transition processes

i. Just Transitions in Alberta

According to the Just Transitions Task Force's final report, from which this section predominantly draws, prior to the formation of the Just Transition Taskforce, some Canadian provinces – particularly those that are coal-producing – had already made significant steps towards energy transition. For example, the phase-out of coal is already well underway in Alberta, where coal forms a major part of the economy. In November 2015, the Government of Alberta released its Climate Leadership Plan, which included commitments to phase out coal-fired electricity and increase its power generation mix to 70% natural gas and 30% renewables by 2030. Given the availability of natural gas, some companies have begun switching coal-fired generating stations over to this lower-carbon emissions and reduced labour option, well in advance of 2030. As a result, layoffs have begun and more are anticipated in the near future (Government of Canada 2018b).

In 2016, the Government of Alberta concluded a \$1.1 billion compensation agreement with TransAlta, ATCO, and Capital Power, the major utilities in Alberta that use coal. In 2017, a provincial panel, the **Advisory Panel on Coal Communities**, examined the effects of the coal phase-out on workers and communities and released its recommendations for the provincial government (Ibid. 2018b). Meanwhile, following the release of Alberta's Climate Leadership Plan, the Alberta labour movement immediately organised a coalition of the coal-affected unions in the province to form the **Coal Transition Coalition (CTC)**. This allowed affected unions to pool their resources and to speak with one voice. The work of the CTC was instrumental in defining the supports that Alberta coal-affected workers would need as part of the transition. The Canadian Government's Taskforce report notes that this is a concrete example of how ensuring worker involvement throughout the process leads to better policy decisions and ultimately better outcomes (Ibid. 2018b).

The report also states that in response to the Advisory Panel's report and other considerations, the Government of Alberta has implemented programs to mitigate, to some extent, the impacts on workers and communities. In November 2017, it announced two funding programs: the \$5 million **Coal Community Transition Fund (CCTF)**, which supports local governments in developing community-level transition strategies, economic diversification plans and otherwise prepare local economies for the closure of coal mines and power plants (JTRC 2018); and the \$40 million **Coal Workforce Transition Program (CWTP)**, which provides coal workers with income support (through a top-up to the national employment insurance programme), relocation assistance and transition advice, retraining and other resources to help those workers find new jobs (see box 5 for more specific provisions) (Ibid.). Both were designed in consultation with workers, municipal leaders and other stakeholders to ensure they reflected the needs of affected communities (Ibid.).

BOX 4: Key points from the Task Force's recommendations

- **Embed just transition principles in legislative and regulatory arrangements**, particularly with respect to labour and the environment. These should be robust and difficult to reverse. Include just transition provisions in relevant agreements between federal and provincial governments to demonstrate commitment. Ensure that transition policy processes are integrated effectively into government processes through the formulation of a transition plan and the appointment of a lead minister responsible for its implementation.
- **Any such transition plan should be formulated, implemented, and evaluated in close collaboration with provinces, employers, workers, union, municipalities and economic development organisations.** Effective coordination between different federal departments and agencies in implementing the plan is vital.
- **The establishment of an independent multi-stakeholder advisory council to provide advice and oversight to the Government on just transition.** Through such a body, unions could continue to play an important role in policy development and delivery, respecting their deep knowledge of the issues, relationship with workers, existing networks, and long-term commitments to communities.
- **The establishment of a targeted, long-term research fund to study the impact of the coal phase-out and the transition to a low-carbon economy.**
- **Fund the establishment and operation of locally driven transition centres** in affected communities to serve as hubs for a wide range of services, including re-employment support, training, and social support services. These should be launched in collaboration with provinces, municipalities, regional bodies, employers and unions. They should be put in place before job losses; stay open for at least two years post phase-out; involve a wide range of stakeholders in their management and operation; be staffed with local residents and experts that can build face-to-face relationships with communities.
- **Provide workers with a pathway to retirement** by creating a pension bridging program for workers who will retire earlier than planned due to coal phase-out, without compromising earnings or retirement benefits. The program would be developed in collaboration with unions, provincial governments and employers.
- **Transition workers to sustainable employment by creating (in collaboration with employers, unions, provinces and municipalities) a detailed and publicly available inventory** with labour market information pertaining to coal workers, such as skills profiles, demographics, locations, and employers. This would serve as a baseline of labour market information and enable workers to connect with potential new employment opportunities and make informed decisions about retraining.
- **Create a comprehensive funding program (administered either at federal or provincial level) to address workers' needs across the stages of securing a new job, including income support, education and skills building, re-employment, and mobility.** This would provide affected workers 1) with employment insurance benefits of up to 75% of income for two years, regardless of home province; 2) wage top-ups of up to 90% of previously earned income for up to two years for affected workers who go back to work but in lower-wage jobs; and 3) funding to continue private healthcare plan coverage for up to two years. In addition, an education and skills building stream (provided by a university, community college or union-affiliated training centre) would provide workers up to \$20,000 for a maximum of two years to retrain, upgrade skills, and pursue additional education. A mobility stream would compensate those who relocate or travel long distances for new work.
- **Invest in community infrastructure.** Working with municipal, Indigenous, and provincial governments, the Government should look for ways to fund local infrastructure projects to help offset employment losses and support economic growth and job creation.
- **Support community planning, collaboration, diversification and stabilisation** by establishing a dedicated, flexible fund for affected communities. Such a fund would provide bridge funding to municipalities experiencing tax-base shortfalls and lost economic activity due to the coal phase-out, helping to maintain local services, build local planning capacity, diversify local economies, and support network-building and knowledge-sharing between communities.
- **Meet directly with affected communities to learn about their local priorities and connect them with federal programs that could support their goals.** In particular, representatives of the Government of Canada's Clean Growth Hub, which provides centralised advice on clean technology programs and services, should visit all the affected communities to explore how the Government's clean technology programs could fund local priorities.

Source: Government of Canada (2018b)

2.4.3 Conclusion

In principle, the initiatives outlined above are good examples of a Just Transition strategy. However, as the Just Transition Research Collaborative (2018) notes, their limited scope and ambition are likely to translate into limited impacts in practice. Firstly, Canada's Just Transition programmes are **narrowly targeted at specific workers in highly vulnerable regions**. For example, the CWTP includes a CAD\$12,000 tuition voucher that is only available to laid-off coal workers who meet specific criteria, so some coal workers do not qualify. Furthermore, those working in sectors indirectly connected to the coal industry, who are also at risk of losing their jobs when a coal mine or power plant closes, are denied the support these programmes offer. Since women and immigrants are disproportionately represented in jobs supporting fossil fuel workers — such as accommodation and food services — programmes like the CWTP risk exacerbating underlying inequalities in vulnerable regions (Mertins-Kirkwood 2018:19-20; JTRC 2018).

Second, these programmes are **reactive rather than proactive**. The CWTP is designed to mitigate harm to coal workers by transitioning them into new jobs or into retirement, but there is not yet a plan to scale up alternative, clean industries in the affected regions. Although the CCTF is a step in this direction, CAD\$5 million for community planning and investment promotion is not a substitute for public investment in new industries. Opting not to scale up publicly owned alternatives may constitute a missed opportunity to democratise the energy system (JTRC 2018).

The limited ambition of these Just Transition initiatives reflects the limited ambition of underlying climate policy. The phase-out of coal-fired electricity generation in Canada is a positive and necessary step in the shift to a low-carbon economy, and further steps will be required to reduce the country's emissions to the level agreed to under the Paris Agreement. For Canada to meet its domestic and international targets, it would need to implement similarly stringent policies addressing the oil and natural gas industries — sectors of the economy that are much larger than coal (JTRC 2018).

Canada's Just Transition of the coal sector falls into what the Just Transition Research Collaborative has dubbed the "managerial reform" category. The primary goal of the transition is to limit the social and economic harm of certain climate policies for certain workers and for communities through top-down government programmes. If the experiment proves successful, it may serve as a useful model for other sectors. However, the JTRC argues that Canada's coal transition should not distract from the ongoing need for an ambitious and comprehensive Just Transition that includes the country's oil and gas sectors as well. An energy transition on that scale may require a different labour policy approach (JTRC 2018).

Box 5: Support offered by the Government of Alberta's CWTP

To be eligible for financial support programs, employees must have worked for one or more of the affected coal-fired power plants or mines for at least one year immediately prior to receiving a layoff notice effective Jan 2, 2018, or later (<https://www.alberta.ca/support-for-coal-workers.aspx>)

- **Bridge to Re-employment**
Employment Insurance (EI) enhancements: workers receive 75% of previous weekly earnings to a maximum of 45 weeks.
- **Bridge to retirement**
Income enhancement for workers approaching retirement: workers to maintain 75% of their previous weekly earnings until they are eligible for employer pensions (to a maximum of 72 weeks);
- **Relocation assistance**
Payment of up to \$5,000 in expenses for workers who relocate at least 40 kilometres to start a new job;
- **Tuition support**
The Coal and Electricity Transition Tuition (CETT) Voucher provides workers with a maximum of \$12,000 in tuition vouchers for any post-secondary education and career retraining initiated within five years of the lay-off.

In addition to individual worker funding, the province offers: career counselling and job-search skills training at affected worksites; transition services to help develop individualised plans, identify existing skills, and administer short-term courses in skills development; help in establishing worker adjustment committees that bring employers, workers and unions together to develop transition strategies and to arrange training or match skills to job openings; and partnerships and labour force training for Indigenous communities.

Source: Government of Canada

2.5 Germany

2.5.1 National level transition processes

In June 2018, the **German Coal Commission** – composed of representatives from industry, trade unions, coal regions, environmental NGOs, research institutes and communities affected by the expansion of coal mines – was formed to facilitate a coal phase-out and just transition process. In January 2019, the Commission members finally published their recommendations after negotiations had been delayed by a major disagreement relating to the financial support for the regions most likely to be affected by an accelerated coal phase-out.⁴⁵ These include:

- The phase-out of coal by 2038 at the latest, with a review in 2032 to assess whether the exit date can be moved to 2035;
- Early closures of 12 out of 43 GW (in terms of electricity generated) of coal capacity by 2022. This includes already planned closures and lignite reserves;

⁴⁵ https://www.euki.de/wp-content/uploads/2019/04/E3G_2019_Briefing_German_Coal_Commission.pdf

- Reduction of coal capacity to 17GW (in terms of electricity generated) by 2030 (mix of hard coal and lignite). Trajectory is subject to negotiations with operators and other stakeholders and will likely be detailed in the coal phase out law;
- Investment of €40 billion in transition measures in lignite mining regions over a 20-year period, detailed in a transition law;
- Compensation of up to €2 billion per year for energy users (private and industry) in case of rising energy prices caused by the coal phase out;
- Compensation for operators of coal-fired power plants, subject to negotiations with the government;
- Likely conservation of the Hambach Forest, prominent symbol of the broad and popular civil society movement to end coal. No guarantees, however, for communities affected by the expansion of coal mines.
- The final report includes a list of hundreds of potential projects in affected regions and recommends generous funds for regional transition measures.

A recent briefing paper notes that mandating a commission to explore potential policy pathways, and thereby inform public debate and political decision-making, can lay the foundation for accelerated climate action.⁴⁶ Including relevant stakeholders in a participatory institution provides legitimacy and ownership for the managed transition, which ensures good representation of regional economic, social and cultural challenges and opportunities. However, the authors also point out that “the German experience with the Coal Commission shows that multi-stakeholder commissions can play a role in managing these sectoral transitions, but they are not a silver bullet to unlock transformative change”. Commissions, they argue, cannot replace political leadership and ambitious emissions reduction targets, which are crucial for any long-term planning and outcomes in line with the Paris Agreement. They note the risk that commissions are misused to delegate political responsibility or delay climate action, and point out that the mandate of a commission should not be overburdened with too many conflictual tasks in a short time frame as it otherwise risks failing to create outcomes and causing further political polarisation. Moreover, they suggest, climate policy interventions therefore should not be blamed for a lack of structural policy in the past. Key lessons learnt, as discussed in this briefing, are laid out in Box 6 (above).

In the same briefing, the authors point out that the final report of the Commission only sets out recommendations, which are not legally binding and have to be translated into law and concrete political action at national and state level. The recommendations will most likely result in legislation on two elements: a transition law detailing funding priorities and investments in affected regions and a coal phase out law. They note that additional amendments to existing legislation or regulatory changes might be necessary as well (Reitzenstein and Popp 2019).

⁴⁶ https://www.euki.de/wp-content/uploads/2019/04/E3G_2019_Briefing_German_Coal_Commission.pdf

Box 6: Lessons learnt from the Coal Commission

- **Outcomes of national commissions send strong signals to peer countries as domestic climate leadership becomes ever more important.** Compensation payments for fossil energy producers pose a threat by driving up transition costs and making replicability in other regions difficult.
- **It is difficult to negotiate climate goals, their implementation, and transition measures at the same time,** especially if those most affected by climate change are not represented.
- **Available funds for transition strategies need to support the sustainable development of affected regions.** Several projects proposed by the Commission may not create significant added value for the regions. But proper scrutiny of the regional transition strategies would have overburdened the Commission, so attention to the cost-effective use of public funds is needed.
- **Diverse commission membership means ambiguities in the final report will be difficult to avoid, which can fuel public debate instead of pacifying it.** Key concerns, such as lack of climate ambition (NGOs), the stability of energy prices/security of supply (energy-intensive industry) and compensation for power plant closure (utilities) are not resolved and could fuel political polarisation.
- **Many factors can impact the stability of the deal, the exit date and the transition process in the medium and long-term,** including public support, government changes, and climate policy trends.

On Commission Governance:

- **Multi-stakeholder commissions ensure buy-in and bring organised interests to the table, particularly in countries where phase-out debates are polarised, and political constellations complex.** Commission helped to bring many relevant stakeholders to the same table and trigger an intense public debate on the end of coal. Notably, one of the groups not represented in the Commission – the youth – is now the most vocal opponent of the outcomes.
- **A balanced setup of a large multi-stakeholder group supports inclusiveness but makes transformative change more difficult.** The Commission consisted of 28 members, representing often dissenting interests. The large size made it difficult to strike a balance between inclusiveness and the ability to work effectively.
- **Commissions should be mandated to explore multiple policy options to inform political decision making, rather than to develop one single recommendation.** Research suggests that commissions are better placed to create the conditions for transformative policy change if they are tasked with outlining multiple policy pathways, including the challenges and opportunities of each.
- **Commissions should create space for regional transition and sustainable development plans based on rigorous analysis of regions and the quality of proposed projects.**
- **The political context, such as elections, high level events or public protests, can impact outcomes of negotiations and the bargaining power of commission members.**

Transferability of lessons to other countries:

- **Multi-stakeholder formats are useful instruments for countries where phase out debates are complex and contentious.**
- **Multi-stakeholder commissions need a strong regional component to ensure that coal regions receive enough social and economic support to transition towards a low carbon economy.**
- **Availability of domestic, European or international funding sources for Just Transition is essential.**
- **The governance of the German Coal Commission holds important lessons for other countries and sectors beyond coal.**

Source: Reitzenstein & Popp, E3G (2019)

2.5.2 Regional transition processes: the Ruhr

One of the most frequently cited cases of a relatively successful historical and ongoing transition process is that of the restructuring – beginning in around 1970 – of Germany's Ruhr district away from coal and steel production towards 'eco-industry', knowledge-based services, and renewable energy. Located in North Rhine Westphalia, Ruhr district is the largest urbanised area in Germany, consisting of several large cities bordered by the Rhine, the Ruhr and the Lippe. In 2017, it boasted a population of over 5 million people, and it constitutes one of Europe's largest industrial zones (Schepelmann et al. 2016).

The huge coal deposits in the Ruhr region led to the establishment of numerous mines and steelworks. During the nineteenth century the region became the backbone of Germany's coal and steel industry. The Ruhr industry helped Germany to become a highly industrialised country, and produced the majority of its armaments in both world wars. After World War II it was key to the rapid German economic recovery. Within 150 years, its population increased significantly, rising from 200,000 in the early 1800s to 6 million in the 1950s. This rise enabled a rapid increase in the output of coal and steel, and by the middle of the 20th century, around 1 million people were employed in the industry, around 70% of the Ruhr's labour force (Ibid.).

However, in the 1960s, the Ruhr began to decline economically as world prices for coal and steel fell below production costs in the region, and demand began shifting from coal to oil. Factories and mines began to close, and between 1960 and 1990 more than half a million jobs in the Ruhr's coal and steel industry were lost. Initially, Germany's economic prosperity compensated for the job losses. However, by the 1980s, unemployment was running at 15% and there was mass out-migration from the area. In order to mitigate this development, both the state and federal governments began subsidising the mining industry (Ibid.). The German coal industry was provided with €295 billion in funds (at 2008 prices) between 1950 and 2008 (Meyer and Eidems 2009, cited in Schepelmann et al. 2016), of which the largest share went to the Ruhr district. At the same time, the state began investing in higher education, establishing five universities and sixteen universities of applied science. By 2012, 223,000 students were enrolled (Schepelmann et al. 2016).

According to Schepelmann et al. (2016), the Ruhr transition consisted of three inter-dependent waves of change:

- 1. Restructuring and transition with ongoing lock-in. The greening of dirty industries through pollution control and policies for nature conservation, which helped to establish an eco-industry (1960–1990s).** Coal mines were closed due to international competition and location disadvantages due to changed technology. The period from the late 1970s to 1989 was marked by the consequences of the 1974 steel crisis. Workers were absorbed into other sectors, but due to the degree of specialisation in the area and the dominance of a few large companies, the Ruhr continued to be locked into steel- and coal-based industries until the mid-1980s (Schepelmann et al. 2016; Galgóczi 2014). In this phase the emphasis was on efforts to restore and preserve already existing structures.
- 2. Diversification and reindustrialisation. The ecological reconstruction, clean-up and urban revitalisation of the Ruhr district (1990–2015).** New progress made in the knowledge-based economy, renewable energy and eco-industry. Active structural

change, as opposed to the passive accommodation of declining industries, was promoted by strengthening the role of SMEs⁴⁷ and by promoting technology transfer and industry diversification (Schepelmann et al. 2016; Galgóczi 2014).

- 3. The sustainable energy transition (2010 onwards).** The installed power of renewable energy rose nearly exponentially from 30 MW in 2000 to 588 MW in November 2012 (Schepelmann et al. 2016).

i. Lessons from the Ruhr

A paper by Bela Galgóczi (2014) lays out several key lessons from the experience of the Ruhr. These, along with one or two key points from other scholars, are summarised in the points below:

- **Transition processes take time.** In the Ruhr example even the breakthrough phase took some 15 years (from the mid-1980s to the early 2000s).
- **Attempts at reindustrialisation that did not adequately reflect existing capacities in the region were short-lived.** Nokia established a factory in the area that required semi-skilled assembly workers, but the initiative lacked “regional embeddedness”, ultimately proving to be a “bridging solution without a long-term perspective”.
- **The establishment of higher education institutions and the creation of technology centres laid the foundations of a knowledge-based economy** at a time when the economy was still locked into coal and steel production.
- **Emerging eco-industries in the Ruhr had to conform to the strict environmental protections established in North-Rhine Westphalia.** However, far from putting them at a competitive disadvantage, these regulations required the new industries to develop the capabilities needed to meet them. These capabilities drove economic growth: for example, the Ruhr steel industry is now a leader in recycling technologies; it specialises in high-quality steel and provides important inputs for the eco-industry.
- **Whilst bottom-up activities were crucial to the success of the Ruhr’s transition, top-down enabling factors played a key role.** A series of regional structural policy programmes were instituted in NRW over the course of the key transition periods, including the Ruhr Development Programme, which ran from 1968-1973, the North Rhine-Westphalia Programme (1970-1975), and the Action Framework Coal Regions (1992-1995). These provided structure and a clear sense of direction, and channelled funding for transition projects (the largest funder of ecological restructuring projects in the Ruhr was the European Commission, through its structural funds).

⁴⁷ Small and medium enterprises

Box 7: Obstacles to structural change – factors that impeded and delayed restructuring in the Ruhr:

- **Blocks to property development:** for fear of new competitors in the labour market, regional companies retained large properties or sold them at excessive prices, hindering new investors.
- **Limited educational opportunities:** until 1964, there was no university in an area with 5.4 million inhabitants. Since Bismarck's time in the nineteenth century, universities and university students have been regarded as sources of unrest, unwanted in Germany's economic heartlands. Not until the 1970s and 1980s were a series of universities founded, establishing a knowledge base urgently needed for the rebuilding of the region.
- **Lack of innovation:** the monostructure of the coal and steel industry required highly specialised suppliers. The quantities and qualities of materials, machines, and services to be delivered were precisely planned. Consequently, as these suppliers were little inclined to improve, small and medium-sized firms that otherwise could have become the engines of structural change were not able to innovate as they might have done.
- **Regional image:** until 2000, the Ruhr was plagued by a persistent negative image concerning wages, housing conditions and leisure potential, so that outside investment and in-migration of highly qualified people were rare exceptions.
- **Missing opportunities for growth increased competitive pressure on stagnating or shrinking local communities.** The struggle for jobs, local taxes and inhabitants led to entrenched local egoism. Inter-communal or regional forms of cooperation were exceptions to the rule.

Source: Butzin 2013 (cited in Galgóczi 2014)

- **Transitions from energy-intensive industries to a green economy demand a comprehensive policy framework.** Structural and regional policies in the Ruhr included not only policies for industrial regional development and urban recreation, but also for education and the labour market, which were equally important. Land use and building regulations were also key. The establishment of industrial and landscape parks gave new impetus to regional development, whereas in previous decades large firms had prevented the establishment of new projects by holding on to areas of land they were not using.
- **Wider economic and political processes have also been instrumental to the Ruhr's transition.** These include the prices of fossil fuels, the European Emission Trading System for carbon allowances, and German obligations under the UN Framework Convention on Climate Change (UNFCCC).
- **A cooperative industrial structure with active roles for government, municipalities, employers and trade unions was a prerequisite for a successful and just transformation.** The proximity of cooperative actors in the state of NRW is a major reason for the success of the eco-transition. While national ministries are known to fight over competing policy choices with little regard for policy coherence, regional actors and city governments are more cooperative and more oriented towards achieving results on the ground. Despite setbacks and conflicts, there has been a long period of cooperation in the Ruhr. A decisive factor is that in Germany, state authorities – more

than national authorities – are responsible for innovation policy, helping to foster regional specialisation. However, as mentioned above, a clear and strategic vision, with a thorough assessment of the region's economic capacities and potential, was also essential.

- **Conventional just transitions may help well-established workers, but do not necessarily empower more precarious workers, or those who cannot access jobs in heavy industry to begin with (Abraham 2019). Inequalities between workers (and different parts of the population) could lead to political and social unrest and a rise in populism.** Between 1957 and 2013, employment in mining in the Ruhr dropped from 473,000 to 11,448, and stable jobs are increasingly difficult to find. The rapid decline in coal sales in 1993 brought forward plans for a socially responsible restructuring of the workforce. The legal framework for this process was based on the transition payments system (APG) introduced by state legislation in 1972 for coal industry employees. These payments take the form of financial bridging support, paid monthly, which is made available for a maximum period of five years to workers after early termination of employment and until they first qualify for the pension insurance scheme. All eligible employees (criteria of eligibility for APG are based on age and the number of years in service) who lose their jobs before the end of 2022 are entitled to receive such benefits as soon as they reach the specified age threshold and period of service. However, according to Galgóczi (2014), of the 18,000 employees still on the industry's books at the beginning of 2012, some 1,700 were not entitled to APG benefits. Whilst a new agreement was established in 2012 to address the needs of all permanent employees, including non-APG eligible workers, the terms of APG-eligible workers remain more favourable. In short, it has been suggested that the APG reforms dualised the labour force between regular workers with access to unions, job stability, and decent benefits and irregular workers with precarious work, poor representation, and meagre benefits (Voss 2018: 2–3; Abraham 2019: 9). Abraham argues that such low-income workers find the right wing AfD (Alternative for Germany) party's mixture of neoliberalism and welfare chauvinism attractive because they feel excluded from corporatist bargaining processes (2019). While employment numbers and exports have increased since the reforms, so has the proportion of Germany's workforce without union representation (Voss 2018: 17).
- **The expertise and infrastructures yielded by the coal-production heritage in the region has supported the establishment of eco-industries and greener energy schemes.** Some low carbon innovations in the region have built very directly on the legacy of the coal mining industry. For example, in the city of Bochum, the geothermal heat of mine leachate has been used to provide heat for public buildings, and there are plans to use decommissioned mines as pumped-storage hydroelectric power stations with underground reservoirs. These latter power plants will serve for load balancing the supply of renewable energy and the geothermal energy of the water will be used for district heating. Existing technical knowledge about pollution and waste helped to establish environmental technology businesses in North-Rhine Westphalia (NRW), and more than in other German states power companies in NRW can take advantage of the regional energy cluster to promote green power (Schepelmann et al. 2016; Galgóczi 2014).
- **The Ruhr case also underlines the importance of transition showcases that speak to people's imagination.** The new concepts introduced by new projects, such as the

Zollverein⁴⁸ and Emscher⁴⁹ Parks, which showcase industrial cultural heritage, were a turning point for the Ruhr's image: it was no longer seen as a stagnant, polluted area of sunset industries, but as a place for innovation.

Recent scholarship on the Ruhr suggests that its restructuring is the product less of a singular vision of 'just transition' than of a confluence of overlapping transitions, whose relative success has been ascribed to the collaborative activities of regional actors alongside enabling external factors (Schepelmann et al. 2016). The process was not designed around a single master plan, but emerged through a number of different plans, alongside the interventions of numerous institutions and actors (Ibid.). Thus, on the one hand, local authorities saw themselves as responding to problems of pollution, depopulation and the loss of jobs in coal mining and steel.

On the other hand, a strong environmental movement was on the rise, and supportive national policies approved by parliament played an important role. Flagship projects and investments in education and research also helped to make the transition from dirty industry to a green industry in a greener landscape. In short, the Ruhr transition was "embedded in a discourse of ecological modernization, which translated into political action and matured into a societal transition" (Ibid.). The way in which the different transitions are related to or even build on each other is a topic for deeper analysis.

None of the transitions in the Ruhr is finished: the share of coal is still higher than the share of renewables and cities are becoming depopulated. The Ruhrgebiet has 600,000 fewer inhabitants than in 1960, and the city of Essen now has 140,000 fewer inhabitants (Schepelmann et al. 2016). Nonetheless, many of the elements of models of transition management (e.g. Rotmans and Loorbach 2010), are being confirmed by the restructuring of the Ruhr district, including the importance of an inspiring and concrete vision shared by most actors, partly in the form of opening up environmental amenities and preserving industrial heritage; of retaining labour and preventing depopulation; of establishing platforms for strategic thinking; of implementing special innovation projects to act as stepping stones for transition processes; and setting up transition institutions (Schepelmann et al. 2016).

2.6 Peru and REDD+

2.6.1 REDD+: A brief overview

Protecting forests is thought to offer the greatest potential for the mitigation of climate change based on land area. Some calculations suggest that halting deforestation, restoring

⁴⁸ Zollverein is an old mining operation which was closed at the end of the twentieth century and subsequently declared a UNESCO World Heritage Site. It is now a large park combining industrial archaeology, green landscape, leisure installations, and cultural facilities (<https://www.publicspace.org/works/-/project/k127-zollverein-park>).

⁴⁹ Emscher Landscape Park is an industrial heritage site that has seen a disused steelworks converted into an open-air recreation and leisure park (<https://climate-adapt.eea.europa.eu/metadata/case-studies/a-flood-and-heat-proof-green-emscher-valley-germany/11305605.pdf>).

forests and improving forestry practices could absorb a significant proportion of carbon dioxide in the atmosphere (see also Griscom et al. 2017).⁵⁰

One of the key instruments that has emerged to address deforestation is the REDD+ (Reduced Emissions from Deforestation and Forest Degradation) program, a PES (Payments for Environmental Services) system. A wealth of literature has been produced on REDD+, not least because of its complexity and the controversies that have developed around its framing and implementation, and I am unable to do justice to these discussions here. Whilst the language of just transitions is only just beginning to circulate in policy settings in Central and South America,⁵¹ and does not appear to be commonly applied in the context of REDD+, I reference it in this report in order to point to a key instrument being used in developing countries (though one that has to a large degree been implemented in partnership with organisations from more developed countries) that offers some potential for addressing climate change, land and resource use, and social justice issues together. In effect, in addition to being regarded as a tool for climate change mitigation, REDD+ is seen as a means of strengthening governance of forests, promoting sustainable land-use planning, protecting biodiversity and improving rural livelihoods.⁵²

REDD developed from a proposal in 2005 by a number of countries, led by Papua New Guinea, that banded together under the name, Coalition for Rainforest Nations. Two years later, their proposal was taken up at the Conference of the Parties to the UNFCCC in Bali (COP-13). When first proposed in 2005 the scheme was initially referred to as RED (Reducing Emissions from Deforestation), and was subsequently modified to REDD, Reducing Emissions from Deforestation in Developing Countries or Reducing Emissions from Deforestation and Forest Degradation (Dehm 2016). In December 2010, at COP-16, REDD formed part of the Cancun Agreements, in the Outcome of the Ad Hoc Working Group on long-term Cooperative Action under the Convention.⁵³ In paragraph 70 of the Outcome, REDD is addressed in the following terms:

“Encourages developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities, as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances:

- (a) Reducing emissions from deforestation;
- (b) Reducing emissions from forest degradation;
- (c) Conservation of forest carbon stocks;
- (d) Sustainable management of forest;
- (e) Enhancement of forest carbon stocks”⁵⁴

The first two points (a) and (b) formed part of REDD. Points (c) to (e) above refer to additional components that came to be named as REDD+. The agreement at Cancun

⁵⁰ <https://www.wri.org/blog/2017/11/conserving-forests-could-cut-carbon-emissions-much-getting-rid-every-car-earth>

⁵¹ <https://www.letraslibres.com/mexico/ciencia-y-tecnologia/una-transicion-justa-america-latina>

⁵² <https://www.wri.org/blog/2016/09/insider-why-good-forest-governance-crucial-successful-redd-programs>

⁵³ <https://redd-monitor.org/redd-an-introduction/>

⁵⁴ Decision 1/CP.16, ‘The Cancun Agreements: Outcome of the Work of the Ad Hoc Working Group on Long- Cooperative Action Under the Convention’ FCCC/CP/2010/7/Add.1 (15 March 2011), para 70

determined that these latter activities should receive as much emphasis as reducing emissions from deforestation and forest degradation (Dehm 2016).

Funding to support countries to develop and implement REDD+ programs comes from two key sources. Firstly, there are multilateral funds such as the World Bank's Forest Carbon Partnership Facility (FCPF) and the UN REDD Programme, and bilateral government funding from countries like Norway (for example, its International Forests and Climate Initiative).⁵⁵ Secondly, there is funding from private sources, which in many cases involves treating REDD as a carbon mitigation 'offset' and getting polluters to pay to have their continued emissions offset elsewhere through a REDD project.⁵⁶ The stated aim of REDD+ is to 'make forests more valuable standing than they would be cut down' by providing economic incentives to address tropical deforestation and forest degradation in developing countries through the production of carbon credits from such 'result-based actions'. The dominant rhetoric around REDD+ stresses its potential as a 'win-win-win' solution that brings together the different thematic areas of climate mitigation, biodiversity protection and poverty reduction (Dehm 2016). Others suggest that legislation reforms and preparations for REDD+ initiated in 2008 have prompted processes that are more participatory than ever before in the history of the forestry sector (Che Piu and Menton 2014).

However, REDD+ has also proved highly controversial. Critics of the framework argue that:

1. **The proposal that REDD+ carbon credits can be purchased by wealthy, developed countries as 'offsets' to use towards their own international climate mitigation compliance obligations is problematic, raising questions around environmental integrity and social justice.** There are concerns that carbon markets and the use of offsets may distract from urgent structural changes needed in energy production use and distribution, facilitating 'carbon lock-in' (Dehm 2016). Activists argue that carbon trading does not reduce emissions because for every carbon credit sold, there is a buyer; trading the carbon stored in tropical forests would allow pollution in rich countries – and by extension, global warming – to continue.⁵⁷
2. **The "conservation of carbon stocks" will mean forests are viewed simply as stores of carbon rather than ecosystems,** which could lead to primary forest being cut down and replaced with plantation forest elsewhere or in situ.⁵⁸
3. **It is impossible to ensure the 'permanence' of forest carbon sequestration** given persistent risks of forest fires, climate-induced ecosystem impacts and illegal logging (Dehm 2016).
4. **The assumptions behind 'additionality'⁵⁹ are problematic.** Critics also argue that 'leakage'⁶⁰ cannot be prevented if carbon mitigation does not have universal coverage and no measures are taken to reduce demand (Dehm 2016).

⁵⁵ <https://www.wri.org/blog/2016/09/insider-why-good-forest-governance-crucial-successful-redd-programs>

⁵⁶ <https://redd-monitor.org/redd-an-introduction/>

⁵⁷ <https://redd-monitor.org/redd-an-introduction/>

⁵⁸ <https://redd-monitor.org/redd-an-introduction/>

⁵⁹ Additionality refers to the REDD+ requirement that the changes incurred through projects would not have happened in their absence (see <https://redd-monitor.org/redd-an-introduction/>)

⁶⁰ Leakage refers to the fact that while deforestation might be avoided in one place, it may instead take place in another area of forest or in a different country (see <https://redd-monitor.org/redd-an-introduction/>)

5. **REDD+ fails to address the key drivers of deforestation**, including agribusiness, pulp and paper plantations, palm oil development and mining, and does not provide the structural incentives to address extensive unsustainable forest and land use (Dehm 2016).
6. **Some REDD+ projects have brought conflict and destabilisation to indigenous communities**, particularly those that have been implemented in areas where they do not hold secure land titles (ibid.; Espinoza Llanos and Feather 2018; Espinoza Llanos and Feather 2011).

2.6.2 Peru's experience of REDD+

Peru is considered highly vulnerable to climate change,⁶¹ and established fairly early on a number of plans, including the National Strategy on Climate Change, the National Strategy on Biological Diversity and the National Program to Combat Desertification. However, the government has not given high priority to its policies for climate change adaptation and mitigation (Che Piu and Menton 2014).

In Peru, forest constitutes some 73 million hectares of land, almost 60% of national territory, and round 47.5% of the country's greenhouse gas emissions are attributed to changes in land-use, in particular deforestation (Ibid.). Although logging is a big issue in certain regions, the primary drivers of deforestation are agriculture, mining and energy, in the form of hydrocarbon extraction and hydroelectric power stations (Ibid.). In July 2010, the National Program of Forest Conservation (PNCB) was created to help preserve 54 million ha of forest (80% of the country's forest cover) through conservation and sustainable use within 10 years. However, despite this pledge, annual rates of deforestation have increased and the government has merged its plans to address deforestation with commitments to reduce emissions (Che Piu and Menton 2014; Espinoza Llanos and Feather 2018). Thus, in September 2015, Peru was one of the first 80 countries to present its official commitments to reducing emissions by 30% before 2030 to the UNFCCC in the form of its Nationally Determined Contribution (NDC). This pledge was to be achieved primarily through a reduction in deforestation (Ibid.).

A 2014 report notes that the PNCB sought to establish a system of incentives for conserving forests and promoting sustainable forestry activities, including compensation for environmental services (MINAM 2010a, cited in Che Piu and Menton 2014). The Program implemented an incentive payment scheme for native communities through direct transfers of PEN 10 (about USD 3.80) a year per hectare conserved, involving about 48 indigenous communities. It expected the incentive system to eventually reach at least 10.5 million hectares of Amazon forest under indigenous tenure, and had allocated PEN 520 million for the purpose (Che Piu and Menton 2014).

Peru began taking preparatory steps towards establishing REDD+ projects in 2008. Regional governments manage most of the Amazon forests and face significant challenges in doing so. Thus, REDD projects at subnational level are implemented primarily by civil society institutions and private-sector organisations (Che Piu and García 2011; Che Piu and Menton 2014).

⁶¹ <https://www.cepal.org/en/comunicados/pesca-ganaderia-altoandina-y-agricultura-serian-los-sectores-mas-afectados-por-el-cambio>

AIDSESEP (Interethnic Association for the Development of the Peruvian Amazon) represents the indigenous peoples of Peru's Amazonian region and is their key spokesperson with regard to REDD+. The organisation's principal concerns with respect to REDD are to gain concrete assurances regarding the status of indigenous peoples' territories and right to free, prior and informed consent. AIDSESEP largely regards REDD as a threat to indigenous peoples (see below). However, in 2011 it opted to also consider it an opportunity under certain conditions (Espinoza Llanos and Feather 2011). In particular, AIDSESEP has recognised that REDD+ and Peru's ratified NDC (National Determined Contribution) constitute an opportunity for indigenous and other actors to reinforce campaigns for land titling, territorial management and forest governance and to assert more control over the drivers of deforestation, including agribusiness, extractive industries and infrastructure programmes – all of which are key to the realisation of the NDC (Espinoza Llanos and Feather 2018).⁶²

Nonetheless, AIDSESEP regards REDD+ as a false solution, believing that emissions reductions achieved through REDD should not be used to meet reduction targets that should be fulfilled in developed countries (Che Piu and Menton 2014). But their primary concern is that REDD+ will undermine indigenous peoples. Regulations governing social and economic issues, planning and forest governance, and the rights of indigenous peoples, are scant in Peru.⁶³ There is no unified register of existing forest uses, granted rights and actual forest tenure. In the absence of this, there is uncertainty about who makes decisions over land use, tenure and rights over forests and indigenous peoples' titling processes in Peru (Ibid.). AIDSESEP noted in 2012 that nearly 20 million hectares of indigenous land were still awaiting recognition, titling or expansion of their land ownership and territorial assignments: five territorial reserves for the protection of indigenous peoples in voluntary isolation, eight communal reserves,⁶⁴ and at least 988 native communities (AIDSESEP 2012, cited in Che Piu and Menton 2014).

AIDSESEP has noted its concerns that REDD+ should progress without the presence of a regulatory framework, effective governance, and stronger indigenous communities. It wants political and legal reforms that recognise and demarcate outstanding territorial applications and safeguard the fundamental rights of indigenous peoples prior to the roll-out of REDD+ projects. In the absence of clear forest governance, secure titling, and adequate safeguards, AIDSESEP fears that REDD+ projects will negatively impact indigenous rights (Che Piu and Menton 2014). Box 8 summarises their key concerns.

⁶² Peru's NDC makes some reference to the first point: it indicates – albeit in a footnote – that “it is necessary to consider among the enabling conditions all actions leading to territorial and land use regulation and guaranteeing indigenous peoples' territorial security” (Ibid.).

⁶³ Peru ratified Convention No. 169 concerning Indigenous and Tribal Peoples in Independent Countries of the International Labour Organisation (ILO) through Legislative Resolution No. 26253 of 1993. It also signed and voted for the United Nations Declaration on the Rights of Indigenous Peoples (Ramos 2010). Peru's environmental legislation of Peru tangentially recognises the rights of indigenous peoples, an example of which is the prioritisation of the logics of use and extraction of natural resources over indigenous peoples' rights to lands and territories (Ramos 2010). After extended conflict between indigenous peoples and the then government, the new government passed the Law of Free Prior and Informed Consent with Indigenous Peoples and concluded its regulation in 2012 (Che Piu and Menton 2014).

⁶⁴ A type of natural area protected under indigenous administration.

The same report notes that in 2011 a key agreement between AIDESEP and MINAM, Peru's Environment Ministry, which administers the REDD+ program at national level, was made with respect to the terms governing REDD+ projects. Its agreements are given in Box 9.

Box 8: AIDESEP's concerns over REDD+ projects being pursued in the Peruvian Amazon

1. **National-level policies relating to REDD+ have tended to undermine indigenous rights and led to conflicts over land and resources.** Peruvian legislation has been slower to recognise indigenous peoples' rights to land than other countries in the region, and REDD+ projects were initially instigated without supporting participating communities to establish secure tenure in advance. In some cases, this has led to instances of land grabbing and marginalisation of indigenous peoples.
2. **Efforts to protect forests through REDD+ have been undermined by other sectors' contradictory policies.** Specifically, it is unclear how the Environment Ministry will halt deforestation when at the same time other government sectors are promoting forest colonisation, road construction, hydroelectric dams and the expansion of oil, gas and mining projects. Meanwhile, the forestry sector is continuing to favour large scale timber extraction and failing to enable low intensity community forest management.
3. **REDD+ policies overlook rights issues and prioritise carbon counting.** REDD+ projects tend to focus on technical issues such as deforestation baselines and monitoring, reporting and verification of emissions (MRV). Here, indigenous peoples tend to be viewed as one more stakeholder whose participation should be encouraged rather than as rightsholders over forests and their resources.
4. **Lack of national guidelines resulting in explosion of carbon piracy and unregulated subnational projects in indigenous territories.** Hitherto ignored indigenous territories now pose potential carbon offsetting ventures for project developers. Many are attempting to strike abusive deals directly with indigenous communities based on terms extremely favourable for investors and with no clear guarantees for the respect of indigenous peoples' rights to use and access customary resources. Clear measures are needed to regulate such 'carbon piracy'.
5. **Millions of hectares of unrecognised indigenous lands could lead to potential mass land grabs for REDD+ projects.** In one region (Loreto) alone NGOs and private investors have made hundreds of requests for environmental concessions, while thousands of hectares of indigenous territory applications remain unresolved. Furthermore, many other local REDD+ projects involve protected areas that overlap with unrecognised indigenous territories. While indigenous peoples' traditional lands remain unrecognised there is a risk of land grabs in indigenous territories for potential carbon offset projects.

Source: Espinoza Llanos and Feather (2011)

A further report from the same authors in 2018 notes that significant improvements have been made since 2011. It asserts that elements of REDD+ regulation and other climate mitigation projects that had undermined indigenous peoples' rights through, for example, the expansion of monoculture plantations, had been removed. **Furthermore, it notes that the state has brought REDD+ laws and policies into alignment with the territorial rights of indigenous peoples as part of their climate mitigation strategy, recognising that clarity over the legal security of indigenous land forms an important basis for the national emission reduction strategy.** It has also directed small amounts of funding to indigenous organisations, which have enabled 150 communities to gain legal recognition and 50 of them to gain full title (Espinoza Llanos and Feather 2018).

However, the report states that these achievements would not have ensued without the relentless campaigning of indigenous peoples and organisations. Furthermore, many

government commitments have not been implemented in practice; legal recognition for indigenous communities has been granted only in a small proportion of the 1376

Box 9: Key agreements between AIDSESP and MINAM (2011)

- 1) That actions would be taken aimed at reforming national land legislation to align with the international obligations assumed by Peru in terms of recognition and demarcation of indigenous ancestral territories.
- 2) To allocate USD 200,000 to the readiness for REDD+ budget and obtain another USD 800,000 to initiate the demarcation of territory in the region of Loreto.
- 3) To prioritise the use of funds from other REDD+ projects, such as FIP (World Bank's Forest Investment Program), for the recognition of indigenous peoples' territories.
- 4) To recognise the Indigenous REDD+ committees to be established at the national and regional levels and ensure their meaningful participation within the national REDD+ process.

Source: Espinoza Llanos and Feather (2011)

communities awaiting titles. In addition, the implementation of large programmes like the World Bank's Forest Investment Program (FIP) has been racked with delays, demonstrating that neither the state nor multilateral funders have the capacity or will to prioritise, supervise, and exert pressure for commitments to be realised. Both the Peruvian government and these multilateral banks suffer from a structural incoherence as they prioritise development based on extractive activities, which accelerates the production of emissions, while at the same time undertaking promises to reduce them. AIDSESP argues that it is due to the efforts of indigenous organisations such as themselves that the FIP, and other programmes, have not been cancelled (Ibid.).

2.6.3 Conclusions

- **REDD projects in Peru may bring improvements for local and indigenous communities, not least because in 2008 the government stated that ensuring co-benefits from projects would be a priority.** Peru also recognises that poverty is one of the causes of deforestation (Che Piu and Menton 2014). However, while existing national forestry planning instruments, such as the National Forest Strategy, address the fight against poverty, in practice, they do not apply specific measures to stop it. There is a danger that something similar could befall REDD.
- **Participation by indigenous and local people is hindered by the lack of information on REDD in formats and languages they can understand** (Velarde et al. 2010a; Che Piu and Menton 2014). REDD funders often have more relations with the government and NGOs than with local stakeholders and forest holders (Castaño et al. 2011, cited in Che Piu and Menton 2014). This signals the distance between those who will receive REDD+ payments or benefits and those who will fund them.
- **The success of REDD implementation requires clarity about land management and tenure rights.**⁶⁵ However, the lack of intersectoral support for socioeconomic development that would also stop deforestation and degradation is considered one of the biggest challenges facing REDD in Peru (Che Piu and Menton 2014)
- **REDD+ represents an opportunity for indigenous organisations, NGOs and other actors to address land justice issues.** The relationship between respect for indigenous rights and efforts to reduce deforestation is not universally accepted.

⁶⁵ <https://www.wri.org/blog/2016/09/insider-why-good-forest-governance-crucial-successful-redd-programs>

Where the relationship is acknowledged in principle, its implementation often depends on indigenous advocacy. For example, of the countries that form part of the FIP-DGM mechanism,⁶⁶ Peru is to date the only case where climate funds are being invested in the recognition and titling of indigenous territories. Most of the funds are being used to promote local community participation in REDD processes, the implementation of small productive projects, and monitoring programmes (Espinoza Llanos and Feather 2018).

- **In Peru, actions that have improved the activities and regulatory frameworks surrounding indigenous land rights with respect to REDD+ projects have been heavily driven by campaigning from key indigenous organisations, such as AIDSESEP.** This demonstrates a need for state and community actors to work together.

2.7 Norway

The Scandinavian countries of Denmark, Finland, Iceland, Norway, and Sweden have all developed progressive energy and climate policies that are among the most ambitious in the world. At present, about 87% of electricity generation in Nordic countries is low carbon, and 63% of it comes entirely from renewable sources. Norway, in particular, has set an ambitious target to reduce greenhouse gas emissions by 40% of 1990 levels by 2030, and as early as 2008 had pledged to be carbon neutral by the same year. The country's domestic energy needs are mostly met by renewable sources, and around 99% of all electricity produced and consumed is based on hydropower (Godzimirski 2014). It aims to create a fossil-free domestic economy, and implies that fossil fuels are socially, economically, and environmentally undesirable (Sovacool 2017).

However, whilst most of Norway's electricity for internal use is produced by hydropower and it has one of the largest fleets of electric vehicles per capita in the world, it remains one of the world's largest exporters of oil (Ibid.). Since North Sea oil was discovered in Norwegian waters in the late 1960s, exports of oil and gas have constituted critical elements of its economy. The hydrocarbons it produces are mostly exported; its large domestic fossil fuel production makes the country not only self-sufficient in energy supply, but also a major exporter of energy, exporting almost eight times more energy than it consumes (IEA 2017; Fisher 2013). In 2011, it was the eighth largest crude oil exporter in the world, and the ninth largest exporter of refined oil. It was also the world's third largest natural gas exporter, having significant gas reserves in the North Sea (IEA 2011). The state's net cash flow from petroleum (after covering the structural non-petroleum deficit) goes into a sovereign wealth fund for investment overseas. Established in 1996, the so-called 'oil fund' exceeds 4 trillion kroner (NOK) today, over NOK 800,000 (US\$137,850) per citizen (Fisher 2013).

⁶⁶ The Dedicated Grant **Mechanism** for Indigenous Peoples and local communities (**DGM**) is part of the Forest Investment Program (**FIP**), which forms part of Climate Investment Funds that provide funding to countries to address the direct and underlying drivers of deforestation and forest degradation (<https://www.worldbank.org/content/dam/Worldbank/document/Climate/DGM-FAQ-033015.pdf>).

Two of Norway's largest enterprises, the Government Pension Fund Global and Statoil (re-named Equinor in 2018), continue to invest hundreds of millions of dollars in hundreds of different coal and oil companies (Jorde 2013, cited in Sovacool 2016). This practice offsets the carbon gains made internally in Norway and also places other parts of the world at risk to the externalities generated across the fossil fuel lifecycle (Sovacool 2016).

Norway can achieve its promised target to become carbon neutral by 2030⁶⁷ only through significant carbon offsetting.⁶⁸ Under the United Nations accounting policy, countries are permitted to work towards fulfilment of emissions targets by financing environmental projects abroad. Domestic emissions are thereby "cancelled out" by, for example, reforestation schemes, elsewhere in the world.⁶⁹ Norway's climate policy is dominated by the purchase of emission quotas overseas, rainforest conservation, and carbon capture and storage. Through the UNFCCC (UN Framework Convention on Climate Change), Norway has supported adaptation financing, climate-related forestry and renewable projects in developing countries. In 2008, the country set up the International Climate and Forest Initiative, which provides funds to nations with large areas of tropical forest to prevent deforestation. It has pledged up to NOK3 billion (about USD 350 million) per year in development funding to support REDD+ projects across Latin America (see section on Peru above), Asia, and Africa.⁷⁰ It has also made large donations to the Green Climate Fund, which finances mitigation and adaptation in developing countries. However, since becoming involved in international climate politics, Norway has increased petroleum production, without constraining domestic emissions (Fisher 2013).

Environmental groups and others have criticised Norway's methods for achieving carbon-neutrality,^{71,72} arguing that the "feat relied too heavily on 'sleight-of-hand' accounting and huge donations to environmental projects abroad, rather than meaningful emissions reductions".⁷³ One study notes that "a baffling array of climate initiatives gives the appearance of action", whilst deep-seated domestic-level structural change is left out of the picture (Fisher 2013). Effectively, this study argues, the industry has co-opted environmental concerns to support continued fossil fuel production. The approach in Norway has, it suggests, been to maintain carbon-intensive activities to fund compensatory activities. Financing overseas reductions has effectively been used to purchase the right to continue emitting domestically; "ultimately, targeting reductions overseas works from the (correct) observation that global, not national, emissions matter. However, Norway only considers global emissions when avoiding domestic cuts" (Ibid.).

Most recently, in September 2019, the UN Special Rapporteur on human rights and the environment, David Boyd, pointed to the paradox that Norway's leadership regarding certain aspects of the global climate emergency is enabled by wealth generated by a large

⁶⁷ <https://www.theguardian.com/environment/2016/jun/15/norway-pledges-to-become-climate-neutral-by-2030>

⁶⁸ <https://cicero.oslo.no/no/posts/nyheter/climate-neutrality-the-norwegian-way-carbon-trading>

⁶⁹ https://www.nytimes.com/2008/03/22/world/europe/22norway.html?_r=1&pagewanted=print

⁷⁰ <https://www.oecd.org/dac/evaluation/Norad-Factsheet-interactive-final.pdf>

⁷¹ <https://cicero.oslo.no/no/posts/nyheter/climate-neutrality-the-norwegian-way-carbon-trading>

⁷² <https://www.theguardian.com/commentisfree/2019/nov/12/norway-flaunts-green-credentials-drilling-more-oils-wells>

⁷³ https://www.nytimes.com/2008/03/22/world/europe/22norway.html?_r=1&pagewanted=print

petroleum industry.⁷⁴ Whilst he praised the country's efforts to protect human rights and the environment, he noted that despite climate crisis, emissions from Norway's fossil fuel sector remained above 1990 levels and that exploration for additional oil and gas continues. Norway, he said, must put more focus on transitioning to a fossil-fuel free economy.⁷⁵

2.7.1 Just Transitions

Norway's fossil fuel reserves are considered mature, and without sizeable discoveries, the country will "barely be self-supplying" by 2030. Meanwhile, extraction costs are expected to rise as climate regulation and technological developments incentivise renewables, making petroleum-related investments "risky." HSBC has warned that "unburnable" reserves (given climate change) could strip petroleum companies of 60 percent of their value, with Equinor particularly exposed (Fisher 2013). In 2014, around 300,000 jobs were directly and indirectly dependent on petroleum, nearly twice as many as in 2000 (Nordbø and Stensland 2015). In 2020, around 19% of Norway's revenues are expected to come from the oil and gas industry.⁷⁶ If a transition process is implemented, there will be job losses associated with the phase-out of coal, natural gas, and oil, and potentially nuclear power. Some of these skills and jobs may be transferable to other sectors. Offshore oil platform engineers, for example, could potentially be deployed in the installation of offshore wind turbine foundations. However, there are likely to be many jobs that cannot be easily replaced (Sovacool 2016). Fossil fuel-dependent workers and communities are, therefore, in need of a planned and just transition (Fisher 2013).

Nonetheless, in general, despite the Norwegian government's ambitious climate policies, there has been until recently a notable lack of emphasis on domestic structural change. Current plans for internal development suggest a concern to devise a strong industrial strategy, which entails in turn an increase in consumption and emissions, with the Prime Minister, Erna Solberg, observing in 2017 that oil and gas will still be "the biggest business, the most value-added business in the Norwegian economy in 10, 20, 30 years".⁷⁷

There are some indications of change. In 2015, the Norwegian Government initiated an economy-wide approach to transition through the formation of an **Expert Committee on Green Competitiveness**. The Committee was composed of Connie Hedegaard, former European Commissioner for Climate Action, and Idar Kreutzer, Managing Director of Finance Norway, and its mandate was to prepare a proposal for an overall strategy for green competitiveness, with "recommendations on how an entire country can adapt to become a low emission society while also creating value and new jobs" (Government of Norway 2016). As part of this process, unions and employers worked together to develop long-term road maps for 11 key sectors, to transition these sectors to a low-carbon growth model while maintaining competitiveness.⁷⁸ In October 2016, the Committee published a series of recommendations for how the country can reduce greenhouse gas emissions while

⁷⁴ <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=25038&LangID=E>

⁷⁵ He also noted that the cumulative development of mines, wind farms, hydroelectric power plants, roads, and powerlines have resulted in loss and fragmentation of pasture lands and constitute serious threats to the sustainability of reindeer husbandry.

⁷⁶ <https://www.norskpetroleum.no/en/economy/governments-revenues/>

⁷⁷ <https://www.ft.com/content/9400bf9e-3157-11e7-9555-23ef563ecf9a>

⁷⁸ https://newclimateeconomy.net/sites/default/files/nce_facts_sheet_just_transition.pdf

maintaining high levels of output and employment.⁷⁹ The committee's recommendations and the input it received from stakeholders fed into the **Norwegian Government's Strategy for Green Competitiveness**, which was published in 2017.

The Strategy reiterated existing pledges to reduce emissions by at least 40% by 2030, whilst committing to job creation and ensuring welfare standards.⁸⁰ However, as implied by the title, the emphasis is on investments in schemes to enable growth in new and greener industries. For example, the document notes that it has been proactive in profiling and envisioning "Norwegian green solutions for increased exports and to attract international investors to Norway". It also points out that a further NOK 20 million would be added to the Ministry of Climate and Environment's grant supporting research on low emissions and green competitiveness, and that NOK 10 million would be allocated to technology development for the future of bio-economics and low-emission communities. In general, then, the emphasis is on building capacity in 'greener' areas of the economy.

However, there is no mention in the strategy of any plans to phase out the production of fossil fuels, or to put policies in place to ensure a just transition for Norway's oil and gas workers. Instead, at the end of the document, it is noted in a summary table that the government intends to maintain the country's oil and gas sector as "Norway's largest industry and increase the average recovery factor to at least 60%. The Norwegian shelf will continue to be world-leading as regards low CO₂. The sector will develop and use technology and solutions to reduce average CO₂ emissions per unit produced in 2050 substantially from the 2030 level" (Norwegian Government 2017: 55). Carbon Capture and Storage (CCS) technologies are frequently referred to in the strategy as the means by which this will be achieved. Whilst many mentions are made of the "transition to a competitive low-emission society", and there is some discussion of "green jobs" and the need to "green...the labour market", no specific policies are laid out, and no mention is made in the document of 'just transition'.

In short, at state-level, Norway does not as yet appear to have put any targeted workers' protection schemes in place to address the expected decline in petroleum extraction; nor are there any unified programmes for green, decent jobs to replace jobs in the oil and gas industry. The Soria Moria declaration of 2009, which formed the basis of the Red-Green Coalition government of the Labour Party, the Centre Party and the Socialist Left Party, stated that "green jobs within energy production and environmental technology will be a new growth industry". This increase appears not to have been viewed as a means of transitioning the economy away from fossil fuels, but rather as a move to promote the generation of green jobs alongside existing carbon-intensive trajectories (Fisher 2013). The 2017 Strategy for Green Competitiveness appears to follow a similar logic. Yet, the lack of integration of industrial, energy and environmental policy means climate initiatives are undermined by concurrent carbon-intensive development (Ibid.). This points to the highly contradictory nature of Norwegian climate policy, which pushes on the one hand for climate action at

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https://www.regjeringen.no/contentassets/02d09ccf18654070bc52e3773b9edbe1/green_competitiveness_executive_summary_nobember_2016.pdf

⁸⁰ <https://www.regjeringen.no/contentassets/4a98ed15ec264d0e938863448ebf7ba8/t-1562e.pdf>

global scales that is likely to further accelerate petroleum's decline, whilst – on the other – failing to put forward any scheme for domestic transition (Ibid.).

Despite the apparent absence of government strategy regarding a just transition or the phase-out of fossil fuel production, environmental and youth organisations,⁸¹ as well as some Norwegian trade unions, are agitating for change. Tripartite dialogue on climate change became part of national union-employer agreements in 2009. Some unions have argued workplace representatives and committees should be expanded to cover the “external environment” (including climate change), but this was rejected by a 2010 parliamentary committee. Three confederations – Unio (covering university and colleges), Akademikerne (the Federation of Norwegian Professional Associations) and YS (the Confederation of Vocational Unions) – have demanded a climate law, green taxation, and “green innovation” strategies towards a just transition.

YS has committed to protect “built-up union rights” and ensure these are transferred to new jobs arising from green investment and skills strategies. By contrast, while LO (the Norwegian Confederation of Trade Unions, Norway's largest workers' confederation) has backed several workplace environmental initiatives, and promoted just transitions internationally, it has opposed meaningful domestic cuts, encouraged (in alliance with employers) a restrictive view of carbon leakage, and supported greater oil and gas production. Other unions publicly lament LO's “deficient climate effort.” In the 2013 elections, several unions, environmental organisations and the Norwegian Church came together in an attempt to render climate change an electoral priority, campaigning for “100,000 climate jobs and green workplaces now!” (Fisher 2013).

Commentators point out that Norway would be in a good position to promote a just transition were it to phase out its fossil fuel industry. Just as it has deployed its hydrocarbon wealth for the public good, both nationally and internationally, it is argued, so it could apply similar approaches with respect to green industries, with a state-owned enterprise, such as Equinor, driving development. One state-owned enterprise could, like Equinor for petroleum, drive industry development and help facilitate a just transition.

Green industries are a growing sector and can borrow from existing expertise; for example, the solar industry is constituted as a global player partly due to knowledge transfer from the process industry for new petroleum fields. “Petroleum developed as it did because state, capital and labour pulled in the same direction; the crucial process is entangling these social relations and pointing them in a new one” (Fisher 2013). Fisher cautions against the danger of new forms of exploitation emerging with the development of renewables – in particular,

⁸¹ A recent Guardian article (<https://www.theguardian.com/commentisfree/2019/nov/12/norway-flaunts-green-credentials-drilling-more-oils-wells>) notes that “In a high-profile lawsuit filed in 2016, Greenpeace Nordic and Norway's Nature and Youth organisation argued that the government is violating the rights of present and future generations to a safe and healthy environment by continuing to issue licences to petroleum companies, enabling them to explore for new oil reserves. In the first week of the appeal hearing, we heard that the Norwegian government challenges elements of established climate science and maintains its argument that Norway is justified in continuing its search for new oil in the vulnerable Arctic region. In 2018, the district court confirmed that the right to a healthy environment is an enforceable human right protected by article 112 of Norway's constitution. The government has a legal obligation to respect, protect and fulfil this fundamental human right. However, the judge accepted the government's claim that Norway has no responsibility for carbon emissions resulting from burning Norwegian oil and gas outside of Norway”. This decision is being appealed.

through the export of green energy to other countries, which many in Norway see as a key alternative economic opportunity, both addressing climate change whilst providing green jobs. This would require the installation of cables and other infrastructure on land and sea, thereby potentially posing a threat to other actors, and to biodiversity. Exported energy, he notes, tends to preclude local production abroad, meaning that Norwegian green jobs could prevent green jobs elsewhere (Fisher 2013). This is a conundrum we have already seen in the case of Germany's just transition, and points again to the need to identify means of promoting national green economies that do not put other countries' just transitions and economic possibilities at risk.

Part Three: Conclusions and Lessons Learned

The purpose of this report has been twofold. Firstly, in Part One, it has aimed to briefly review the origins of, background to, and basic principles associated with the ‘just transition’ movement, according to the emerging literature. Secondly, in Part Two, it has sought to compile various examples of transition and restructuring processes from across the world and take stock of the key insights they bring to contemporary transition-planning. This concluding section will begin by making a few general points about the case studies, before laying out the principal lessons that can be learnt from them.

The report has addressed a range of examples of transition and restructuring processes from five different countries: the US, Canada, Germany, Peru and Norway. Since ‘just transition’ is a term that has only entered mainstream policy discourses relatively recently, it seemed overly limiting to focus the report solely on policy processes that explicitly deploy the language of ‘just transition’. A number of well-known socio-economic transition processes, which have been concerned to incorporate social justice and labour issues, have unfolded without reference to the term, at least in the early and mid-stages of their trajectories. The case of the Ruhr Valley is a key example of this.

Moreover, given that most explicit ‘just transition’ processes have arisen specifically to address the phase-out of coal and other heavy industries (US, Canada, and Germany), it seemed important to integrate examples of policies and activities that are concerned with areas of social and economic life that are of direct relevance to Scotland, namely the oil and gas industry (discussed in the case of Norway), and land (discussed in the case of Peru).

These case study countries therefore testify to a wide variety of processes that are either explicitly orientated towards fostering just transitions or are in some ways aligned with the principles of just transition. These include advisory panels; strategic policy documents; strategic funding programmes; transition initiatives run by NGOs and philanthropic organisations; union-led initiatives; and Payments for Ecosystem Services projects. These different forms are summarised in the table below:

Type	Transition instrument/process/activity	Case study examples
Advisory task force/commissions	Dedicated, government-initiated ‘just transition’ task forces, commissions and advisory panels at national and regional levels to formulate non-binding just transition principles and recommendations	<ul style="list-style-type: none"> Coal Commission Germany (national) Task Force on Just Transition in Canada (national) Advisory Panel on Coal Communities set up by the Alberta Government (regional; Canada)
	Government-initiated national advisory panels to provide recommendations on how to facilitate low-carbon transitions – which incorporate (but do not focus on) principles associated with ‘just transition’.	<ul style="list-style-type: none"> Generation Energy Council (national; Canada)
Strategic Policy Frameworks	National strategic policy frameworks designed to address low-carbon transitions, which incorporate	<ul style="list-style-type: none"> Mid-Century Strategy (national; US)

	(but do not focus on) elements associated with 'just transition'.	<ul style="list-style-type: none"> • Clean Power Plan (national; US) • Pan-Canadian Framework on Clean Growth and Climate Change (national; Canada)
Strategic funding programmes	Government-initiated national and regional funding programmes designed specifically to support transition processes through financial assistance for communities/workers/municipalities/orgs/regions affected by coal/industrial decline.	<ul style="list-style-type: none"> • POWER Program (National; US) • Alberta's Coal Community Transition Fund [CCTF] (regional; Canada) • Alberta's Coal Workforce Transition Program [CWTP] (regional; Canada) • Ruhr structural transition programmes
Transition initiatives run by non-governmental campaign/regional support networks/orgs	Regional Philanthropic funds	<ul style="list-style-type: none"> • Just Transition Fund (JTF) – for Appalachia grantees (regional; US)
	Non-governmental campaign and regional support networks, groups or organisations that promote community organising and run assistance programmes, particularly in areas affected by industrial decline	<ul style="list-style-type: none"> • Kentuckians for the Commonwealth (regional; US)
Union-led initiatives	Union coalitions for just transition	<ul style="list-style-type: none"> • Coal Transition Coalition (Canada)
Environmental and Ecosystem Services Projects	Payment for Ecosystem Services (PES) projects designed by private, governmental, or NGO actors, with varying degrees of local community collaboration, to prevent deforestation, offset carbon production elsewhere, and provide community benefits.	<ul style="list-style-type: none"> • REDD+ projects (Peru)

The scope and focus of just transitions in the case studies

The case studies discussed in this report attest to what is already asserted in much of the literature on just transitions: that the **most well-developed just transitions policies and practices seem to have emerged largely with respect to the coal industry**. The most comprehensive of these are exemplified by Germany and Canada. However, it seems evident that these transitions have been aided by economic transformations that were already militating against coal production, regardless of climate change.

Thus far, **there appears to be little evidence of transition processes at a similar stage of development with respect to the oil and gas industry**. Norway's policy frameworks are directed predominantly towards greening its industrial strategy. In Norway's case, even as great progress has been made in terms of domestic emissions-reductions, there appears to be no phase-out of oil and gas – the vast majority of which is exported – in the offing, and there is no mention of just transitions with respect to the industry in the available policy

documents. Instead, considerable weight is placed on Carbon Capture and Storage technologies as a means of justifying the continuity of the oil and gas industry, and on the promotion of green industries alongside, but not instead of, fossil fuels. It has been reported that New Zealand, which couldn't be included within the scope of this study, is initiating a just transition and economic diversification plan for those currently reliant on offshore oil and gas extraction (to be phased out by 2050) based on social dialogue with unions and broad stakeholder consultation.⁸²

In broad terms, the **transition processes in Canada, Germany and to some extent, the US, follow a similar model, orientated towards what the JTRC (2018) has classed as a managerial transition** (see Table on p.15 of this report). The transition policies and measures so far implemented in these countries are designed to mitigate the effects of the phasing out of a limited industry: coal. These transitions are and have duly been fairly limited in scope, focussing mostly on retraining and job substitution, though in the case of the Ruhr significant attention has been paid to regional revitalisation and projects intended to inspire new imaginaries of localities (such as heritage schemes) and to support the emergence of new identities. However, unlike the transition processes explored in the rest of this report, the Ruhr Valley's transition has been underway for several decades, and is significantly more advanced both in terms of policy development and implementation.

Despite the absence of attention to oil and gas, Norway's planning seems fairly broad-based, envisaging relatively holistic transformations to the economy. The case of Peru, meanwhile, attests to the complexities that ensue where local development activities (in this case through Payments for Ecosystem Services projects) unfold without adequate oversight and regulation from national or regional government, and – crucially – without establishing *a priori* the requisite legal structures and safeguards to protect the rights and lands of indigenous and local communities. More broadly, the case points to the need for procedural and distributive justice as applied to land tenure and ownership issues, and for community and collective (rather than private) ownership of assets, infrastructures, land, and resources, as part of any just transition. It also points to the difficulties of implementing carbon offset projects – which tend to be tilted towards the needs of developers and richer countries – as a way of managing transitions.

Key lessons offered by case studies and existing literature

1. Just transition strategies should be long-term, and early planning is necessary.

- a) **Transitions, especially just ones, are likely to take a long time.** Significant groundwork is necessary to ensure that just transitions are carried out effectively and fairly. In the Ruhr example even the breakthrough phase took some 15 years (from the mid-1980s to the early 2000s). In Peru, it has become clear that strong governance structures are necessary prior to any implementation of REDD+ projects. In addition, trial and error will be part of the picture, as we have seen with the attempts to establish a Nokia factory in the Ruhr – a move that was not well-aligned with local needs.

⁸² https://newclimateeconomy.net/sites/default/files/nce_facts_sheet_just_transition.pdf

- b) **Many factors can impact the stability of transition processes in the medium and long-term**, including public support, government changes, and climate policy targets and trends.
- c) **Early planning is necessary.** Proactive, comprehensive planning, which includes all relevant stakeholders, will increase the likelihood of an orderly, rather than a disruptive, transition (Piggot et al. 2019). Very rapid transitions may cause more inequities in the short- and medium-term. However, most transition programmes have been *largely reactive* – responding to an existing decline in the coal industry – rather than creating a comprehensive vision for transitioning away from all types of fossil fuels (Piggot et al. 2019). Transition planning for oil, gas, and other related industries has largely been neglected. As a result, younger workers may lack time to build the skills necessary to transfer to other industries, and new workers may be trained for roles that are disappearing. Companies will also have less time to shore up pensions and remediation funds and experiment with alternative business models while they remain profitable. Finally, opportunities to address existing gender and racial inequalities in the energy sector will be missed.

2. Transition planning should be seen as an opportunity to remedy existing systemic injustices and distribute the benefits and burdens of transition equally amongst the population. Policies should align both with agreed climate goals and commitments to improving social equality.

- a) **Any transition planning that aims to remedy systemic injustices should include the phasing out of new fossil fuel development, based on the understanding that further development will likely strand workers, communities and assets as more aggressive climate policies take hold.** These long-term transition strategies should align with other national development plans focused on social and economic development, such as green job policies and plans for advancing gender and racial equality (Piggot 2019).
- b) **Programmes that focus narrowly on fossil fuel workers risk exacerbating underlying inequalities in vulnerable regions.** Existing policies tend to focus on compensating workers and communities directly affected by fossil fuel transitions, rather than on broader gender, racial, and social equality concerns. Conventional just transitions may help well-established workers, but do not necessarily empower more precarious workers, or those from sectors that may be only indirectly dependent on fossil fuel industries. For example, Canada’s Just Transition programmes (e.g. CWTP) are targeted at specific workers in highly vulnerable regions. Those working in sectors indirectly connected to the coal industry, often women and immigrants, who are also at risk of losing their jobs when a coal mine or power plant closes, are denied programme support, which includes compensation and retraining. Addressing issues such as the unequal participation of women and other marginalised groups in the energy workforce and decision-making processes; racial and class inequities; helping households who have struggled with energy access; improving “sacrifice zones” historically damaged by energy development; and facilitating social dialogue, social protection and employment rights, would be among the first steps needed to broaden out a just transition process narrowly focussed on fossil fuel workers (Piggot et al. 2019).

- c) **Just transition policies should be embedded into national planning, legislative and regulatory processes and into international frameworks for economic development, climate change and social inclusion.** Among the ten recommendations of the Task force on Just Transition for Coal Power Workers and Communities in Canada was the need to embed just transition principles in the planning, legislative and regulatory process (See Box 4, p.37). Integrating just transition principles across policy, legal and regulatory instruments would require consideration of multiple forms of justice, distributive (establishing how the costs and benefits of transition should be distributed), recognition (how vulnerable regions and communities are being recognised in the process), and procedural (forms of engagement that incorporate communities into decision-making) (Pai et al. 2020). See Point 4b below.
- d) **Effective and thorough research should identify areas likely to be most impacted by decarbonisation well before policies are implemented.** Currently, there is a considerable lack of research on areas most vulnerable to decarbonisation and about the social and employment implications of climate policies (Rosemberg 2010, cited in Pai et al. 2020). Gathering information about where inequities exist in the current energy system, which would require collecting socio-demographically disaggregated data, would be needed to assess where action is most needed. This kind of research needs to take place before just transition policies are created and implemented (Piggot et al. 2019).
- e) **Transition processes that do not address inequalities between different parts of the workforce and the population could lead to political and social unrest and a rise in populism.**

3. Transition planning should be holistic and promote economic diversification.

- a) **Holistic approaches to just transitions, which take into account the need for regional revitalisation and diverse forms of social and economic life, are likely to be more effective than transitions orientated largely towards job substitution and retraining.** Transitions from energy-intensive industries to a green economy demand a comprehensive policy framework. Structural and regional policies in the Ruhr included not only policies for industrial regional development and urban recreation, but also for education, the labour market, land use and building regulations. Transition policies that should be considered include provisions for new, decent, green jobs; pension guarantees; universal basic income; retraining of those who lose jobs; the construction of new infrastructures; the stimulation of new, clean-energy economic activity and enterprise; support for municipalities to help foment local development in areas of industrial decline; decommissioning of fossil fuel infrastructures and funding for environmental clean-up; amongst others.
- b) **There is a need for projects that are not simply driven towards fulfilling economic necessities, but also speak to people's imagination and help reorganise aspirations in different directions.** When industries are being dismantled, there is a need to rebuild new aspirations and imaginative possibilities around different foci (such as care, community service, and wellbeing) and identities. Research suggests that as coal industries decline, workers and communities engaged in mining over generations experience a loss of identity, as well as livelihood (see footnote 35 on the UK). Such losses should be taken into account in transition

planning processes (Pai et al. 2020). Transition projects can open up opportunities to inspire new thinking and possibilities around, for example, how to work differently, how to care differently for others and for the environment; how to educate differently; how to build housing; how public participation in political life could expand, etc. The establishment of industrial and landscape parks in the Ruhr not only gave new impetus to regional development and innovation; it also inspired new ideas.

- c) **Efforts to generate new forms of productive and economic practice should adequately reflect existing regional expertise and capacities.** Emerging new economies should be sufficiently rich and diversified to minimise the risk of economic losses in the future and ensure the maintenance of a multi-skilled workforce. In the Ruhr, Nokia established a factory in the area that required semi-skilled assembly workers, but the initiative lacked “regional embeddedness”, ultimately proving to be a “bridging solution without a long-term perspective”.
 - d) **The expertise and infrastructures associated with existing fossil fuel-based industries may support the establishment of eco-industries and greener energy schemes.** In the Ruhr, some low carbon innovation and cultural revitalisation projects in the Ruhr have built very directly on the legacy of the coal mining industry.
 - e) **The establishment of higher education institutions and the creation of technology centres can help lay the foundations for new knowledge-based economies.** In the Ruhr, this played an important role at a time when the economy was still locked into coal and steel production.
- 4. Transition planning should be participatory, involving diverse stakeholders and initiatives, and consider all those throughout the socio-economic system that are likely to be affected.**
- a) **This will require significant investment of time and resources.** Just transitions take time because they need to be negotiated rather than imposed. Governments could generate funds for transition processes by redirecting fossil fuel subsidies, or using revenues arising from resource royalties, permit fees or carbon taxes to fund energy transition efforts (Piggot et al. 2019). Whilst good laws and regulations are highly necessary to ensure the preservation of rights, they are unlikely to be adequate for the facilitation of more inclusive forms of transition planning and complex structural change (Eisenberg 2019). In Peru, it has taken more than a decade for indigenous peoples to ensure that their needs are properly attended to in the climate mitigation projects supposedly designed from the outset – at least in part – to benefit them.
 - b) **Transition planning should involve both procedural and distributive justice processes.** For fair and effective transitions to take place, both procedural and distributive justice must be taken into account. Where the *distributive justice* dimension of transition is concerned with the fair allocation of its costs and benefits (e.g. who should be compensated for losses? Who should pay for just transitions?), *procedural justice* involves consideration of whose interests and what issues are taken into account in transition planning, and who gets to participate and hold power in decision-making forums. Transition planning processes should include not only those working in

or otherwise dependent on fossil fuel revenues, but also those who will be indirectly affected by changes to their local economy or environment, those who will be disproportionately affected by shifts in energy costs or provision, future generations impacted by decisions made today, and those historically harmed or marginalised by fossil fuel development (Piggot et al. 2019). In order to work through the complex power dynamics entailed by transition, flexible, 'messy', iterative governance approaches that do not necessarily guarantee certain outcomes are likely to be necessary. Such approaches require the involvement of diverse stakeholders in decision-making, equal bargaining between stakeholders, stakeholders with adequate resources and procedural mechanisms to pursue long-term, iterative decision-making or dispute resolution process, information exchange and the pursuit of win-win solutions (Eisenberg 2019).

- c) **Active collaboration between national, regional, and local government, municipalities, employers, NGOs, community organisations, and trade unions are needed for a successful and just transition.** Any transition plan should be formulated, implemented, and evaluated through close collaboration between these actors. Effective coordination between different government departments and agencies is also vital. Collaboration between diverse actors in the Ruhr has been a key reason for the success of its transition. Recent scholarship on the Ruhr suggests that its restructuring is the product less of a singular vision of 'just transition' than of a confluence of overlapping transitions, whose relative success has been ascribed to the collaborative activities of regional actors alongside enabling external factors, such as supportive national policies (Schepelmann et al. 2016). In Peru, actions that have improved the activities and regulatory frameworks surrounding indigenous land rights with respect to REDD+ projects have been heavily driven by campaigning from key indigenous organisations. This demonstrates a need for state and community actors to work together.
- d) **Multi-stakeholder commissions can ensure buy-in, build stakeholder coalitions, and bring organised interests to the table, particularly in countries where phase-out debates are polarised, and political constellations complex.** Germany's Coal Commission helped to bring many relevant stakeholders, often with divergent interests, to the same table and trigger an intense public debate on the end of coal. Canada's Just Transitions task force was composed of a range of members from diverse backgrounds, including labour, environmental groups, industry, and government, as well as from coal-producing provinces. However, in the German case, the commission's large size (there were 28 commissioners) made it difficult to strike a balance between inclusiveness and the ability to work effectively, and diverse commission membership introduced ambiguities into the final report, fuelling rather than pacifying public debate over key concerns, such as lack of climate ambition, the stability of energy prices/security of supply, and compensation for power plant closure.
- e) **Commissions can lead the way to participatory processes in demonstrating a clear commitment to considering and addressing negative impacts on workers and communities.** Inclusive process and listening constituted a key part of the Canadian Taskforce on Just Transition consultation processes. The task force visited every affected community to hear concerns and formulate recommendations.

5. Transition planning should recognise that transition processes are context specific.

- a) **Lessons can be learnt from historical transition processes, but current transition planning processes will have to proceed differently and move faster.** Historical examples of transition, such as the process that has unfolded in the Ruhr, have been driven largely by market forces. The influence of the market still looms large in more contemporary transition processes (coal is the focus of most current transition programmes in large part because it is becoming more costly and less competitive to produce). However, there is now also an added imperative to rapidly cut emissions, driven by the global political consensus forged through the Paris Agreement. To some extent, then, no historical example can offer a framework for the upcoming transitions, which will need to proceed differently, and move more quickly. However, they can, provide insights into a well-managed transition and warn of the consequences of under-managing transition processes, namely “political instability, societal push-back and weakened trust in democratic institutions”. As such, regions and countries should continue to focus on learning from one another’s experiences and exchanging best practices (Reitzenstein et al. 2018).
- b) **How transitions happen in particular places and sectors is contingent on existing political-economic landscapes,** including the history of fossil fuel development, the current structure of the industries at stake, the energy mix and availability of alternatives, and existing gender and social inequality norms. For example, given the focus of most existing just transition frameworks on involving workers in climate and industrial policy, it is unsurprising that Germany has been a leader in establishing just transitions policies. Germany’s experience with corporatist systems of collective bargaining, which allow democratically accountable unions to participate in policymaking and industrial decision-making, prepare the ground well for the kind of procedural justice envisaged by trade unions in the context of just transitions (Abraham 2019). Although the emphasis is on coal transitions current transition policy frameworks and literature, transition planning for other sectors, such as oil and gas, may unfold very differently (Pai et al. 2020).

6. Strengthening regional and local governance of transition processes is critical.

- a) **Regional policy-making and actions tend to be more advanced than federal or national processes,** reflecting that the necessity and urgency for change are first likely to be felt more locally, particularly in areas that have been given over to mono-industries, and that local capacity to respond may also be greater. This appears to be the case in Canada, the US and Germany.
- b) **Drawing on lessons from grassroots transition initiatives – e.g. where communities are taking innovative action to democratise and decarbonise energy systems – may offer greater insight into potential approaches to just transitions that are well calibrated to address local needs.** As an SEI briefing puts it, “promise for a just transition may lie in these diverse and diffuse local efforts, which can both provide a vision and example of what a more equitable energy future would

look like, as well as lay the political groundwork for higher levels of government to take on energy policy changes” (Piggot et al. 2019).

- c) **Since transitions are context-specific, localities, communities, and regions are best placed to lead locally/regionally appropriate transition responses.** State actors may be too detached from regional realities to meaningfully reshape a region; local and regional governments and civil society organisations are likely to be best placed to understand and intervene in complex regional dynamics (Eisenberg 2019). In some cases, national governments may also not have the capacity or willingness to carry out meaningful transition planning, particularly where the fossil fuel industry exercises significant influence over policy processes (Piggot et al. 2019). This is particularly evident in the case of Peru, where understanding of the needs of forest-dwelling peoples is better grasped at regional level, and particularly by organisations representing indigenous rights in the Amazonian area.
- d) **This implies a need to incorporate localities and communities in transition decision-making, planning and implementation.** This would be supported by the establishment of highly participatory mechanisms, the availability of funding, and policies that empower communities to plan and implement local development activities.
- e) **However, the capacity for regions and localities to respond will be partly contingent on the autonomy, funding, and resources available to communities, and regional and local governments.** In Germany, state authorities are responsible for innovation policy, much more than national authorities, leading to and fostering regional specialisation. Devolution of transition management to regions is only likely to succeed in the context of effective regional governance and support from central authorities.
- f) **Consider the role of decentralisation of infrastructures, such as renewable energy projects, and community/public ownership of land and other resources in ensuring a fair and equitable just transition.** Facilitating the decentralisation of control over key resources – for example, through mechanisms that support community-led energy projects and the transfer of land, assets and infrastructures (such as renewable energy projects) to community ownership – should be considered as part of a low-carbon transition. Such processes would help empower localities and regions, helping them to formulate context-appropriate responses to conditions in their areas, and promote local decision-making and job-creation. Greater public/local ownership of resources would also help to redistribute assets more equally within the population, creating the conditions for a more equitable and democratic politics, and in turn helping to prevent a rise in social and political unrest (see also Point 7b below).

7. Land tenure rights and changes to land use/management

- a) **Just transition processes present an opportunity to address land justice and environmental degradation issues together.** Just transitions processes offer an opportunity to implement holistic policies that address existing injustices regarding land use/tenure and the ecological destruction caused by many conventional land use practices at the same time. The lack of intersectoral support for socioeconomic

development that would also stop deforestation and degradation is considered one of the biggest challenges facing REDD projects in Peru (Che Piu and Menton 2014).

- b) **Land reform processes that support communities to gain ownership of local land are likely to help facilitate a socially just transition process.** The Peruvian case study suggests that lack of legal clarity over land management and tenure rights stands in the way of implementing successful transition projects. Facilitating local and community ownership of land, by building on the Community Empowerment (Scotland) Act, the work of organisations such as the Scottish Land Commission and opening up further funding to enable communities to effectively conserve and maintain their land for the benefit of localities, would support local empowerment and provide tangible resources to enable local people to make decisions over their own futures, both crucial dimensions of a just transition.
- c) **Consider supporting localities and communities through schemes that support sustainable land use.** REDD+ projects (explored in the Peru case), whilst flawed, point to the possibilities for supporting Scottish localities and communities that wish to conserve and regenerate land, rather than developing it for (for example) infrastructural purposes. Such possibilities could include establishing payments systems (along the lines of Payments for Ecosystem Services [PES] schemes) that provide localities (e.g. through community trusts, councils, or groups) with income for projects aimed at conserving and/or restoring areas of native woodland and peatlands.

8. Centralised support, leadership, and effective national regulation/policymaking is crucial

- a) **Whilst bottom-up activities are crucial to a successful transition, top-down policy, funding support, and regulatory structures are necessary.** A series of regional structural policy programmes were instituted in the Ruhr over the course of the key transition periods, including the Ruhr Development Programme (1968-1973), the North Rhine-Westphalia Programme (1970-1975), and the Action Framework Coal Regions (1992-1995). These provided structure and a clear sense of direction, whilst channelling funding for transition projects.
- b) **Just Transition Task forces and Commissions should receive support from the highest levels of government.** In the case of the Canadian Taskforce on Just Transitions, its message was carried by the Prime Minister and the Minister of Environment and Climate Change, signifying the high-level commitment to the phase-out plan and helping to ensure buy-in from labour leadership and key industry representatives.
- c) **Outcomes of national commissions send strong signals to the public and peer countries as climate leadership becomes ever more important. But commissions cannot replace political leadership and ambitious emissions reduction targets, which are crucial for any long-term planning and outcomes in line with the Paris Agreement.** There are risks that commissions are misused to delegate political responsibility or delay climate action. Research suggests that commissions are better placed to create the conditions for transformative policy change if they are tasked with

outlining multiple policy pathways to inform political decision making, including the challenges and opportunities of each (Reitzenstein and Popp 2019).

9. The role of wider international structures and policy processes

- a) **Wider economic and political processes are also instrumental to crafting successful transition pathways.** In the case of the Ruhr, these have included the prices of fossil fuels, the European Emission Trading System for carbon allowances, and German obligations under the UN Framework Convention on Climate Change (UNFCCC).

10. Transition processes that bring benefits for certain regions/countries/populations/sectors may bring costs for others.

- a) **Low-carbon technologies can themselves be the source of injustice.** Replacing fossil fuels with low-carbon energy sources will not in itself address injustices, including the inequitable distribution of environmental hazards and the lack of influence of communities affected by these new sources. For example, the construction of a large solar scheme in Gujarat in India has, through the enclosure, commodification, and privatisation of land for the development, led to the land dispossession of vulnerable communities (Gambhir 2018).
- b) **Actions taken in the name of a just transition in one place may lead to problems in others.** Exporting green energy tends to preclude local production abroad, meaning that green jobs in one place could prevent the creation of green jobs elsewhere (Fisher 2013). German unions' participation in wage restraint to promote competitiveness and protect jobs during periods of economic instability have impeded growth in southern Europe by deflating the euro (Abraham 2019).

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