Global Guidance for Just Transition Policy

The extent to which the ILO Guidelines address energy transition challenges facing developing countries and a comparative analysis of their application in South Africa and Germany

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Acronyms and Abbreviations

BMWK	Federal Ministry for Economic Affairs and Climate Action (Bundesministerium für Wirtschaft und Klimaschutz)
COP	Conference of the Parties
ETS	European Trading System
EU	European Union
GW	Gigawatt
JETP	Just Energy Transition Partnership
JET IP	Just Energy Transition Investment Plan
IG BCE	Industriegewerkschaft Bergbau, Chemie, Energie
ILC	International Labour Conference
ILO	International Labour Organization
ILO 169	ILO Indigenous and Tribal Peoples Convention of 1989
IPG	International Partners Group
IRENA	International Renewable Energy Agency
IRP 2019	Integrated Resource Plan
KVBG	Act to Reduce and End Coal-Fired Power Generation and Amend Other Laws (Kohleverstromungsbeendigungsgesetz)
LEAG	Lausitz Energie Berbau AG
LEK AG	Lausitz Energie Kraftwerk AG
MSMEs	Micro, small, and medium enterprises
OSH	Occupational safety and health
PCC	Presidential Climate Commission
PCFTT	Presidential Climate Finance Task Team
R&D	Research & development
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
SAREM	South African Renewable Energy Masterplan
SDGs	Sustainable Development Goals
STEM	Science, technology, engineering, and mathematics
StStG	Structural Reinforcement Act for Mining Regions (Strukturstärkungsgesetz Kohleregionen)
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change

Key Messages

The 2015 International Labour Organization ***Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All*** are an authoritative and valuable source of international just transition guidance.

This analysis compares and contrasts how developing and developed countries have approached **just transition policymaking in the energy sector** by examining legal and policy instruments adopted in **South Africa** and **Germany** and their application of the ILO Guidelines.

It also investigates the extent to which the ILO Guidelines address **developing countries' unique challenges** and provides **recommendations to shape further guidance on just energy transition policymaking from international institutions** to support developing countries in 12 key areas:

1. **Government Institutional Capacity and Corruption:** Further guidance should:

- Identify research needs and provide guidance on how countries facing government institutional capacity challenges can achieve a just transition, including by indicating the forms of technical and financial assistance available and whether developed countries have an obligation to provide such assistance.
- Explicitly lay out the challenge of corruption and, based on additional investigation, provide guidance on how to achieve a just transition in the context of widespread corruption.

2. **Participation of Affected Groups in Policymaking:** Further guidance should:

- Examine how all affected groups, including traditional communities and informal workers, can be consulted adequately at every stage of just transition policymaking and implementation, while preventing their voices from being overshadowed by investors, development partners, and other more powerful stakeholders.
- Advise on how countries can ensure the quality of consultations and overcome specific challenges, such as a lack of rural connectivity and access to venues.

3. **Decent Employment:** Further guidance should:

- Address how active labor market policies may be more challenging to implement in a developing country context.
- Advise on how to promote decent employment in a context with preexisting high rates of unemployment and informal work during the transition and beyond.

4. **Green Industry and Economic Diversification:** Further guidance should:

- Provide recommendations on how developing countries can design and implement green industrial policies for achieving economic diversification and developing internationally competitive green industries.
- Advise on how international institutions and developed countries can help enable such policies and avoid undermining developing countries' just transition efforts, including by avoiding making their own green industrial policies overly protectionist.

5. **Social Protection:** Further guidance should:

- Provide detailed guidance on the measures that need to be taken for developing countries with low rates of social protection to expand their social protection floor to be able to meet new demands posed by the energy transition.
- Expressly address the integral role of international cooperation in increasing social protection rates in developing countries.

6. **Skills Development and Training:** Further guidance should:

- Differentiate between skills development and training challenges relevant to developing and developed countries.
- Consider how governments can update skills development opportunities to be relevant and accessible for vulnerable groups and responsive to the need in the green economy for more professionals with university degrees and who are trained in STEM.

7. **Effective Phase-out of Fossil Fuel Production, Use, and Subsidies:** Further guidance should:

- Call for a phase-out of fossil fuel production and use (combined with enhanced social protection measures), with differentiated guidance for developing and developed countries.
- Call for fossil fuel subsidy reform, with guidance on how to realize such reforms while ensuring negative impacts are not disproportionately felt by low-income populations.

8. **International Cooperation and the Principle of Common but Differentiated Responsibility:** Further guidance should:

- Advance specific recommendations to enhance international equity and cooperation, including guidance to ensure developed countries fulfill their responsibility to provide finance for developing countries to enable just transition policy measures.
- Expressly ground such recommendations in developed countries' disproportionate contributions to climate change and greater access to finance.

9. **Human Rights:** Further guidance should:

- Lay out the risks energy transitions pose to Indigenous Peoples' land rights and other human rights; provide specific guidance on how to ensure such rights are fully recognized and respected, including the right to Free, Prior and Informed Consent.
- Address how countries that export critical minerals can directly manage the environmental and human rights impacts of their primary and secondary production; encourage importing countries to mandate and enforce requirements that companies mitigate, prevent, and remedy their human rights and environmental impacts, including those that occur abroad.

10. **Access to Affordable and Sustainable Energy:** Further guidance should:

- Address how developing countries can simultaneously expand access to affordable energy and transition to renewable energy systems, accounting for the risk of governments using energy insecurity to attempt to justify continued unsustainable reliance on fossil fuels.

11. **Adequate Finance:** Further guidance should:

- Provide guidance on how developing countries can finance their domestic just transition measures, including what reforms international financial institutions should take to increase developing countries' access to low-cost, long-term finance.

12. **Environmental Remediation and Repurposing of Former Industrial Sites:** Further guidance should:

Address measures of environmental remediation and repurposing of former industrial sites as essential components of just transitions and the challenges faced by developing countries in the regulation and financing of such measures.

1 Introduction

Phasing out fossil fuels (coal, oil, and gas) and transitioning to renewable energy systems is necessary to mitigate climate change and realize the goals of the Paris Agreement,[1] but it also creates new risks and challenges for workers and communities, especially those directly or indirectly dependent on the fossil fuel industry. Risks include job losses and economic downturns in fossil fuel–dependent regions, rising energy costs, and human rights violations tied to critical minerals mining and renewable energy projects. To ensure a just transition and prevent certain communities from disproportionately bearing the burdens of the energy transition, governments must take proactive and wide-ranging measures.

In 2015, the International Labour Organization (ILO) published its Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All[2] (ILO Guidelines), adopted at a Tripartite Meeting of Experts convened by the International Labour Office, the ILO's permanent secretariat.[3] The ILO Guidelines are an international set of policy guidelines for national-level just transition planning. This report aims to examine the extent to which the ILO Guidelines address key challenges in policy making for the energy transitions of different country contexts, with a view to proposing recommendations for future international just transition guidance to be readily adaptable to varied national contexts, especially developing countries.

Scholars and institutions have proposed various definitions of a just transition. Notably, the Intergovernmental Panel on Climate Change (IPCC) has defined it as:

> […] a set of principles, processes, and practices aimed at ensuring that no people, workers, places, sectors, countries or regions are left behind in the move from a high-carbon to a low-carbon economy. It includes respect and dignity for vulnerable groups; creation of decent jobs; social protection; employment rights; fairness in energy access and use, and social dialogue and democratic consultation with relevant stakeholders. […]
>
> A Just Transition entails targeted and proactive measures […] to ensure that any negative social, environmental, or economic impacts of economy wide transitions are minimized, whilst benefits are maximized for those disproportionally affected. These proactive measures include eradication of poverty, regulating prosperity, and creating jobs in "green" sectors. In addition, governments, polluting industries, corporations, and those more able to pay higher associated taxes, can pay for transition costs by providing a welfare safety net and adequate compensation to people, communities, and regions that have been impacted by pollution, or are marginalized, or are negatively impacted by a transition from a high- to low-carbon economy and society.[4]

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1 Intergovernmental Panel on Climate Change (IPCC), "Summary for Policymakers" in *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, eds. Hoesung Lee and José Romero (Geneva: IPCC, 2023), 4, 21, 28, https://doi.org/10.59327/IPCC/AR6-9789291691647.001 (noting that reaching net-zero greenhouse gas emissions will involve "a substantial reduction in overall fossil fuel use" and transitioning to "very low- or zero-carbon energy sources, such as renewables or fossil fuels with [carbon capture and storage]," among other demand-side measures); Ploy Achakulwisut, Peter Erickson, Celine Guivarch, Roberto Schaeffer, Elina Brutschin, and Steve Pye, "Global Fossil Fuel Reduction Pathways Under Different Climate Mitigation Strategies and Ambitions," *Nature Communications* 14, no. 5425 (2023): 3, https://www.nature.com/articles/s41467-023-41105-z (finding a 1.5°C scenario requires global coal, oil, and gas supply to peak around 2015, 2020, and 2025, respectively, followed by steep declines); United Nations Environment Program (UNEP), *Emissions Gap Report 2023, Broken Record: Temperatures Hit New Highs, Yet World Fails to Cut Emissions (Again)*, (Nairobi: UNEP, 2023), 4, 46, https://doi.org/10.59117/20.500.11822/43922 (noting "[f]ossil CO2 emissions account for approximately two thirds of current GHG emissions" and that there is a need for a "rapid global phase-down of all fossil fuels"); International Energy Agency (IEA), *Net Zero by 2050: A Roadmap for the Global Energy Sector* (Paris: IEA, October 2021), 18, 21, https://www.iea.org/reports/net-zero-by-2050 (finding a net-zero pathway by 2050 requires fossil fuels to decline from "almost four-fifths of total energy supply today to slightly over one-fifth by 2050" and that there "is no need for investment in new fossil fuel supply").

2 International Labour Organization (ILO), *Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All* (Geneva: ILO, 2015) (ILO Guidelines), https://www.ilo.org/wcmsp5/groups/public/@ed_emp/@emp_ent/documents/publication/wcms_432859.pdf.

3 ILO Guidelines, 3; "International Labour Office," ILO, https://www.ilo.org/about-ilo/structure/international-labour-office.

4 Minal Pathak, Raphael Slade, Ramón Pichs-Madruga, Diana Ürge-Vorsatzm, Priyadarshi R. Shukla, and Jim Skea, "Technical Summary" in *Climate Change 2022: Mitigation of Climate Change* (Cambridge University Press, 2022), 75, https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_TechnicalSummary.pdf.

Various governments and international organizations have embraced and developed the just transition framing.[5] The ILO Guidelines aim to provide governments and social partners[6] with "non-binding practical orientation" on the just transition that covers nine key policy areas: macroeconomic and growth policies; industrial and sectoral policies; enterprise policies; skills development; occupational safety and health; social protection; active labor market policies; rights; and social dialogue[7] and tripartism.[8] The ILO Guidelines are intended to cover the transition of various sectors in addition to the energy sector, such as agriculture, construction, and tourism.[9]

The ILO Guidelines were the first set of global guidelines established by a United Nations (UN) specialized agency and were agreed upon by governments, employers' organizations, and workers' organizations from 187 countries, marking a profound victory for the international labor movement following years of advocacy.[10] That they resulted from tripartite consensus is important especially because employers' organizations and trade unions are key stakeholders in energy transitions.[11] The Guidelines have been influential in UN Climate Change (the secretariat of the UN Framework Convention on Climate Change, UNFCCC),[12] and potentially influenced the negotiations of the 2030 Agenda for Sustainable Development and Paris Agreement, with the Paris Agreement referencing the "imperatives of a just transition" in its preamble.[13] In 2021, the UN Secretary-General António Guterres called on all countries to embrace and adopt the ILO Guidelines as a minimum standard.[14] Although other international guidance

5 United Nations Framework Convention on Climate Change Secretariat (UN Climate Change), *Just Transition of the Workforce, and Creation of Decent Work and Quality Jobs: Technical Paper* (Bonn, Germany: UN Climate Change, April 2020), https://unfccc.int/sites/default/files/resource/Just%20transition.pdf; African Development Bank (AfDB), Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB), European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB), Inter-American Development Bank Group (IDBG), Islamic Development Bank (IsDB), New Development Bank (NDB), and World Bank Group (WBG), "High Level MDB [Multilateral Development Bank] Statement: For Publication at the UNSG Climate Action Summit," September 22, 2019, https://www.adb.org/sites/default/files/page/41117/climate-change-finance-joint-mdb-statement-2019-09-23.pdf; "People-Centered Clean Energy Transitions," International Energy Agency (IEA), https://www.iea.org/programmes/people-centred-clean-energy-transitions; "Just Transition for all: The World Bank Group's Support to Countries Transitioning Away from Coal," World Bank, https://www.worldbank.org/en/topic/extractiveindustries/justtransition; Katherine Kramer, "Just Energy Transition Partnerships: An Opportunity to Leapfrog from Coal to Clean Energy," International Institute for Sustainable Development (IISD), December 7, 2022, https://www.iisd.org/articles/insight/just-energy-transition-partnerships.

6 "Social partners" includes workers' organizations and employers' organizations. "Social Partners," ILO, https://ilo.org/pardev/partnerships/employers-workers-organizations/lang--en/index.htm.

7 The International Labour Office defines "social dialogue" as to "include all types of negotiation, consultation or simply exchange of information between, or among, representatives of governments, employers and workers, on issues of common interest relating to economic and social policy." International Labour Office, *Social Dialogue: Finding a Common Voice* (Geneva: ILO, 2002), 2, https://labordoc.ilo.org/permalink/41ILO_INST/1s2ok2m/alma994818913402676.

8 ILO Guidelines, 3, 7.

9 Lene Olsen and Claire La Hovary, *User's Manual to the ILO's Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All* (Geneva: ILO, 2021), 16, https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_dialogue/@actrav/documents/publication/wcms_826060.pdf.

10 International Trade Union Confederation (ITUC), *Just Transition – Where are We Now and What's Next? A Guide to National Policies and International Climate Governance* (Brussels: ITUC, September 2017), 6, https://www.ituc-csi.org/just-transition-where-are-we-now; ITUC, "ITUC – IOE Joint Statement on Just Transition Negotiations at COP28," ITUC, news release, December 6, 2023, https://www.ituc-csi.org/ituc-ioe-statement-cop28-en.

11 ITUC, *Just Transition – Where are We Now and What's Next?* 8.

12 Vilja Johansson, "Just Transition as an Evolving Concept in International Climate Law," *Journal of Environmental Law* 35, no. 2 (May 2023): 229–249, 245, https://doi.org/10.1093/jel/eqad017.

13 Marieke Koning and Samantha Smith, *Just Transition and Gender – A Review* (Just Transition Centre, October 2021), paper submitted to UN Women Expert Group Meeting, 'Achieving gender equality and the empowerment of all women and girls in the context of climate change, environmental and disaster risk reduction policies and programmes,' October 11–14, 2021, UN Doc. EGM/ENV/EP.17, https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/CSW/66/EGM/Expert%20Papers/Samantha%20SMITH_CSW66%20Expert%20Paper.pdf; Paris Agreement, adopted December 12, 2015, opened for signature April 22, 2016, entered into force November 4, 2016 (Paris Agreement), Preamble, https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

14 Antonio Guterres, "Secretary-General's Video Message to Powering Past Coal Alliance Summit," New York, March 2, 2021, https://www.un.org/sg/en/content/sg/statement/2021-03-02/secretary-generals-video-message-powering-past-coal-alliance-summit.

has since been published,[15] the ILO Guidelines remain an authoritative international source of just transition guidance, having recently been formally endorsed in 2023 by all countries at the International Labour Conference at its 111th session.[16]

This report's principal aims are to (i) comparatively assess developing and developed countries' just energy transition policies against the ILO Guidelines; (ii) investigate the extent to which the ILO Guidelines address key challenges faced by developing countries in their just energy transition policymaking, given that they are purportedly designed to serve all countries; and (iii) provide recommendations to shape further guidance on just transition policies for the energy sector from international institutions. It is important to assess how international guidance can address the needs of developing countries because many developing countries face unique challenges in realizing a just energy transition, such as having lower social protection rates, energy access, and government institutional capacity; smaller public budgets; higher rates of unemployment and, in some cases, institutional challenges that can exacerbate corruption risks.[17] In addition, developing and developed countries have differing obligations under the UNFCCC's principle of common but differentiated responsibilities.[18] This report recognizes that just transition processes should be bottom-up and unique to each country context, and that some countries may choose to not follow international-level guidance. Some of the key policy areas identified will be more relevant to some developing countries than others. However, it is important for international just transition guidance that aims to serve all countries to offer a menu of options for addressing key areas that tend to be especially relevant for various developing countries.

This report first compares and contrasts how developing and developed[19] countries have approached just transition policymaking by examining just transition legal and policy instruments adopted in South Africa and Germany. In particular, this report analyzes South Africa's Just Transition Framework (South Africa's Framework)[20] and Germany's coal phase-out laws, including the Structural Reinforcement Act for Mining Regions (*Strukturstärkungsgesetz Kohleregionen*, StStG)[21] and the Act to Reduce and End Coal-Fired Power Generation and Amend Other Laws (*Kohleverstromungsbeendigungsgesetz*, KVBG) (coal exit laws).[22] The analysis looks into what aspects of the ILO Guidelines are reflected in the South African and German legal and policy frameworks. This comparison is based principally on a review of primary sources, including the ILO Guidelines, South Africa's Framework, and Germany's coal exit laws. We look into just energy transition policy instruments specifically, rather than comprehensively examining South Africa and Germany's legal systems holistically. One of the limitations of our approach is that key policy areas for a just energy transition may be covered in other instruments within South Africa's and Germany's legal and policy frameworks, a limitation that we acknowledge

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15 UN Climate Change, *Technical Paper*; Sangji Lee, *Issue Brief: Just Transition* (New York: United Nations Development Program [UNDP], August 2022), https://www.undp.org/publications/issue-brief-just-transition; United Nations Global Compact, *Introduction to Just Transition: A Business Brief* (New York: United Nations Global Compact, September 2022), https://ungc-communications-assets.s3.amazonaws.com/docs/publications/Just%20Transition%20-%20LK.pdf; Office of the United Nations High Commissioner for Human Rights (OHCHR) and ILO, *Human Rights and a Just Transition* (Geneva: OHCHR and ILO, 2023), https://www.ohchr.org/sites/default/files/documents/issues/climatechange/information-materials/v4-key-messages-just-transition-human.pdf; AfDB et al., "High Level MDB Statement;" Samantha Smith, *Just Transition: A Report for the OECD [Organization for Economic Cooperation and Development]* (Just Transition Centre, May 2017), https://web.archive.org/web/20230314150908/https://www.oecd.org/environment/cc/g20-climate/collapsecontents/Just-Transition-Centre-report-just-transition.pdf.

16 ILO, Record of Proceedings: Outcome of the General Discussion Committee on a Just Transition: Proposed resolution and Conclusions submitted to the Conference for Adoption, ILC.111/Record No.7A, June 15, 2023, https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_885375.pdf; Bert De Wel, "Recognition of Labour Rights Is a Major Victory for Trade Unions at COP28," ITUC, December 22, 2023, https://www.ituc-csi.org/Recognition-of-labour-rights-is-a-major-victory-for-trade-unions-at-COP28.

17 *See* Section 4.

18 United Nations Framework Convention on Climate Change, opened for signature May 9, 1992, entered into force March 21, 1994 (UNFCCC), Preamble, Arts. 3.1, 4.1, https://unfccc.int/resource/docs/convkp/conveng.pdf; Paris Agreement, Art. 4.4.

19 While we are cognizant of the shortcomings of this terminology, we use the terms "developing" and "developed" countries because their meaning is widely understood and it is commonly used in the UN system and in international conventions and treaties, such as the Paris Agreement. For a list of developing countries, *see* UNDP, *Human Development Report 2023/2024: Breaking the Gridlock – Reimagining Cooperation in a Polarized World* (New York: UNDP, March 2024), 306, https://doi.org/10.18356/9789213588703.

20 Presidential Climate Commission (PCC), *A Framework for a Just Transition in South Africa* (June 2022) (South African Just Transition Framework), https://pccommissionflo.imgix.net/uploads/documents/A-Just-Transition-Framework-for-South-Africa-with-dedication-FSP-002.pdf.

21 Federal Republic of Germany, Structural Reinforcement Act for Mining Regions, BGBl I, 1795, August 8, 2020 (StStG), https://www.bmbf.de/SharedDocs/Downloads/files/strukturstaerkungsgesetz-kohleregionen.pdf.

22 Federal Republic of Germany, Act to Reduce and End Coal-Fired Power Generation and Amend Other Laws, BGBl I, 1818, August 8, 2020 (KVBG), https://www.gesetze-im-internet.de/kvbg/BJNR181810020.html.

generally here as well as in specific points throughout the report. However, our approach allowed us to narrow the report's scope and isolate our focus on policies directly relevant to each country's coal transition, providing for valuable insights into national-level just transition policymaking.

In light of this report's aim to assess the ILO Guidelines' responsiveness to key challenges in different country contexts, one developing and one developed country were selected as comparators. We chose South Africa and Germany for this comparison exercise given they both have historically relied heavily on domestically-produced coal for their energy consumption.[23] In addition, both countries are global forerunners in national-level just transition policymaking, and their laws and policies often serve as exemplars for other countries in their respective regions.[24] Both also belong to South Africa's Just Energy Transition Partnership, a historic partnership in which several developed economies agreed to support financing South Africa's just transition.[25]

Next, the report presents several key just transition policy areas and associated challenges and assesses the extent to which the ILO Guidelines address these areas. We created this categorization of policy areas based on our research, and we think that this categorization is more comprehensive than the ILO's 9 policy areas. We identified these policy areas based on a review of relevant international just transition literature, including academic articles and reports from think tanks and advocacy organizations, and by conducting interviews of experts in South Africa and Germany who belong to various sectors, including government, labor unions, civil society organizations, and research institutions.[26]

For each of the 12 policy areas and challenges, we provide recommendations aimed at shaping future international just energy transition guidance from international institutions, such as the ILO, International Energy Agency, International Renewable Energy Agency (IRENA), various UN agencies, and UN Climate Change. There are various forms that future guidance could take—for example, it could involve creating new guidelines, amending or supplementing the existing ones, or publishing guidance from another international institution. Such future guidance can provide a menu of options for countries to adopt depending on national circumstances, without being strictly prescriptive. Amending, supplementing, or replacing the Guidelines in particular may be especially timely since, at the time of writing, they are nearly a decade old. While this report does not take a position on what specific form future international guidance should take, we do recommend the most authoritative form of guidance possible. For example, in the case of revisions to the ILO Guidelines, we would encourage updated Guidelines over publishing policy briefs, since the Guidelines require international tripartite consensus, whereas policy briefs written by ILO staffers would not require such consensus. We have included ambitious recommendations that we find to be sound policy based on our research, while recognizing that it may be challenging to reach international consensus for some of them.

The report is organized as follows: Section 2 provides background information on South Africa's and Germany's respective national socio-political and energy conditions and just transition policies. Section 3 summarizes the ILO Guidelines' 11 main categories of guidance and analyzes the extent to which South Africa's Framework and Germany's coal exit laws address each category of guidance. Section 4 then addresses how well the ILO Guidelines—as well as the ILO's 12 just transition policy briefs published as supplements to the ILO Guidelines—address key just transition policy areas and the unique challenges faced by developing countries. Section 5 concludes with recommendations for how the ILO Guidelines and international guidance on a just transition in general could better serve developing countries.

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23 *See* Sections 2.1.1 and 2.3.1.

24 Regarding South Africa, *see* Kingsley Ighobor, "A Just Transition to Renewable Energy in Africa," *Africa Renewal*, October 31, 2022, https://www.un.org/africarenewal/magazine/november-2022/just-transition-renewable-energy-%C2%A0africa; John F. Clark, "South Africa: Africa's Reluctant and Conflicted Regional Power," *Air & Space Power Journal Africa & Francophonie* 7, no. 1 (2016): 30–47, 30, https://www.airuniversity.af.edu/Portals/10/ASPJ_French/journals_E/Volume-07_Issue-1/clark_e.pdf. Regarding Germany, *see* Daniel Sarmiento, "On the Road to German Hegemony in EU Law?" *Verfassungsblog* (blog), October 7, 2020, , https://verfassungsblog.de/on-the-road-to-german-hegemony-in-eu-law; Marta Cartabia, Daniel Halberstam, Anna Sledzinska-Simon, Antoine Vauchez, and Armin von Bogdandy, "Debate: German Legal Hegemony?" *Verfassungsblog* (blog), October 23, 2020, https://verfassungsblog.de/category/debates/german-legal-hegemony-debates; Beyond Fossil Fuels, "Europe's Coal Exit," June 10, 2024, https://beyondfossilfuels.org/europes-coal-exit.

25 *See* Section 2.2.2.

26 The authors also contacted for interview, but did not receive responses from, stakeholders from the private sector, given their role in the just transition.

2 Just Transition Landscapes in South Africa and Germany: National Socio-Political and Energy Conditions and Policies

The following section provides background on South Africa and Germany that is useful for understanding their just energy transitions. This section first covers each country's just transition landscape, including their energy landscapes, socioeconomic and labor contexts, and relevant environmental and climate justice issues. It next covers each of their just transition policies as well as other closely related policies.

2.1 South Africa's Just Transition Context

2.1.1 Energy Sector

South Africa relies heavily on fossil fuels for its domestic energy needs, especially coal, which is the country's most abundant nonrenewable energy resource.[27] In 2023, the top three sources of South Africa's primary energy consumption were fossil fuels: coal (69% of consumption); oil (22%); and fossil gas (4%).[28] Its high fossil fuel consumption makes South Africa the world's 14th largest emitter of greenhouse gasses,[29] accounting for 1.17% of global emissions.[30] In addition to providing for its domestic energy needs, coal contributes heavily to its export revenue: South Africa is the fifth largest exporter of coal in the world.[31] Coal has also supported the development of the country's domestic mining sector, which has historically played a central role in its economic development.[32]

While there has been some government support for renewables, South Africa's deployment of renewable energy projects is still nascent, fueling only 4% of energy consumption in 2023.[33] However, geographically the country is well-suited to increase its use of renewables, as nearly all its territory has an abundance of solar and wind resources.[34] The Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) started in 2011, has helped accelerate private sector investment in renewables.[35] However, there have been recent concerns about REIPPPP's failure to execute renewable energy projects due to political economy factors and poor governmental management.[36] There have also been some non-REIPPPP renewables projects, including two wind farms and one concentrated solar power plant.[37]

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27 Lochner Marais, Jesse Burton, Maléne Campbell, and Etienne Nel, "Mine Closure in the Coal Industry: Global and National Perspectives" in *Coal and Energy in South Africa: Considering a Just Transition*, eds. Lochner Marais, Philippe Burger, Maléne Campbell, Stuart Paul Denoon-Stevens, and Deidré Van Rooyen (Edinburgh University Press, 2022), 44, https://edinburghuniversitypress.com/pub/media/ebooks/9781474487078.pdf.

28 Hannah Ritchie and Pablo Rosado, "Energy Mix," *Our World in Data*, January 2024, https://ourworldindata.org/energy-mix.

29 "Historical GHG Emissions," Climate Watch, https://www.climatewatchdata.org/ghg-emissions?end_year=2021&source=GCP&start_year=1960.

30 "State of the Climate: Climate Action Note – Data You Need to Know," UNEP, November 9, 2021, https://www.unep.org/explore-topics/climate-action/what-we-do/climate-action-note/state-of-climate.html?gclid=EAIaIQobChMIu465qNX1gAMVb1hIAB2vBAMdEAAYASAAEgKXcvD_BwE.

31 "Coal Information: Exports," IEA, https://www.iea.org/reports/coal-information-overview/exports.

32 Marais et al., "Mine Closure in the Coal Industry," 44.

33 Wind was the most important resource followed by solar and then hydropower. Ritchie and Rosado, "Energy Mix."

34 International Renewable Energy Agency (IRENA), *Renewable Energy Prospects: South Africa* (Abu Dhabi: IRENA, June 2020), 17, https://www.irena.org/Publications/2020/Jun/Renewable-Energy-Prospects-South-Africa.

35 IRENA, *Renewable Energy Prospects*, 34. *See also* "Independent Power Producer Procurement Programme," IPP Renewables, Department of Mineral Resources and Energy, Republic of South Africa, https://www.ipp-renewables.co.za.

36 Promit Mukherjee, "Exclusive: South Africa's Green Power Push Falters as Project Fails," *Reuters*, July 18 2023, https://www.reuters.com/business/energy/south-africas-green-power-push-falters-projects-fail-2023-07-18.

37 IRENA, *Renewable Energy Prospects*, 38.

The overall electricity access rate of the population of South Africa is 86%.[38] Eskom is the country's state-run, vertically-integrated electricity utility and its main electricity producer and distributor, providing for about 96% of the country's use.[39] Eskom produces most of its power from coal-fired power stations.[40] Since the 1970s, Eskom has neglected to adequately maintain its existing power infrastructure or to make significant investments or expansions.[41] As its power plants have aged and decreased in efficiency, or reached the end of their lifespan without replacement, the country's power generation capacity has not kept pace with the demands of a growing population and economy. To avoid unintended blackouts, from 2007 to the present Eskom has instituted loadshedding—planned power cuts—over extensive periods. [42] Loadshedding has gravely affected people's lives, impacting food security, water availability, sanitation, healthcare access, education, and crime rates, among other areas.[43] Indeed, in 2023, the Gauteng Division of the High Court of South Africa in Pretoria "found that the preventable failure to provide electricity amounted to Constitutional breaches and ordred the Minister of Electricity to take certain remedial steps."[44] In addition, one study estimates that loadshedding cost the economy about ZAR 35 billion between 2007 and 2019, an impact similar in magnitude to that of the 2008 financial crisis.[45] Among economic sectors, manufacturing has experienced the largest absolute resulting economic losses, while agriculture has suffered the greatest loss in proportion of output.[46] In 2023, the national government declared a "State of Disaster" over the energy crisis, which was revoked two months later, although some emergency measures were kept in place.[47] This situation has pushed the country to look to ways to expand its generation capacity, including through renewable energy projects.[48]

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38 IRENA, *Renewable Energy Prospects,* 26.

39 Marta Nowakowski and Tubis Agnieszka, "Load Shedding and the Energy Security of Republic of South Africa," *Journal of Polish Safety & Reliability Association* 6, no. 3 (2015): 99–108, 102, https://www.researchgate.net/publication/283256986_Load_shedding_and_the_energy_security_of_Republic_of_South_Africa; IRENA, *Renewable Energy Prospects,* 27.

40 Victor H. Mlambo, "Living in the Dark: Load Shedding and South Africa's Quest for Inclusive Development," *IAHRW International Journal of Social Sciences Review* 11, no. 2: (2023): 153–160, 154, https://www.researchgate.net/publication/372409764_Living_in_the_Dark_Load_Shedding_and_South_Africa's_Quest_for_Inclusive_Development.

41 IRENA, *Renewable Energy Prospects: South Africa,* 44; Nowakowski and Agnieszka, "Load Shedding and the Energy Security of Republic of South Africa," 103.

42 Kay Walsh, Rachel Theron, Ahmed Seedat, and Chris Reeders, *Estimating the Economic Cost of Load Shedding in South Africa* (Stellenbosch, South Africa: Nova Economics, December 3, 2020), 1, https://www.nersa.org.za/wp-content/uploads/2021/09/Appendix-C_Estimating-the-Economic-Cost-of-Load-Shedding-in-South-Africa-Report.pdf; Tehillah Niselow, "Sunday Read: Load Shedding Through the Years and How Eskom has Struggled to Keep the Lights On," *News24*, March 14, 2019, https://www.news24.com/fin24/economy/sunday-read-load-shedding-through-the-years-and-how-eskom-has-struggled-to-keep-the-lights-on-20190324.

43 Rebecca Trenner, "Dead Chickens and Decomposing Bodies: Inside South Africa's Power Blackout 'Pandemic'," *CNN*, January 31, 2023, https://www.cnn.com/2023/01/31/africa/south-africa-power-blackouts-intl-cmd/index.html; Crystal Orderson, "In South Africa, 'Load Shedding' Takes a Toll on Small Businesses," *Al Jazeera*, February 9, 2023, https://www.aljazeera.com/features/2023/2/9/in-south-africa-load-shedding-takes-a-toll-on-small-businesses.

44 *South African Local Government Association v. National Energy Regulator of South Africa and others*, High Court of South Africa, Gauteng Division, Pretoria, December 1, 2023, Case nos. 005779/2023, 003615/2023, 022464/2023 https://www.actionsa.org.za/wp-content/uploads/2023/12/JUDGMENT-OF-UDM-OTHERS-v-ESKOM-OTHERS-DA-v-NERSA-OTHERS-AND-SALGA-v-NERSA-OTHERS.pdf.

45 Walsh et al., *Estimating the Economic Cost of Load Shedding in South Africa,* 10–11.

46 Walsh et al., *Estimating the Economic Cost of Load Shedding in South Africa,* 16.

47 "Security Alert: State of Disaster Declared Over Ongoing Energy Crisis," U.S. Embassy and Consulates in South Africa, February 15, 2023, https://za.usembassy.gov/security-alert-u-s-embassy-state-of-disaster-declared-over-ongoing-energy-crisis-of-load-shedding-controlled-electricity-outages; Kopano Gumbi, "South Africa Revokes 'State of Disaster' Declared Over Power Crisis," *Reuters*, April 6, 2023, https://www.reuters.com/business/energy/south-africa-revokes-state-disaster-declared-over-power-crisis-2023-04-05.

48 IRENA, *Renewable Energy Prospects*, 40 (noting that insufficient generation capacity in the 2000s and 2010s has encouraged the growth of solar PV capacity in the residential and commercial sectors and distributed solar).

2.1.2 Labor and Social Protection

There are gaps in South Africa's system of social protection that create vulnerabilities for many workers.[49] For instance, there is no mandatory pension coverage[50] although there is an unemployment insurance fund.[51] Trade unions are powerful, but their density has fallen in recent years, standing at 23% as of 2023.[52] There are multiple unions whose membership include employees in the coal sector, including the Association of Mineworkers and Construction Union, the National Union of Mineworkers, and National Union of Metalworkers of South Africa.[53] The latter two unions are considered to be the two most powerful unions in the country.[54] The National Union of Mineworkers is also an affiliate of the trade union federation Congress of South African Trade Unions, which itself has been a leading voice on just transition issues in South Africa's labor movement.[55] Outside of the world of formal employment, there are approximately 4.5 million informal workers in the country, a group that is especially vulnerable to impacts of the energy transition.[56]

The coal industry represents a meaningful source of national employment, and there are serious concerns about how the energy transition could reduce the number of jobs in this sector. In 2023, the coal industry directly employed 94,531 people[57] One study by the University of Cape Town found that in 2019 the coal value chain as a whole employed, directly and indirectly, approximately 106,887 people, or 0.5% of the total labor force of nearly 25 million people.[58] The research institution Trade & Industrial Policy Strategies estimates that in 2019 the formal coal value chain accounted for nearly 200,000 jobs, or around 1.5% of total formal employment.[59] Though these figures represent a decline from a peak of approximately 130,000–140,000 direct coal industry jobs in the 1980s,[60] given the country's high unemployment rate of nearly 33%, these coal jobs are important.[61] Mineworkers are also considered to be better off on average with regard to pay and unionization rates as compared to other workers with similar educational and skill attainment.[62] This condition poses a challenge in replacing coal jobs with those of the same or better quality

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49 Falilou Fall and Andre Steenkamp, "Building an Inclusive Social Protection System in South Africa" (Economics Department Working Papers No. 1620, Paris: OECD, September 14, 2020), 6, https://one.oecd.org/document/ECO/WKP(2020)28/en/pdf.

50 Fall and Steenkamp, "Building an Inclusive Social Protection System," 6.

51 "Unemployment Insurance Fund," South African Revenue Service, https://www.sars.gov.za/types-of-tax/unemployment-insurance-fund.

52 South African Government, "Employment and Labour on Falling Trade Union Membership in South Africa," press release, February 22, 2023, https://www.gov.za/speeches/employment-and-labouron-falling-trade-union-membership-south-africa-22-feb-2023-0000.

53 The approximate membership of each union is 300,000 for the National Union of Mineworkers, 200,000 for the Association of Mineworkers and Construction Union, and 360,000 for the National Union of Metalworkers of South Africa. *See* "NUM," ITUC Trade Union Development Projects Directory, https://projects.ituc-csi.org/num; "About AMCU," Association of Mineworkers and Construction Union, https://amcu.co.za/about-amcu-2; Tobias Kalt, "Agents of Transition or Defenders of the Status Quo? Trade Union Strategies in Green Transitions," *Journal of Industrial Relations* 64, no. 1 (2022): 499–521, 509, https://doi.org/10.1177/00221856211051794; "Why Join NUMSA?" NUMSA, https://numsa.org.za/why-join-numsa-2.

54 Kalt, "Agents of Transition or Defenders of the Status Quo?" 508.

55 "Just Transition," COSATU, https://mediadon.co.za/just-transition-workshop-2021.

56 Institute for Economic Justice (IEJ), Women in Informal Employment: Globalizing and Organizing (WIEGO) South Africa, Laura Alfers, Jane Barrett, Vanessa Pillay, Mike Rogan, Marlese von Broembsen, and Caroline Skinner, *Informal Economy/Sector* (Jobs Summit Policy Brief Series, Small and Micro-enterprise Support Stream 3, Policy Brief 1, Johannesburg: IEJ, August 2018), 2, https://iej.org.za/wp-content/uploads/2020/07/Stream-3-Policy-Brief-1-Informal-Economy-Sector.pdf.

57 Minerals Council South Africa, *Facts & Figures Pocketbook 2023* (Johannesburg: Minerals Council South Africa, February 5, 2024), 23, https://www.mineralscouncil.org.za/industry-news/publications/facts-and-figures/category/17-facts-and-figures. In addition to creating direct employment, the coal industry also indirectly benefits other businesses and informal workers. South African Just Transition Framework, 11.

58 Haroon Bhorat, Tsungai Kupeta, Lisa Martin, and François Steenkamp, *Just Transition and the Labour Market in South Africa: Measuring Individual and Household Coal Economy Dependence* (University of Cape Town, Development Policy Research Unit, March 20, 2024), 70, https://www.oxfordmartin.ox.ac.uk/publications/just-transition-and-the-labour-market-in-south-africa; Republic of South Africa, Department of Statistics, *Quarterly Labour Force Survey. Quarter 1: 2024* (Pretoria: Republic of South Africa, May 14, 2024), 1, https://www.statssa.gov.za/publications/P0211/P02111stQuarter2024.pdf.

59 Neva Makgetla and Muhammed Patel, *The Coal Value Chain in South Africa* (Pretoria: Trade & Industrial Policy Strategies [TIPS], July 2021), 15, https://www.tips.org.za/research-archive/trade-and-industry/item/4161-the-coal-value-chain-in-south-africa.

60 South African Just Transition Framework, 10; Minerals Council South Africa, *Facts & Figures Pocketbook 2023*, 41; Kalt, "Agents of Transition or Defenders of the Status Quo?" 507.

61 Republic of South Africa, Department of Statistics, *Quarterly Labour Force Survey*, 1; "Work and Labour Force," Department of Statistics South Africa, June 28, 2024, https://www.statssa.gov.za/?page_id=737&id=1.

62 Marais et al., "Mine Closure in the Coal Industry," 44. In South Africa, 90% of workers in the coal value chain lack advanced training or skills. Lauren

for the same populations.[63] Retirement is not yet an option for most coal workers given that their median age is 38.[64] Finally, the impacts of a coal phase-out in South Africa will not be felt evenly across the country. Most coal mines and power stations are located within Mpumalanga province.[65]

2.1.3 Environmental and Climate Justice

South Africa faces various environmental and climate justice issues that further necessitate a just transition. While coal has contributed positively to South Africa's economy, it has also been a source of social and environmental injustice. Eskom's coal-fired power stations have caused severe air pollution in Mpumalanga, which was the subject of a successful lawsuit brought by environmental justice groups in 2019 that sought to order the government to improve air quality.[66] Climate litigation to halt the development of a new coal fired power station also prompted the requirement that climate impacts must be assessed as part of an environmental impact assessment under South African law.[67] Coal mining's destructive impacts on the environment have included the pollution of water resources and degradation of lands that were formerly suitable for agriculture.[68] Coal mining is also dangerous for workers due to cumulative exposure to coal dust leading to coal mine dust lung disease, which also was the subject of several class action lawsuits against coal mining companies in 2023.[69] In addition, the expansion of coal mines has caused displacement and losses of land for rural communities, thereby devastating livelihoods.[70]

All of this comes against the backdrop that South Africa is on the frontline of climate change. The interior of southern Africa is warming at twice the global average rate.[71] The country is especially vulnerable to climate change because most of its land is already arid or semi-arid and rising temperatures worsen drought conditions and water insecurity.[72] Its largest economic sectors tend to depend on natural resources, including agriculture that is often rain-fed, and are therefore highly vulnerable to climate change.[73] While South Africa's mining sector has significantly contributed to climate change and environmental destruction, the sector itself is also vulnerable to climate change impacts, such as water stress, flooding, and extreme weather.[74] The risk of sudden

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Hermanus and Gaylor Montmasson-Clair, *Making Sense of Jobs in South Africa's Just Energy Transition: Managing the Impact of a Coal Transition on Employment* (Policy Brief 3/2021, Pretoria: TIPS, April 2021), 5, https://www.tips.org.za/policy-briefs/item/4111-making-sense-of-jobs-in-south-africa-s-just-energy-transition-managing-the-impact-of-a-coal-transition-on-employment.

63 "South Africa: Strong Foundations for a Just Transition," World Resources Institute (WRI), December 23, 2021, https://www.wri.org/update/south-africa-strong-foundations-just-transition.

64 Hermanus and Montmasson-Clair, *Making Sense of Jobs in South Africa's Just Energy Transition*, 4.

65 Anna Majavu, "South Africa: Little Hope in Green Transition in Town with "the Dirtiest Air in the World"," *Mongabay*, April 26, 2023, https://news.mongabay.com/2023/04/south-africa-little-hope-in-green-transition-in-town-with-the-dirtiest-air-in-the-world.

66 Centre for Environmental Rights, "Major Court Victory for Communities Fighting Air Pollution in Mpumalanga Highveld," news release, March 18, 2022, https://cer.org.za/news/major-court-victory-for-communities-fighting-air-pollution-in-mpumalanga-highveld.

67 Centre for Environmental Rights, "Climate Litigation Prompts New Guideline for Assessing Climate Impacts," news release, July 29, 2021, https://cer.org.za/news/climate-litigation-prompts-new-guideline-for-assessing-climate-impacts.

68 Adejoke Christianah Olufemi, Paul Olawutosin Bello, and Andile Mji, "Conflict Implications of Coal Mining and Environmental Pollution in South Africa: Lessons from Niger Delta, Nigeria," African Journal on Conflict Resolution 18, no. 1, (July 2018) 7–35, 14–15, https://www.accord.org.za/publication/ajcr-volume-18-no-1-2018; Centre for Environmental Rights, Centre for Applied Legal Studies, Groundwork, South Durban Community Environmental Alliance, Vaal Environmental Justice Alliance, Highveld Environmental Justice Network, EarthJustice, "Joint Stakeholders' Submission on: The threats to human rights from mining and coal-fired power production in South Africa," Universal Periodic Review of South Africa, 27th Session (March 2017), October 5, 2016, https://cer.org.za/wp-content/uploads/2016/10/2017-SA-UPR-submission-mining-and-HR-2016-10-5-final.pdf.

69 Zandile Munyai, "The Rise in Class Action Lawsuits against Mining 'Powerhouses' in South Africa," Mineral Law in Africa, University of Cape Town, March 12, 2024, https://law.uct.ac.za/mineral-law/articles/2024-03-12-rise-class-action-lawsuits-against-mining-powerhouses-south-africa.

70 Anna Majavu, "'I Have Anger Every Day': South African Villagers on the Mine in their Midst," *Mongabay*, November 28, 2022, https://news.mongabay.com/2022/11/i-have-anger-every-day-south-african-villagers-on-the-mine-in-their-midst; Ross T. Shackleton, "Loss of Land and Livelihoods from Mining Operations: A Case in the Limpopo Province, South Africa," *Land Use Policy* 99, no. 104825 (December 2020): 1, http://dx.doi.org/10.1016/j.landusepol.2020.104825.

71 Joan Igamba, "Climate Change in South Africa: 21 Stunning Facts About South Africa's Climate Breakdown," *Greenpeace* (blog), August 30, 2023, https://www.greenpeace.org/africa/en/blogs/54171/climate-change-in-south-africa-21-stunning-facts-about-south-africas-climate-breakdown.

72 Igamba, "Climate Change in South Africa"; MacKenzie Dove, *Climate Risk Country Profile: South Africa* (Washington, DC: World Bank Group, 2021), 14, https://climateknowledgeportal.worldbank.org/sites/default/files/country-profiles/15932-WB_South%20Africa%20Country%20Profile-WEB.pdf.

73 Dove, *Climate Risk Country Profile*, 5, 14.

74 Lindsay Delevingne, Will Glazener, Liesbet Gregoir, and Kimberly Henderson, "Climate Risk and Decarbonization: What Every Mining CEO Needs to Know,"

onset disasters has also increased. For instance, climate change has doubled the chances of extreme rainfall the past century, and such incidents have caused floods and landslides in the provinces of KwaZulu-Natal and Eastern Cape, resulting in 400 deaths and displacing 40,000 people.[75] However, only 43% of South Africans are aware of climate change, and just over half (55%) of those who are aware believe climate change is making life worse.[76]

2.2 South Africa's Just Transition Policies

2.2.1 PCC and Just Transition Framework

The Presidential Climate Commission (PCC) is an "independent, statutory, multistakeholder body established by President Cyril Ramaphosa" with a purpose to "oversee and facilitate a just and equitable transition towards a low-emissions and climate-resilient economy."[77] President Cyril Ramaphosa and his cabinet established the PCC in December 2020,[78] following a Presidential Jobs Summit in October 2018, where participants representing government, business, labor, and community organizations agreed to form an entity that would advise on the country's climate change response and coordinate its just energy transition.[79] Its membership represents broad and diverse interest areas, with 33 commissioners and President Ramaphosa himself serving as the Chairperson.[80]

In June 2022, the PCC adopted a final Just Transition Framework,[81] which was approved by the South African Cabinet in September 2022.[82] South Africa's Framework was drafted following extensive research and a series of consultations with social partners and communities. It serves as a unifying national policy frame to guide the government's measures on the just transition.[83] Further, it proposes guiding principles, long-term goals, short-term action steps to be taken, as well as policies and governance arrangements to give effect to the transition.[84] Economic objectives are central to the Framework, as it aims to support the country's "broader efforts to redesign the economy" and address "South Africa's triple challenges of poverty, unemployment, and inequality."[85] Importantly, it is also a principle-based national framework which envisaged the development of a more detailed implementation

McKinsey Sustainability, January 28, 2020, https://www.mckinsey.com/capabilities/sustainability/our-insights/climate-risk-and-decarbonization-what-every-mining-ceo-needs-to-know.

75 Ayesha Tandon, "Climate Change Made Extreme Rains in 2022 South Africa Floods 'Twice as Likely'," *Carbon Brief*, May 13, 2022, https://www.carbonbrief.org/climate-change-made-extreme-rains-in-2022-south-africa-floods-twice-as-likely.

76 Alfred Kwadzo Torsu and Matthias Krönke, *With Climate Change Making Life Worse, Africans Expect Governments and Other Stakeholders to Step Up* (Dispatch No. 717, Accra: Afrobarometer, October 16, 2023), 7, 12, https://www.afrobarometer.org/wp-content/uploads/2023/10/AD717-PAP1-With-climate-change-making-life-worse%5ELJ-Africans-expect-govts-and-stakeholders-to-step-up-Afrobarometer-16oct23-1.pdf.

77 "About Us," PCC, https://www.climatecommission.org.za/about; Cynthia Elliott, Clea Schumer, Rebecca Gasper, Katie Ross, and Neelam Singh, "South Africa Establishes an Inclusive Process Toward a Just Transition, with Broad Stakeholder Engagement," WRI, March 6, 2024, https://wri.org/update/south-africa-establishes-inclusive-process-toward-just-transition-broad-stakeholder.

78 "About Us," PCC; South African Government, "Climate Commission on Government's Commitment to a Transition and Calls for Integrated Planning and Budgeting," press release, July 5, 2022, https://www.gov.za/news/media-statements/climate-commission-government%E2%80%99s-commitment-transition-and-calls-integrated.

79 "About Us," PCC; Katie Conolly, "5 Lessons from South Africa's Just Transition Journey," WRI, September 1, 2022, https://www.wri.org/technical-perspectives/5-lessons-south-africas-just-transition-journey; "Jobs Summit 2018," South African Government, September 28, 2018, https://www.gov.za/JobsSummit2018; South African Just Transition Framework, 2.

80 The rest of its commissioners include present and former government officials and ministers; a climate activist; climate and environmental science experts; the Chair of Eskom's board of directors; and representatives from unions, the mining industry, environmental justice and conservation non-governmental organizations, a scientific research organization, a national development finance institution, the banking sector, business, Mpumalanga local government, a federation of agricultural organizations, and a social impact investor. "Commissioners," PCC, https://www.climatecommission.org.za/commissioners.

81 "Just Transition Framework," PCC, https://www.climatecommission.org.za/just-transition-framework.

82 PCC, "PCC Welcomes the Adoption of Just Transition Framework," press release, September 2, 2022, https://www.climatecommission.org.za/news-and-insights/media-release-pcc-welcomes-adoption-of-just-transition-framework.

83 South African Just Transition Framework, 5.

84 South African Just Transition Framework, 2, 26; "Just Transition Framework," PCC.

85 South African Just Transition Framework, 2, 5.

plan.[86] As the first steps toward actioning the national framework, the just transition investment plan was released in 2022.[87] While South Africa's Framework refers to the just transition of its economy as a whole, this report analyzes its provisions concerning the energy transition specifically.

2.2.2 Just Energy Transition Partnership, Investment Plan, and Implementation Plan

In 2021, South Africa formed the Just Energy Transition Partnership (JETP) with a group of developed economies called the "International Partners Group" (IPG),[88] comprised of the European Union, France, Germany, the United Kingdom, and the United States. JETP was formed via a Political Declaration at the 26th Conference of the Parties to the UNFCCC. To operationalize the JETP and work alongside the IPG, President Ramaphosa established the Presidential Climate Finance Task Team (PCFTT) in 2022.[89] In addition, the JETP created an independent JETP Secretariat to help coordinate the drafting of the investment plan.[90]

In 2022, the PCFTT and IPG, working with the JETP Secretariat, developed the five-year Just Energy Transition Investment Plan (JET IP), which the South African Cabinet and IPG governments formally endorsed in October of that year.[91] The South African government claims that the JET IP was developed following a series of technical working groups and stakeholder discussions, and it draws on the knowledge base of policymakers, academia, civil society, and business stakeholders in South Africa.[92] However, the JET IP has been criticized for having been largely negotiated and designed in secrecy without sufficient civil society engagement.[93] The JET IP's purpose is to support South Africa in achieving its decarbonization goals set out in its Nationally Determined Contributions under the Paris Agreement by providing initial finance intended to catalyze additional investment.[94] To initiate the program, the IPG committed to providing USD 8.5 billion (ZAR 128 billion) between 2023 and 2027.[95] However, this amount is only a small percentage of the USD 250 billion reportedly needed to realize a just transition in South Africa,[96] reflecting the fact that this program, by design, will require South Africa to obtain additional private and public capital from other domestic and international sources.[97] Moreover, only 3.9% of the USD 8.5 billion involve grants or technical assistance.[98] The rest involves concessional loans (63.0%), commercial loans (17.7%), and guarantees (15.4%), which can increase South Africa's national debt.[99]

The JET IP's priority sectors are electricity, new energy vehicles, and green hydrogen.[100] The funding is likely to be dedicated to decommissioning coal-fired power plants, establishing new employment in coal regions, renewable energy deployment, and other

86 South African Just Transition Framework, 5.

87 Republic of South Africa, *South Africa's Just Energy Transition Investment Plan (JET IP) for the Initial Period 2023–2027*," November 2022 (JET IP) https://pccommissionflo.imgix.net/uploads/images/South-Africas-Just-Energy-Transition-Investment-Plan-JET-IP-2023-2027-FINAL.pdf.

88 JET IP, 1.

89 JET IP, 1.

90 JET IP, 1–2.

91 JET IP, 3; "Twelve-month Update on Progress in Advancing the South Africa Just Energy Transition Partnership," Foreign, Commonwealth & Development Office, United Kingdom, November 2022, https://www.gov.uk/government/publications/advancing-the-south-africa-just-energy-transition-partnership-12-month-progress-update/twelve-month-update-on-progress-in-advancing-the-south-africa-just-energy-transition-partnership.

92 JET IP, 3.

93 Institute for Economic Justice, "Secretly-negotiated South African 'Climate Finance Deal' a Gift to Private Investors while Choking Local Development," press release, November 10, 2022, https://www.iej.org.za/statement-secretly-negotiated-south-african-climate-finance-deal-a-gift-to-private-investors-while-choking-local-development.

94 JET IP, 3.

95 JET IP, 3; European Commission, "Joint Statement: South Africa Just Energy Transition Investment Plan," press release, https://ec.europa.eu/commission/presscorner/detail/en/statement_22_6664.

96 JET IP, 3.

97 JET IP, 9.

98 "Twelve-month Update," Foreign, Commonwealth & Development Office.

99 "Twelve-month Update," Foreign, Commonwealth & Development Office.

100 European Commission, "Joint Statement."

sustainable sectors.[101] In addition, in November 2023, the South African cabinet approved the JET IP Implementation Plan.[102] This plan provides a roadmap for South Africa to meet its decarbonization commitments.[103] As of January 2024, the JETP had secured nearly USD $12 billion in international financing pledges.[104]

2.2.3 Other Relevant Policies

There are other relevant policies that bear on South Africa's just transition. The national Climate Change Act was signed into law by South African President Cyril Ramaphosa on July 23, 2024.[105] It aims to develop "an effective climate change response and a long-term, just transition to a low-carbon and climate-resilient economy and society for South Africa."[106] It will regulate mitigation and adaptation policies and define responsibilities among different levels of government.[107]

Second, the Integrated Resource Plan is South Africa's electricity infrastructure development plan.[108] Its first iteration was promulgated in 2011, identifying the generation technology that would be used to meet expected demand growth by 2030 and incorporating the objectives of affordability, reduced greenhouse gas emissions, reduced water consumption, localization, regional development, and diversified electricity generation sources.[109] In 2019, it was updated to reflect subsequent changes in national circumstances.[110] IRP 2019 remains applicable, but a draft IRP 2023 has been released and the government aims to finalize it in mid-2024.[111] IRP 2019 included electricity demand forecasts as well as plans for auctions to increase generation capacity.[112] Notably, it envisioned coal as remaining dominant in South Africa's electricity mix through 2030.[113] As of 2019, South Africa had 38 gigawatts (GW) of installed capacity from coal.[114] IRP 2019 planned to decommission a cumulative 10.5 GW of coal-generated electricity by 2030 and an additional 24.1 GW (35 GW cumulative) by 2050.[115] In addition, IRP 2019 noted that a certain amount of coal power plants will be decommissioned through 2050 and expresses the government's goal to consolidate various initiatives for a just transition into a single team.[116] The draft IRP 2023 has been criticized by civil society groups because it fails to address minimum emissions standards and includes plans to rely on natural gas as a transition fuel and increase reliance on nuclear power; delay

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101 European Commission, "Joint Statement."

102 Republic of South Africa, *Just Energy Transition Implementation Plan 2023–2027* (JET IP Implementation Plan), https://www.stateofthenation.gov.za/assets/downloads/JET%20Implementation%20Plan%202023-2027.pdf; Republic of South Africa, "Statement on the Cabinet Meeting of 16 November 2023," South African Government, November 20, 2023, https://www.gov.za/news/cabinet-statements/statement-cabinet-meeting-16-november-2023%C2%A0-20-nov-2023.

103 JET IP Implementation Plan, 19.

104 *Leave No One Behind, Five Year Review* (The Presidency, Republic of South Africa, 2024), 10, https://www.stateofthenation.gov.za/assets/downloads/A_five_year_review_presidency_achievements_feb_2024.pdf.

105 Republic of South Africa, Act No. 22 of 2024: Climate Change Act, 2024, July 23, 2024 (South African Climate Change Act), https://www.parliament.gov.za/storage/app/media/Acts/2024/Act_No_22_of_2024_Climate_Change_Act.pdf.

106 South African Climate Change Act, 2.

107 Centre for Environmental Rights, *What is the Climate Change Bill and Why is it Important?* (Fact Sheet, Cape Town: Centre for Environmental Rights), https://cer.org.za/wp-content/uploads/2022/12/FACTSHEET-ENGLISH.pdf; "South African Climate Change Bill 2023," Dentons, January 25, 2024, https://www.dentons.com/en/insights/articles/2024/january/25/south-african-climate-change-bill-2023.

108 Republic of South Africa, Department of Mineral Resources and Energy, Integrated Resource Plan, October 2019 (IRP 2019), 8, https://web.archive.org/web/20240612133929/https://www.energy.gov.za/irp/2019/IRP-2019.pdf.

109 IRP 2019, 8.

110 IRP 2019, 9.

111 Jackwell Feris, Alecia Pienaar, and Priscilla Brandt, "A Snapshot of South Africa's draft Integrated Resource Plan 2023," CDH Incorporated, March 6, 2024, https://www.cliffedekkerhofmeyr.com/news/publications/2024/Sector/Projects/projects-and-energy-alert-6-march-a-snapshot-of-south-africas-draft-integrated-resource-plan-2023; ; *Unpacking the Draft IRP 2023* (Republic of South Africa, Department of Mineral Resources and Energy, February 16, 2024), 16, https://pccommissionflo.imgix.net/uploads/images/Agenda-Item-6-IRP-2023-Unpacking-the-IRP-Public-Session95-Read-Only.pdf.

112 IRP 2019, 27; "Integrated Resource Plan: South Africa," NetZero Pathfinders, https://www.bloomberg.com/netzeropathfinders/best-practices/integrated-resource-plan-south-africa.

113 IRP 2019, 12, 41.

114 IRP 2019, 11.

115 IRP 2019, 35, 44.

116 IRP 2019, 44–45.

coal plant decommissioning; encourage "clean coal" generation and usage of carbon capture, utilization and storage; forestall the ending of load shedding; and reduce public procurement of renewable energy.[117]

Lastly, the Draft South African Renewable Energy Masterplan (SAREM) is an industrialization plan concerning South Africa's renewable energy and battery storage value chains.[118] It was developed between 2020 and 2022 under the leadership of the Departments of Mineral Resources and Energy and Trade, Industry and Competition.[119] It aims to increase the manufacturing of renewable energy technologies while creating decent jobs and contributing to inclusive development and a just transition.[120] The Department of Mineral Resources and Energy received public comments on SAREM up through August 2023.[121] The government will engage in negotiations with stakeholders to finalize its targets, after which point the final draft will be presented to a multi-stakeholder committee and finalized for signature.[122] A Project Management Unit will then be established to manage, monitor and evaluate its implementation.[123]

2.3 Germany's Just Transition Context

2.3.1 Energy Sector

Although Germany has diversified its energy sources over the last two decades, its energy system is still dominated by fossil fuels.[124] In 2023, fossil fuels constituted the top three sources of its primary energy consumption: the largest sources were oil (36% of consumption); fossil gas (24%); and coal (16%).[125] As a result, Germany is the world's 7th largest emitter of greenhouse gasses[126] and accounts for 1.79% of global emissions.[127] Coal, especially domestically produced lignite or brown coal, is its most important resource for electricity production.[128] It is the world's second largest producer of lignite after China, accounting for about 11% of global production.[129]

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117 Lauren Nel and Jacqueline Rukanda, Natural Justice Africa, to Jacob Mbele, Department of Mineral Resources and Energy, regarding Natural Justice Commentary on the Integrated Resource Plan 2023, March 23, 2024, 28–29, https://naturaljustice.org/wp-content/uploads/2024/03/20240323-NATURAL-JUSTICE-COMMENTARY-ON-THE-INTEGRATED-RESOURCE-PLAN-2023_.pdf; Gabrielle Knott, Centre for Environmental Rights, to Jacob Mbele, Department of Mineral Resources and Energy, regarding Life After Coal Campaign Submission on the Draft Integrated Resource Plan 2023, https://cer.org.za/wp-content/uploads/2024/03/Comments-on-the-Draft-IRP-2023-Life-After-Coal-Campaign-and-Black-Girls-Rising.pdf.

118 SAREM is one of 14 other national sector master plans produced by the Department of Trade, Industry and Competition to drive industrial development in South Africa. IEJ, *Negotiating a South African Renewable Energy Masterplan (SAREM)* (IEJ Fact sheet, October 2022), 1, https://www.iej.org.za/wp-content/uploads/2022/10/IEJ-SAREM-fact-sheet.pdf; Republic of South Africa, Department of Mineral Resources and Energy, Department of Trade, Industry and Competition, and Department of Science and Innovation, South African Renewable Energy Masterplan: An Industrialisation Plan for the Renewable Energy Value Chain to 2030, Draft Master Plan for Review by Executive Oversight Committee, March 2022 (Draft SAREM 2023), 10, https://greencape.co.za/assets/SAREM-Draft-March-2022.pdf.

119 Draft SAREM 2023, 35.

120 Draft SAREM 2023, 10, 34.

121 South African Government, "Mineral Resources and Energy Calls for Comments on Draft South African Renewable Energy Masterplan," press release, August 7, 2023, https://www.gov.za/speeches/call-comments-draft-south-african-renewable-energy-masterplan-sarem-7-aug-2023-0000.

122 Draft SAREM 2023, 36.

123 Draft SAREM 2023, 36.

124 IEA, *Germany 2020: Energy Policy Review* (Paris: IEA, February 2020), 11, 84, https://www.iea.org/reports/germany-2020.

125 Ritchie and Rosado, "Energy Mix."

126 As of 2021. "Historical GHG Emissions," Climate Watch, https://www.climatewatchdata.org/ghg-emissions?end_year=2021&source=GCP&start_year=1960.

127 As of 2022. Hannah Ritchie and Max Roser, "Germany: CO2 Country Profile," *Our World in Data*, 2022, https://ourworldindata.org/co2/country/germany#what-share-of-global-co2-emissions-are-emitted-by-the-country.

128 IEA, *Germany 2020*, 165. While Germany produces lignite coal domestically, it imports hard coal. Julian Wettengel, "Germany, EU Remain Heavily Dependent on Imported Fossil Fuels," *Clean Energy Wire*, April 3, 2024, https://www.cleanenergywire.org/factsheets/germanys-dependence-imported-fossil-fuels.

129 As of 2020. Dieter Franke, Stefan Ladage, Rüdiger Lutz, Martin Pein, Thomas Pletsch, Dorothee Rebscher, Michael Schauer, Sandro Schmidt, and Gabriela von Goerne, *BGR Energy Study 2021: Data and Developments Concerning German and Global Energy Supplies* (Hannover: Federal Institute for Geosciences and Natural Resources [*Bundesanstalt für Geowissenschaften und Rohstoffe – BGR*], August 2022), 50, https://doi.org/10.25928/es-2021-en.

The government has taken steps to increase the share of renewable energy sources, which constitute 22% of its total final energy consumption.[130] Fifty-three percent of its electricity generation is from renewable sources.[131] Its largest renewable source is onshore wind energy, and the greatest increases in renewable energy production in the last decade have come from wind and solar power.[132] This growth has been the result of various supportive policies pertaining to the electricity sector and, to a lesser extent, heat and transportation.[133] The Renewable Energy Sources Act, adopted in 2000 and updated in 2014 and 2017, has been an especially impactful electricity sector policy.[134]

Electricity in Germany is provided through a private market.[135] Fossil fuel–fired electricity generation is dominated by five companies—RWE Power AG (RWE), Lausitz Energie Berbau AG (LEAG), Uniper, Vattenfall, and EnBW—while renewable energy generation is more fragmented.[136] Transmission is also dominated by only a handful of companies, although distribution and supply are operated by hundreds of companies.[137] Germany enjoys high energy security, but it has depended heavily on fossil fuels imports, as almost all of its oil, fossil gas, and hard coal are imported.[138] Its dependence on imports from Russia in particular became a threat to the country's energy security when Russia invaded Ukraine in February 2022. At that time, Russia was providing around 34% of Germany's oil, 50% of its hard coal, and 55% of its fossil gas.[139] In response to the invasion, the EU banned imports of Russian coal and later refined petroleum products.[140] Russia also ceased its fossil gas exports to Germany, leading to a shortage.[141] Although some of the shortage was alleviated by increased imports from the Netherlands and Norway to compensate for anticipated shortfalls, Germany also temporarily reactivated some of its reserve coal plants to increase its energy security during the winter of 2022/2023.[142]

2.3.2 Labor and Social Protection

Germany has a comprehensive system of social protection based on transfer payments tied to earnings.[143] Social protection is organized into five statutory branches: insurance for sickness, long-term care, old-age, accidents, and unemployment.[144] Trade union density in Germany is about 16%.[145] The union most relevant to the lignite sector is Industriegewerkschaft Bergbau, Chemie,

130 As of 2023. Federal Republic of Germany, Federal Environment Agency (*Umweltbundesamt*) "Renewable Energies Continue to Pick up Speed in 2023," news release, March 8, 2024, https://www.umweltbundesamt.de/themen/erneuerbare-energien-nehmen-2023-weiter-fahrt-auf.

131 Simon Müller, Katharina Hartz, Moritz Zackariat, and Fabian Huneke, *The Energy Transition in Germany: State of Play 2023* (Die Energiewende in Deutschland: Stand der Dinge 2023) (Berlin: Agora Energiewende, January 9, 2023), 13; https://www.agora-energiewende.de/fileadmin/Projekte/2023/2023-35_DE_JAW23/2024-01-09_Praesentation_Webinar_JAW23.pdf.

132 Müller et al., *The Energy Transition in Germany*, 13; IEA, *Germany 2020*, 84, 86.

133 IEA, *Germany 2020*, 89.

134 IEA, *Germany 2020*, 89, 91.

135 Ulrich Scholz and Hendrik Wessling, "Electricity Regulation in Germany: Overview," Thomson Reuters Practical Law, https://uk.practicallaw.thomsonreuters.com/5-524-0808?transitionType=Default&contextData=(sc.Default)&firstPage=true.

136 Scholz and Wessling, "Electricity Regulation in Germany."

137 The four major transmission system operators are 50 Hertz, Transnet BW, Amprion and Tennet. Scholz and Wessling, "Electricity Regulation in Germany."

138 IEA, *Germany 2020*, 15; Wettengel, "Germany, EU Remain Heavily Dependent on Imported Fossil Fuels."

139 Wettengel, "Germany, EU Remain Heavily Dependent on Imported Fossil Fuels."

140 Wettengel, "Germany, EU Remain Heavily Dependent on Imported Fossil Fuels."

141 Wettengel, "Germany, EU Remain Heavily Dependent on Imported Fossil Fuels."

142 "Germany Reactivates Coal-fired Power Plant to Save Gas," *DW*, August 22, 2022, https://www.dw.com/en/germany-reactivates-coal-fired-power-plant-to-save-gas/a-62893497.

143 James E. Cronin, George W. Ross, and James Shoch, eds., *What's Left of the Left: Democrats and Social Democrats in Challenging Times* (Durham, NC: Duke University Press, 2011), 114, https://library.oapen.org/bitstream/id/899d712f-30d6-488d-aa17-617294390f9b/1004318.pdf.

144 European Commission, *Your Social Security Rights in Germany* (Brussels: European Union, July 2013), 5, https://ec.europa.eu/employment_social/empl_portal/SSRinEU/Your%20social%20security%20rights%20in%20Germany_en.pdf.

145 As of 2019. "Trade Union Density," OECD Data Explorer, OECD, https://data-viewer.oecd.org/?chartId=b8f9d957-c062-49ed-9847-e62ea71c5a84.

Energie (IG BCE). IG BCE is Germany's third largest trade union with 661,000 members and includes workers from the mining, energy, oil, and fossil gas sectors.[146] In addition, Germany has one of the lowest rates of informal work in the EU.[147]

Germany is not immune from the anticipated impacts of the just transition on labor. Around 20,000 people are employed in the lignite sector, which includes mining, power plant operation, and former mine rehabilitation.[148] The sector indirectly supports an additional 32,000 jobs, such as in the service industry.[149] Lignite sector jobs provide competitive salaries and most are unionized.[150] In addition, around two-thirds of the sector's workers are older than 45 and will retire by 2030, which will partially alleviate the social and economic impacts of the coal phase-out.[151] There are three regions where lignite mining and power plants are concentrated: the Rhenish region in the state of North Rhine-Westphalia, the Central German region in Saxony and Saxony-Anhalt, and the Lusatian region in Brandenburg and Saxony.[152] RWE operates mines and power plants in the Rhenish field, LEAG carries out production in the Lusatian field, and MIBRAG and Romonta operate mines in Central Germany, while EnBW, LEAG, and Uniper/Saale-Energie operate power plants.[153] Germany's mining regions are diverse socioeconomically. Lusatia is rural, with a relatively weak services sector and limited industrial activity outside of the lignite sector.[154] The Central German and Rhenish regions have stronger economies by comparison, as they are in close proximity to urban centers such as Leipzig and Aachen, respectively.[155]

2.3.3 Environmental and Climate Justice

A 2021 study estimates coal plants cause at least 1,800 to 2,260 excess deaths each year in Germany.[156] Germany's coal power plants also cause transboundary air pollution in neighboring EU member states.[157] Although since 2010 Germany has mostly complied with NO_X and SO_2 limits required under EU law,[158] in 2021 its NO_X emission levels were above their emission reduction commitment set for 2020.[159]

146 "IG BCE – Trade Union for Mining, Chemicals and Energy Industries," *Clean Energy Wire*, https://www.cleanenergywire.org/experts/ig-bce-trade-union-mining-chemicals-and-energy-industries. IG BCE, along with the service industry union Verdi and trade union umbrella organization Deutscher Gewerkschaftsbund were the three labor organizations represented in the Coal Commission. Lukas Hermwille and Dagmar Kiyar, "Late and Expensive: The Political Economy of Coal Phase-out in Germany," in *The Political Economy of Coal: Obstacles to Clean Energy Transitions*, eds. Michael Jakob and Jan C. Steckel, (London: Routledge, 2022), 28, http://doi.org/10.4324/9781003044543.

147 Colin C. Williams, Predrag Bejakovic, Davor Mijulic, Josip Franic, Abbi Kedir, and Ioana A. Horodnic, *An Evaluation of the Scale of Undeclared Work in the European Union and its Structural Determinants: Estimates Using the Labour Input Method* (Brussels: European Commission, November 2017), 13–14, https://www.ela.europa.eu/sites/default/files/2021-09/KE-06-17-268-EN-N.pdf.

148 As of 2018. Kerstine Appunn, "Germany's Three Lignite Mining Regions," *Clean Energy Wire*, January 18, 2023, https://www.cleanenergywire.org/factsheets/germanys-three-lignite-mining-regions.

149 Appunn, "Germany's Three Lignite Mining Regions."

150 Hermwille and Kiyar, "Late and Expensive," 27.

151 As of 2015. Appunn, "Germany's Three Lignite Mining Regions."

152 Franke et al., *BGR Energy Study 2021*, 27.

153 Franke et al., *BGR Energy Study* 2021, 27–28; Appunn, "Germany's Three Lignite Mining Regions."

154 Appunn, "Germany's Three Lignite Mining Regions"; Hermwille and Kiyar, "Late and Expensive," 25.

155 Appunn, "Germany's Three Lignite Mining Regions.".

156 Jonilda Kushta, Niki Paisi, Hugo Denier Van Der Gon, and Jos Lelieveld, "Disease Burden and Excess Mortality from Coal-Fired Power Plant Emissions in Europe," *Environmental Research Letters* 16, no. 4 (April 2021): 7, http://doi.org/10.1088/1748-9326/abecff.

157 Dave Jones, Julia Huscher, Lauri Myllyvirta, Rosa Gierens, Joanna Flisowska, Kathrin Gutmann, Darek Urbaniak, and Sarah Azau, *Europe's Dark Cloud: How Coal-Burning Countries Are Making Their Neighbours Sick* (Brussels: World Wildlife Fund [WWF], Sandbag, Climate Action Network [CAN], and Health and Environment Alliance [HEAL], June 2016), 17, https://env-health.org/IMG/pdf/dark_cloud-full_report_final.pdf.

158 "Table," European Environment Agency, National Emission Ceilings (NEC) Directive Reporting Status 2019, March 25, 2021, https://www.eea.europa.eu/publications/nec-directive-reporting-status-2019/nec-directive-reporting-status-2019/nectableupdated.png/view.

159 "National Emission Reduction Commitments Directive Reporting Status 2021," European Environment Agency, August 26, 2021, https://www.eea.europa.eu/publications/national-emission-reduction-commitments-directive-2021.

Lignite can only be extracted via opencast mining, which entails significant environmental impact, including destruction to landscapes, deforestation, reduction in groundwater levels, and biodiversity loss.[160] Since World War II, the establishment and expansion of lignite mines has also required around 300 villages to be demolished and more than 120,000 of their residents involuntarily resettled.[161] Demolishment and resettlement continues into the present: in January 2023, RWE began demolishing the village of Lützerath in North Rhine-Westphalia to enable the expansion of its Garzweiler II mine, despite protracted protests.[162] In addition, Germany is facing climate change impacts, including extreme heat, drought, and floods.[163] One report estimates that the contribution of climate change to sudden and slow-onset natural disasters since 2000 has cost Germany at least EUR 145 billion.[164]

In Germany there is significant support for decarbonization measures. Between 80 and 90% of Germans are aware that climate change is happening and 40–50% are aware that it is mostly human-caused.[165] Between 50 and 60% think that reducing climate change will not harm economic growth, and 60–70% think that climate change should be a "high" or "very high" government priority and support reducing fossil fuels.[166] More than 70% support increasing renewable energy production.[167]

2.4 Germany's Just Transition Policies

2.4.1 The Coal Exit Laws and Coal Commission

The most important laws governing Germany's coal phase-out include the Structural Reinforcement Act for Mining Regions[168] (*Strukturstärkungsgesetz Kohleregionen*, StStG) and the Act to Reduce and End Coal-Fired Power Generation and Amend Other Laws (*Kohleverstromungsbeendigungsgesetz*, KVBG) (collectively, the coal exit or phase-out laws).

Before adopting the coal exit laws, the federal government convened a Commission on Growth, Structural Change and Employment (Coal Commission). The government aimed to appoint members who represented "a broad cross-section of societal, political and economic actors."[169] Its mandate was to develop a widespread social consensus around the phase-out of coal in Germany.[170] Like

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160 "Land Use for Raw Material Extraction (*Flächenverbrauch für Rohstoffabbau*)," Federal Republic of Germany, Federal Environment Agency (*Umweltbundesamt*), January 23, 2024, https://www.umweltbundesamt.de/daten/flaeche-boden-land-oekosysteme/flaeche/flaechenverbrauch-fuer-rohstoffabbau#inlandische-rohstoffentnahme; "Lignite and Landscape Destruction (*Braunkohle und Landschaftszerstörung*)", BUND Friends of the Earth Germany, https://www.bund-nrw.de/themen/braunkohle/hintergruende-und-publikationen/braunkohle-und-umwelt/braunkohle-und-landschaftszerstoerung-das-beispiel-hambacher-wald.

161 Benjamin Wehrmann, "German Village to be Demolished for Lignite Mine Despite Coal Exit," *Clean Energy Wire*, February 15, 2019, https://www.cleanenergywire.org/news/german-village-be-demolished-lignite-mine-despite-coal-exit; Kristie Pladson, "Lützerath: How Germany's Energy Crisis Reignited Coal," *DW*, December 29, 2022, https://www.dw.com/en/l%C3%BCtzerath-how-germanys-energy-crisis-reignited-coal/a-64203214.

162 Le Monde with AFP, "Last Activists Leave German Village Lützerath, Site of Coal Mine Expansion," *Le Monde*, January 16, 2023, https://www.lemonde.fr/en/germany/article/2023/01/16/last-activists-leave-german-village-lutzerath-site-of-coal-mine-expansion_6011816_146.html.

163 Reuters Staff, "Climate Change Extreme Weather Costs Germany Billions of Euros a Year – Study," *Reuters*, July 18, 2022, https://www.reuters.com/world/europe/climate-change-extreme-weather-costs-germany-billions-euros-year-study-2022-07-18.

164 Carolina Kyllmann, "Climate Change Effects Could Cost Germany up to 900 Billion Euros by 2050 – Report," *Clean Energy Wire*, March 6, 2023, https://www.cleanenergywire.org/news/climate-change-effects-could-cost-germany-900-billion-euros-2050-report.

165 Anthony Leiserowitz, Jennifer Carman, Nicole Buttermore, Liz Neyens, Seth Rosenthal, Jennifer Marlon, J.W. Schneider, and Kelsey Mulcahy, *International Public Opinion on Climate Change* (New Haven, CT: Yale Program on Climate Communication and Data for Good at Meta, 2022), 6–7, https://climatecommunication.yale.edu/wp-content/uploads/2023/07/international-public-opinion-on-climate-change-2022b.pdf.

166 Leiserowitz et al., *International Public Opinion on Climate Change*, 15, 17, 19.

167 Leiserowitz et al., *International Public Opinion on Climate Change*, 18.

168 Some sources also refer to this law as the "Structural Development Act" or "Structural Support Act." The federal government of Germany has in recent English publications referred to the law as the "Structural Reinforcement Act for Mining Regions," so the authors have adopted this language for the report. *See, e.g.*, "Lower CO2 Emissions from Energy Generation," Federal Government of Germany (*Bundesregierung*), September 22, 2020, https://www.bundesregierung.de/breg-en/issues/climate-action/lower-co2-emissions-1795844.

169 Philipp Litz, Patrick Graichen, and Frank Peter, *The German Coal Commission: A Roadmap for a Just Transition from Coal to Renewables* (Berlin: Agora Energiewende, 2019), 2, https://www.agora-energiewende.de/fileadmin/Projekte/2019/Kohlekommission_Ergebnisse/168_Kohlekommission_EN.pdf.

170 Litz, Graichen, and Peter, *The German Coal Commission,* 2.

South Africa's Presidential Climate Commission, Germany's Coal Commission's "primary focus" was economic: to "provid[e] concrete prospects for new, future-proof jobs" in Germany's coal regions.[171] By consulting scientists and interest groups and evaluating current knowledge, the Coal Commission developed its final recommendations, many of which, though not all, were translated into the KVBG and StStG.[172]

2.4.2 Act to Reduce and End Coal-Fired Power Generation and Amend Other Laws (KVBG)

The KVBG establishes the procedures for phasing out coal in Germany starting in 2020 in a gradual and "socially acceptable manner" that safeguards electricity access.[173] It also outlines compensation for coal companies which, according to a three-way agreement between the federal government, the state of North-Rhine Westphalia, and RWE, is intended to cover lost profits and additional costs incurred as a result of early plant closure.[174] The law aims to reduce the net electrical capacity of coal-fired power plants to 15 GW for hard coal and 15 GW for lignite power plants by 2022, 8 and 9 GW respectively by 2030, and zero GW for both by 2038.[175] However, in December 2022, based on the aforementioned three-way agreement, the Bundestag amended the KVBG to move up the phase-out date in the Rhenish region to 2030.[176] The KVBG also establishes an adjustment allowance for coal power plant and open-cast mine workers aged 58 and older who lose their jobs as a result of the phase-out.[177] Such allowance will provide them with unemployment benefits for up to five years until they reach pension age.[178]

The KVBG provides separate procedures for decommissioning power plants depending on whether they are fired by lignite or hard coal due to significant differences between the two sectors.[179] For the lignite phase-out, the federal government has entered into public law contracts with the lignite plant operators.[180] These contracts detail the compensation the government will provide for plant operators and the closure dates for specific plants.[181] They must be approved by the German Federal Parliament to come into effect.[182] In total, RWE and LEAG, which operate most of Germany's lignite plants, will receive EUR 2.6 billion and EUR 1.75 billion, respectively, for decommissioning their lignite plants.[183]

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171 Commission on Growth, Structural Change and Employment, *Final Report* (Berlin: Federal Ministry for Economic Affairs and Climate Action [BMWK], 2019), 2, https://www.bmwk.de/Redaktion/EN/Publikationen/commission-on-growth-structural-change-and-employment.html.

172 Litz, Graichen, and Peter, *The German Coal Commission,* 3. Regarding the extent to which the Coal Commission's recommendations were ultimately translated into the coal exit laws, *see* Benjamin Wehrmann, "Experts Criticize Proposed German Coal Exit Law for Deviating from Commission Compromise," *Clean Energy Wire*, May 25, 2020, https://www.cleanenergywire.org/news/experts-criticise-proposed-german-coal-exit-law-deviating-commission-compromise.

173 KVBG, §§ 1.1, 2.1.

174 Federal Republic of Germany, *Strengthening Security of Supply and Climate Protection – Clarity for the People in the Rhenish Region* (Stärkung von Versorgungssicherheit und Klimaschutz – Klarheit für die Menschen im Rheinischen Revier), (Berlin: Federal Ministry of Economy and Climate [*Bundesministerium für Wirtschaft und Kilmaschutz*], October 4, 2022, https://www.bmwk.de/Redaktion/DE/Downloads/Energie/221004-Eckpunktepapier-RWE-Kohleausstieg.html.

175 KVBG, §§ 2.2, 4.1–4.2.

176 Federal Republic of Germany, *Strengthening Security of Supply and Climate Protection*; "Lignite Phase-out in the Rhenish Mining Area is Brought Forward to 2030," German Federal Parliament (*Deutscher Bundestag*), December 1, 2022, https://dip.bundestag.de/vorgang/gesetz-zur-beschleunigung-des-braunkohleausstiegs-im-rheinischen-revier/293196?f.wahlperiode=20&rows=25&pos=22; Federal Republic of Germany, Law to Accelerate the Phase-Out of Lignite in the Rhenish Mining Area, no. 20/4300, December 1, 2022, https://dserver.bundestag.de/btd/20/043/2004300.pdf.

177 KVBG, § 57.

178 KVBG, § 57.

179 Jesse Scott, Nga Ngo Thuy, Philipp Litz, Hanns Koenig, and Samuel Ribansky, *Coal Phase-out in Germany: The Role of Coal Exit Auctions* (no. 261/03-A-2022/EN, Berlin: Agora Energiewende, June 2022), 10, https://static.agora-energiewende.de/fileadmin/Projekte/2021/2021_12_INT_Hard_Coal_Auction/A-EW_261_Hard-Coal-Auction_WEB.pdf, (noting the competitive auctions would not be possible in the lignite sector because "the German lignite sector is dominated by only two major players" and "open-pit [lignite] mines and power plants are usually co-located, leading to complex interactions that are difficult to account for in auctions").

180 KVBG, § 49.

181 KVBG, § 49.

182 KVBG, § 49.

183 KVBG, § 44.1, Annex 2.

Hard coal plants (as well as some small lignite plants) are being decommissioned through a tendering system managed by the Federal Network Agency,[184] an agency of the Federal Ministry of Economic Affairs and Climate Action (*Bundesministerium für Wirtschaft und Klimaschutz*, BMWK). The system involved a competitive bidding process whereby plant operators were compensated for early closure.[185] The tendering process is now complete after seven rounds of auctions between 2020 and 2023.[186] The maximum compensation that operators could receive began at EUR 165,000 per megawatt net nominal capacity in 2020 and decreased gradually to EUR 89,000 in 2023.[187] Originally the KVBG intended all plants to close by 2027, but this target was moved up to 2026 based on an amendment to the law made in July 2021.[188] Plants that are not closed through the tendering process face compulsory closure without compensation.[189]

The KVBG also imposes a staggered ban on coal-fired power generation.[190] Beginning in 2027, larger power plants whose main source is not already coal may not start burning coal,[191] and the same applies to smaller plants starting at the end of 2030.[192] As of 2039, there will be a full ban on the use of coal for generating electricity.[193] As of August 14, 2020, the KVBG also prohibits the construction and commissioning of new coal-fired power plants, unless the plant had already been granted a permit by January 29, 2020.[194]

2.4.3 Structural Reinforcement Act for Mining Regions (StStG)

Given coal's importance to the three lignite regions' economies, the coal phase-out, if unmanaged, could risk those regions disproportionately bearing the negative socioeconomic consequences of the energy transition. The StStG seeks to deal with these socioeconomic impacts by apportioning federal funds to such regions, thereby promoting economic growth and job creation. Such funding is dependent on the lignite regions phasing out coal-fired energy pursuant to the KVBG.[195]

The StStG has two main pillars: the state funding program and the federal funding program. The state funding program will provide up to EUR 14 billion to state and local governments in the three lignite mining regions.[196] They will receive this funding over the course of three funding periods between 2020 and 2038.[197] The funding objectives are to help the regions cope with structural change, safeguard employment, and promote economic growth during the coal phase-out.[198] The state and local governments can decide how to use their allocated funds, but investments must fall into one of the following nine categories: economically relevant infrastructure; transportation; public welfare; urban planning and development; digitization; tourism infrastructure; research, innovation, and in-company education and training; climate and environmental protection; and nature conservation and

184 KVBG, § 6.1.
185 KVBG, § 5.1, 10.
186 Scott et al., *Coal Phase-out in Germany*, 13–14; German Federal Network Agency, "Results of the Last Tender for the Coal Phase-out," press release, August 25, 2023, https://www.bundesnetzagentur.de/SharedDocs/Pressemitteilungen/DE/2023/20230825_Kohle.html.
187 KVBG, §19.
188 Scott et al., *Coal Phase-out in Germany*, 14.
189 Scott et al., *Coal Phase-out in Germany*, 17; KVBG, § 5.1.
190 KVBG, § 51.
191 KVBG, § 51.5.
192 KVBG, § 51.5.
193 KVBG, § 51.5.
194 KVBG, § 53.1.
195 KVBG, § 2.3.
196 StStG, §§ 1.1, 2, 6.1.
197 StStG, § 6.1.
198 StStG, §§ 1.1–1.2.

landscape management.[199] In addition, EUR 1.09 billion in structural assistance will be provided for areas where hard coal power plants are located, with a similar goal to promote economic growth in the course of phasing out hard coal.[200]

Under the federal funding program, the federal government will directly invest up to EUR 26 billion in the assisted regions to transform them into "nationwide model regions" for carbon neutrality, resource efficiency, and sustainable development.[201] As part of this program, the federal government will establish and support existing programs and facilities. For example, the federal government established an institute in the assisted regions to conduct research on integrated energy infrastructure, geothermal energy, and the energy transition.[202] This chapter of the StStG also includes a provision for creating at least 5,000 new federal government jobs in the assisted regions.[203]

2.4.4 Other Relevant Policies

Germany's energy transition strategy (*Energiewende*) forms the "defining feature of Germany's energy policy landscape."[204] It aims to phase out nuclear energy and reach net-zero greenhouse gas emissions by 2045, with a particular emphasis on transforming the power sector.[205] One statute integral to the strategy is the Climate Change Act, amended in 2021.[206] The act sets emissions reduction targets of 65% against 1990 levels by 2030 and 88% by 2040, and to reach net-zero greenhouse gas emissions by 2045.[207] The amendments also created an Immediate Action Programme to support, among other areas, green hydrogen and decarbonization in the industrial sector.[208] In 2022 Germany adopted the Climate Action Program 2030, the largest climate investment program in the country's history.[209] The program's main financing instrument for energy transition measures and climate action is the Climate and Transformation Fund.[210] In addition, in response to both the worsening climate crisis and the invasion of Ukraine by Russia, in July 2022 the German Bundesrat adopted an omnibus bill called the Easter Package (*Osterpaket*).[211] The Easter Package constituted the country's largest energy policy reform in decades and involved amending several pre-existing energy-related laws and ordinances, such as the Renewable Energy Sources Act, the Offshore Wind Energy Act, and the Energy Industry Act.[212]

Germany, as an EU member state, is also subject to EU climate and energy-related policies. This includes the 2030 climate and energy framework, which sets EU-wide targets and policy objectives from 2021 to 2030.[213] The EU Emissions Trading System (ETS) applies to large installations in the energy sector and manufacturing industries as well as aircraft operators that fly within the EU.[214]

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199 StStG, § 4.1.

200 StStG, § 11.1.

201 StStG, §§ 15, 27.2.

202 StStG, § 17.19; *see also* "About Us," Fraunhofer IEG, https://www.ieg.fraunhofer.de/en/about.html.

203 StStG, § 18.

204 IEA, *Germany 2020,* 11.

205 "What is the German Energiewende?" Agora Energiewende, March 25, 2024, https://www.agora-energiewende.org/about-us/the-german-energiewende/q1-what-is-the-german-energiewende

206 "Intergenerational Contract for the Climate," Federal Government of Germany, June 25, 2021, https://www.bundesregierung.de/breg-de/schwerpunkte/klimaschutz/climate-change-act-2021-1936846.

207 "Intergenerational Contract for the Climate," German Federal Government.

208 "Intergenerational Contract for the Climate," German Federal Government.

209 "Climate Action Programme 2030," Federal Government of Germany, https://www.bundesregierung.de/breg-en/issues/climate-action.

210 "Climate Action Programme 2030," Federal Government of Germany.

211 BMWK, *Overview of the Easter Package* (Berlin: BMWK, April 6, 2022), 1, https://www.bmwk.de/Redaktion/EN/Downloads/Energy/0406_ueberblickspapier_osterpaket_en.pdf?__blob=publicationFile&v=5; "Selected Agenda Items for the 1023rd Meeting on 08.07.2022," German Federal Council (*Bundesrat*), https://www.bundesrat.de/DE/plenum/bundesrat-kompakt/22/1023/51.html; Georg Benhöfer, Stephen Lorenzen, and Lars Zimmermann, "Easter in Summer – Habeck's Easter Package Approved," Adesso, July 15, 2022, https://www.adesso-finland.fi/en/news/blog/easter-in-summer-habecks-easter-package-approved.jsp.

212 BMWK, *Overview of the Easter Package*, 1.

213 "2030 Climate Targets," European Commission, https://climate.ec.europa.eu/eu-action/climate-strategies-targets/2030-climate-targets_en.

214 "Scope of the EU Emissions Trading System," European Commission, https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/scope-eu-emissions-trading-system_en.

The 2023 ETS 2 covers fuel combustion in buildings, road transport, and other sectors not covered by the preexisting ETS.[215] Non-ETS emissions—in sectors such as agriculture and small industry—are subject to the Effort Sharing Regulation from 2021 to 2030, which establishes national greenhouse gas emissions reduction targets for each EU member state.[216] In addition, the EU Just Transition Mechanism provides a framework to support the most impacted countries and regions in the EU to mitigate the negative socioeconomic impacts of phasing out high-emissions activities.[217] It includes three pillars: the Just Transition Fund, InvestEU Just Transition scheme, and a Public Sector Loan Facility.[218] The Fund includes a budget of EUR 17.5 billion, while EUR 13.3 billion will be made available through the other two pillars in the form of grants and loans.[219] Germany will receive one of the highest allocations from the fund given its anticipated jobs losses in the lignite sector.[220] The European Commission also created a Just Transition Platform to provide technical and advisory support.[221] Moreover, the Just Transition Mechanism requires member states to submit Territorial Just Transition Plans to the European Commission for approval to be able to receive investments from the mechanism.[222]

215 "ETS 2: Buildings, Road Transport and Additional Sectors," European Commission, https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/ets2-buildings-road-transport-and-additional-sectors_en.

216 IEA, *Germany 2020,* 12; "Effort Sharing 2021-2030: Targets and Flexibilities," European Commission, https://climate.ec.europa.eu/eu-action/effort-sharing-member-states-emission-targets/effort-sharing-2021-2030-targets-and-flexibilities_en.

217 "European Union's Just Transition Mechanism: Transnational Funding and Support for a Just Transition," WRI, April 1, 2021, https://www.wri.org/update/european-unions-just-transition-mechanism-transnational-funding-and-support-just-transition.

218 "The Just Transition Mechanism: Making Sure No One is Left Behind," European Commission, https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism_en.

219 "European Union's Just Transition Mechanism," WRI.

220 "European Union's Just Transition Mechanism," WRI.

221 "The Just Transition Mechanism," European Commission.

222 "European Union's Just Transition Mechanism," WRI.

3 Assessment of South Africa's Just Transition Framework and Germany's Coal Exit Laws Against the ILO Guidelines

In the following section, we summarize the 11 main categories of guidance in the ILO Guidelines and further organize them into subcategories. For each subcategory, we analyze the extent to which South Africa's Framework and Germany's coal exit laws address the ILO's guidance. Our in-depth comparison and analysis of primary sources is useful for understanding the extent to which the ILO's just transition recommendations appear to have been reflected in relevant national-level policies. In addition, we have omitted some of the ILO's recommendations related to international or cross-border issues given the domestic purview of South Africa's Framework and Germany's coal exit laws.[223] There is significant overlap between the ILO Guidelines, on the one hand, and South Africa's Framework and Germany's coal exit laws, on the other, but there are also various instances in which the ILO Guidelines' policy recommendations are not directly reflected in the national policies analyzed. This comparison helps reveal what policy issues are especially relevant for just energy transitions in different country contexts.

3.1 ILO Guiding Principles

The ILO Guidelines provide a list of principles to guide governments in their just transitions.[224] In brief, these principles comprise social dialogue and consultation; fundamental principles and rights at work; gender equity; policy coherence; decent jobs and social protection for job losses; international cooperation; and the necessity of adopting a comprehensive just transition framework that is adapted to local conditions.[225] As outlined below, South Africa's and Germany's policies to varying extents align with these principles.

South Africa's Framework advances distributive justice, restorative justice, and procedural justice as the three core principles that should underpin the just transition in South Africa.[226] In addition, environmental justice is presented as a theme which should underlie the other three principles,[227] and it is based on South Africa's constitutional environmental rights.[228] While the ILO Guidelines do not expressly endorse the same principles, they do implicitly embody some of them. They embody procedural justice by emphasizing social dialogue and tripartism policies;[229] environmental justice by pushing for enhanced resilience to climate impacts and environmental vulnerabilities;[230] and distributive justice by promoting both measures for compensating those impacted by the energy transition as well as social justice and the need to reduce inequalities and eliminate poverty.[231]

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223 The guidance pertaining to international issues include ILO Guidelines, ¶ 15(b) (recommending the promotion of international labour standards relevant to the just transition); ILO Guidelines, ¶ 20(h) (recommending the ratification of relevant international labor standards while being mindful of the needs of specific sectors); and ILO Guidelines, ¶ 28(f) (recommending governments facilitate bilateral discussions with neighboring states' governments on the portability of social protection entitlements in situations of cross border displacement).

224 ILO Guidelines, ¶ 13. The ILO Guidelines concern not only energy transitions, but their transitions to environmentally sustainable economies and societies. *See, e.g.,* ILO Guidelines, ¶ 13. This report more narrowly focuses on energy transitions, and specifically the coal sector.

225 ILO Guidelines, ¶¶ 13(a)–(g).

226 South African Just Transition Framework, 8.

227 The Framework defines restorative justice as providing redress for historical damages against people and the environment; procedural justice as empowering groups to actively participate in the just transition policymaking process; distributive justice as ensuring those historically responsible for climate change bear the costs of the transition; and environmental justice as increasing the resilience of people and the environment to climate impacts. South African Just Transition Framework, 8.

228 The Constitutional right to environment is found at Section 24. Constitution of the Republic of South Africa, 1996 – Chapter 2: Bill of Rights, https://www.gov.za/documents/constitution/chapter-2-bill-rights#24.

229 ILO Guidelines ¶¶ 17–18; Igor Guardiancich, Rainer Pritzer, Camilla Roman, Monica Castillo, and Moustapha Kamal Gueye, *Just Transition Policy Brief: The Role of Social Dialogue and Tripartism in a Just Transition Towards Environmentally Sustainable Economies and Societies for All* (Geneva: ILO, August 2022) (*ILO Social Dialogue Policy Brief*), https://www.ilo.org/publications/role-social-dialogue-and-tripartism-just-transition-towards-environmentally.

230 ILO Guidelines, ¶¶ 7–8, 19(d)(i), 21(d), 28(a); Guardiancich et al., *ILO Social Dialogue Policy Brief*.

231 ILO Guidelines, ¶¶ 5, 7–9.

Though advancing differently framed principles, South Africa's Framework observes the ILO Guidelines' principles to a large extent. On social dialogue and social consensus, the Framework describes the PCC's efforts to consult a range of stakeholders when formulating the Framework.[232] It also asserts there is broad consensus among social partners in South Africa regarding the necessity of a just transition.[233] In addition, the Framework addresses the gender dimension of environmental issues and encourages gender equity—at least with regard to women generally—in numerous instances.[234] Further, the Framework fully adopts the ILO Guidelines' emphasis on policy coherence and the necessity of providing a just transition framework, as it stresses the need to apply policies "in an integrated manner" and emphasizes the Framework as a tool for policy coherence.[235] On decent jobs[236] and social protection, the Framework promotes social protection and skills development, and anticipates the potential employment impacts of climate change and the transition to a low-emissions economy in certain sectors.[237] Moreover, the Framework quotes the ILO Guidelines' proclamation that there is no "one size fits all" approach to just transitions.[238] It also demonstrates that its policies are tailored to its particular national conditions by describing the South Africa-based research and consultations that formed its basis, and by tying its recommendations to South Africa's particular conditions and goals throughout its text.[239]

There are certain principles of the ILO Guidelines that the Framework observes to only a partial extent. Besides the Framework's reference to the Paris Agreement and JETP, its treatment of the theme of international cooperation is sparse.[240] This omission is unsurprising given the Framework's purview is domestic policies. More surprising is the Framework's failure to address fundamental principles and rights at work beyond generally referencing all South Africans' right to collective organization.[241]

Germany's coal exit laws partially address the ILO's guiding principles. The work of the Coal Commission addresses social dialogue and consultation. To formulate its report that would form the basis of the coal exit laws, the Coal Commission held ten meetings where it consulted technical experts and representatives from the federal government, states, industry, trade unions, the sciences, and civil society.[242] In addition, it visited each of the three coal regions to consult coal industry stakeholders, although each trip lasted only one day.[243] In these consultations, the stakeholders represented included mine operators, manufacturing sector enterprises, renewable energy companies, religious and community leaders, and pro-environment citizens groups.[244] In addition, the coal exit laws embody policy coherence to the extent that they cover several policy areas: they not only effectuate the coal plant closures, but also respond to potential impacts on coal industry workers and the economies of coal regions.[245] Furthermore, the laws provide a just transition framework adapted to local conditions, as they are designed in light of the conditions of the coal regions.[246] Much of the StStG's funding is also allocated directly to the German federal states, whose governments may decide how

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232 South African Just Transition Framework, 1–5.

233 South African Just Transition Framework, 7.

234 South African Just Transition Framework, 2–3, 6, 9, 12–13, 19, 22–23. The Framework does not address such dimensions in an intersectional manner, nor does it address other gender identities, such as transgender and non-binary populations. Even still, the Framework can be said to observe the ILO's guidance because the ILO Guidelines and policy brief on this subject also only offer guidance pertaining to women as whole. *See* Emanuela Pozzan, Elena Dedova, and Gabriela Balvedi Pimentel, *Just Transition Policy Brief: Gender Equality, Labour and a Just Transition for All* (Geneva: ILO, October 2022) (*ILO Gender Equality Policy Brief*), https://www.ilo.org/publications/gender-equality-labour-and-just-transition-all.

235 South African Just Transition Framework 2, 5, 16.

236 The ILO describes decent work as "sum[ing] up the aspirations of people in their working lives. It involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for all, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men," "Decent Work," ILO, https://www.ilo.org/global/topics/decent-work/lang--en/index.htm.

237 South African Just Transition Framework 8, 10–20.

238 South African Just Transition Framework, 5.

239 South African Just Transition Framework, 2–3.

240 South African Just Transition Framework, 24–25.

241 South African Just Transition Framework, 8.

242 Litz, Graichen, and Peter, *The German Coal Commission,* 2.3, Annex 2.

243 Litz, Graichen, and Peter, *The German Coal Commission,* 2.3, Annex 4: "Programme for the Three Mining Area Trips."

244 Litz, Graichen, and Peter, *The German Coal Commission,* Annex 3.

245 *See* Sections 2.4.2 and 2.4.3 (providing an overview of the coal exit laws).

246 *See* Sections 2.4.1, 2.4.2, and 2.4.3 (providing an overview of the coal exit laws).

to invest the funds based on local priorities, though their investments must fall within one of nine statutorily permitted categories.[247] The coal exit laws also align with the ILO Guidelines' principle of promoting decent jobs and social protection for losses: the main purposes of the StStG investments are to stimulate employment and help assisted regions cope with structural change, including through social protection.[248] However, the coal exit laws do not address fundamental principles and rights at work, gender equity, or international cooperation.

3.2 Policy Coherence and Institutional Arrangements

The ILO's guidance concerning policy coherence and institutional arrangements can be organized into three groupings, detailed in the following three subsections.

3.2.1 Just transition policies should be deliberately managed and coherent vis-à-vis related policy areas

The ILO Guidelines recommend governments incorporate the just transition imperative into line ministries' agendas; encourage collaboration among ministries; build the capacities of subnational authorities to implement the transition; and integrate just transition provisions into national plans focused on addressing climate change and achieving the Sustainable Development Goals (SDGs).[249]

South Africa's Framework largely observes this first category of ILO recommendations. It states it is necessary to bring about a "whole-of-government response" to mainstream the just transition imperative in national planning and budgeting.[250] It also endorses "[c]lose collaboration between government departments,"[251] and lists the contributions of various departments in laying the groundwork for the Framework.[252] In addition, the Framework tasks the national government with capacity building at the provincial and municipal levels as a way to improve the implementation of the just transition agenda and to advance the distributive justice principle.[253] The just transition policy imperative is also incorporated into South Africa's Climate Change Act and, according to the Framework, it should be incorporated into the government's National Development Plan, Medium-Term Strategic Framework, Annual Performance Plans, and annual budgeting processes.[254] Lastly, the existence of the PCC may enhance policy coherence given that it is a multi-stakeholder body that helps oversee the just transition, provide advice, and monitor and evaluate progress.[255] A body akin to the PCC is neither recommended nor contraindicated by the ILO Guidelines.

Germany's coal exit laws also mostly address the first category. Several ministries are involved in executing the laws. The StStG establishes a coordinating body composed of representatives from the assisted states as well as nine federal ministries with the purpose of helping support and implement the StStG.[256] The federal-state coordinating body may also consult other federal departments and authorities.[257] Yet some ministries have greater responsibilities than others. The KVBG is largely administered by

247 StStG, § 4.1; *See also* Section 2.4.3.
248 StStG, § 1.2.
249 ILO Guidelines, ¶¶ 4, 13(d)–(e); 15(c)–(f).
250 South African Just Transition Framework, 20–21.
251 South African Just Transition Framework, 20.
252 South African Just Transition Framework, 7.
253 South African Just Transition Framework, 8, 21.
254 South African Just Transition Framework, 6–7, 20.
255 South African Just Transition Framework, 6–7, 20–21. *See also* South African Climate Change Act, § 11.
256 StStG, § 25.1.
257 StStG, § 25.2.

the BMWK and one of its agencies, the Federal Network Agency (*Bundesnetzagentur*).[258] The BMWK also plays various important roles in the StStG. For instance, as part of the state funding program, the assisted federal states must notify the BMWK when making investments and demonstrate the extent to which such investments meet the statutory requirements.[259] In addition, the StStG state funding program builds the capacities of subnational authorities to implement Germany's coal transition by allocating funds directly to the states in the coal regions.[260] The federal-state coordinating body can also be considered a capacity-building mechanism, since it supports the state governments with executing the StStG's provisions.[261] Lastly, the coal exit laws do not reference or amend Germany's main national climate policies, and therefore do not address the recommendation to integrate just transition provisions into them.[262]

3.2.2 Governments should adopt practices that would enable them to execute their just transitions more effectively

The ILO Guidelines recommend governments provide opportunities for social partners to participate at all steps of the policy process; foster consultations with relevant stakeholders; gather labor market data; conduct research and impact evaluations when formulating policies; engage in collaborative efforts among governments, employers' organizations and unions; and provide stable policy signals.[263]

South Africa's Framework adopts some of this category of recommendations, and similar to the previous grouping, includes policies under this category not specifically prescribed by the ILO. It addresses the recommendation concerning consultation insofar as it promotes procedural justice and the implementation of projects as proposed by affected communities.[264] It also details the consultations the PCC conducted to prepare the Framework.[265] Regarding labor market data, the Framework discusses anticipated impacts of environmental policies on certain sectors, including employment, and states an intent to improve access to labor market data.[266] In addition, the Framework observes the recommendation concerning stable policy signals to the extent the Framework serves as a policy signal and assigns the national government the role of "setting clear execution timelines and targets" for just transition policies.[267] Lastly, unlike the ILO Guidelines, the Framework emphasizes the need to clearly define actors' roles in the just transition process and avoid overlapping mandates.[268] In addition, the Framework proffers governance reforms as a necessary condition for the effective execution of its just transition policies in South Africa. In particular, it stresses improving state capacity and remedying "[s]tate capture, the loss of capable managers, erosion of accountability, and lack of professionalism."[269] The ILO Guidelines, by contrast, only address good governance indirectly by referencing the 2007 International Labour Conference (ILC) Conclusions, which encourage good governance as one way to ensure an enabling environment for sustainable enterprise.[270]

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258 "About Us," Federal Network Agency, https://www.bundesnetzagentur.de/EN/General/Bundesnetzagentur/AboutUs/start.html.

259 StStG, §§ 4.1–4.3, 7.3.

260 StStG, § 11.

261 StStG, § 25.1.

262 *See* Section 2.4.4.

263 ILO Guidelines, ¶¶ 15(a), (g)–(j). The ILO does not define its concept of "stable policy signals." The authors interpret this guideline as suggesting governments should clearly indicate to stakeholders, especially investors and the private sector, of anticipated just transition-related policies, regulations, or legislation.

264 South African Just Transition Framework, 9, 11.

265 South African Just Transition Framework, 3–5.

266 South African Just Transition Framework, 8, 10–16.

267 South African Just Transition Framework, 21.

268 South African Just Transition Framework, 22.

269 South African Just Transition Framework, 5, 20.

270 ILO Guidelines, ¶ 21(a); International Labour Conference (ILC), *Conclusions Concerning the Promotion of Sustainable Enterprises* (Geneva: ILO, June 2007) (2007 ILC Conclusions), https://www.ilo.org/media/366701/download.

Germany's coal exit laws exhibit some but not all of the recommendations from the second category. They adopt the ILO Guidelines' recommendations to allow social partners to participate in policymaking processes at various stages, since, as noted, the Coal Commission engaged in several consultations prior to drafting its report.[271] Social dialogue continues to play a role in the coal phase-out after the policy development stage. For example, the StStG federal funding program promotes local alliances between municipalities and social partners, especially direct advisory committees, which are to be involved in implementing regional development plans.[272] This promotion of local alliances also addresses the ILO Guidelines' recommendation to encourage collaborative efforts among governments, employers' organizations, and unions. Another example of a collaborative effort is the federal funding program's requirement for the coal region states to establish monitoring committees that allow for participation of social partners and key players in regional economic development.[273] The coal exit laws and the Coal Commission's report do not indicate whether impact evaluations were conducted when formulating the coal exit laws, but the Coal Commission did conduct research and consult technical experts when formulating its report.[274] The StStG and KVBG provide stable policy signals to the extent that they provide a regulatory framework for the coal phase-out with clear timelines and procedures. For instance, the StStG specifies three funding periods for the state funding program, the first awarding up to EUR 5.5 billion in grants from 2020–2026, then EUR 4.5 billion from 2027–2032, and finally EUR 4 billion from 2033–2038.[275] However, the coal exit laws do not refer to collecting labor market data or making ex ante assessments, although certain provisions may increase the availability of labor market data. In particular, the StStG sets the goal to create 5,000 new jobs in federal government facilities in the coal regions,[276] and as part of this objective it establishes an office which will collect data on the siting of federal facilities.[277]

3.2.3 Guidance for both governments and social partners

The third set of ILO recommendations under this category apply to both governments and social partners.[278] The ILO Guidelines recommend that governments and social partners consider concluding agreements for implementing economic, social, and environmental policies; mobilize funding, support, and assistance; share knowledge and best practices regarding sustainable macroeconomic and sectoral policies; discuss the outcomes of any employment and socioeconomic assessments conducted by the government; and promote cooperation at various levels, from the local to the international level and from the enterprise to the industry level.[279]

South Africa's Framework partially addresses this third category of recommendations. It encourages social partners to forge a consensus around various issues related to the just energy transition,[280] and its Action Plan establishes the intent for stakeholders and the government to reach an agreement pertaining to the coal phase-out.[281] It also addresses the recommendation for governments to mobilize funding by referencing the Paris Agreement and JETP.[282] However, it does not elaborate on the potential role of social partners in mobilizing such funding. In addition, while the Framework generally encourages cooperation between social partners and the government,[283] it does not specifically observe the ILO Guidelines' recommendation for governments and social partners to share knowledge and best practices on macroeconomic or sectoral policies. South Africa's Framework also does

271 *See* Section 2.4.1.
272 StStG, § 15.2.
273 StStG, § 15.1.
274 Litz, Graichen, and Peter, *The German Coal Commission,* 2.3.
275 StStG, § 6.1.
276 StStG, § 18.1.
277 StStG, § 19.2.2.
278 ILO Guidelines, ¶ 16.
279 ILO Guidelines, ¶¶ 16(a)–(e).
280 South African Just Transition Framework, 25.
281 South African Just Transition Framework, Annex A, 27.
282 South African Just Transition Framework, 24.
283 South African Just Transition Framework, 22 (encouraging local governments to empower stakeholders to engage in discussions about the energy transition and facilitate collaborations with social partners).

not address the ILO recommendation for governments and social partners to discuss the outcomes of employment analyses. On cooperation, the Framework promotes cooperation at the local level by assigning subnational government actors the role of empowering stakeholders to play a role in just transition decision-making.[284] The Framework additionally promotes cooperation at the national level—for instance, it recommends that the national government collaborate "actively with a range of stakeholders, through inclusive and participatory decision-making structures."[285] The Framework also references international cooperation in the context of the JETP[286] but does not detail the potential involvement of social partners in this arena, nor does it address the ILO recommendation to advance South–South cooperation. The Framework encourages enterprise-level cooperation to the extent it states that a just transition "will benefit through collective action by all social partners"[287] and recommends businesses "consider[] the needs of all their stakeholders, and society at large."[288] Lastly, the Framework supports cooperation at the industry level through recommending that the government convene stakeholders in the coal supply chain to coordinate the energy transition.[289]

Germany's coal exit laws partially take on this third category of guidance. They address the recommendation for governments and social partners to consider concluding agreements for implementing economic, social, and environmental policies. Examples include the agreement established as part of the early coal phase-out in North-Rhine Westphalia,[290] as well as the StStG's state funding program, whose grants are governed by administrative agreements to be approved by the federal parliament's Budget and Economic Affairs and Energy Committee.[291] In addition, as part of the KVBG's hard coal plant tendering system, plant operators must submit a joint declaration signed by the relevant collective bargaining partners that affirms they reached a collective bargaining agreement applicable to that plant addressing the reduction in employment that will result from its closure.[292] The coal exit laws do not address the ILO recommendation to promote cooperation at the international level, but they do promote cooperation at other levels. As federal legislation, they require cooperation at the national level. They also do so through the federal–state coordinating body, which includes federal officials and can consult federal authorities in an advisory capacity.[293] Moreover, by coordinating a phase-out among the entire coal industry, the coal exit laws can be said to promote coordination at the industry level. They also promote cooperation at the enterprise level, with an example being the hard coal tendering procedure's requirement for a joint declaration of a collective bargaining operating agreement.[294] They promote cooperation at the local level as well through the StStG's federal funding program's requirement for states to establish monitoring committees[295] and its promotion of local alliances between municipalities and social partners, especially direct advisory committees, that are involved in preparing and implementing regional development plans and measures.[296] Moreover, under the state funding program, federal states are expected to involve municipalities closely in developing and proposing investment projects.[297]

However, the rest of the guidance in this category is not addressed by Germany's coal exit laws. Namely, they do not adopt the recommendations for governments and social partners to mobilize funding, support, and assistance; share knowledge and best practices regarding sustainable macroeconomic and sectoral policies; or to discuss outcomes of the government's employment or socioeconomic assessments.

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284 South African Just Transition Framework, 22.
285 South African Just Transition Framework, 9.
286 South African Just Transition Framework, 24–25.
287 South African Just Transition Framework, 23.
288 South African Just Transition Framework, 22.
289 South African Just Transition Framework, Annex A, 27.
290 *See* Section 2.4.2.
291 StStG, § 10.
292 KVBG, § 12.5.
293 StStG, § 25.2.
294 KVBG, § 12.5.
295 StStG, § 15.1.
296 StStG, § 15.2.
297 StStG, § 7.3.

3.3 Social Dialogue and Tripartism Policies

On social dialogue, the ILO Guidelines provide separate recommendations for governments and social partners. They recommend that governments "actively promote and engage in social dialogue" at all stages of the policymaking process,[298] promote the establishment of formal dialogue mechanisms,[299] and foster social dialogue at the sectoral level to promote consensus building and social acceptance of environmental policies.[300] For social partners, they recommend playing an active role in sustainable development policymaking, raising awareness among and promoting the active participation of their members, and advocating for certain environmental policies through collective bargaining and collective agreements.[301]

South Africa's Framework mostly addresses the recommendations directed at governments. On the guideline for governments to promote social dialogue at various levels of policymaking, the Framework states that a role of the PCC is to facilitate dialogue regarding the just transition between social partners.[302] It also suggests that the government can advance the procedural justice principle by supporting worker and community organizations in actively participating in just transition policy-making processes and encouraging "inclusive and participatory decision-making structures."[303] As noted previously, the Framework also describes the consultation efforts that were taken when the Framework was being developed, such as inviting written comments on the draft Framework, hosting a multi-stakeholder conference, and consulting affected communities.[304] The Framework also recommends finding ways to incorporate certain groups like women and youth into policymaking at local, provincial, and national levels,[305] and acknowledges the need to conduct future consultations to form an implementation plan.[306] Next, the Framework partially addresses the ILO guideline recommending the creation of formal dialogue mechanisms. The Framework addresses this guideline to the extent that the drafting of the Framework resulted from formal dialogue mechanisms. Further, the Framework encourages the creation of "inclusive and participatory decision-making structures" to realize procedural justice.[307] Lastly, South Africa has adopted the ILO recommendation to promote social dialogue at the sectoral level as it pertains to the coal sector. As part of reducing and ultimately phasing out coal mining and power generation, the Framework's Action Plan notes that there will be the need for agreement between stakeholders on various issues, such as how the transition should be conducted and on what timeline.[308] In addition, it states that the PCC is responsible for working with certain national departments to "convene stakeholders, including Limpopo and Mpumalanga provinces, to agree on requirements and phasing for the just transition in the coal value chain, and on the affected communities and workforces."[309]

Within this category, the Framework does not address the ILO Guidelines' specific recommendations directed at social partners. Instead, it conceives the roles of social partners as a whole as serving as advocates. For example, it recommends that labor unions "continue the fight for decent work" and that civil society "champion the social and environmental agenda."[310] For the private sector, the policy proposals are more detailed, but they primarily encourage voluntary measures to enhance transparency and mitigate enterprises' environmental impacts.[311] Moreover, while the ILO Guidelines envision social partners as having an active role in implementing and monitoring national sustainable development policies,[312] the Framework assigns such tasks to the

298 ILO Guidelines, ¶ 17(a).
299 ILO Guidelines, ¶¶ 17(a)–(b).
300 ILO Guidelines, ¶ 20(b).
301 ILO Guidelines, ¶ 18.
302 South African Just Transition Framework, 2.
303 South African Just Transition Framework, 9.
304 South African Just Transition Framework, 3–5.
305 South African Just Transition Framework, 23.
306 South African Just Transition Framework, 25.
307 South African Just Transition Framework, 9.
308 South African Just Transition Framework, Annex A, 27.
309 South African Just Transition Framework, Annex A, 27.
310 South African Just Transition Framework, 22.
311 South African Just Transition Framework, 22–23.
312 ILO Guidelines, ¶ 18(b).

government.[313] This contrast between the ILO Guidelines and South Africa's Framework may be partly attributed to the fact that the Framework focuses mostly on actions to be taken by the government.

The German coal exit laws incorporate social dialogue at various levels and stages of the policy-making process, including through formal mechanisms. Social dialogue was incorporated at the policy formation stage by the Coal Commission's activities[314] and at the implementation stage through the monitoring committees.[315] The federal–state coordinating body also allows for social dialogue at the policy implementation stage, as it may consult stakeholders and social partners in an advisory capacity.[316] However, stakeholders do not have voting rights.[317] The hard coal plant tendering procedure's requirement for joint declaration of a collective bargaining agreement also constitutes a formal social dialogue mechanism.[318] Next, the coal exit laws address the ILO recommendation to foster social dialogue at the sectoral level within the coal sector by coordinating a phase-out among the entire coal sector. However, the coal exit laws do not adopt the ILO Guidelines' recommendations directed at social partners since they are more concerned with the public sector and coal companies.

3.4 Macroeconomic and Growth Policies

The ILO's guidance concerning macroeconomic and growth policies can be organized into four categories, detailed as follows.

3.4.1 Governments should integrate sustainable development and just transition goals into macroeconomic and growth policies

The ILO Guidelines suggest multiple ways for governments to accomplish this category of guidance: adopting macroeconomic policies that promote sustainable production and consumption patterns; developing incentive schemes to stimulate enterprise innovation in favor of sustainable development; undertaking collaborative efforts among governments; and adopting policies that center "full and productive employment and decent work for all."[319]

South Africa's Framework partially addresses this first set of recommendations. It incorporates just transition goals into its macroeconomic policies, as it states that the National Treasury "has a key leading role to play in incorporating climate considerations and the just transition imperative into national financing and budgeting."[320] The Framework can also be said to promote sustainable production and consumption patterns through, for instance, supporting the adjustment of taxes and subsidies to advance the just transition.[321] The Framework expressly encourages the use of financial incentives and incentive schemes generally to support a just transition,[322] as well as policies intended to boost innovative sustainable development. For instance, it supports the development of competitive industries to produce the inputs and support services for low-carbon technologies, such as renewable energy inputs.[323] However, the Framework does not take up the ILO's specific recommendation of using incentive schemes to achieve such innovation. In addition, while the Framework encourages collaboration in the

313 South African Just Transition Framework, 20, 22.
314 Litz, Graichen, and Peter, *The German Coal Commission,* 2.3, Annex 4: "Programme for the Three Mining Area Trips."
315 StStG, § 15.1.
316 StStG, § 25.2.
317 StStG, § 25.2.
318 KVBG, § 12.5.
319 ILO Guidelines, ¶¶ 19(a)(i)–(iii).
320 South African Just Transition Framework, 24.
321 South African Just Transition Framework, 25.
322 South African Just Transition Framework, 21. 25.
323 South African Just Transition Framework, 18.

policymaking field generally,[324] it does not address the ILO's recommendation to leverage collaborative efforts as a way to incorporate just transition goals into macroeconomic policies. The Framework also does not adopt the ILO's goal of full employment, but rather sets out the less ambitious goal to generate employment opportunities.[325] This distinction in ambition may be in part due to what the Framework itself describes as the South African economy's "deep-seated structural challenges," including high levels of unemployment, inequality, and poverty.[326]

Germany's coal exit laws address most of the recommendations in the first category. Although most of Germany's macroeconomic and growth policies are beyond the scope of the coal exit laws, the coal exit laws address the ILO Guidelines' first recommendation to the extent that the StStG itself constitutes a growth policy.[327] The StStG's aim is to encourage sustainable development in Germany's coal regions in a comprehensive economic, ecological, and social sense.[328] The StStG also promotes sustainable production and consumption patterns by investing funds in low-carbon sectors. The federal funding program provides support for a "bioeconomy model region" initiative, which aims to achieve sustainable development in the Rhenish region.[329] The KVBG also promotes sustainable production patterns by decommissioning coal plants and subsidizing heat and power provided by renewable sources.[330]

The StStG federal funding program supports innovation through incentive schemes, specifically subsidies. However, most of this funding is directed toward research institutions and universities rather than enterprises, and often supports innovation generally rather than in sustainable industries specifically. For instance, the program invests in an initiative Incubator Sustainable Renewable Value Chains (*Inkubator nachhaltige erneuerbare Wertschöpfungsketten*) in the Rhenish region, which seeks to shorten innovation cycles for technology that recycles CO_2 as a raw material for industry.[331] The federal funding program also increases funding to a program called "WIR! – Change Through Innovation in the Region," where residents of the coal regions can form confederations and submit innovative ideas for funding.[332] Another program supported by the federal funding program is the research initiative entitled Real-World Laboratories of the Energy Transition (*Reallabore der Energiewende*), which aims to develop existing energy technology expertise and infrastructure, strengthen energy innovation potential, and generate sustainable energy technology value creation.[333] In addition, the StStG includes three attachments which contain guiding principles, which are likely binding, relevant to each of the three coal regions, and these guiding principles also promote innovation.[334] For instance, Lusatia's guiding principles include a goal to develop the region into a livable and innovative economic region.[335]

Next, although they do not state a goal for full employment, the coal exit laws do have a central goal of generating employment opportunities. The StStG statute states that its goals are to contribute to safeguarding employment during the coal phase-out,[336] including by creating 5,000 new federal jobs in the coal regions.[337] The state funding program's selection criteria for investment

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324 *See, e.g.*, South African Just Transition Framework, 22 (noting that one role of the national government is "[f]acilitating collaborations and partnerships with social partners including traditional leaders, in support of a just transition").

325 South African Just Transition Framework, 10.

326 South African Just Transition Framework, 2, 16.

327 StStG, § 1.1.

328 StStG, § 1.3.

329 StStG, § 17.12; "Networked Value Chain," Bioökonomie Revier, https://www.biooekonomierevier.de/economy.

330 KVBG, Art. 7.

331 StStG, § 17.23.

332 StStG, § 17.7; "Innovation and Structural Change WIR!" German Federal Ministry of Education and Research (*Bundesministerium fur Bildung und Forschung*), https://www.innovation-strukturwandel.de/strukturwandel/en/innovation-and-structural-change/wir-the-programme/wir-the-programme_node.html.

333 StStG, § 16.2.

334 The explanatory memorandum to the draft version of the StStG states that these principles "define the funding framework for federal financial assistance and thus create a *binding obligation* for all partners (federal government, states, and municipalities) over the entire funding period" (emphasis added). Draft StStG (*Entwurf eines Strukturstärkungsgesetzes Kohleregionen*), German Bundestag, no. 19/13398, 19th legislative period, September 23, 2019, 40, https://dserver.bundestag.de/btd/19/133/1913398.pdf.

335 StStG, § 1.3, Attachment 1.

336 StStG, § 1.2.

337 StStG, §§ 18.1–2.

projects also includes whether they create and maintain jobs in the assisted regions.[338] In addition, the coal exit laws indicate a concern with creating high-quality jobs, although they do not adopt the "decent work" language of the ILO Guidelines. The guiding principles for the Rhenish, Lusatian, and Central German regions state goals to create secure jobs for the future,[339] create high quality industrial and service jobs,[340] and lay the foundation for high-quality industrial jobs,[341] respectively. However, given the coal exit laws' domestic purview, they do not reference the ILO Guidelines' recommendation to engage in collaborative efforts with other governments.

3.4.2 Governments should adopt measures that would allow them to align economic growth with their social and environmental objectives

Within this second category of guidance, the ILO Guidelines recommend governments incorporate sustainable macroeconomic policies into national development plans, and to adopt action plans with social and environmental targets.[342]

South Africa's Framework does observe the ILO Guidelines' recommendation to align economic growth with social and environmental objectives. The Framework expresses its support of the country's efforts to "redesign the economy to the benefit of most citizens …. in the context of delivering an effective response to climate change."[343] In addition, the Framework states that South Africa's 2012 National Development Plan has a focus on "environmental sustainability and charting an equitable transition to a low-carbon economy."[344] The Framework also adopts the ILO recommendation to adopt action plans with targets on social and environmental challenges by providing an Action Plan in its annex. This Action Plan sets out priority interventions, long-term goals, and short-term decisions required to give effect to a just transition.[345]

The German coal exit laws mostly address this second category of guidance, as they align economic growth with social and environmental objectives in the coal regions. The coal exit laws themselves can be considered action plans with social and environmental targets. The KVBG's targets to reduce the net electrical capacity of coal-fired power plants to a certain number of gigawatts by 2022, 2030, and 2038[346] constitute environmental targets. The StStG includes spending targets, as it delineates three funding periods[347] and specifies how funding will be distributed among the federal states.[348] The StStG also includes goals that are too general to be considered targets. For instance, the StStG's funding goals—to reduce economic differences between states, promote sustainable economic growth amid structural change in the coal regions, and safeguard employment[349]—constitute broad social and environmental goals. Moreover, the StStG allocates funding to lower-emission sectors, and its subsidized investments are required to conform with SDGs in the framework of Germany's Sustainability Strategy.[350] Furthermore, the KVBG contains provisions for assessing social indicators. For instance, the KVBG requires the government to review the impact of the coal phase-out on energy security and prices, and the review should consider the "social acceptability" of the coal phase-out.[351] However,

338 StStG, § 4.2.1.
339 StStG, § 1.3, Attachment 3.
340 StStG, § 1.3, Attachment 1.
341 StStG, § 1.3, Attachment 2.
342 ILO Guidelines, ¶¶ 19(b)(i)–(ii).
343 South African Just Transition Framework, 5.
344 South African Just Transition Framework, 6.
345 South African Just Transition Framework, 26.
346 KVBG, §§ 2.2, 4.1–2.
347 StStG, § 6.
348 StStG, § 3.
349 StStG, §§ 1.1–3.
350 StStG, § 4.3.
351 KVBG, § 54.1.

national development plans are not referenced in the coal exit laws because these laws are concerned only with the development of the coal regions.

3.4.3 Governments should adopt appropriate regulations and instruments

Here, the ILO Guidelines recommend that governments evaluate the impacts of policy measures; enforce quotas where applicable; monitor compliance with regulations; facilitate such compliance through information and guidance adapted to different target groups; and use targeted fiscal policy measures, market-based instruments, and public procurement to improve the effectiveness of macroeconomic and growth policies.[352]

South Africa's Framework partially observes the third set of macroeconomic policy recommendations. It takes on the recommendation to evaluate policy impacts, expressly noting the need to monitor progress.[353] It also assigns the national government the role of monitoring progress toward the aims of the just transition and making course corrections when required.[354] However, the Framework does not address the recommendation to enforce quotas, nor does it adopt the policy recommendation to provide customized information and guidance. The Framework does reference the need to monitor compliance with regulations, but only in one instance. In particular, the Framework states that the national government has the role to ensure mining companies adhere to social and labor plans in line with regulations.[355] Next, the Framework does adopt the ILO Guidelines' recommendation to take advantage of fiscal policy and market-based instruments. For instance, it supports reorienting public spending and adjusting taxes and subsidies to advance the just transition.[356] However, it does not address the ILO Guidelines' proposal related to public procurement, even though such policies could have a significant impact given South Africa's status as the largest government spender in the continent.[357]

The German coal exit laws for the most part adopt this third category of guidance. They have numerous provisions for evaluating their impacts and monitoring compliance. Regarding the StStG's state funding program, assisted states cannot utilize financial assistance until they have outlined the procedures for granting the assistance in an administrative agreement that has been approved by the Bundestag's Budget and Economic Affairs committees.[358] States receiving federal funding must also notify the BMWK of the geographic areas in which investments will be made, which of the nine funding areas are being addressed, and which of the statutory criteria were used as a basis for selecting those investments.[359] To ensure the assisted states are using federal funds for their intended purpose, the states must send reports to the federal government twice per year,[360] and the federal government can request additional reports and conduct inquiries of the states.[361] States must also submit an annual report with information detailing progress toward reaching the funding targets specified in the StStG.[362] Furthermore, there is a recapture provision wherein the federal government may recover financial assistance allocated to the states, plus interest, if the states do not meet certain statutory requirements.[363] Also, in the second and third StStG funding periods, grants will only be awarded if the BMWK's review shows that, in the preceding funding period, closures of lignite plants were carried out or legally agreed to.[364] Under the federal

352 ILO Guidelines, ¶¶ 19(c)(iii)–(v), 19(d)(iii). The ILO Guidelines do not specify to which quotas they are referring.
353 South African Just Transition Framework, 20.
354 South African Just Transition Framework, 21.
355 South African Just Transition Framework, 21.
356 South African Just Transition Framework, 25.
357 "General Government Final Consumption Expenditure (Current US$) Sub-Saharan Africa," World Bank Group, https://data.worldbank.org/indicator/NE.CON.GOVT.CD?locations=ZG&most_recent_value_desc=true.
358 StStG, § 10.
359 StStG, § 7.3.
360 StStG, §§ 8.1–8.2.
361 StStG, § 9.4.
362 StStG, § 25.
363 StStG, §§ 9.1, 9.3.
364 StStG, § 6.5.

funding program, there are the above-noted monitoring committees[365] as well as a provision that states that measures that have proved to be unsuccessful may be terminated.[366] In addition, the federal government must report annually on the status of its funding projects to the Bundestag's Economic Affairs and Energy, Interior, and Budget Committees.[367]

Regarding the StStG as a whole, the BMWK is tasked with evaluating every two years the law's impact on the coal regions' economies—including value creation, the labor market situation, and local tax revenue[368]—and report this evaluation to the federal–state coordinating body, the Bundestag, and the Bundesrat.[369] For the KVBG, in 2022, 2026, 2029, and 2032, the federal government is required to systematically review, using defined criteria and indicators, the coal phase-out's impact on energy security; electricity prices; heat supply; the number and installed capacity of power plants converted from coal to gas; and the availability of certain raw materials.[370] In addition, the government is to assess the KVBG's contribution to achieving the coal-fired power reduction targets and associated climate goals.[371] Moreover, as noted, in its 2022 review the government should assess the "social acceptability" of the phase-out.[372] However, as of June 2023 the government had not yet published its review that was due in August 2022.[373] In addition, the government may refuse to compensate plant operators if they do not meet their obligations under mining laws.[374] Moreover, payments to Lausitz Energie Kraftwerk AG (LEK AG) will only be made if neither LEK AG nor LEAG or the special purpose entities violate any warranties they assumed in a public law agreement made pursuant to KVBG §49.[375] The coal exit laws do not, however, utilize information and guidance adapted to different target groups to facilitate compliance, nor do they address the ILO recommendation concerning the enforcement of quotas.

Lastly, Germany's coal exit laws do employ fiscal policy measures, but not public procurement or market-based instruments. Fiscal policy measures include the subsidies provided by the StStG and those provided by the KVBG for heat and power from renewable sources.[376]

3.4.4 Governments should use trade policies to promote specific ends

Fourth, the ILO Guidelines recommend using trade policies to advance social, economic, and environmental sustainability; facilitate access to environmentally friendly technology; nurture domestic infant green industries; and encourage green innovation and job creation.[377]

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365 *See* Section 3.2.2.

366 StStG, § 17.

367 StStG, § 26.3.

368 StStG, § 26.1.

369 StStG, § 26.2.

370 KVBG, § 54.1.

371 KVBG, § 54.1.

372 KVBG, § 54.1.

373 Hans Decruppe, Kerstin Eisenreich, Antonia Mertsching, Andreas Schubert, and Anke Schwarzenberg, eds., *Den Wandel Gemeinsam Gestalten: Stand des Strukturwandels in den Braunkohlerevieren* (Berlin: Die Linke, June 2023), 7, https://www.antonia-mertsching.de/media/115/2023_07_12_Broschuere_Strukturwandel_aus_linker_Sicht.pdf.

374 KVBG, § 45.2.

375 KVBG, § 45.2.

376 KVBG, Art. 7.

377 ILO Guidelines ¶ 19(e)(i). The ILO defines "green" jobs as "decent jobs that contribute to preserve or restore the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency." "What is a Green Job?" ILO, https://www.ilo.org/resource/article/what-green-job. A "green" economy, according to UNEP, is one that is "low carbon, resource efficient and socially inclusive" and where "growth in employment and income are driven by public and private investment into such economic activities, infrastructure and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services." "Green Economy," UNEP, https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-economy.

South Africa's Framework addresses trade policy to the extent that it sets forth objectives with regards to exporting certain goods. The Framework does not frame such objectives in terms of the specific ends enunciated by the ILO Guidelines, but these policies nonetheless advance some of them. For instance, it indicates an aim to increase exports of critical minerals for the energy transition,[378] which is an effort that can be said to advance environmental sustainability and access to environmentally friendly technology. It also states the country's intention to export electric vehicles,[379] which can be said to address the ILO Guidelines' objective of nurturing domestic infant green industries. Besides noting South Africa's goals with regards to exports, the Framework includes projections for developments up to 2050 and how these will impact the coal value chain, along with other at-risk sectors.[380] However, these projections mostly describe what South Africa expects of its trading partners rather than indicating its own trade policy plans.

The German coal exit laws only refer to trade policy in one provision in the StStG regarding the federal funding program. This provision expands support services provided by the federal government's foreign trade promotion agency, "Germany Trade and Invest," to attract investment from abroad and market location advantages abroad.[381] However, the provision is not formulated in a way to promote the ends specified by the ILO. The rest of Germany's trade policies are external to and beyond the scope of the coal exit laws.

3.5 Finance Policies

The ILO Guidelines' policies related to financing a just transition recommend that governments articulate their long-term financing needs;[382] establish sustainable funding mechanisms for implementing their just transition frameworks;[383] adopt a combination of taxes, subsidies, incentives, guaranteed prices, and loans suited to advancing the just transition;[384] and consider implementing environmental tax reform to compensate those disproportionately affected by the energy transition.[385]

South Africa's Framework mostly adopts these ILO recommendations. It projects that at least USD 250 billion will be required over the next three decades to transform South Africa's energy system.[386] Regarding funding mechanisms, the Framework's plan to raise international capital through the JETP is fairly concrete,[387] while its ideas for raising capital domestically are broad and undefined by comparison, for instance, proposing public–private partnerships.[388] Next, the Framework adopts the ILO recommendation regarding taxes, subsidies, and incentives. It proposes determining whether existing taxes and subsidies require adjustments for the just transition and applying economic instruments to support a just transition, such as "performance-based grants, progressive subsidies, tax benefits, tax rebates, or incentive schemes."[389] However, it does not reference guaranteed prices or loans. In addition, it does not specifically reference environmental taxes as a means to raise funds for those disproportionately impacted by the energy transition. It does reference the existence of a carbon tax in South Africa,[390] but the tax has been criticized for being ineffective.[391]

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378 South African Just Transition Framework, 15.
379 South African Just Transition Framework, Annex A, 27.
380 South African Just Transition Framework, 14.
381 StStG, § 17.11.
382 ILO Guidelines, ¶ 19(b)(iii).
383 ILO Guidelines, ¶ 19(b)(iii).
384 ILO Guidelines, ¶ 19(c)(i).
385 ILO Guidelines, ¶ 19(c)(ii).
386 South African Just Transition Framework, 24.
387 South African Just Transition Framework, 24.
388 South African Just Transition Framework, 24.
389 South African Just Transition Framework, 25.
390 South African Just Transition Framework, 25.
391 Darren Parker, "Carbon Tax Ineffective Against Major Emitters," *Engineering News,* October 1, 2021, https://www.engineeringnews.co.za/article/carbon-tax-ineffective-against-major-emitters-2021-10-01.

In addition, its discussion of the distributive justice principle urges that impacted groups should not be the ones to carry the burdens of the energy transition.[392]

The German coal exit laws partly take up the ILO Guidelines' recommendations related to financing a just transition. The StStG articulates its long-term financing needs by delineating its three funding periods.[393] For the KVBG, certain provisions specify the amount of compensation that will be provided to hard coal plant operators for decommissioning via the tender process, as well as the amount of compensation that will be provided to the main lignite plant operators.[394] With regards to funding mechanisms, the StStG sets out that its main provisions, including the state and federal funding programs, will be budgeted in line with requirements in the respective budget process.[395] StStG Chapter 4—which covers investments outside the state and federal funding programs in areas such as transportation and infrastructure—also has a provision for its funding mechanism.[396] The StStG's overall funding mechanics are further defined in a separate Federation-Country Agreement (*Bund-Länder-Vereinbarung*) for implementing the StStG's main provisions, including its state and federal funding programs.[397] According to this agreement, structural aid will flow through a coordinating committee consisting of representatives of the federal government and assisted states.[398] The KVBG, however, does not specify the funding mechanisms for its payouts.

Next, Germany's coal exit laws take advantage of subsidies and incentives as policy tools, such as the previously mentioned subsidy in the KVBG for heat from renewable sources.[399] Other examples include grants of the StStG's federal funding program that go toward specified projects,[400] as well as the state funding program, whose grants depend on the states' successfully phasing out coal.[401] The KVBG also provides a subsidy bonus for modernized cogeneration installation operators if such installation replaces one that was powered by coal.[402] The bonus decreases over time, thereby encouraging new installations.[403] However, the coal exit laws do not adopt the ILO Guidelines' recommendation to use taxes, loans, and guaranteed prices or to implement environmental tax reform.

3.6 Investment-Related Policies

The ILO Guidelines include recommendations regarding investment which can be divided into three subcategories, discussed below.

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392 South African Just Transition Framework, 8.

393 StStG, § 6.1.

394 StStG, § 19; KVBG, § 44.1. *See also* KVBG, § 13(g) Annex 2, which describes the technical formula to be used to determine renumeration.

395 StStG, § 27.

396 StStG, § 22.

397 Florence Schulz, "Germany Begins Allocating $40 billion to Coal Regions to Start Phase-out," *Euractiv*, September 3, 2020, https://www.euractiv.com/section/energy/news/germany-begins-allocating-e40-billion-to-coal-regions-to-start-phase-out.

398 "Bund-Länder-Vereinbarung zur Durchführung des Investitionsgesetzes Kohleregionen (InvKG)," BMWK, § 18, https://www.bmwk.de/Redaktion/DE/Downloads/B/bund-laender-vereinbarung-invkg.html; Schulz, "Germany Begins Allocating $40 billion to Coal Regions to Start Phase-out.".

399 *See* KVBG, Art. 7.

400 StStG, § 17.

401 In particular, grants in the StStG's second and third funding period (2027-32 and 2033-38) shall only be awarded if the review by BMWK pursuant to KVBG, § 49 shows that in the respective preceding funding period, closures of lignite-fired powerplants have been carried out or legally agreed to the extent provided for in KVBG, § 4, Pt. 5. *See* StStG, § 6.5.

402 KVBG, Art. 7, § 7(b).

403 KVBG, Art. 7, § 7(b).

3.6.1 Guidelines pertaining to both public and private investment

The ILO Guidelines recommend governments use investment policies to improve policy effectiveness;[404] promote sustainability; facilitate access to environmentally-friendly technology; nurture domestic infant green industries; and encourage green innovation and job creation.[405]

South Africa's Framework adopts the ILO recommendation to use investment policies to advance particular ends. For example, it states that businesses "must drive the innovation and investment in clean technologies that create and/or sustain employment,"[406] which promotes the ILO goals of advancing sustainable innovation, increasing access to environmentally-friendly technology, and nurturing domestic green industries. The Framework also presents several ways in which South Africa plans to leverage investment policies generally. For instance, it recommends "[i]ntegrating climate-related risks and the just transition imperative into all investment decisions."[407] However, these provisions are not formulated in terms of the ILO goal to improve policy effectiveness.

The German coal exit laws fully adopt this first category of ILO guidance. The StStG's state and federal funding programs constitute public investment policies. These investment policies promote sustainability, as the disbursement of funds to states hinges on their phasing out coal-fired power[408] and the statute requires subsidized investments to align with the German Sustainability Strategy's SDGs.[409] The federal funding program also supports sustainable initiatives, including the electric vehicle and sustainable hydrogen industries.[410] Furthermore, the StStG uses investment policies for facilitating access to environmentally-friendly technology. For instance, the federal funding program supports a program for decarbonizing energy-intensive industries called the Competence Center for Climate Protection, which makes funding available to support research and development (R&D) in green technologies.[411] Another example is the Real-World Laboratories of the Energy Transition initiative, one of whose goals is to develop energy technology expertise.[412] The StStG's guiding principles for the Central German lignite region also note a goal to develop new, open-use technologies.[413] Next, the coal exit laws' investment policies nurture domestic green industries in their infancy, particularly in the form of funding for R&D. For instance, the federal funding program establishes additional facilities of the German Aerospace Center, including an institute for research into alternative fuels in the Rhenish mining region and institute for research into lower emission aircraft engines in the Lusatian region.[414] The coal exit laws also use investment to encourage and facilitate green innovation and jobs, examples of which are noted in 'Section 3.4.

3.6.2 Governments should invest public funds toward transforming the economy into becoming more sustainable

Second, the ILO advises that governments invest public funds to develop low environmental impact infrastructure, rehabilitate and conserve natural resources, and improve resilience.[415]

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404 ILO Guidelines, ¶ 19(c)(iv). It is unclear whether the ILO Guidelines are stating these steps will improve the effectiveness of state policies generally or only macroeconomic and growth policies.

405 ILO Guidelines, ¶ 19(e)(i).

406 South African Just Transition Framework, 22.

407 South African Just Transition Framework, 25.

408 StStG, § 6.5.

409 StStG, § 4.3.

410 StStG, §§ 17.27, 17.30.

411 StStG, § 17.15; "Funding Programme 'Decarbonisation of Industry,'" The Competence Centre on Climate Change Mitigation in Energy-Intensive Industries (KEI), https://www.klimaschutz-industrie.de/en/funding.

412 StStG, § 16.2.

413 StStG, § 1.3, Attachment 2.

414 StStG, § 16.3.

415 ILO Guidelines, ¶ 19(d)(i).

On public investment, the South African Framework expresses support for increasing public spending in favor of a just transition, but such support is formulated in general terms rather than in terms of the objectives specified by the ILO Guidelines. For instance, the Framework recommends "reorienting state spending in support of a just equitable transition."[416] It also encourages investment in green industries, without specifying whether it is referring to public or private investment.[417] In addition, the Framework's Action Plan to Give Immediate Effect to a Just Transition includes steps for local development finance institutions like the Industrial Development Corporation of South Africa[418] and the Development Bank of Southern Africa[419] to identify how they can mobilize finance for just transition investments.[420] However, the Framework's provisions on public investment are not tied to the specific objectives recommended by the ILO. Rather, the Framework generally encourages investment related to the ILO's objectives but without specifying whether such investment should be public or private. For instance, it encourages investment in ecological infrastructure,[421] ensuring investments are aligned with the just transition,[422] and integrating "climate-related risks and the just transition imperative into all investment decisions."[423] It also encourages making sure the South African National System of Innovation promotes innovations related to climate-resilient activities.[424] Moreover, the Framework tends to prioritize private investment over public investment. For instance, it encourages businesses to drive investment in clean technologies;[425] the creation of public–private partnerships, such as for just transition-related infrastructure projects;[426] and blended finance to catalyze new investment opportunities for the just transition.[427]

The German coal exit laws address most of this second set of ILO recommendations. Public funds are used to "green" Germany's economy through the StStG investments. Under the StStG, the federal funding program may only support projects that contribute to transforming the municipalities in the assisted regions into model regions of net-zero emissions, resource efficiency, and sustainable development.[428] Moreover, many of the federal funding program's projects are in sustainable sectors. For example, it funds Municipal Model Projects for the Implementation of Ecological Sustainability Goals in Regions of Structural Change, which provides funding to initiatives executed by municipalities, universities, companies, and other kinds of entities with the aim of transforming the lignite mining regions into pilot regions for ecologically sustainable development.[429] However, the StStG also supports sectors that may not be environmentally sustainable. For instance, the Lusatian region's guiding principles seek to promote the semiconductor, glass, metal, textile, and plastics industries.[430]

Next, the StStG's state and federal funding programs also fund low environmental impact infrastructure. The state funding categories include the energy refurbishment of buildings[431] and infrastructure for tourism, broadband, and mobile

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416 South African Just Transition Framework, 25.

417 South African Just Transition Framework, 15.

418 The Industrial Development Corporation is fully owned by the South African government. "About Us," Industrial Development Corporation, https://www.idc.co.za/about-us.

419 The Development Bank of Southern Africa (DBSA) is a state-owned development finance institution. "Governance," DBSA, https://www.dbsa.org/about-us/governance.

420 South African Just Transition Framework, 28.

421 South African Just Transition Framework, 20.

422 South African Just Transition Framework, 20.

423 South African Just Transition Framework, 25.

424 South African Just Transition Framework, 18.

425 South African Just Transition Framework, 22.

426 South African Just Transition Framework, 22, 25.

427 South African Just Transition Framework, 25.

428 StStG, § 15.

429 StStG, § 17.5; "Municipal Model Projects for the Implementation of Ecological Sustainability Goals in Structural Change Regions (KoMoNa)," Federal Ministry for Environment, Nature Conservation and Nuclear Safety (*Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz*), https://www.bmuv.de/programm/kommunale-modellvorhaben-zur-umsetzung-der-oekologischen-nachhaltigkeitsziele-in-strukturwandelregionen-komona.

430 StStG, § 1.3, Attachment 1.

431 StStG, § 4.1.

communications,[432] and it specifies such subsidized investments should be in line with the German Sustainability Strategy's SDGs.[433] The federal funding program also supports initiatives related to sustainable infrastructure, including the Federal Ministry for Digital and Transport's programs related to alternative drive systems, fuels, and electromobility for road and rail;[434] the Fraunhofer Institute for Geothermal Energy and Energy Infrastructure's research on integrated energy infrastructures, geothermal energy, and sector coupling;[435] and the Fraunhofer Center for Digital Energy in the Rhineland's development and operationalization of technologically reliable, hacker-proof, and economically viable digitalized energy infrastructures in the Rhenish region.[436] However, the StStG also allocates funding to infrastructure that may not be sustainable, including investments in federal trunk roads.[437]

In addition, the StStG's state funding program invests public funds in rehabilitating and conserving natural resources, as its funding categories cover climate and environmental protection, which include soil remediation and noise abatement, as well as nature conservation and landscape conservation management, which include measures to rewild and reforest former open-pit mining areas.[438] The federal funding program also allocates funding toward the establishment of a scientific monitoring center for biodiversity in the assisted regions[439] and an environmental and nature conservation data center.[440] With regards to resilience, the federal funding program supports a project for boosting investment in municipal-level climate protection as part of Germany's National Climate Protection Initiative.[441] For instance, this initiative supports measures related to climate resilience of municipal facilities and low-emission transportation.[442]

3.6.3 Governments should support markets in sectors linked to decarbonization

Third, the ILO Guidelines recommend governments stimulate investment in, demand for, and the development of markets in the sectors linked to decarbonization through incentives, mandates, and regulations.[443]

South Africa's Framework addresses to a limited extent the ILO Guidelines' recommendation to use incentives, mandates, and regulation to stimulate investment in, demand for, and the development of markets in the sectors linked to decarbonization.[444] In particular, the Framework expresses the same goals related to supporting markets in decarbonization-related sectors, and it references plans to use policy tools like incentives and regulation, even if it does not directly connect the use of those policy tools with those goals. For instance, it encourages the development of competitive industries that produce inputs and support services for sustainable technologies like renewable energy inputs, as well as the development of innovative technologies that improve climate resilience.[445] However, it does not specify what policy tools are to be employed to accomplish these goals. On the other hand, it also recommends using policy tools like strengthening regulation to help mobilize capital and financial incentives in furtherance of the just transition generally.[446] However, it does not connect the use of such policy tools to more specific objectives,

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432 StStG, § 4.3.
433 StStG, § 4.3.
434 StStG, § 17.3.
435 StStG, § 17.19; "About Us," Fraunhofer Research Institution for Energy Infrastructures and Geothermal Systems, https://www.ieg.fraunhofer.de/en/about.html.
436 StStG, § 17.20; RWTH Aachen University, "Fraunhofer Center for Digital Energy Launched," press release, April 29, 2020, https://www.rwth-aachen.de/cms/root/Die-RWTH/Aktuell/Pressemitteilungen/April/~hgdbd/Startschuss-fuer-das-Fraunhofer-Zentrum/?lidx=1.
437 StStG, § 20.
438 StStG, §§ 4.1.8–9.
439 StStG, § 17.14.
440 StStG, § 17.16.
441 StStG, § 17.6; "National Climate Protection Initiative (NKI)," Zukunft Umwelt Gesellschaft, https://www.z-u-g.org/nki.
442 StStG, § 17.6; "National Climate Protection Initiative," Zukunft Umwelt Gesellschaft.
443 ILO Guidelines, ¶ 20(c).
444 ILO Guidelines, ¶ 20(c).
445 South African Just Transition Framework,18.
446 South African Just Transition Framework, 21, 24.

such as spurring investment. Similarly, unlike the ILO Guidelines, the Framework also supports limited deregulation—in particular, to revise regulatory frameworks to be less restrictive to promote new technologies, such as renewable energy technologies.[447]

The German coal exit laws mostly address this third category of ILO guidance. As noted, the StStG and KVBG rely extensively on subsidies and incentives to support low-emission sectors.[448] They also use mandates and regulations, but such mechanisms are concerned with ensuring the decommissioning of coal plants and the proper use of federal funds rather than with supporting markets in sectors linked to decarbonization. In particular, the KVBG has mandates, including a ban on new coal-fired power plants[449] and provisions concerning the statutory closure of lignite-fired power plants.[450] The KVBG also includes regulations around the phase-out of coal-fired power, and the StStG establishes numerous regulations, for instance related to the administration of federal grants.[451]

3.7 Industrial and Sectoral Policies

The ILO's Industrial and Sectoral policy recommendations can also be divided into three subcategories, which are detailed as follows.

3.7.1 Recommendations for sectoral policymaking in general

The ILO Guidelines recommend governments design sectoral policies in line with the conditions of each sector;[452] pay special attention to industries, regions, communities, and workers whose livelihoods might experience the hardest impacts of the transition;[453] ensure incentives and policies for market creation are applied in a transparent and predictable manner while giving signals to investors and minimizing market distortion; and ensure the effective use of public resources.[454]

The South African Framework appears to consider the specific conditions of sectors. For instance, it describes the specific conditions of four value chains and sectors that face especially high risks as a result of the energy transition and climate change.[455] However, it does not provide details regarding specific policies and programs of each sector. Next, it adopts the ILO guidance to pay special attention to segments of the population who are most vulnerable to transition and climate impacts, for instance proposing that just transition plans be developed taking into account regional differences.[456] It may even take such guidance one step further through its distributive justice principle, which emphasizes not only paying special attention to vulnerable groups, but also ensuring such groups are not unduly burdened by transition costs.[457] In addition, while it does recommend deploying incentives and policy instruments for market creation,[458] it mostly does not specify whether such policies are to be implemented with the particular safeguards recommended by the ILO Guidelines. For instance, it does not specifically state that such policies should be executed in a way that is stable and predictable. At most, it states that the national government should set "clear

447 South African Just Transition Framework, 18.
448 *See* Sections 3.4.1 and 3.5.
449 KVBG, § 51.
450 KVBG, §§ 27–28.
451 *See, e.g.*, StStG §8, "Audit of the use of funds" and StStG §9.1, "Reclaim."
452 ILO Guidelines, ¶ 20(a).
453 ILO Guidelines, ¶ 20(e).
454 ILO Guidelines, ¶ 20(d).
455 South African Just Transition Framework, 10–13.
456 South African Just Transition Framework, 23.
457 South African Just Transition Framework, 8.
458 *See* Sections 3.4.1 and 3.5.

execution timelines and targets" for the transition[459] and that subsidies that do not support a just transition should be phased out in a "gradual" manner.[460] The Framework also does not emphasize transparency in this particular context, although it does in the contexts of disclosing just transition–related financial flows[461] and just transition policymaking generally.[462] Lastly, the Framework emphasizes the effective use of public resources. In particular, it underscores that the government should revisit "whether and how public resources have been effective in supporting improved service provision and in closing the inequality gap" and improve "the efficiency of public spending, including to just transition projects."[463]

The German coal exit laws address the ILO recommendation to design sectoral policies in line with the conditions of sectors, particularly in the context of the energy sector. For instance, the previously mentioned federal funding program that supports decarbonization in energy-intensive industries constitutes a sectoral policy.[464] The KVBG also constitutes a tailored coal sector policy. The coal exit laws also pay special attention to regions and groups most impacted by the energy transition given their focus on Germany's coal regions.[465] Next, the coal exit laws create markets by funding research in certain sectors. For example, the StStG expands the Ernst Ruska Center for Microscopy and Spectroscopy with Electrons at Forschungszentrum Jülich[466] and funds the research project, "Neuro-inspired artificial intelligence technologies for the electronics of the future" in the Rhenish region.[467] The coal exit laws also utilize incentives as established above.[468] However, they do not expressly indicate a concern for ensuring the impacts of such policies are stable or minimize market distortions. Lastly, the coal exit laws ensure the effective use of public resources via the monitoring provisions and reporting requirements discussed in Section 3.3.

3.7.2 Governments should set goals to improve sectors' sustainability and innovation

Second, the ILO Guidelines recommend that governments set goals to continuously improve sectors' sustainability[469] and encourage innovation.[470]

South Africa's Framework addresses both the ILO's recommendations to set goals on improving the sustainability of sectors and to encourage innovation. On sectoral sustainability, the Framework acknowledges that addressing climate change demands "transformational changes across all sectors"[471] and moving away from resource-intensive sectors to more sustainable ones.[472] It also emphasizes the need for "well-defined structures and responsibilities in place" to drive changes in the energy, auto, tourism and agricultural sectors in particular.[473] The Framework's Action Plan sets short- and long-term goals for these four sectors, as well as other high emitting ones.[474] South Africa's Framework also emphasizes measures to advance social and economic sustainability in the coal sector, such as by ensuring local and regional economies in coal areas "design development plans for growth, employment creation, and decent new livelihoods."[475] Moreover, it identifies other policy documents that provide greater detail on

459 South African Just Transition Framework, 21.
460 South African Just Transition Framework, 25.
461 South African Just Transition Framework, 25.
462 South African Just Transition Framework, 9.
463 South African Just Transition Framework, 25.
464 *See* Section 3.6.1.
465 StStG, §§ 1.1, 1.2.
466 StStG, § 17.21.
467 StStG, § 17.24.
468 *See* Sections 3.4.1 and 3.5.
469 ILO Guidelines, ¶ 20(a).
470 ILO Guidelines, ¶ 20(d).
471 South African Just Transition Framework, 3.
472 South African Just Transition Framework, 9.
473 South African Just Transition Framework, 15.
474 South African Just Transition Framework, 27–28.
475 South African Just Transition Framework, 10.

sectoral policies and programs, including the Sector Jobs Resilience Plans[476] and SAREM.[477] With regards to innovation, as noted, the Framework encourages the South African National System of Innovation to foster innovation that contributes to net-zero-emissions and climate resiliency.[478] It also recommends that support for innovation be balanced between large, small, and medium-sized enterprises.[479]

The German coal exit laws adopt the recommendation to encourage innovation.[480] They also set goals to increase the sustainability of the energy sector by establishing goals for phasing out coal according to a specified timeline,[481] but otherwise do not set goals to continuously improve sectors' sustainability.

3.7.3 Sectoral policy recommendations that aim to minimize risks of the energy transition and climate change

Under this category, the ILO Guidelines recommend governments promote decent work;[482] establish programmes in sectors with high rates of informality to promote formalization, such as by promoting the cooperative model,[483] and especially in certain sectors such as waste management;[484] and address the occupational safety and health (OSH) impacts of informality and facilitate a transition toward the formal economy in activities related to greening the economy, such as recycling, through training, capacity building, certification, and legislation.[485]

South Africa's Framework promotes decent work, which is embedded in its definition of a just transition.[486] Regarding the coal sector, it states that a long-term goal is to promote decent livelihoods and sustainable jobs, and one of the short term steps to help reach that goal includes the execution of an initial needs analysis among affected communities.[487] South Africa's Framework somewhat diverges from the ILO Guidelines' recommendations concerning ways to reduce climate and transition risks within certain sectors. Regarding informal work, it recognizes the existence of a large informal workforce in South Africa, especially in certain sectors,[488] and the potential vulnerabilities of informal work.[489] It also expresses a goal to provide training in the informal sector,[490] states that more work should be done to examine the vulnerabilities of informal workers,[491] and recommends the government provide improved income and relocation support for informal workers.[492] However, it does not fully adopt the ILO's recommendations to promote formalization of certain sectors, address the OSH impacts of informality, or to formalize labor in sectors related to the energy transition. Instead, South Africa's Framework envisions a continuing role for informal work during the just transition, noting that rising numbers of informal businesses can help maximize equity and resilience in the economy.[493] It may be that the South African government views formalization of the workforce as a long-term goal, but that informal businesses can

476 South African Just Transition Framework, 10
477 South African Just Transition Framework, 11.
478 South African Just Transition Framework, 18.
479 South African Just Transition Framework, 19.
480 *See* Section 3.4.1.
481 *See* Section 2.4.2.
482 ILO Guidelines, ¶ 21(h).
483 ILO Guidelines, ¶ 21(h).
484 ILO Guidelines, ¶ 20(f).
485 ILO Guidelines, ¶ 27(c).
486 The Framework defines a just transition as "contribut[ing] to the goals of decent work for all." South African Just Transition Framework, 7.
487 South African Just Transition Framework, 27.
488 South African Just Transition Framework, 12.
489 South African Just Transition Framework, 10.
490 South African Just Transition Framework, 16.
491 South African Just Transition Framework, 10.
492 South African Just Transition Framework, 18.
493 South African Just Transition Framework, 17.

provide economic diversification that will help keep people afloat in the near-term during the energy transition. Lastly, the Framework encourages economic diversification and "economic clusters" to replace jobs that will be lost.[494] This approach differs from that taken in the ILO Guidelines, which instead encourage taking steps to create decent jobs, encourage sustainable innovation, and nurture infant sustainable industries.[495]

The German coal exit laws partially address the third category of recommendations. They promote decent work to the extent that the StStG's aim is to safeguard employment and create high-quality jobs in the coal regions.[496] However, the coal exit laws do not address the guidance concerning informal work, likely because Germany has low rates of informal work.[497]

3.8 Enterprise Policies

The ILO Guidelines' enterprise policies can be divided into five sub-categories.

3.8.1 Governments should survey their overall governance and regulatory environment to ensure it is amenable to sustainable business

The ILO Guidelines advise that governments broadly take stock of conditions related to governance and social justice, specifically recommending they promote respect for universal human rights; social justice and social inclusion; responsible stewardship of the environment; peace and political stability; and rule of law.[498] In addition, the ILO Guidelines provide recommendations related to economic conditions: governments are to promote an entrepreneurial culture; access to financial services; physical infrastructure; information and communications technology; secure property rights; sound and stable macroeconomic policy; good management of the economy; trade integration; and fair competition.[499]

South Africa's Framework partially addresses this first category. It promotes some human rights, like the right to a healthy environment,[500] as well as social justice and inclusion through its emphasis on distributive justice.[501] It also references South Africa's constitutional Bill of Rights and its three generations of rights, including democratic and political, socio-economic, and collective development rights.[502] However, it does not expressly call for respecting all internationally-recognized human rights. Next, South Africa's Framework encourages responsible environmental stewardship through, for instance, a recommendation to use economic instruments to support a just transition.[503] On the economic policy areas, it reinforces entrepreneurial culture, as it recommends various ways to boost innovation and develop competitive industries.[504] Further, it directly responds to the Guideline on access to financial services, recommending the government provide financing for new small and micro enterprises.[505] Regarding physical infrastructure, the Framework acknowledges a need to improve infrastructure as a means to improve economic diversification.[506] It also addresses the ILO Guidelines' recommendation concerning information and communications technology to the extent it

494 South African Just Transition Framework, 17.
495 ILO Guidelines, ¶ 19(e)(i).
496 StStG, §§ 1.2, 4.2, 11.2–11.3, 17, 18.1, Attachments 1–3 to § 1.3.
497 *See* Section 2.3.2.
498 ILO Guidelines, ¶ 21(a); 2007 ILC Conclusions.
499 ILO Guidelines, ¶ 21(a); 2007 ILC Conclusions.
500 South African Just Transition Framework, 8–9.
501 South African Just Transition Framework, 8.
502 South African Just Transition Framework, 8.
503 South African Just Transition Framework, 25.
504 South African Just Transition Framework, 18.
505 South African Just Transition Framework, 18.
506 South African Just Transition Framework, 18.

articulates a goal to expand reliable and affordable internet access.[507] However, the rest of the policy areas referenced by the ILO—peace and political stability; rule of law; property rights; macroeconomic policy stability; trade integration; and fair competition—lie beyond the scope of the Framework.[508]

Germany's coal exit laws address some but not all of the ILO's recommendations concerning its governance and regulatory environment. The coal exit laws promote good governance through provisions that require ongoing monitoring, evaluation, and consultation.[509] They do not, however, reference respect for universal human rights, peace, or political stability. The KVBG embodies the rule of law and secure property rights by compensating coal plant operators for decommissioning their plants.[510] Furthermore, the StStG investments in the coal regions promote social justice between the federal states and economic inclusion of communities affected by the coal phase-out. Next, the coal exit laws promote the responsible stewardship of the environment to the extent that they invest in sustainable sectors and ensure coal plants are decommissioned.[511]

Regarding economic conditions, the coal exit laws promote an entrepreneurial culture. For instance, one of the StStG's state funding program's criteria for selecting investment projects is whether the project makes the assisted region more attractive for business.[512] In addition, the guiding principles for all three lignite regions include goals to strengthen start-up culture.[513] Also responsive to this ILO guideline are the StStG's federal funding program's projects which seek to promote innovation.[514] Next, the coal exit laws include a number of provisions that support physical infrastructure.[515] For example, the Lusatian region's guiding principles aim to revitalize and promote development of industrial sites and improve transportation infrastructure, including the infrastructure connecting the region with nearby metropolitan areas.[516] Next, the KVBG has provisions for energy security, as statutory closures of hard coal power plants will be suspended if there is a showing that such plant is needed to ensure electricity security and reliability.[517] Regarding information and communications technology, the StStG's state funding program funding categories include digitization as well as broadband and mobile communications infrastructure.[518] Moreover, the StStG's binding guiding principles for the Lusatian region includes the development of digital infrastructure as one of eleven priority areas of action.[519] The coal exit laws do not directly address the recommendations concerning stable macroeconomic policy or good management of the economy, but the StStG can be said to demonstrate these principles by disbursing federal funds gradually over three funding periods.[520] Furthermore, the coal exit laws are concerned with fair competition. In particular, the StStG states that the federal funding program is to be established in compliance with European state aid law.[521] The KVBG also notes that, for hard coal tendering and bidding process, if the European Commission does not approve of this procedure under state aid law, then the

507 South African Just Transition Framework, 16.
508 South African Just Transition Framework, 3.
509 *See* Section 3.4.3.
510 *See* Section 2.4.2.
511 *See* Sections 2.4.2, 3.4.1, 3.6.1, and 3.6.2.
512 StStG, § 4.2.
513 Lusatian region's guiding principles aim to strengthen startup activities to contribute to the digital transformation and, in turn, drive science, research and business in the region. Attachment 1 to StStG §1(3). The principles for the Rhenish region state a goal for the region to develop a pioneering culture for start-ups and growth. Attachment 3 to StStG § 1.3. The Central German region's principles aim to develop a dynamic and flexible start-up culture in the region. Attachment 2 to StStG § 1.3.
514 *See* Section 3.4.1.
515 *See* Section 3.6.2.
516 StStG, § 1.3, Attachment 1.
517 Such suspension would require the BMWK's approval. Moreover, notwithstanding this provision, the Federal Network Agency will still order the statutory reduction if such reduction is necessary to achieve the KVBG's objectives pursuant to KVBG, § 2.2. KVBG, § 35.2.
518 StStG, § 4.1.5.
519 Attachment 1 to StStG § 1.3.
520 *See* Section 2.4.3.
521 StStG, §§ 15.1, 17.

Federal Network Agency will extend deadlines.[522] However, the coal exit laws do not address concerns about avoiding inflation, access to financial services, or trade integration.

3.8.2 Governments should work with businesses and other stakeholders to promote climate adaptation and mitigation

Second, the ILO Guidelines recommend governments develop in collaboration with stakeholders national climate adaptation and mitigation policies,[523] and that they enhance the resilience of businesses—especially micro, small, and medium enterprises (MSMEs)—to avoid disruptions in economic activity or financial losses.[524]

South Africa's Framework mostly adopts this second set of ILO recommendations. Although the Framework deals more with "managing the social and economic consequences" of mitigation policies rather than mitigation policies themselves, it references the existence of other national policies that deal directly with mitigation, such as the Climate Change Act.[525] Regarding adaptation, the Framework notes that local and provincial governments have the role of managing and implementing adaptation projects, including disaster risk management strategies.[526] It also includes recommendations to climate proof infrastructure, strengthen the adaptative capacity of the education system, and prepare schools in the event of disasters.[527] On the resilience of MSMEs and businesses, the Framework recommends that governments improve income and relocation support for small and medium enterprises as well as the informal economy, and that they provide "financing, sites, and inputs for new small and micro enterprises" as a way to "promote local economic diversification."[528]

Germany's coal exit laws partially address this second category of ILO guidance. The recommendation regarding the development of national climate policies is addressed to the extent that the coal exit laws themselves are climate mitigation and, to a lesser extent, adaptation policies.[529] Germany also has climate policies external to the coal exit laws, as discussed in Section 2.4.4. In addition, the coal exit laws partially adopt the guideline on enhancing the resilience of businesses. They do so in the KVBG by providing support to electricity-cost-intensive companies in internationally competitive industries to help such companies maintain their competitive position.[530] The KVBG also supports business resiliency and averts disruptions through measures for maintaining the reliability of electricity and heat during the phase-out.[531] Regarding MSMEs, the StStG federal funding program supports R&D with an aim to make small- and medium-sized enterprises more innovative and adaptable, but the program's funding guideline does not reference a goal to promote such businesses' climate resiliency specifically.[532]

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522 KVBG, § 10.4.

523 ILO Guidelines, ¶ 21(d).

524 ILO Guidelines, ¶ 21(c).

525 South African Just Transition Framework, 5–6.

526 South African Just Transition Framework, 22.

527 South African Just Transition Framework, 16–17.

528 South African Just Transition Framework, 18.

529 The adaptation policies include the StStG's project to strengthen investment measures in climate protection at the municipal level as part of the National Climate Protection Initiative. StStG, § 17.6.

530 KVBG, § 55.4.

531 KVBG, § 54.1, Art. 7.

532 StStG, § 17.8; "Future of Work," Federal Government of Germany, https://www.esf.de/portal/EN/Funding-period-2021-2027/Funding_Programmes/bmbf/Future-of-work.html. "Notice" (*Bekanntmachung*), German Federal Ministry of Education and Research, January 4, 2021, https://www.bmbf.de/bmbf/shareddocs/bekanntmachungen/de/2021/01/3280_bekanntmachung.html#1. *See also* Section 3.8.5.

3.8.3 Governments should take measures to encourage and assist businesses with increasing the sustainability of their operations, goods, and services

The third category of the ILO Guidelines' enterprise policies recommend that governments provide financial incentives like low-interest loans and tax incentives for businesses that adopt environmentally sound practices, such as energy saving measures;[533] promote the adoption by enterprises of long-term environmentally sustainable policies like low-carbon policies;[534] conduct awareness campaigns targeted at green technology startups to foster a culture of eco-entrepreneurship and provide technical support;[535] assist management and workers in transitioning away from high-polluting or emitting operations, including by implementing technology transfer, providing support for innovation, and sharing good practices;[536] promote workplace cooperation aimed at improving energy efficiency, reducing waste, and promoting the use of clean technologies;[537] use public procurement local content requirements to promote sustainable products and services, while ensuring MSMEs and cooperatives can be part of the procurement process;[538] consider providing financial and technical support to enterprises that are involved in R&D in green technologies;[539] and "foster peer learning among enterprises and workers… to spread sustainable practices."[540]

South Africa's Framework partially addresses the third category of ILO recommendations. It notes sustainable policies that enterprises can adopt, for instance recommending that businesses set "Science-Based Emissions Reduction Targets," track and disclose climate impacts through programs like CDP, and embed environmental, social, and governance principles across their operations.[541] However, while the Framework recommends using financial instruments such as performance-based grants to spur a just transition generally,[542] it does not propose using these instruments specifically as a means to encourage enterprise sustainability. Instead it encourages enterprises to improve their sustainability on a voluntary basis through self-regulation. The Framework also does not adopt the guideline to conduct fully fledged awareness campaigns targeted at green technology startups, although it does acknowledge that "[d]isseminating information about new technologies, including their up-front financial and technological requirements and longer-term viability" can help spur innovation.[543] The Framework encourages eco-entrepreneurship in other ways, for instance encouraging the development of industries to produce renewable energy inputs.[544] Next, given the Framework's emphasis on voluntary corporate action and self-regulation, it does not put forth measures to assist management and workers in transitioning away from high-polluting operations.[545] The Framework does not include a plan for promoting technology transfer broadly, but only recommends providing "inputs" for new small and micro enterprises to promote local economic diversification[546] and references international obligations pertaining to technology transfer.[547] Lastly, South Africa's Framework does not address the ILO recommendations to use local content requirements; promote workplace cooperation aimed at improving energy efficiency, reducing waste, and promoting the use of clean technologies; support enterprises involved in sustainable technology R&D; or foster peer learning as a means for spreading sustainable practices.

533 ILO Guidelines, ¶ 21(f).
534 ILO Guidelines, ¶ 23(e).
535 ILO Guidelines, ¶ 22(b).
536 ILO Guidelines, ¶ 22(c).
537 ILO Guidelines, ¶ 23(d).
538 ILO Guidelines, ¶ 21(g).
539 ILO Guidelines, ¶ 23(b).
540 ILO Guidelines, ¶ 25(e).
541 South African Just Transition Framework, 22–23.
542 South African Just Transition Framework, 21, 25.
543 South African Just Transition Framework, 18.
544 South African Just Transition Framework, 18.
545 South African Just Transition Framework, 22–23.
546 South African Just Transition Framework, 18.
547 South African Just Transition Framework, 24.

The German coal exit laws partially address this third category of the ILO Guidelines. An example of the StStG providing financial incentives for businesses that adopt environmentally sound practices is the above-mentioned initiative supported by the federal funding program for decarbonizing energy-intensive industries.[548] It provides grants and consulting to assist energy-intensive industries reduce their emissions.[549] This StStG provision is also responsive to the ILO recommendations to encourage enterprises to adopt long-term environmentally sustainable policies and to assist management and workers in transitioning away from high-polluting or emitting operations. Another initiative responsive to these guidelines is one supported by the federal funding program called "Municipal Model Projects for the Implementation of Ecological Sustainability Goals in Regions of Structural Change," which selects municipalities and other entities, including companies, in lignite mining regions to support them in becoming pilot regions for ecologically sustainable development.[550] The federal funding program expands other initiatives that support enterprises, though not with an express aim of promoting sustainable practices. For instance, the federal funding program supports a project for proactive management consulting that enables companies to better exploit their growth potential.[551] As noted, the coal exit laws support a startup culture,[552] but they do not use awareness campaigns. In the StStG, technology transfer is referenced only in the context of the attachments concerning the assisted regions' guiding principles. The principles for the Lusatian region include an aim to intensify knowledge and technology transfer to contribute to a digital transformation and drive science, research, and business in the region,[553] and the principles for the Rhenish region seek to develop a pioneering culture for start-ups and growth in the region through systematic knowledge and technology transfer.[554] The coal exit laws also support innovation, as discussed above in Section 3.3.

Next, regarding green technology R&D, one of the StStG state program's funding categories includes research, innovation, and technology transfer.[555] However, within those parameters it is up to the state governments to decide whether to invest such funds in green technology R&D. The federal funding program also supports green technology R&D, but it does so through funding public research institutes rather than through financial and technical support to enterprises. For example, the Competence Center for Climate Protection includes funding for R&D in alternatives to products that cause process-related emissions during their manufacture.[556]

The coal exit laws mostly do not address the ILO Guidelines' recommendations to share good practices or foster peer learning among enterprises, except for the above-noted references in the Lusatian and Rhenish regions' guiding principles of their goals to encourage systematic knowledge transfer.[557] Finally, the coal exit laws do not reference the ILO Guidelines' recommendations to promote institutionalized workplace cooperation or to use local content requirements in public procurement.

548 StStG, § 17.15

549 "Funding Programme 'Decarbonisation of Industry,'" KEI.

550 StStG, § 17.5; "Municipal Model Projects for the Implementation of Ecological Sustainability Goals in Structural Change Regions (KoMoNa)," Federal Ministry for Environment, Nature Conservation and Nuclear Safety, https://www.bmuv.de/programm/kommunale-modellvorhaben-zur-umsetzung-der-oekologischen-nachhaltigkeitsziele-in-strukturwandelregionen-komona.

551 StStG, § 17.10.

552 *See* Sections 2.4.3 and 3.4.1.

553 StStG, § 1.3, Attachment 1.

554 StStG, § 1.3, Attachment 3.

555 StStG, § 4.1.7.

556 StStG, § 17.15; "Funding Programme 'Decarbonisation of Industry,'" KEI. Additional examples include the federal funding program's support for an Aerospace Center and the establishment of an institute for research into alternative fuels. *See* Section 3.6.1.

557 StStG, § 1.3, Attachment 3.

3.8.4 Governments should support businesses in complying with environmental or climate-related regulations

Fourth, the ILO Guidelines recommend that governments, when making fiscal or tax reforms, consider ways to enhance private actors' compliance with environmental taxes and levies.[558] Governments should also provide enterprises with technical support and services to help them establish their own environmental management and compliance systems.[559] Lastly, they recommend that both governments and social partners provide businesses, especially MSMEs, with targeted information and advice in accessible formats regarding green business practices and achieving compliance with regulatory systems.[560]

South Africa's Framework by and large does not follow this fourth category of guidance. In particular, it does not address how the government could design environmental fiscal instruments to enhance compliance. Rather, it only generally suggests the government review such instruments to ensure they are fit for purpose for a just transition.[561] In addition, the Framework does not fully adopt either ILO recommendation concerning environmental compliance. The Framework addresses compliance only to the extent it encourages mining companies to comply with existing regulations. Specifically, it pushes mining companies to carry out social and labor plans in accordance with South Africa's Mineral And Petroleum Resources Development Act and to ensure they set aside sufficient funds for end-of-life mine rehabilitation, as required by National Environmental Management Act regulations.[562] However, the Framework does not suggest providing technical support and services or targeted information and advice as means to enhance compliance. Besides this reference to mining company compliance with the law, the Framework mainly emphasizes voluntary action and self-regulation.

The German coal exit laws provide funding for R&D focused on finding socio-technical solutions for small- and medium-sized enterprises, including potential sustainability-related solutions.[563] However, the coal exit laws do not address the other recommendations in this category.

3.8.5 Governments should support enterprises that may be negatively impacted by the energy transition

The fifth category of ILO guidance recommends that governments consider support measures for those enterprises and workers seriously affected by the just transition,[564] and that they "pay special attention to assisting MSMEs, including cooperatives and entrepreneurs, in making the transition."[565]

South Africa's Framework mostly addresses this final category of guidance. It presents four value chains in South Africa, including the coal value chain, which are at risk in light of the energy transition, and describes how the energy transition is likely to impact workers and enterprises in them.[566] In addition, it recommends supporting workers affected by the transition[567] and puts forth a short-term goal of finding ways to support impacted coal workers.[568] In addition to policies tailored to specially impacted sectors,

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558 ILO Guidelines, ¶ 21(b).
559 ILO Guidelines, ¶ 22(b).
560 ILO Guidelines, ¶ 22(a).
561 South African Just Transition Framework, 25.
562 South African Just Transition Framework, 23.
563 StStG, § 17.8; "Future of Work," Federal Government of Germany; "Notice," German Federal Ministry of Education and Research.
564 ILO Guidelines, ¶ 23(c).
565 ILO Guidelines, ¶ 21(e).
566 South African Just Transition Framework, 10.
567 South African Just Transition Framework, 19–20.
568 South African Just Transition Framework, 27.

the Framework also includes provisions for generally supporting enterprises through the energy transition.[569] On MSMEs, the South African Framework notes the importance of empowering small businesses in the transition[570] and of "[i]mproving support (income and relocation) for formal small and medium enterprises, as well as the informal / so-called 'hustle' economy."[571] It also emphasizes "[b]alancing support for innovation between large companies/enterprises and small and medium businesses/cooperatives, in a manner that considers both the aim of greater inclusion and the realities of power, capacity, and historic responsibility."[572]

The German coal exit laws mostly adopt this fifth category of recommendations. They adopt the guidance to consider providing support measures for those enterprises and workers seriously affected by the just transition, as this is closely tied to the StStG's statutory aims to increase employment and support the lignite states undergoing structural change.[573] The state program's funding categories, such public welfare and complementary in-company training, would also benefit impacted enterprises and workers.[574] Moreover, the above-noted federal funding program's support for an initiative that would provide proactive management consulting to businesses in the lignite regions is an example of a policy that benefits enterprises affected by the just transition.[575] The Central German region's guiding principles in the StStG also include goals to develop rural areas as business locations; assist the chemical industry; establish a professional school to support the glass, ceramics, and building materials industries; and strengthen the logistics and automotive sectors.[576] The KVBG supports affected coal workers through its adjustment allowance provision.[577] It also supports affected enterprises through the provision noted above which compensates companies in internationally competitive contexts for their increased electricity costs.[578] Next, the coal exit laws can be said to pay special attention to entrepreneurs given their promotion of startups and innovation.[579] Finally, though the coal exit laws do not address cooperatives, they do promote MSMEs. The StStG federal funding program provides funding for an R&D program called the "Future of Work,"[580] and one aim of this program is to "future-proof" German small and medium-sized enterprises through researching socio-technical solutions.[581]

3.9 Skills Development Policies

The ILO Guidelines' overarching recommendation regarding skills development is that governments review such policies to ensure they support training and capacity building programs supportive of the energy transition.[582] The particular recommendations can be divided into three categories.

569 South African Just Transition Framework, 17–18.
570 South African Just Transition Framework, 9.
571 South African Just Transition Framework, 18.
572 South African Just Transition Framework, 21.
573 StStG, §§ 1.1–1.2.
574 StStG, § 4.1.
575 StStG, § 17.10.
576 StStG, § 1.3, Attachment 2.
577 *See* Section 2.4.2.
578 KVBG, § 55.5.
579 *See* Sections 2.4.3 and 3.4.1.
580 StStG, § 17.8; "Future of Work," Federal Government of Germany.
581 "Notice," German Federal Ministry of Education and Research.
582 ILO Guidelines, ¶ 24(a).

3.9.1 Guidelines regarding the development of skills development policies themselves

First, the ILO Guidelines recommend governments coordinate stakeholder needs at all stages of developing and implementing education and skills policies,[583] use social dialogue to make labor market institutions and training systems more responsive,[584] and consider concluding bipartite or tripartite agreements on skills' development.[585] Governments should also identify and anticipate evolving skills needs; review occupational skills profiles and training programs; conduct skills needs assessments; and gather labor market information to match skills supply with demand.[586] In addition, related to policy coherence, the ILO Guidelines propose governments coordinate skills development policies with environmental policies,[587] including by creating certifications to recognize skills relevant for green jobs.[588]

Regarding this first grouping of ILO guidance, South Africa's Framework generally promotes social dialogue and collective action by social partners in the just transition,[589] although it does not specify whether such participation mechanisms should play a role in shaping skills development policymaking specifically. In addition, the Framework does not acknowledge whether the government would carry out bipartite or tripartite agreements on skills development. Next, the Framework adopts the ILO Guidelines' recommendations related to anticipating skills needs, as it states goals to align skills development opportunities with anticipated labor force needs and to strengthen mechanisms for identifying future skills needs.[590] The Framework also promotes active labor market policies to help people job search as opportunities shift and to support relocation as industries rise and fall.[591] On policy coherence, the Framework aligns South Africa's skills development policies with its environmental goals to the extent that it endorses policies for developing skills relevant for jobs in sustainable sectors.[592] It also states that the government's just transition policies should "be applied in an integrated manner and aligned so that policies in one field do not undermine objectives and measures in other policy fields."[593] However, the Framework does not address the ILO's guidance to improve the certification of skills relevant for sustainable jobs.

Germany's coal exit laws do not address most of this first category of guidance. Similar to South Africa's Framework, Germany's coal exit laws include provisions related to social dialogue generally,[594] but they mostly do not refer to social dialogue as it pertains to the development of skills development policies. The coal exit laws coordinate skills development policies with environmental policies to the extent that the StStG's various skills development policies are coordinated with the KVBG coal phase-out provisions. In addition, the Real-World Laboratories of the Energy Transition initiative supported by the StStG promotes energy innovation in the assisted regions by investing in energy technology skills.[595] However, the coal exit laws do not address the rest of the ILO Guidelines' recommendations within this category.

583 ILO Guidelines, ¶ 25(a).
584 ILO Guidelines, ¶ 25(a).
585 ILO Guidelines, ¶ 24(b).
586 ILO Guidelines, ¶¶ 24(c)–(d).
587 ILO Guidelines, ¶ 24(b).
588 ILO Guidelines, ¶ 25(d).
589 *See* Sections 3.2.3 and 3.3.
590 South African Just Transition Framework, 16–17.
591 South African Just Transition Framework, 16.
592 South African Just Transition Framework, 5, 8, 16–17.
593 South African Just Transition Framework, 16.
594 *See* Section 3.3.
595 StStG, § 16.2.

3.9.2 Guidelines regarding the substance of training programs

Second, the ILO Guidelines recommend that governments promote work-related training, practical experience, and on-the-job training to boost jobseeker employability, including by using targeted subsidies;[596] encourage the acquisition of both generic skills and those in science, technology, engineering, and mathematics (STEM);[597] provide training opportunities to upskill and reskill workers, including for those affected by the transition;[598] provide opportunities for initial learning in sustainable business practices and environmentally friendly technology and innovation;[599] use public and private employment service providers to provide courses linked to specific occupations and entrepreneurship opportunities in the sustainable economy;[600] and foster education and training in green entrepreneurship to spread sustainable business practices.[601]

The Framework mostly adopts the ILO's substantive skills development policies. It states an intent to promote workplace-based learning, training, and apprenticeships,[602] although it does not recommend using targeted subsidies to do so. Furthermore, it adopts the ILO Guidelines' recommendation to encourage the acquisition of basic skills, for instance reinforcing the importance for the education system to "deliver[] quality foundational literacy and numeracy."[603] It also expands upon the ILO's guidance in this subject by emphasizing the potential for foundational skills development to enhance the workforce's adaptive capacity.[604] Regarding the ILO recommendation to encourage skills development in STEM fields, the Framework promotes learning in "climate-related science, technology, health and social science programs," although it does not make mention of engineering or mathematics.[605] Next, the Framework includes various policies for upskilling and reskilling affected workers, as it recommends various means for providing such training, depending on whether workers belong to the formal or informal sector.[606] Regarding the ILO Guidelines' recommendations concerning training in sustainable business practices and technologies and using employment services to develop courses tailored to occupations in the sustainable economy, the Framework proposes several measures to develop skills for sustainable jobs.[607] For instance, it recommends investing in building technological competencies needed for sustainable jobs, building skills for industries relevant to decarbonization, such as battery manufacturing, and promoting skills development for climate-proofing new or existing infrastructure.[608] However, the Framework does not specify whether these programs would involve public or private employment service providers. It also does not specifically address the ILO Guidelines' recommendation to provide education and training on green entrepreneurship.

The German coal exit laws mostly address this second category of guidance. They support training opportunities to upskill and reskill workers and use subsidies to promote work-related training and practical experience, as one of the StStG state funding program's funding categories includes complementary in-company education and training.[609] In addition, any investments in the state funding program will be selected according to certain criteria, including whether the project will create more apprenticeships in the assisted areas.[610] The statement of principles for the Lusatian region include education and professional development in its list of priority areas of action.[611] The principles for the Central German Mining District also emphasize lifelong learning, noting that

596 ILO Guidelines, ¶¶ 25(c), 29(g).
597 ILO Guidelines, ¶ 24(e).
598 ILO Guidelines, ¶ 23(a).
599 ILO Guidelines, ¶ 23(a).
600 ILO Guidelines, ¶ 29(d).
601 ILO Guidelines, ¶ 25(e).
602 South African Just Transition Framework, 17.
603 South African Just Transition Framework, 17.
604 South African Just Transition Framework, 16.
605 South African Just Transition Framework, 17.
606 South African Just Transition Framework, 16.
607 South African Just Transition Framework, 16.
608 South African Just Transition Framework, 16.
609 StStG, § 4.1.7.
610 StStG, § 4.2.1.
611 StStG, § 1.3, Attachment 1.

education, qualification, training, and continuing education opportunities create the basis for future high-quality industrial jobs.[612] The same principles include a goal to establish a professional school for glass, ceramics, and building materials industries.[613]

In addition, Germany's coal exit laws emphasize STEM skills, as the StStG federal funding program is to provide earmarked funding for science, research, teaching and education in the assisted regions by financing projects.[614] Another example of the StStG emphasizing STEM skills is the Real-World Laboratories of the Energy Transition initiative, which aims to develop energy technology expertise.[615] Relatedly, the StStG's federal funding program supports several initiatives related to scientific research. Examples include the Ernst Ruska Center for Microscopy and Spectroscopy with Electrons at Forschungszentrum Jülich[616] and the research project entitled "Neuro-inspired artificial intelligence technologies for the electronics of the future."[617] With regards to building generic skills, the StStG's guiding principles for the Central German region emphasize the importance of school and educational facilities that meet international state-of-the-art standards.[618] The Lusatian region's principles also have a goal to expand existing higher education institutions in the region.[619]

The German coal exit laws do not directly address the ILO guidance to provide opportunities for initial learning in sustainable business practices and environmentally-friendly technology and innovation. They do, however, respond to the recommendation to provide courses linked to specific occupations in the sustainable economy. In particular, the Lusatian region's guiding principles emphasize developing medical university education and expanding existing higher-education institutions.[620] In addition, the StStG allocates funding to an Innovation Center University Medicine Cottbus in Lausitz, where one aim of the project is to restructure medical training.[621] The principles for the Central German region also include a goal to strengthen a training and learning center for "media professionals of the future."[622] The coal exit laws encourage entrepreneurship and innovation generally,[623] but they do not specifically address the ILO Guideline that recommends fostering training in green entrepreneurship. They also do not reference the use of public or private employment service providers.

3.9.3 Governments should improve the accessibility and inclusivity of skills development programs, especially for vulnerable groups

Third, the ILO Guidelines recommend offering tailored training services, ensuring skills development courses are offered at suitable times and for suitable durations, and supporting other policies that would facilitate individuals balancing "their work, family and lifelong learning interests."[624] Governments should also assist businesses, especially MSMEs and cooperatives, in engaging with governments and training providers to upgrade their current workforce's skills, anticipate skills needs, and support workers in acquiring "portable and employable" skills.[625]

612 StStG, § 1.3, Attachment 2.
613 StStG, § 1.3, Attachment 2.
614 StStG, § 14.
615 StStG, § 16.2.
616 StStG, § 17.21.
617 StStG, § 17.24.
618 StStG, § 1.3, Attachment 2.
619 StStG, § 1.3, Attachment 1.
620 StStG, § 1.3, Attachment 1.
621 StStG, § 17.28.
622 StStG, § 1.3, Attachment 2.
623 *See* Section 3.4.1.
624 ILO Guidelines, ¶ 25(b).
625 ILO Guidelines, ¶ 25(f).

The South African Framework addresses some but not all of the ILO Guidelines' recommendations related to access to skills development programs. It adopts the ILO's overarching recommendation to promote access for skills acquisition and recognition for all, as it states the government's plans to expand pathways to skills acquisition; improve internet access to enable online learning; provide resources for marginalized schools to improve teaching competencies and learning materials; provide training tailored to the informal sector; and provide learning opportunities for adults.[626] However, the Framework does not specifically adopt the ILO Guidelines' recommendations to ensure the suitability of classes' timing and duration or implement policies that would enable individuals to balance their various responsibilities and interests. The Framework emphasizes ensuring access to skills development for certain vulnerable groups, although it refers to different groups than the ILO Guidelines, reflecting the fact that the Framework is tailored to South Africa's context. In particular, the Framework emphasizes ensuring such access for impacted groups and people in affected areas, informal workers, students at marginalized schools, adults, the poor, women, people with disabilities, and the youth.[627] The Framework does not discuss assisting MSMEs or cooperatives in engaging with governments or training providers, although it does encourage supporting MSMEs in other ways.[628]

The German coal exit laws mostly do not adopt this third category of guidance. Although the StStG includes various policies for increasing education and training opportunities, there are no provisions for increasing specific groups' access to such opportunities. They also do not adopt the recommendation regarding assisting businesses in engaging with governments and training providers. One exception is the previously-noted StStG federal funding program that supports research into small- and medium-sized enterprises. This program includes a focus on promoting new forms of skills development and "lifelong acquisition of knowledge and skills" in such companies.[629]

3.10 Occupational Safety and Health Policies

The ILO Guidelines propose various ways that governments can adjust their OSH policies in light of their just transitions,[630] which can be divided into three subcategories.

3.10.1 Governments should establish a baseline of OSH and labor policies

First, the ILO recommends that governments adopt and implement applicable OSH standards;[631] improve labor inspectorates' capacities to monitor compliance with such standards;[632] promote joint workers' and employers' OSH committees;[633] encourage the use of appropriate prevention, protection, and safety processes;[634] and regulate and incentivize companies to reduce or eliminate hazardous materials across their supply chains.[635]

South Africa's Framework does not adopt any of the ILO's recommendations under this topic. The German coal exit laws mostly do not address the recommendations to establish a baseline of OSH and labor policies. Indeed, these may fall outside the scope of the coal exit laws. However, they do to some extent encourage the use of appropriate prevention, protection, and safety processes. As previously noted, the StStG federal funding program establishes regional centers of excellence for labor research as part of an

626 South African Just Transition Framework, 16–17.
627 South African Just Transition Framework, 8, 16.
628 *See* Sections 3.8.2 and 3.8.5.
629 StStG, § 17.8; "Future of Work," Federal Government of Germany; "Notice," German Federal Ministry of Education and Research.
630 ILO Guidelines, ¶¶ 26–27.
631 ILO Guidelines, ¶ 26(c).
632 ILO Guidelines, ¶ 26(c).
633 ILO Guidelines, ¶ 26(h).
634 ILO Guidelines, ¶ 26(f).
635 ILO Guidelines, ¶ 26(i).

initiative entitled Future of Work.[636] These centers support companies and research institutions in coming up with social and technological innovation and design options that respond to the impacts of digitization on work.[637] Although this StStG provision does not reference OSH standards, the program's research subject areas include "[h]ealth-promoting work system design in the digital age (research and development of ergonomic and health-promoting measures and concepts to maintain work and innovation capacity)."[638]

3.10.2 Governments should improve their understanding of how climate change and just transition–related measures and policies could impact workers' OSH and take steps to adapt to such changes

Second, the ILO Guidelines state that governments should conduct assessments on OSH risks created by or increased as a result of climate change and identify corresponding prevention and protection measures;[639] support research on understanding OSH risks implicated across the life cycle of products, new technologies, and new jobs, and use this knowledge to improve prevention and safety in the workplace[640] and improve, adapt, and create awareness of OSH standards for technologies, work processes, and new materials related to the transition;[641] encourage the provision of OSH training in sustainable jobs for workers, employers, OSH committee members, and labor inspectors;[642] include OSH considerations in sustainability certification programs;[643] consider introducing environmental issues to joint workers' and employers' OSH committees;[644] and adopt legislation that will ensure companies take appropriate steps to mitigate their products and processes' adverse impacts on health, safety, and the environment throughout their life cycles.[645]

South Africa's Framework does not address this second category of guidance. Regarding Germany's coal exit laws, the StStG's Future of Work program addresses some of these recommendations, namely to support research into new technologies and jobs and to improve, adapt, and create awareness of OSH standards for new technologies and work processes.[646] However, the coal exit laws do not address the rest of these recommendations.

3.10.3 Recommendations concerning policy coherence and institutional arrangements

Third, the ILO Guidelines recommend working toward greater OSH policy coherence among occupational health and environmental agencies[647] and adopting a coherent approach when formulating and implementing national policies protecting

636 StStG, § 17.8; "Future of Work" (*Zukunft der Arbeit*), Federal Government of Germany, https://www.esf.de/portal/DE/ESF-Plus-2021-2027/Foerderprogramme/bmbf/zukunft_der_arbeit.html.

637 StStG, § 17.8; "Future of Work," Federal Government of Germany.

638 "Project Selection Criteria 'Future of Work'" (*Projektauswahlkriterien "Zukunft der Arbeit"*), German Federal Government, https://www.esf.de/portal/DE/ESF-Plus-2021-2027/Foerderprogramme/bmbf/Artikel/zukunft_der_arbeit_awk.html.

639 ILO Guidelines, ¶ 26(a).

640 ILO Guidelines, ¶ 26(g).

641 ILO Guidelines, ¶ 26(b).

642 ILO Guidelines, ¶ 27(b).

643 ILO Guidelines, ¶ 27(a).

644 ILO Guidelines, ¶ 26(h).

645 ILO Guidelines, ¶ 26(j).

646 StStG, § 17.8; "Project Selection Criteria 'Future of Work'," German Federal Government.

647 ILO Guidelines, ¶ 26(d).

workers, the public, and the environment against risks of industrial accidents.[648] In addition, governments should strengthen their capacities to enforce laws at national and subnational levels in situations posing imminent threats of major accidents or risks.[649]

This third category of recommendations is not addressed in either South Africa's Framework or Germany's coal exit laws.

3.11 Social Protection Policies

The ILO Guidelines' social protection policies can be divided into three subcategories.

3.11.1 Governments should increase peoples' resilience against climate and transition impacts by adopting general social protection policies

First, the ILO Guidelines recommend promoting adequate and innovative social protection mechanisms that both protect existing benefits and account for emerging social needs.[650] For their populations as a whole, governments should provide social services and social security guarantees, including healthcare, income security, and employment guarantee schemes and public works that rehabilitate natural resources.[651] Governments should also encourage workforce redeployment.[652]

South Africa's Framework's goals for updating its system of social protection mostly align with this first category of ILO guidance, as it includes numerous recommendations for enhancing South Africa's system of social protection to increase resilience amid the energy transition and climate change.[653] However, it acknowledges potential limitations in achieving such goals given gaps in South Africa's existing system of social protection. Regarding social security generally, it notes that the Department of Social Security has proposed a "comprehensive reform of social security and retirement provisions," but that "further work is being undertaken to define the scope and structure of these social protection measures in the context of South Africa's fiscal constraints."[654] In addition, it underscores the importance of ensuring universal access to healthcare and other basic services,[655] and sets a long-range goal of establishing new health services to meet the needs of communities impacted by climate change.[656] It also endorses basic income support for those affected by the energy transition,[657] and proposes making income support available to affected workers and communities regardless of their existing income or assets.[658]

South Africa's Framework further adopts the ILO recommendation to take advantage of public employment and public works opportunities, for instance recommending that the national government provide "public employment opportunities as an important instrument for mitigating the potentially negative effects of the transition on communities."[659] It also recommends actions such as climate-proofing existing physical infrastructure and restoring ecosystems as ways to both improve resilience and

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[648] ILO Guidelines, ¶ 26(e).
[649] ILO Guidelines, ¶ 26(f).
[650] ILO Guidelines, ¶¶ 28(a), (c), (h).
[651] ILO Guidelines, ¶¶ 28(a), (c), (d), 29(f).
[652] ILO Guidelines, ¶ 20(g).
[653] South African Just Transition Framework, 19–20.
[654] South African Just Transition Framework, 19.
[655] South African Just Transition Framework, 20.
[656] South African Just Transition Framework, Annex A, 29.
[657] South African Just Transition Framework, 19.
[658] South African Just Transition Framework, 19.
[659] South African Just Transition Framework, 21.

create new jobs.[660] Relatedly, the Framework also states that the principle of restorative justice can be advanced by creating employment opportunities that involve rehabilitating degraded natural resources and improving biodiversity.[661]
However, South Africa's Framework does not endorse the ILO recommendation for employment guarantee schemes. It also does not, for the most part, address the topic of workforce redeployment. In addition, in a departure from the ILO Guidelines, the Framework also characterizes physical adaptation to climate change as a form of social protection policy.[662] The Framework's section regarding social protection measures recommends improving communities' resilience to both long- and short-term impacts of climate change and lists various activities to enhance climate resilience, for instance by making cities compact and improving services like water and sanitation. [663]

The full extent of Germany's system of social protection is found in the German Social Code and therefore beyond the scope of the coal exit laws. However, the coal exit laws include provisions relevant to social protection, some of which are responsive to this first category of ILO guidance. The KVBG adjustment allowances for former coal employees is an example of an innovative social protection mechanism that accounts for emerging social needs and offsets transition impacts.[664] This provision also addresses the ILO recommendation related to promoting income security. On public services generally, public services is listed as a priority field of action in both the Lusatian and Central German guiding principles in the StStG.[665] The Lusatian region's principles also state that the basis for increasing the region's innovation and competitiveness includes expanding public services.[666] In addition, the StStG includes various provisions related to healthcare. One of the funding categories of the state funding program is public welfare to improve the economic conditions of the assisted regions, which includes investment in health facilities.[667] Health is listed as a priority field of action in both the Lusatian and Central German regions' guiding principles.[668] The Lusatian region's principles also list goals to support next generation hospital and medical university education and digital and sustainable medical care and education.[669] The guiding principles for the Central German region emphasize the role of state-of-the-art equipment in doctor's offices and hospitals and telemedicine services to ensure reliable health care.[670] They also express a goal to build its presence in the fields of e-health, biotechnology, and AI-based diagnostics.[671] Central Germany's principles also refer to other social services. For instance, they emphasize the importance of modern flexible childcare.[672]

Next, Germany's coal exit laws do not refer to employment guarantee schemes, but they use public works through the StStG's investments of public funds into many projects to boost the lignite regions' economies. One example is the StStG federal funding program's initiative to establish 5,000 new jobs in federal agencies and departments in the assisted regions.[673] The StStG's state funding program's funding categories also address the ILO recommendation to use public works that rehabilitate natural resources.[674] However, the coal exit laws do not include social protection mechanisms that aim to offset the impacts of climate change in particular, nor do they address workforce redeployment.

660 South African Just Transition Framework, 20.
661 South African Just Transition Framework, 9.
662 South African Just Transition Framework, 19–20.
663 South African Just Transition Framework, 19–20.
664 *See* Section 2.4.2.
665 StStG, § 1.3, Attachments 1 and 2.
666 StStG, § 1.3, Attachment 1.
667 StStG, § 4.3.
668 StStG, § 1.3, Attachments 1 and 2.
669 StStG, § 1.3, Attachment 1.
670 StStG, § 1.3, Attachment 2.
671 StStG, § 1.3, Attachment 2.
672 StStG, § 1.3, Attachment 2.
673 StStG, § 18.1–2.
674 StStG §§ 4.1.8–4.1.9; *see also* Section 3.6.2.

3.11.2 Governments should increase peoples' resilience against climate and transition impacts by adopting specific social protection mechanisms tailored to certain impacted groups

While the previous subcategory of ILO guidance addressed South Africa's social safety net as a whole, this category includes proposals for specific social protection mechanisms tailored to certain impacted groups. In particular, the ILO Guidelines recommend providing unemployment insurance and skills training for workers in sectors negatively impacted by the transition;[675] public insurance for those affected by climate-related and other environmental disasters, especially for farmers and MSMEs;[676] social protection measures, including measures to protect retirement security, for those likely to be negatively affected during the energy transition, especially workers largely dependent on natural resources or facing major structural changes;[677] and, as part of adopting sustainable energy measures, compensation for low-income households that spend a significantly higher proportion of their income on energy or on goods and services with high levels of embedded energy.[678]

South Africa's Framework addresses many of the issues raised in this category and proposes tailoring social protection mechanisms to the needs of impacted groups. However, it does not adopt all of the mechanisms recommended by the ILO Guidelines, and it acknowledges potential challenges in achieving such goals due to fiscal limitations. The Framework articulates a goal to tailor South Africa's social protection mechanisms to impacted groups, noting "[s]upport for the chronically poor and unemployed (i.e., through the social security system) may differ from transitional mechanisms to support those affected by longer-term sectoral changes in the economy or by immediate climate-related disasters."[679] It also recommends establishing a national social security fund for those affected by the transition[680] and providing "a basic package of support" and "comprehensive social security nets" for the unemployed and transitioning or displaced workers and communities.[681]

Next, the Framework does not specifically recommend providing public insurance for those impacted by environmental disasters, but it does recommend providing shock-responsive social protection for vulnerable groups who experience climate-induced shocks to their finances.[682] Such protection "could take the form of a permanent, time bound, Social Relief of Distress (SRD) grant-type fund that is triggered in cases of climate-related disasters."[683]

South Africa's Framework notes that mandatory retirement provided through a national social security fund would significantly improve the security of those affected by the transition.[684] However, it also acknowledges potential limitations in reaching this aim, as South Africa does not have a mandatory system for social security pension provision.[685] Moreover, the Framework's social protection–related recommendations apply to workers facing major structural changes, as it states that such measures should target those affected by "longer-term sectoral changes in the economy" and the transition.[686] It also underscores the imperative for social protection mechanisms to reach vulnerable groups, especially women and youth.[687] Lastly, while the Framework addresses energy poverty and articulates goals to achieve universal access to clean energy and improve energy security,[688] it does not adopt the ILO's recommendation to compensate low-income households who spend high proportions of their incomes on energy.

675 ILO Guidelines, ¶ 20(g).
676 ILO Guidelines, ¶ 28(g).
677 ILO Guidelines, ¶ 28(b).
678 ILO Guidelines, ¶ 28(i).
679 South African Just Transition Framework, 18.
680 South African Just Transition Framework, 19.
681 South African Just Transition Framework, 16, 19.
682 South African Just Transition Framework, 19.
683 South African Just Transition Framework, 19.
684 South African Just Transition Framework, 19.
685 South African Just Transition Framework, 19.
686 South African Just Transition Framework, 19.
687 South African Just Transition Framework, 19.
688 South African Just Transition Framework, 9, 20.

The German coal exit laws mostly address this second category of guidance. Their social protection policies are focused on areas that will be most negatively impacted by the energy transition because they are crafted for Germany's coal regions facing structural change. In addition, the KVBG adjustment allowances for coal employees addresses the ILO recommendations to both provide unemployment insurance for workers in sectors negatively impacted by the transition and to take measures to protect retirement security for those likely to be negatively affected during the transition, especially workers facing major structural changes. The StStG also includes provisions on skills development in the impacted regions, as discussed in Section 3.8.

Germany's coal exit laws do not specifically compensate low-income households which spend a higher proportion of their income on energy, but they have various provisions to improve electricity affordability and assist companies with high electricity costs. The KVBG frames its overarching goal as to end coal-fired electricity generation while still ensuring electricity supply to the public,[689] and the statute includes procedures to ensure the security, reliability, and affordability of electricity supply.[690] The Federal Network Agency is tasked with annually reviewing whether the security and reliability of the electricity supply system has been significantly endangered or disrupted by the decommissioning of coal plants pursuant to the KVBG.[691] In addition, the BMWK is to examine whether low electricity prices can be ensured if the KVBG's measures are continued, and the federal government is required to take "appropriate measures" if necessary to ensure a low-cost supply.[692] The KVBG authorizes the BMWK to take appropriate measures to prevent a threat to or disruption of the security and reliability of the electricity supply system, for example by adjusting the capacity reserve.[693] If this disruption cannot be eliminated in time or at all by the BMWK's measures, then the BMWK must by a certain date instruct the Federal Network Agency to roll back certain planned tenders.[694] The KVBG also amended the Energy Industry Act so that the federal government would, beginning in 2023, pay subsidies to transmission system operators to reduce electricity costs.[695] Another relevant provision is the above-mentioned subsidies for companies with high electricity costs in internationally competitive contexts.[696] Lastly, the coal exit laws do not reference public insurance for environmental disasters.

3.11.3 Guidance regarding how social protection policies should be formulated

The ILO Guidelines recommend fostering tripartite mechanisms to identify and understand challenges posed by climate change and, in turn, formulate social protection measures.[697] Related to policy cohesion, governments should integrate adequate social protection measures into national responses to climate change and make them an essential part of climate change adaptation and mitigation policies.[698] In addition, regarding implementation, governments should allocate fiscal revenue toward social protection to help workers adjust during policy changes.[699]

South Africa's Framework adopts some but not all of the recommendations that fall under the third category. It emphasizes consultation in just transition policymaking throughout its text,[700] although it does not note having used nor recommend establishing tripartite mechanisms for the formulation of social protection policies. Regarding policy cohesion, it indicates social protection is being integrated into South Africa's response to climate change, noting that the just transition imperative as a whole

689 KVBG, § 2.1.
690 KVBG, § 55.
691 KVBG, § 55.1.
692 KVBG, § 55.2.
693 KVBG, § 55.4.
694 KVBG, § 55.4.
695 KVBG Art. 4.5, 1852.
696 KVBG, § 55.5.
697 ILO Guidelines, ¶ 28(h).
698 ILO Guidelines, ¶ 28(e).
699 ILO Guidelines, ¶ 19(d)(ii).
700 *See* Section 3.3.

is integrated into the Climate Change Act.[701] That South Africa would allocate fiscal revenue to social protection is not expressly stated in the Framework, although this can reasonably be assumed.

The German coal exit laws partially address the third category of guidance. While there are various provisions for social dialogue and consultation,[702] none are designed for formulating social protection measures but rather just transition policymaking generally. On integrating social protection measures into responses to climate change, the coal exit laws accomplish this to the extent that the coal phase-out forms part of Germany's climate mitigation policies. In addition, the coal exit laws allocate fiscal revenue to social protection to the extent that the StStG is funded by government revenue and supports social protection.

3.12 Active Labor Market Policies

The ILO Guidelines recommend encouraging active labor market policies that support enterprises and workers amid changing labor market demands and the energy transition by facilitating access to jobs;[703] adapting and strengthening public employment services in their ability to provide information, guidance, matching services, and training, and improving such services by expanding innovative ways of reaching out to job seekers;[704] promoting an efficient and effective delivery of employment services that respond to the needs of enterprises and workers amid the energy transition and that extends its outreach to informal workers;[705] giving particular attention to workers who are unemployed or at risk of unemployment in communities and industries affected by climate change, resource degradation, and structural change, including those in the informal economy;[706] and directing fiscal revenue towards active labour market policies that foster job creation.[707]

South Africa's Framework adopts most of the ILO Guidelines' recommendations regarding active labor market policies. It recommends promoting active labor market policies that help people redefine and prepare for job goals, search for jobs, and relocate as industries change and opportunities shift,[708] which responds to the first two ILO recommendations. The Framework also recommends integrating social protection measures like stipends for education and apprenticeships into its active labor market policies.[709] Moreover, related to improving information and training, it proposes "[i]nvesting in the skills development capacity to develop and deliver new occupational standards, curricula, and training programs at scale, with strong private sector participation" and "[p]roviding training to workers in the formal sector (e.g., courses, workplace-based learning opportunities) to facilitate movement into new career pathways."[710] To some extent, the Framework also proposes innovative ways to reach jobseekers by improving internet access in affected areas and by proposing ways its programs can reach those employed in the formal and informal sectors.[711]

In alignment with the ILO guidance to increase the effectiveness of employment services, the South African Framework recommends modernizing public employment services in a way that is informed by local community priorities,[712] and articulates a goal for training programs to reach informal workers.[713] It also aligns with the ILO Guidelines' recommendation to pay special attention to those experiencing or at risk of unemployment, as it acknowledges that South Africa faces high unemployment which

701 South African Just Transition Framework, 6–7.
702 *See* Section 3.3.
703 ILO Guidelines, ¶ 29(a).
704 ILO Guidelines, ¶ 29(e).
705 ILO Guidelines, ¶ 29(c).
706 ILO Guidelines, ¶ 29(b).
707 ILO Guidelines, ¶ 19(d)(ii).
708 South African Just Transition Framework, 16.
709 South African Just Transition Framework, 19.
710 South African Just Transition Framework, 16.
711 South African Just Transition Framework, 16.
712 South African Just Transition Framework, 16.
713 South African Just Transition Framework, 16.

threatens the possibility for affected groups to secure new job opportunities during the energy transition[714] and emphasizes the need to reskill and upskill workers to equip them to navigate the transition.[715] Lastly, the Framework does not specify whether fiscal revenues will be used to promote its active labor market policies.

Germany's coal exit laws adopt few of the ILO Guidelines' active labor market policy recommendations. Indeed, some of these policy recommendations may fall outside the scope of the coal exit laws, as such policies are under the purview of Germany's Federal Employment Agency (*Bundesagentur für Arbeit*), which provides centralized employment services.[716] To the extent the coal exit laws address active labor market policies, the KVBG's adjustment allowances for coal workers would constitute a passive labor market policy, and this requires the allocation of fiscal revenue. To ensure that policies in general are sound and informed, the StStG grants the BMWK with the authority to evaluate, every two years, the application of certain provisions on the labor market,[717] and such information must be reported to the Bundestag and Bundesrat.[718] The StStG federal funding program also aims to create jobs in the assisted regions by stimulating economic growth, and by directly creating 5,000 new jobs in federal agencies.[719] Next, there are provisions in the coal exit laws regarding training,[720] but there are no provisions related to information, guidance, or matching services. Next, the StStG promotes apprenticeships, as the creation of apprenticeships is one of the criteria for selecting state funding program investments,[721] and one of the state funding program funding categories includes infrastructures for complementary in-company education and training in assisted areas.[722] The coal exit laws also give particular attention to unemployed workers in affected sectors, as the StStG as a whole focuses on the three main coal regions.[723] The StStG's guiding principles for the Rhenish mining region state an aim to make up for the coal sector's value-add and employment by developing industrial value chains in the region.[724] Regarding labor market policies, the coal exit laws' labor market policies do not have a focus on prioritizing areas impacted by climate change or resource degradation. They also do not address the ILO Guidelines' recommendations concerning informal workers, finding innovative ways of reaching out to job seekers, or the effective delivery of employment services.

714 South African Just Transition Framework, 16.
715 South African Just Transition Framework, 16.
716 Bundesagenter fur Arbeit, https://www.arbeitsagentur.de.
717 StStG, § 26.1.
718 StStG, § 26.2.
719 StStG, §§ 18.1–18.2.
720 *See* Section 3.9.2.
721 StStG, § 4.2.1.
722 StStG, § 4.1.7.
723 StStG, § 2.
724 StStG, § 1.3, Attachment 3.

4 The Extent to Which the ILO Guidelines Address Key Energy Transition Policy Areas and Challenges Facing Developing Countries

Developing and developed countries have distinct socioeconomic conditions and positions in global power dynamics that lead them to face different challenges in transitioning away from fossil fuel-based economies.[725] These variations in how energy transitions materialize in developing and developed countries calls for policy guidance that accounts for these differences.

Consistent with this point, the ILO Guidelines acknowledge that ILO member states "have widely varying capabilities and ability to act" in the context of sustainable development[726] and recall the principle of common but differentiated state responsibilities.[727] Accordingly, they emphasize there is no one-size-fits-all set of policies and programs for a just transition[728] and that "there are different approaches, models and tools available to each country, in accordance with its national circumstances and priorities to achieve sustainable development."[729] While the ILO Guidelines emphasize they are designed to apply to all countries, they do not acknowledge directly that developing countries have unique challenges, but instead affirm that the "greening of economies" can serve as a new engine of growth in developing and advanced economies alike.[730]

Drawing on the findings of the comparative analysis in this report, a literature review, and expert interviews, this section sets out twelve key just transition policy areas and unique challenges faced by developing countries and addresses the extent to which the ILO Guidelines address them. These policy areas (in no particular order of priority) are:

1. Government institutional capacity and corruption
2. Affected groups' participation in policymaking
3. Decent employment
4. Green industry and economic diversification
5. Social protection
6. Skills development and training
7. Effective phase-out of fossil fuel production, use, and subsidies
8. International equity and cooperation
9. Human rights
10. Access to affordable and sustainable energy
11. Adequate finance
12. Environmental remediation.

This report also proposes the authors' recommendations for how future international guidance on a just transition could better serve developing countries across the twelve policy areas. Even though the ILO Guidelines may not have set out to provide highly detailed guidance,[731] this report includes various recommendations for future guidance to be more detailed and ambitious and to more thoroughly address specific issues falling under the key policy areas

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725 Pedro Alarcon, Nadia Catalina Combariza Diaz, Julia Schwab, and Stefan Peters, *Rethinking 'Just Transition': Critical Reflections for the Global South* (Policy Brief No. 01-2022, Berlin: Transnational Centre for Just Transitions in Energy, Climate and Sustainability – TRAJECTS, August 2022), 10–11, 3, https://trajects.org/resource-library/item/81.

726 ILO Guidelines, ¶ 10.

727 ILO Guidelines, ¶ 11.

728 ILO Guidelines, ¶ 13(f).

729 ILO Guidelines, ¶ 3.

730 ILO Guidelines, ¶ 7.

731 The ILO Guidelines' goal is to provide for governments and social partners a "tool to support a just transition," "practical orientation," and "some specific options on how to formulate, implement and monitor the policy framework". ILO Guidelines, 3; Olsen and La Hovary, *User's Manual to the ILO's Guidelines*, 9–10.

As there are some key policy areas and challenges that the ILO Guidelines do not fully address, this section also considers the extent to which the ILO's Just Transition Policy Briefs, published as supplements to the Just Transition Guidelines,[732] fill in gaps left by the ILO Guidelines (see *Appendix A* at the end of this report for a table listing each of the policy briefs). Though designed and potentially useful for that purpose, the policy briefs are not a replacement for amending the Guidelines, which, unlike the policy briefs, were formally adopted by representatives from governments and workers' and employers' organizations. The international tripartite consensus and participatory decision-making process that went into the development of the Guidelines make them more influential and authoritative as international soft-law guidance compared with the policy briefs, prepared internally by ILO staffers, even if with some degree of consultation with other stakeholders. The more authoritative guidance is, the more likely it is to potentially influence national-level policymaking, multilateral climate negotiations, and other forms of international cooperation on climate change. Therefore, even though additional policy briefs could work as a compromise in view of the political challenges of formally amending the ILO Guidelines, amending the ILO Guidelines or otherwise supplementing them would carry greater weight than publishing additional policy briefs. Similarly, we encourage other international institutions to develop just transition guidance through participatory processes involving a range of stakeholders, as such processes make it more likely that the resulting guidance will address the issues that are most important in practice. In addition, though the ILO has also potentially addressed some of the gaps identified in this report in its other publications beyond the policy briefs, our focus in this report is the extent to which the ILO Guidelines address these issues.

Finally, as noted in the Introduction, this report's recommendations are aimed at shaping future international just transition guidance from international institutions generally, particularly those institutions for which just transition falls within their purview, such as the ILO or UN Climate Change. The recommendations do not suggest what specific form future international guidance should take, though we encourage more authoritative instruments where possible.

4.1 Government Institutional Capacity and Corruption

The first policy areas key for realizing a just transition involve government institutional capacity and corruption, issues that the ILO Guidelines partially address.

4.1.1 Government Institutional Capacity

Governments' institutional capacities "to plan, implement and monitor just transition measures" is an overarching consideration that affects their abilities to achieve policy goals, such as those related to job creation and social protection.[733] Moreover, governments' capacities to anticipate and manage impacts of energy transitions is essential to ensuring the processes and outcomes are just.[734] Much of the academic literature on a just transition assume countries are starting from a baseline of a democratic regime with "a strong public sector, with room for maneuver, and ability and willingness to provide a legal framework

[732] Between October 2022 and September 2023, while research for this report and the accompanying policy brief was ongoing, the ILO published 12 policy briefs as supplements to the ILO Guidelines. This section of the report draws on those briefs to the extent they respond to the specific issues raised here. However, the scope of this report and the policy brief are the ILO Guidelines themselves, and as such they do not analyze the policy briefs exhaustively. The links to each of the ILO's policy briefs are listed in the table at the end of this report in Appendix A. The following article also discusses some similar issues as this report—namely, distinct challenges faced by middle income countries in achieving just transitions and recommended paths forward. Adriana Abdenur, "What Does Just Transition Mean for Middle Income Countries," United Nations, https://www.un.org/en/climatechange/what-does-just-transition-mean-middle-income-countries.

[733] Catherine Saget, Trang Luu, and Tahmina Karimova, "A Just Transition Towards Environmental Sustainability for All" in *The Palgrave Handbook on Environmental Labour Studies,* eds. Nora Räthzel, Dimitris Stevis, and David Uzzell (Cham, Switzerland: Palgrave Macmillan, 2021), 487, https://doi.org/10.1007/978-3-030-71909-8.

[734] Saget, Luu, and Karimova, "A Just Transition," 486 (noting "the success of delivering just transition measures in practice also relies on the availability of data on green jobs and green skills as well as the technical capacity of national statistics offices to gather and analyse such data so that winners and losers of the green transition are well identified").

and financial support to the energy transition," thereby "breed[ing] a limited rather 'elitist' view of the 'just transition'."[735] However, inadequate institutional capacity and governance challenges can pose obstacles for achieving just transitions in developing countries.[736] For example, South Africa's Just Transition Framework underscores the link between governance and a just transition by incorporating objectives to strengthen state capacity and address the issue of state capture.[737] Moreover, due to high rates of informal work in developing countries, there is limited data available to monitor employment and economic conditions, but such data is critical for strategic planning and evaluating policies.[738]

While the ILO Guidelines acknowledge areas of government institutional capacity that should be strengthened to achieve a just transition, they do not provide detailed guidance on how developing countries can accomplish such institutional capacity growth goals. In particular, the ILO Guidelines recommend governments "provide an enabling environment for sustainable enterprises . . . in line with the 2007 ILC Conclusions and the 17 conditions defined in it."[739] These 17 conditions include good governance—such as democratic political institutions and accountable public institutions—as well as an enabling legal and regulatory environment and rule of law.[740] Their policy coherence and institutional arrangements guidance recommends governments "establish and strengthen institutional and technical capacities of subnational authorities at the regional and local levels to guide the transition,"[741] but do not include a similar recommendation for authorities at the national level. This recommendation also does not state how or by what metrics to measure authorities' institutional and technical capacities. Another relevant provision is in the section on OSH policies, which notes it may be necessary to "strengthen government capacity to enforce laws at national and subnational level[s] in relation to situations which pose an imminent threat of major accidents or risks."[742] However, this recommendation is narrowly defined and does not address institutional capacity more broadly.

To be more useful for developing countries, international just transition guidance should go beyond acknowledging the issue of institutional capacity by researching and providing guidance on how countries facing governance challenges can achieve a just transition, including identifying the forms of technical and financial assistance are available, and whether developed countries have an obligation to provide such assistance.

4.1.2 Corruption

Corruption can also pose a challenge for achieving just transitions in both developing and developed countries, although it can take different forms. The fossil fuel energy market and extractives sector are prone to corruption, and these risks can also apply to some extent to the renewable energy sector.[743] Although a just transition may disrupt the incentives and opportunities for corruption in states that have previously been dependent on fossil fuels, renewable energy projects are still also prone to corruption

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735 Alarcon et al., *Rethinking 'Just Transition'*, 10–11.

736 "Breaking Down Barriers to Clean Energy Transition," *The World Bank Group*, May 16, 2023, https://www.worldbank.org/en/news/feature/2023/05/16/breaking-down-barriers-to-clean-energy-transition; Clara Galeazzi, Jevgenijs Steinbuks, and Laura Diaz Anadon, "Is the Gap Widening? Assessing the Current Renewable Energy Policies in Developing Countries," *World Bank Blogs* (blog), June 1, 2023, https://blogs.worldbank.org/en/energy/gap-widening-assessing-current-renewable-energy-policies-developing-countries.

737 South African Just Transition Framework, 5, 20.

738 Maria Mercedes Vanegas Cantarero, "Of Renewable Energy, Energy Democracy, and Sustainable Development: A Roadmap to Accelerate the Energy Transition in Developing Countries," *Energy Research & Social Science* 70, no. 101716 (2020): 5, https://doi.org/10.1016/j.erss.2020.101716.

739 ILO Guidelines, ¶ 21(a).

740 2007 ILC Conclusions.

741 ILO Guidelines, ¶ 15(f).

742 ILO Guidelines, ¶ 26(f).

743 G20 Anti-Corruption Working Group, *Background Note on Mitigating Corruption Risks in Renewable Energy* (G20 Indonesia, 2022), 3, https://www.unodc.org/documents/corruption/G20-Anti-Corruption-Resources/Thematic-Areas/Sectors/2022_Background_Note_on_Mitigating_Corruption_Risk_in_Renewable_Energy_adopted.pdf. *See generally* Dieter Zinnbauer and Stephanie Trapnell, *Race to Renewables: Tackling Corruption and Integrity Risks in the Renewables Sector* (Oslo: Extractive Industries Transparency Initiative, November 2023), https://eiti.org/sites/default/files/2023-11/EITI_Report_Race%20to%20renewables.pdf.

given the large capital investments involved.[744] There is also the risk that "[i]nvestors, firms and politicians with business ties based in the Global North may all drive corruption in the renewables sector in developing countries."[745] Forms of corruption that have been observed in renewable energy include rent-seeking, collusion, institutional capture, bribery, nepotism, and tender-rigging or "tenderpreneurship."[746]

The South African case can illustrate the relationship between corruption and a just transition. One expert who was interviewed expressed a concern that the JETP funding could disappear into corrupt channels.[747] Another expert noted concerns as to whether there were sufficient structures in place to ensure accountability and transparency in the use of JET P funds, as well as a concern that politicians may misuse funds and thereby reduce South Africa's chances of receiving future aid or investment.[748] A study by researchers at Stellenbosch University and the University of Washington that involved interviewing coal industry workers in Mpumalanga found almost all participants believed the South African government should not be involved in administering potential just transition aid because of widespread corruption.[749] Most participants said they would prefer lump-sum payments going directly to affected individuals rather than the government due to their distrust in the government.[750] While many of the challenges faced by South Africa are certainly unique,[751] it is not the only developing country in which there is domestic distrust of the government. Given distrust in government that exists in some countries, it may be worthwhile to explore how actors independent of governments could be involved in the distribution of just transition funds, such as non-governmental organizations.[752]

The ILO Guidelines do not expressly list corruption as a barrier to a just transition, but they do encourage reducing corruption to create an enabling environment for a just transition. They refer to the 2007 ILC Conclusions, which encourage anti-corruption measures,[753] and in several instances refer to the need for an enabling environment,[754] which includes good governance.

International just transition guidance should lay out the challenge of corruption more explicitly to reflect the critical and central nature of this issue. It should also investigate and provide guidance on how countries can achieve a just transition in the context of widespread government corruption.

4.2 Participation of Affected Groups in Policymaking and Implementation

Participation is another critical aspect to a just transition in all country contexts, which the ILO Guidelines amply address, although they do not provide guidance on certain challenges.

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744 David Aled Williams, *Greening Energy: An Anti-Corruption Primer*, ed. Sophie Lemaître (Bergen, Norway: Chr. Michelsen Institute, November 14, 2022), 1–2, https://www.cmi.no/publications/8548-greening-energy-an-anti-corruption-primer.

745 Kaunain Rahman, *Anti-corruption in the Renewable Energy Sector*, U4 Helpdesk Answer no. 21, (U4, October 16, 2020), https://www.u4.no/publications/anti-corruption-in-the-renewable-energy-sector#background.

746 Williams, *Greening Energy*, 2.

747 Zoom interview with anonymous expert interviewee (June 12, 2023).

748 Zoom interview with anonymous expert interviewee (June 15, 2023).

749 Nthabiseng Mohlakoana, Muhammed Lokhat, Nives Dolšak, and Aseem Prakash, "Varieties of Just Transition: Public Support in South Africa's Mpumalanga Coal Community for Different Policy Options," *PLOS Climate* 2, no. 5 (May 2023): 4, 12, https://doi.org/10.1371/journal.pclm.0000205.

750 Mohlakoana et al., "Varieties of Just Transition," 4.

751 *See, e.g.*, Ethan van Diemen, "Crooked Coal, Corruption and Politics — Experts Flag the Barriers to SA's Energy Transition," *Daily Maverick*, November 12, 2023, https://www.dailymaverick.co.za/article/2023-11-12-coal-crooks-corruption-hobble-sas-energy-transition-experts.

752 Mohlakoana et al., "Varieties of Just Transition," 14.

753 2007 ILC Conclusions.

754 *See, e.g.*, ILO Guidelines, ¶ 19(a)(ii).

A key component of just transitions is genuine participation and engagement by affected communities in formulating and implementing policies, programs, and initiatives.[755] International guidance can be of great value, but should not serve to undermine local communities' autonomy by imposing "expert-driven, 'universal best practices'" that are "divorced from the concerns and material conditions/needs of local communities or the particularities of the context of implementation."[756] Ensuring genuine engagement in policymaking and implementation not only allows for a procedurally just transition, but also for communities to have and feel a sense of ownership over policies, thereby instilling interest and trust in the energy transition as well as achieving both actual and perceived energy justice.[757] Studies in the context of economic diversification and workforce training have found that bottom-up programs led by local stakeholders are perceived to be more successful.[758]

How governments carry out consultations is critical, as not all forms of engagement are equally robust or effective. It is important that, at a minimum, government engagement has a genuine purpose of determining communities' interests and incorporating them into policies. Two experts in South Africa we spoke with noted that when the PCC did consultations as part of drafting the Framework, the outcomes seemed largely predetermined, and that the consultations were a formalistic "box-ticking" exercise with an aim to appease constituents and disseminate information rather than to seriously take communities' interests into consideration.[759] In addition, successful engagement requires promoting education and awareness among communities of energy issues and potential impacts of energy transition measures,[760] as well as mobilizing people to actively learn, participate, and take the lead at every stage of the transition.[761] As noted by one of the interviewed South African experts, the country lacks sufficient climate change education and that this lack of common ground poses a barrier to meaningful consultations.[762] Another expert in South Africa also emphasized the need for governments and project developers to give communities meaningful access to the information they would need to be able to engage, including by providing relevant documents with sufficient time to review them prior to consultations, and ensuring such documents are in a language their audience can understand.[763] In addition, venues for engagement should be accessible.[764]

Next, governments should ensure frontline communities are prioritized in such engagements. One expert in Germany said the Coal Commission left out key voices, including youth and international actors indirectly affected by Germany's climate policies.[765] Another German expert noted the imperative of preventing corporate interests from dominating energy transition policymaking. Lastly, governments must dedicate sufficient time for consultations to be thorough and inclusive. A South African expert noted that the time the PCC allocated to consultations (around six months) was insufficient, and a German expert observed that the comment periods for draft legislation in Germany were becoming increasingly short, in some cases as short as one day, making it difficult for civil society to make contributions.[766]

In addition, there are aspects of achieving participation and engagement that are especially challenging in developing countries. External development partners—such as regional bodies, international financial institutions, and businesses—often play especially

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755 Eyene Okpanachi, Terhemba Ambe-Uva, and Anas Fassih, "Energy Regime Reconfiguration and Just Transitions in the Global South: Lessons for West Africa from Morocco's Comparative Experience," *Futures* 139, no. 102934 (May 2022): 10, https://doi.org/10.1016/j.futures.2022.102934.

756 Okpanachi, Ambe-Uva, and Fassih, "Energy Regime Reconfiguration," 3–4, 8.

757 Vanegas Cantarero, "Of Renewable Energy," 11; Sanya Carley and David M. Konisky, "The Justice and Equity Implications of the Clean Energy Transition," *Nature Energy* 5 (June 12, 2020): 569–577, 574, http://dx.doi.org/10.1038/s41560-020-0641-6.

758 Carley and Konisky, "Justice and Equity Implications," 574.

759 Zoom interviews with anonymous expert interviewees (June 12 and June 15, 2023).

760 Carley and Konisky, "Justice and Equity Implications," 573.

761 Okpanachi, Ambe-Uva, and Fassih, "Energy Regime Reconfiguration," 9.

762 Zoom interview with anonymous expert interviewee (June 12, 2023).

763 Zoom interview with anonymous expert interviewee (June 12, 2023).

764 Belynda Petrie, Jessica Allen, John Notoane, and Seutame Maimele, *Presidential Climate Commission Report: Community and Stakeholder Engagement on a Just Transition in South Africa* (PCC, May 2022), 40, https://pccommissionflow.imgix.net/uploads/images/Community-Consultations-on-a-Just-Transition-May-2022.pdf.

765 Zoom interview with anonymous expert interviewee (July 14, 2023).

766 Zoom interview with anonymous expert interviewee (June 20, 2023).

large roles in the energy transitions of developing countries.[767] Governments may prioritize accountability to these international actors over domestic communities that will be directly affected by energy transition policies and programs.[768] Indeed, one expert interviewee in South Africa noted concerns that the private sector played an outsized role in designing the JET IP.[769] Achieving procedural justice in developing countries requires ensuring governments prioritize the decision-making autonomy and agency of directly impacted communities over the interests of such international development partners and investors.[770]

Higher rates of informal work in developing countries can also generate challenges for engagement. One interviewed expert from South Africa noted that consultations taking place had not adequately incorporated the informal sectors around mining areas.[771] Lastly, a lack of infrastructure and connectivity, such as internet connection, which is more common in developing countries, can pose a barrier to engagement. For instance, another South African expert noted the PCC had trouble getting connected with—and in turn consulting—rural communities.[772]

The ILO Guidelines embrace the importance of engagement and participation. They note that social dialogue at the sectoral level can promote consensus building and social acceptance of environmental policies.[773] They also state that just transitions should aim for social consensus, and they emphasize that social dialogue should be used to define the goals and pathways of the energy transition and to formulate, implement, and monitor policies.[774] They recommend adequate, informed, and ongoing consultations with all relevant stakeholders.[775]

The ILO's guidance addresses some, but not all, of the issues raised in the expert interviews and challenges faced by developing countries. The Social Dialogue Policy Brief[776] notes that effective social dialogue requires not only consulting social partners but also ensuring their views are actually reflected in policy and legislative outcomes.[777] The same policy brief emphasizes the importance for social partners to be knowledgeable and have familiarity with nationally determined contributions under the Paris Agreement,[778] and the Skills Development Policy Brief references the role of teachers and trainers to promote environmental awareness among young people and to spread climate education in general.[779]

The ILO guidance partly addresses the need to prioritize affected communities and include informal workers in engagements. The ILO Guidelines place a heavy emphasis on social dialogue, which risks privileging social partners—employers' and workers' organizations.[780] While social dialogue does not preclude the participation of a wide range of workers, the International Labour

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767 Okpanachi, Ambe-Uva, and Fassih, "Energy Regime Reconfiguration," 8–9; Ewan Thomson, "Here Are 3 Innovative Ways to Manage the Challenge of Financing the Energy Transition in Developing Economies," *World Economic Forum*, August 23, 2023, https://www.weforum.org/agenda/2023/08/financing-energy-transition-developing-economies; Sam Szoke-Burke and Kaitlin Y. Cordes, "Mechanisms for Consultation and Free, Prior and Informed Consent in the Negotiation of Investment Contracts," *Northwestern Journal of International Law & Business* 41, no. 1 (2020): 49–87, 49, https://scholarlycommons.law.northwestern.edu/cgi/viewcontent.cgi?article=1861&context=njilb.

768 Okpanachi, Ambe-Uva, and Fassih, "Energy Regime Reconfiguration," 8; David Satterthwaite, "Why Do We Ignore the Local Processes that Deliver Global Goals in Urban Areas?" *International Institute for Environment and Development (IIED)*, August 16, 2016, https://www.iied.org/why-do-we-ignore-local-processes-deliver-global-goals-urban-areas.

769 Zoom interview with anonymous expert interviewee (June 12, 2023).

770 Okpanachi, Ambe-Uva, and Fassih, "Energy Regime Reconfiguration," 9–10.

771 Zoom interview with anonymous expert interviewee (June 12, 2023).

772 Zoom interview with anonymous expert interviewee (June 12, 2023).

773 ILO Guidelines, ¶ 20(b).

774 ILO Guidelines, ¶¶ 13(a), 17(a)–(b), 18(b).

775 ILO Guidelines, ¶¶ 13(a), 14.2, 15(g), 20(c).

776 Guardiancich et al., *ILO Social Dialogue Policy Brief*.

777 Guardiancich et al., *ILO Social Dialogue Policy Brief*, 8.

778 Guardiancich et al., *ILO Social Dialogue Policy Brief*, 6.

779 Hae Kyeung Chun, Olga Strietska-Ilina, José Luis Viveros Añorve, Lene Olsen, Claire La Hovary, Rafael Peels, Amanda Claribel Villatoro, Maria Helena Andre, Anna Biondi, Moustapha Kamal Gueye, Tahmina Mahmud, Monica Castillo, and Yanghaoyue Xiong, *Just Transition Policy Brief: Skills Development for a Just Transition* (Geneva: ILO, October 2022) (*ILO Skills Development Policy Brief*), 13, https://www.ilo.org/publications/skills-development-just-transition.

780 Guardiancich et al., *ILO Social Dialogue Policy Brief*, 3; ILO Guidelines, ¶ 13(a).

Office has noted that trade unions "are the major means by which workers participate in social dialogue."[781] The ILO has identified social dialogue that seeks to include civil society actors as "tripartite plus" dialogue;[782] however, none of the ILO's just transition guidance make reference to tripartism plus. Thus, the emphasis on traditional social dialogue and trade unions found in the ILO's just transition guidance risks excluding other impacted groups, such as informal workers and those who are not directly employed in fossil fuel sectors. As one ILO specialist has written, "[s]ocial dialogue still fails to reach billions of workers," as "[f]requently, informal and rural workers but also workers in non-standard employment, new and emerging types of jobs or gigs, and vulnerable groups fall outside the protection of labour law and the scope of social dialogue."[783]

The only exception to the ILO's emphasis on social dialogue are the ILO Guidelines' few references to "all relevant stakeholders."[784] The Social Dialogue Policy Brief partly remedies the ILO Guidelines' overly narrow emphasis on social partners by stressing the need for tripartite social dialogue measures to be complemented by reaching out to vulnerable groups—including "workers in the informal economy, domestic workers, migrant workers, own-account workers, platform economy workers, and so on."[785] However, this set of stakeholders is still too narrow because the just transition impacts people in other ways than work—for instance, it affects land. The policy brief helps fill this gap by stating that social dialogue should be combined with dialogue with civil society representatives, "such as environmental groups, Indigenous Peoples and other local stakeholders."[786]

There are some issues the ILO's guidance does not address. It does not provide guidance on how to measure or otherwise ensure the quality of consultations, for instance by ensuring the translation of relevant documents. It also does not specifically address the tension involved in being accountable to both international development partners and directly impacted communities. In addition, the ILO does not address the challenges related to allocating sufficient time to consultations and rural connectivity, although it does recommend more broadly that consultations should be "adequate."[787]

International just transition guidance should look into how governments can ensure that all affected communities, including traditional communities and informal workers, are consulted adequately at every stage of just transition policymaking and implementation, while preventing their voices from being overshadowed by investors, development partners, and other more powerful stakeholders. Guidance should also advise on how countries can ensure the quality of consultations and overcome specific challenges, such as a lack of rural connectivity and access to venues.

4.3 Decent Employment

Advancing decent employment is a key facet of a just transition, which is also central to the ILO Guidelines' approach, but they do not adequately address certain challenges that are especially relevant in developing countries.

Energy transitions are causing and will cause job losses all along fossil fuel supply chains. They also cause labor disruptions for surrounding communities in retail and commercial sectors because layoffs of fossil fuel workers reduce the local demand for other

781 International Labour Office, *Social Dialogue*, 5.

782 E. Murat Engin, *Bipartite, Tripartite, Tripartite-Plus Social Dialogue Mechanisms and Best Practices in the EU Member States* (Ankara: European Union and Republic of Turkey, 2018), VIII, 21, https://www.dev.ilo.org/sites/default/files/wcmsp5/groups/public/%40europe/%40ro-geneva/%40ilo-ankara/documents/publication/wcms_666546.pdf.

783 Konstantinos Papadakis, "Social Dialogue at the Dawn of the ILOs Centenary: Sorting Out Challenges, Setting Priorities for the Future" in *The Governance of Labour Administration*, eds. Jason Heyes and Ludek Rychly (Cheltenham and Northampton, United Kingdom: Edward Elgar, November 2021), 48, https://doi.org/10.4337/9781802203158.00010.

784 ILO Guidelines, ¶¶ 13(a), 14.2, 15(g), 20(c).

785 Guardiancich et al., *ILO Social Dialogue Policy Brief*, 6.

786 Guardiancich et al., *ILO Social Dialogue Policy Brief*, 6.

787 ILO Guidelines, ¶ 13(a).

goods and services.[788] At the same time, the energy transition is expected to lead—and is already leading[789]—to the creation of new jobs in renewable energy and other sustainable sectors: the ILO estimates 100 million jobs can be created worldwide by 2030 as part of a just energy transition.[790] However, the potential benefits of the energy transition may be "unevenly spread across populations, as well as across socioeconomic groups."[791] Moreover, former fossil fuel sector employees may not possess the skills necessary for green replacement jobs, and even if they can secure new jobs, they may be of lower quality, come with lower salaries and benefits, or require relocation or long commutes.[792] Therefore, a key component of a just transition is to safeguard existing employment to the extent possible and create new jobs that are of equal or better quality as fossil fuel jobs and that are located in the same geographic areas. Reaching this goal requires diligent planning and targeted investments on the part of governments.

Developing countries are confronted with the added challenges of higher rates of unemployment as well as precarious, unorganized, and informal work.[793] In 2023, low-income countries[794] had an unemployment rate of 5.7% compared to 4.6% in high-income countries.[795] Moreover, the jobs gap—an indicator developed by the ILO that captures those who want to work but do not have a job—is 21.5% in low income countries, compared to 11% in middle-income countries and 8.2% in higher-income countries.[796] In addition, the OECD estimates that informal employment represents 70% of all employment in developing countries, compared with 18% in developed countries.[797] High rates of informality make it difficult to understand and account for the labor force, which is a crucial component of just transition policies.[798] In addition, informal and precarious workers are the most vulnerable to labor market disruptions, such as those caused by the energy transition.[799] Thus, addressing the labor conditions of vulnerable communities and securing formal work and workers' rights are necessary components of a just transition.[800]

The ILO Guidelines address the need to promote decent employment as well as some of the challenges created by widespread informal work. They recommend creating a framework and establishing policies for promoting decent jobs[801] and targeting employment promotion policies in the areas most impacted by the phase-out of fossil fuels.[802] In addition, they provide specific policy recommendations for using active labor market policies responsive to the needs of the energy transition, including by connecting job seekers with new jobs and providing relevant training.[803] They also include specific recommendations related to

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788 Carley and Konisky, "Justice and Equity Implications," 571.

789 IRENA, "Renewable Energy Jobs Hit 12.7 Million Globally," press release, September 22, 2022, https://www.irena.org/News/pressreleases/2022/Sep/Renewable-Energy-Jobs-Hit-12-7-Million-Globally.

790 ILO, "The Just Ecological Transition: An ILO Solution for Creating 100 Million Jobs by 2030," news release, May 24, 2022, https://www.ilo.org/global/topics/green-jobs/news/WCMS_846279/lang--en/index.htm; Carley and Konisky, "Justice and Equity Implications," 572.

791 Carley and Konisky, "Justice and Equity Implications," 572.

792 Carley and Konisky, "Justice and Equity Implications," 570-71.

793 Mauro Pucheta and Ana Belén Sánchez, *Just Transition in the Global South: Perspectives from Latin America* (Brussels: European Trade Union Institute, July 2022), 3, https://ssrn.com/abstract=4243526 (noting high informal employment rates in Latin America).

794 The ILO follows the World Bank's definition of low-income, which refers to countries with a gross national income per capita of $1,135 or less as of 2022. "World Bank Country and Lending Groups," World Bank, https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups; *see also* "Classification: Country, Territory and Area Groupings," ILOSTAT, https://ilostat.ilo.org/resources/concepts-and-definitions/classification-country-groupings.

795 ILO, *A Global Employment Divide: Low-income Countries Will Be Left Further Behind Without Action on Jobs and Social Protection* (Geneva: ILO, May 31, 2023), 4, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/briefingnote/wcms_883341.pdf.

796 ILO, *A Global Employment Divide*, 4.

797 "Tackling Vulnerability in the Informal Economy – Most Workers in the World Still Go Without Social Protection," *OECD*, June 9, 2021, https://web-archive.oecd.org/2021-06-10/538330-tackling-vulnerability-informal-economy-workers-still-without-social-protection.htm.

798 Monkgogi Otlhogile and Rebekah Shirley, "The Evolving Just Transition: Definitions, Context, and Practical Insights for Africa," *Environmental Research: Infrastructure and Sustainability* 3, no. 013001 (February 2023): 6, https://doi.org/10.1088/2634-4505/ac9a69.

799 Mauro Pucheta, César Álvarez Alonso, and Pedro Silva Sánchez, "Just Transition and Workers' Rights in the Global South: The Recent Argentine and Chilean Nationally Determined Contributions," *Sustainability* 13, no. 9616 (August 2021): 4, https://www.mdpi.com/2071-1050/13/17/9616.

800 Otlhogile and Shirley, "The Evolving Just Transition," 7.

801 ILO Guidelines, ¶¶ 13(e); 21(h); 19(a)(i)–(iii), (e)(i).

802 ILO Guidelines, ¶ 29(b).

803 *See* Section 3.12.

informal work, including that governments extend employment services outreach to informal workers;[804] establish programmes in sectors with high rates of informality to promote formalization;[805] and use training, capacity building, certification, and legislation to address the OSH impacts of informality and facilitate a transition toward the formal economy in sustainable activities such as recycling.[806]

However, the ILO Guidelines do not address how active labor market policies may be more challenging to implement in a developing country context, where there might be lower government capacity to administer such programs, such as collecting employment data and providing training. They also do not address the particular challenge of promoting decent employment in a context with preexisting high unemployment rates.

To be more useful for developing countries, international policy guidance for a just transition should explicitly address how countries grappling with high rates of unemployment and informal work can ensure decent employment during the energy transition and beyond.

4.4 Green Industry and Economic Diversification

Promoting green industries to replace high emitting ones is another critical aspect to ensuring energy transitions are just. Here, the ILO Guidelines provide relevant policy guidance but do not address some of the most pressing challenges faced by developing countries in achieving this goal, including challenges in competing with developed countries' green industrial policies.

A just transition requires promoting sustainable industries and diversifying economies to create sustainable, low-carbon jobs and make up for potential tax revenue lost due to the phase-out of fossil fuels.[807] In addition, economic transitions at the regional level may be necessary because fossil fuel sectors are often geographically concentrated.[808] Just transition policies, such as for retraining and job creation, can also be regarded as preconditions for structural change.[809] One expert we spoke with in Germany noted that the energy transition can present an opportunity for restructuring the economy.[810]

Achieving economic diversification and growth in green industries will look different in developing countries as compared to developed countries. Many developed countries have "well-established markets with the capacity for technological innovation,"[811] along with high-tech R&D institutions and many high-skilled workers with STEM training, giving them advantages in their ability to profit from the energy transition by producing internationally competitive technologies.[812] However, these same conditions cannot always be assumed for developing countries. Many developing countries have relatively less or inadequate economic infrastructure, and their economies are often dependent on extractive and low value-added export-oriented industries, including agricultural products, fossil fuels, metals, and minerals.[813] This reliance on exporting raw commodities means developing country

804 ILO Guidelines, ¶ 29(c).

805 ILO Guidelines, ¶¶ 20(f), 21(h).

806 ILO Guidelines, ¶ 27(c).

807 Carley and Konisky, "Justice and Equity Implications," 571.

808 Carley and Konisky, "Justice and Equity Implications," 573.

809 "Skills and Workforce Development," World Bank Group, February 20, 2024, https://www.worldbank.org/en/topic/skillsdevelopment; Eric Hanushek and Ludger Woessmann, *Universal Basic Skills: What Countries Stand to Gain* (OECD Publishing, 2015), http://dx.doi.org/10.1787/9789264234833-en; "Jobs and Development," World Bank Group, April 3, 2023, https://www.worldbank.org/en/topic/jobsanddevelopment/overview.

810 Zoom interview with anonymous expert interviewee (July 5, 2023).

811 Alarcon et al., *Rethinking 'Just Transition'*, 10–11.

812 Ajay Gambhir, Fergus Green, and Peter J. G. Pearson, *Towards a Just and Equitable Low-Carbon Energy Transition* (Briefing Paper No. 26, Imperial College London, Grantham Institute, August 2018), 6, https://www.imperial.ac.uk/media/imperial-college/grantham-institute/public/publications/briefing-papers/26.-Towards-a-just-and-equitable-low-carbon-energy-transition.pdf.

813 Youba Sokona, Yacob Mulugetta, Meron Tesfamichael, Fadhel Kaboub, Niclas Hällström, Matthew Stilwell, Mohamed Adow, and Colin Besaans, *Just Transition: A Climate, Energy and Development Vision for Africa* (Independent Expert Group on Just Transition and Development, 2023), 30, https://justtransitionafrica.org/wp-content/uploads/2023/05/Just-Transition-Africa-report-ENG_single-pages.pdf; Alarcon et al., *Rethinking 'Just*

economies are vulnerable to international prices.[814] Another challenge faced by developing countries in achieving green growth are high rates of unemployment and informality, which are associated with low levels of local spending, making their economies more susceptible to external shocks.[815] These vulnerable circumstances can contribute to unstable economic, political, and social conditions.[816] Moreover, extractive industries, especially agriculture, are particularly climate dependent, which means developing country economies are and will be disproportionately impacted by climate change.

Thus, achieving economic growth and diversification in developing countries will require industrial policies that allow them to "produce and retain most of the value-added content of manufactured goods."[817] Such industrial policies are important for growing green industry and generating revenue needed to fund just transition policies, such as social protection

Given these differences between developing and developed countries, there is a risk that developed countries will monopolize high value-added green sectors while sidelining developing countries as sources of low value added raw materials, especially critical minerals.[818] Already the United States and European Union have advanced major green industrial policies, including the Inflation Reduction Act and Green Deal Industrial Plan, respectively.[819] These laws offer substantial economic incentives and investment opportunities for innovations in renewable energy. The Inflation Reduction Act has also been widely described as protectionist.[820] One expert in Germany we spoke with noted that Germany has been criticized for having international climate policies that prioritize securing supply chains for the benefit of its domestic constituency without genuinely seeking to promote just transitions in developing countries.[821] Likewise, another expert in South Africa expressed their concern that in the global energy transition, developing countries may form the same types of relationships they have had with developed countries under the fossil fuel–based economy, where developing countries are used as resource banks for industries that provide little to no benefit for local communities.[822] A just transition in developing countries requires escaping these "structural traps" that have for centuries hindered sustainable development in developing countries.[823] However, unlike the other policy areas discussed in this section of the report, the issue of international justice goes beyond any one individual country's just transition plan. For instance, South Africa would not be able to escape these "structural traps" through its own policies alone.

The ILO Guidelines provide several recommendations related to economic diversification and green industry that are relevant to developing and developed countries alike. They recommend using policy tools such as taxes, subsidies, incentives, and guaranteed

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Transition', 8; Pucheta and Sánchez, *Just Transition in the Global South*, 2 (noting Latin American countries' economies have a high dependence on natural resources for the production of commodities and that they increasingly rely on resource extraction for their economic development, including cattle ranches, gas, oil, and mining activities); Otlhogile and Shirley, "The Evolving Just Transition," 6 (noting "African economies are largely undiversified, depending predominantly on agriculture, a climate-dependent, primary-commodity, export-oriented industry limited in local value-addition").

814 Sokona et al., *Just Transition*, 30; Alarcon et al., *Rethinking 'Just Transition'*, 8; Pucheta and Sánchez, *Just Transition in the Global South*, 2; Otlhogile and Shirley, "The Evolving Just Transition," 6.

815 Otlhogile and Shirley, "The Evolving Just Transition," 6 (referring to the African continent specifically).

816 Alarcon et al., *Rethinking 'Just Transition'*, 8; Pucheta and Sánchez, *Just Transition in the Global South*, 2; Otlhogile and Shirley, "The Evolving Just Transition," 6.

817 Sokona et al., *Just Transition*, 30.

818 Sokona et al., *Just Transition*, 6.

819 United States of America, Inflation Reduction Act of 2022, Pub. L. No. 117-169, 136 Stat. 1819 (2022), https://www.congress.gov/117/plaws/publ169/PLAW-117publ169.pdf; European Commission, Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: A Green Deal Industrial Plan for the Net-Zero Age, Brussels, (February 1, 2023) COM(2023), 62 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52023DC0062. For a commentary on the effect of the Inflation Reduction Act on developing countries, *see* Jack Radford and Mariana Ferreira, "Does US Protectionism Jeopardize the Global Energy Transition?" *IE University Insights*, September 11, 2023, https://www.ie.edu/insights/articles/does-us-protectionism-jeopardize-the-global-energy-transition.

820 *See, e.g.*, Sam Barr, "Protectionism Is Back – But Not as You Know It: How the US Inflation Reduction Act Is Reshaping the Path to a Green Energy Transition," *Wilson Center*, October 13, 2023, https://www.wilsoncenter.org/article/protectionism-back-not-you-know-it-how-us-inflation-reduction-act-reshaping-path-green; Pascal Lamy, "The Slow American Protectionist Turn," *Vox EU Centre for Economic Policy Research*, March 27, 2023, https://cepr.org/voxeu/columns/slow-american-protectionist-turn.

821 Zoom interview with anonymous expert interviewee (June 20, 2023).

822 Zoom interview with anonymous expert interviewee (June 12, 2023).

823 Sokona et al., *Just Transition*, 6.

prices to encourage the energy transition.[824] These policy tools match those that developing countries have already implemented as part of their energy transitions, including tax exemptions; targets, such as country-wide renewable energy targets and targets to replace internal combustion engine vehicles with electric vehicles; financial incentives; utility regulations; renewable auctions for solar and wind power projects and tenders; and feed-in-tariffs.[825]

Other relevant provisions in the ILO Guidelines recommend supporting green innovation;[826] using investment and trade policies to nurture domestic infant green industries and increase access to environmentally-friendly technology;[827] supporting R&D in green technologies;[828] providing technical support to existing enterprises;[829] using "technology transfer mechanisms on favourable terms, as mutually agreed" to help businesses become more sustainable;[830] and spreading the use of sustainable, low-carbon technologies by fostering "peer learning among enterprises and workers, as well as education and training in green entrepreneurship."[831] These provisions are all highly relevant for both developing and developed countries, although how and on what terms these policies are implemented will be crucial. For instance, in Africa it will be critical that trade relations, technical assistance, strategic technological partnerships, and R&D are established on pan-African and regional terms to avoid recreating preexisting patterns of dependency.[832]

In addition, the 2007 ILC Conclusions include recommendations that may be relevant to developing countries seeking to build their markets. In particular, the conclusions recommend governments prioritize physical infrastructure; information and communications technology; an enabling legal and regulatory environment; secure property rights; trade and economic integration; access to financial services; fair competition; sound and stable macroeconomic policy; and good management of the economy.[833]

While the ILO Guidelines provide useful policy recommendations, they do not address the specific challenges that developing countries face in moving from extractivist, export-oriented economies to diversified low-carbon ones.[834] They also do not address the above-noted risk that structural global injustices will be recreated in the green economy. For instance, the ILO Guidelines (rightly) state that all countries will benefit by creating decent jobs "in dynamic, high value added sectors."[835] Yet up to the present, structural external factors, such as international financial institution policies, have to a large extent prevented developing countries from building up such sectors.[836] The ILO's Green Macroeconomic Policy Brief also notes that the transition from emission-intensive industries to low-carbon ones will cause a relative increase in the proportion of high-skilled jobs.[837] It then states that this could result in "a job reallocation between countries and regions if those dependent on fossil-fuel goods do not prepare in advance to attract green investments."[838] Yet, it does not acknowledge that such reallocation is likely to strongly favor developed countries, which are in the strongest position to protect and invest in their infant green industries, as evinced by the Inflation Reduction Act and Green Deal Industrial Plan.

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824 ILO Guidelines, ¶¶ 19(c)(i), 20(c).

825 Vanegas Cantarero, "Of Renewable Energy," 6.

826 ILO Guidelines, ¶¶ 19(a)(iii), (e)(i), 20(d).

827 ILO Guidelines, ¶¶ 19(d)(i), (e)(i).

828 ILO Guidelines, ¶ 23(b).

829 ILO Guidelines, ¶ 22(b).

830 ILO Guidelines, ¶ 22(c).

831 ILO Guidelines, ¶ 25(e).

832 Sokona et al., *Just Transition*, 30–31.

833 2007 ILC Conclusions.

834 Brian Ashley, "Climate Jobs at Two Minutes to Midnight," in *The Climate Crisis: South African and Global Democratic Eco-Socialist Alternatives*, ed. Vishwas Satgar (Johannesburg: Wits University Press, 2018), 282, https://doi.org/10.18772/22018020541.18.

835 ILO Guidelines, ¶ 14.1.

836 Sokona et al., *Just Transition*, 15.

837 João Paulo Braga, Ekkehard Ernst, and Daniel Samaan, *Just Transition Policy Brief: Greening Macroeconomic Policies: Current Trends and Policy Options* (Geneva: ILO, November 2022) (*ILO Green Macroeconomic Policy Brief*), 13, https://www.ilo.org/publications/greening-macroeconomic-policies-current-trends-and-policy-options.

838 Braga et al., *ILO Green Macroeconomic Policy Brief*, 13.

International institutions producing policy guidance for a just transition should address how developing countries can design and implement green industrial policies for achieving economic diversification and developing internationally competitive green industries, and how developed countries and international institutions can help enable such policies. They should also provide recommendations that suggest how developed countries can avoid undermining developing countries' just transition efforts, including by avoiding making their own green industrial policies overly protectionist.

4.5 Social Protection

The next key just transition policy area is social protection, an area the ILO Guidelines certainly address, but their guidance is general and lacks detail.

Social protection programs are key for mitigating the social and economic impacts of energy transition measures, particularly for vulnerable groups[839] that are the most impacted by climate change and potential price increases brought on by the energy transition.[840] Currently, more than four billion people worldwide have no social protection benefits,[841] and only 18.6% of unemployed people receive unemployment benefits.[842] Developing countries tend to have lower levels of social protection than developed countries.[843] Social protection rates are lowest in Africa, where only 17.4% of the population is covered by at least one social protection cash benefit.[844] Even where there is the political will to make change, limited resources and domestic tax bases, and in some cases economic crises and political conflicts, hinder many developing countries' abilities to establish universal social programs.[845] In addition, social insurance schemes in developing countries usually only cover formal workers, leaving the large population of informal workers without government-provided social protection.[846] Corruption in government can also hinder social protection programs. The previously noted study based on interviews of coal workers in Mpumalanga found that most respondents preferred just transition aid go toward affected communities in lump-sum payments rather than being incorporated into public budgets in part because of a lack of trust in the government to use the funds appropriately.[847]

The ILO Guidelines rightly do not assume a baseline of universal social protection and include recommendations for governments to build up their systems of social protection generally. For instance, they recommend governments "promote and establish social protection systems providing healthcare, income security and social services."[848] Importantly, the ILO Guidelines also recommend integrating social protection into policy responses to climate change[849] and establishing programs that respond to specific challenges created by the energy transition, for instance by protecting retirement security.[850] However, even where the preexisting

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839 For the purposes of this report, we define vulnerable groups as "[p]eople who are socially, economically, culturally, politically, institutionally, or otherwise marginalized . . . [t]he rural and urban poor,[]remote groups and communities[,] . . . the young[,] and the old". Least Developed Countries Expert Group, *Considerations Regarding Vulnerable Groups, Communities and Ecosystems in the Context of the National Adaptation Plans* (Bonn, Germany: UN Climate Change, December 2018), 4, https://unfccc.int/sites/default/files/resource/Considerations%20regarding%20vulnerable.pdf.

840 Otlhogile and Shirley, "The Evolving Just Transition," 6; Pucheta and Sánchez, *Just Transition in the Global South*, 5.

841 International Labour Office, *World Social Protection Report 2020-22: Social Protection at the Crossroads – in Pursuit of a Better Future*," (Geneva: ILO, 2021), 45, https://www.ilo.org/publications/flagship-reports/world-social-protection-report-2020-22-social-protection-crossroads-pursuit.

842 International Labour Office, *World Social Protection Report*, 46.

843 International Labour Office, *World Social Protection Report*, 49.

844 International Labour Office, *World Social Protection Report*, 46.

845 Okpanachi, Ambe-Uva, and Fassih, "Energy Regime Reconfiguration," 10; Sokona et al., *Just Transition*, 72.

846 Alexandre Berthe, Pascale Turquet, and Thi Phuong Linh Huynh, "Just Transition in Southeast Asia: Exploring the Links Between Social Protection and Environmental Policies" (AFD Research Papers, Issue 225, Sandton, South Africa: Agence Française de Développement, 2022), 8, https://www.cairn-int.info/journal-afd-research-papers-2022-225-page-1.htm (referring to the Southeast Asian context).

847 Mohlakoana et al., "Varieties of Just Transition," 10–11.

848 ILO Guidelines, ¶ 28(a).

849 ILO Guidelines, ¶¶ 28(b), (e).

850 ILO Guidelines, ¶¶ 28(b), (c), (h).

social protection coverage is low, some of the ILO Guidelines may be unattainable currently in certain developing countries, such as the recommendation to make use of employment guarantee schemes.[851]

The 2023 ILO Social Protection Policy Brief[852] adds helpful insight on social protection policymaking, as the ILO Guidelines' social protection recommendations are brief and general. The policy brief references other relevant ILO conventions and recommendations, summarizes the range of risks that climate change and the energy transition pose for people, and suggests pathways for developing policy packages that prioritize social protection.[853] It also provides an overview of key instruments for social protection and their particular roles in just transitions.[854] One social protection instrument the policy brief covers but that the ILO Guidelines neglect to mention are cash benefits and universal basic income schemes, which are important for increasing the resilience of poor households in the energy transition.[855] In particular, in contexts of extreme poverty, direct cash benefits "can provide immediate economic freedom" and allow former fossil fuel workers such as coal miners to relocate or start new businesses.[856] Another gap left by the ILO Guidelines that the policy brief fills is the role of international cooperation in financing expansions of social protection programs in developing countries. For instance, the policy brief notes the ILO's role to mobilize international financing for social protection,[857] and references the Global Accelerator on Jobs and Social Protection for Just Transitions,[858] which was launched in 2021 by the UN Secretary-General.[859] The Global Accelerator aims to extend social protection to the four billion people who are currently uncovered by supporting the mobilization of financial resources and technical support and generating interest and political alignment.[860]

International institutions should provide detailed guidance on the measures that need to be taken for developing countries with low rates of social protection to expand their social protection floor to be able to meet new demands posed by the energy transition. They should also expressly address the integral role of international cooperation in increasing social protection rates in developing countries.

4.6 Skills Development and Training

Training workers for new jobs in the renewable energy sectors and other green industries is a key component of a just transition, which is strongly emphasized by the ILO Guidelines, but their guidance does not differentiate between developing and developed countries.

Studies show that the skills needed for sustainable, low-carbon jobs are more similar to fossil fuel industry jobs than other jobs.[861] For example, the skills needed for thermal plant operation are transferable to renewable energy plant operation.[862] There are

851 ILO Guidelines, ¶ 28(d).

852 Marie-Christina Dankmeyer, *Just Transition Policy Brief: Social Protection for a Just Transition* (Geneva: ILO, January 2023) (*ILO Social Protection Policy Brief*), https://www.ilo.org/publications/social-protection-just-transition.

853 Dankmeyer, *ILO Social Protection Policy Brief*, 5, 14.

854 Dankmeyer, *ILO Social Protection Policy Brief*, 8–12.

855 Dankmeyer, *ILO Social Protection Policy Brief*, 10. *See also* Pucheta and Sánchez, *Just Transition in the Global South*, 5; Berthe, Turquet, and Huynh, "Just Transition in Southeast Asia," 21; Sokona et al., *Just Transition*, 72 (referring to usefulness of cash transfer schemes in the Latin American, Southeast Asian, and African contexts, respectively).

856 Mohlakoana et al., "Varieties of Just Transition," 10–11.

857 Dankmeyer, *ILO Social Protection Policy Brief*, 17.

858 Dankmeyer, *ILO Social Protection Policy Brief*, 14.

859 *Global Accelerator on Jobs and Social Protection for Just Transitions: High-Level Summary* (ILO, June 2023), 2, https://www.unglobalaccelerator.org/sites/default/files/2023-06/High-Level%20Summary_June%202023.pdf.

860 *Global Accelerator on Jobs and Social Protection for Just Transitions*, 3.

861 Francesco Vona, "Managing the Distributional Effects of Climate Policies: A Narrow Path to a Just Transition," *Ecological Economics* 205, no. 107689 (March 2023); 3, https://www.sciencedirect.com/science/article/pii/S0921800922003500; Caleigh Andrews, Bruno Idini, and Rebecca Ruff, *World Energy Employment 2023* (Paris: IEA, November 2023), 7, https://www.iea.org/reports/world-energy-employment-2023.

862 Gambhir, Green, and Pearson, *Towards a Just and Equitable Low-Carbon Energy Transition*, 11. *See also* Michelle Cruywagen, Megan Davies, and Mark Swilling, *Estimating the Cost of the Just Transition in South Africa's Coal Sector: Protecting Workers, Stimulating Regional Development and Accelerating a Low-*

already examples of former fossil fuel industry workers being successfully reemployed in sustainable jobs. For example, in the United States, former coal miners have been trained to work on rooftop solar installation and wind turbines.[863] However, some new skills will also be needed for new jobs created in sustainable, low-carbon, and increasingly digitized industries. Moreover, the energy sector requires higher-skilled workers on average compared to the overall economy.[864] Therefore, enabling workers in high-carbon industries to move into these new jobs will require some degree of reskilling and upskilling.[865] To avoid having the burden of skills development fall on workers themselves, the literature recommends collaboration between government, industry, employers, and education providers in planning for skills development.[866] Examples of skills development policies include financial support to fossil fuel industry workers to pay for training programs and unemployment insurance to enable them take advantage of training programs during possible gaps in employment.[867] Governments may also incentivize companies in low-carbon, sustainable industries to train workers directly.[868]

The academic literature provides guidance on how skills development policies should be formulated. It says governments should identify which workers will be affected by energy transitions, what transferable skills they already possess, and the skills they will need to work in low-carbon, sustainable industries.[869] Collecting and disseminating information regarding future skills-needs in the energy sector will enable fossil fuel industry workers to make plans related to reskilling and career changes.[870] Many low-carbon jobs require more on-the-job training than carbon-intensive ones, especially for the many roles that do not require an associate or bachelor's degree; therefore, governments can boost workers' employability in the renewable energy sector by promoting the acquisition of practical work experience.[871] Training programs should be easily accessible by workers[872] and be tailored to specific sectors or jobs.[873] Tailored programs are important in particular because not all workers in the fossil fuel industry possess the same level of transferable skills.[874] For instance, one study found that within the offshore oil and gas industry, it was the most highly specialized and educated workers—geoscientists—who had the least transferable skillsets.[875] Moreover, retraining and job reallocation are processes that are uncertain and can take a long time.[876] Therefore, if governments take a proactive approach,

Carbon Transition (Stellenbosch, South Africa: Centre for Complex Systems in Transition, 2020), 7, https://www.tips.org.za/images/report_Estimating_the_cost_of_a_just_transition_in_South_Africas_coal_sector.pdf (noting artisanal skills involved in mining are transferable); Kirsty Lindsay Reoch Denyer, "A Just Transition for UK Oil and Gas Workers? Re-employment After Job Loss," thesis submitted for degree of Doctor of Philosophy, Henley Business School Leadership, Organisations and Behavior (June 2023), 9, 36, 45, 79, 124, https://centaur.reading.ac.uk/113368/1/Denyer_thesis.pdf (finding most oil and gas jobs in the United Kingdom and North America have high or medium transferability to cleaner energy production, with transferable skills including those needed to meet project licensing requirements or construct offshore installations); Edward P. Louie and Joshua M. Pearce, "Retraining Investment for U.S. Transition from Coal to Solar Photovoltaic Employment," *Energy Economics* 57 (2016): 295–302, 298, https://doi.org/10.1016/j.eneco.2016.05.016 (finding only 30–35% of coal mine and 43% of coal-fired power plant job positions in the United States are "industry specific" and therefore would require reskilling).

863 Andrews, Idini, and Ruff, *World Energy Employment*, 26.

864 Andrews, Idini, and Ruff, *World Energy Employment*, 20; Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 37.

865 Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 38, 106; Vona, "Managing the Distributional Effects," 3; Sandeep Pai, Kathryn Harrison, and Hisham Zerriffi, "A Systematic Review of the Key Elements of a Just Transition for Fossil Fuel Workers" (Clean Economy Working Paper Series WP 20-04, Ottawa: Smart Prosperity Institute, April 2020), 33, https://justtransitionforall.com/wp-content/uploads/2022/09/transitionforfossilfuelworkers.pdf. Upskilling refers to a "refresh, revisit or development of skills through continuous learning" while reskilling/retraining refers to "the process of learning a new vocation of skillset, so that an individual can adapt to new responsibilities, a new role of a new job of career." Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 124.

866 Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 37–38, 125, 147.

867 Mohlakoana et al., "Varieties of Just Transition," 3; Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 126, 148; Vona, "Managing the Distributional Effects," 4.

868 Mohlakoana et al., "Varieties of Just Transition," 3.

869 Pai, Harrison, and Zerriffi, "A Systematic Review," 33; Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 105.

870 Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 80–81, 88, 126.

871 Vona, "Managing the Distributional Effects," 4; Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 106, 126; Mark Muro, Adie Tomer, Ranjitha Shivaram, and Joseph Kane, *Advancing Inclusion Through Clean Energy Jobs* (Washington, DC: Brookings Metropolitan Policy Program, April 2019), 31, https://www.brookings.edu/wp-content/uploads/2019/04/2019.04_metro_Clean-Energy-Jobs_Report_Muro-Tomer-Shivaran-Kane.pdf.

872 Pai, Harrison, and Zerriffi, "A Systematic Review," 33.

873 Vona, "Managing the Distributional Effects," 4.

874 Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 124.

875 Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 118, 124.

876 Vona, "Managing the Distributional Effects," 6.

adopting long-term commitments and making investments in retraining before initiating fossil fuel phase-outs, workers can then move directly from one job to the next, without periods of unemployment.[877] Furthermore, the energy sector and its skills requirements are dynamic and constantly evolving. Workers can be made more adaptable to such changes if training programs enable them to develop a range of transferable and flexible skills.[878] For instance, the Energy Skills Alliance—a cross-industry group led by an energy industry skills body—aims to develop an "all-energy" workforce capable of moving between different energy resources as required.[879] Lastly, another policy choice to be made is whether governments should pay for skills development programs directly or mandate the fossil fuel industry to pay for such programs.[880]

There are special considerations relevant to developing countries. Preexisting systems for skills development tend to be weaker in developing countries. For example, in the Latin American and Caribbean region, only 15% of workers receive some kind of training, compared with the OECD country average of 56%.[881] Moreover, although renewable energy jobs will offset job losses in fossil fuels globally,[882] in many developing countries, renewable energy industries and green industry generally are still nascent, so skills development in this sector are a lower priority compared to other larger sectors.[883] One study found reskilling policies were not popular among interviewed coal workers in Mpumalanga because participants did not perceive there to be many job opportunities in the renewables sector.[884] Perhaps as a result of this perception, several German, but no South African, interviewees raised the need to reskill fossil fuel workers for jobs in the renewable energy industry. In addition, given the high number of low-skilled informal workers in developing countries, tailored training programs may be necessary to ensure workers in the informal sector can also develop the skills needed to benefit from new jobs created by the energy transition.[885] For instance, in the Latin America and Caribbean region, skills development programs are often aimed at formal, full-time workers with higher educational attainment.[886] To address the issue, governments can consider ways to reach informal workers to avoid perpetuating inequalities. For instance, they can offer personalized guidance, create relevant learning opportunities, recognize existing skills, ensure people are given time off work to be able to participate in learning, and provide financial support to cover training costs.[887]

The ILO Guidelines include a section on skills development that addresses many of the issues raised in the literature on this topic. They recommend governments conduct skills needs assessments, identify and anticipate evolving skills needs, and collect labor market information to match skills supply with demand.[888] They also encourage work-related training and practical experience.[889] Furthermore, the ILO Guidelines emphasize making training services accessible by all,[890] and the ILO's Skills Development Policy Brief encourages tailoring reskilling and upskilling initiatives to specific vulnerable groups, including informal and low-skilled workers.[891] However, the policy brief does not detail how to accomplish this objective.

Although the ILO Guidelines do not differentiate between developing and developed countries on the issue of skills development, the Skills Development Policy Brief does. It notes that developing countries, compared with developed countries, are "still in the

877 Vona, "Managing the Distributional Effects," 6; Louie and Pearce, "Retraining Investment for U.S. Transition from Coal to Solar Photovoltaic Employment," 298; Mohlakoana et al., "Varieties of Just Transition," 3; Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 148.

878 Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 43, 118, 124, 148.

879 Reoch Denyer, "A Just Transition for UK Oil and Gas Workers," 10.

880 Louie and Pearce, "Retraining Investment for U.S. Transition from Coal to Solar Photovoltaic Employment," 299–301 (comparing the benefits and drawbacks of having governments vs. industry bear retraining costs).

881 Pucheta, Álvarez, and Sánchez, "Just Transition and Workers' Rights," 4.

882 *See generally* Andrews, Idini, and Ruff, *World Energy Employment*.

883 Mohlakoana et al., "Varieties of Just Transition," 5.

884 Mohlakoana et al., "Varieties of Just Transition," 4, 11.

885 Phoebe Sirotin, "'No Jobs on a Dead Planet': Barriers to a Just Transition for Informal Workers and Unskilled Labourers in the European Union," BA Thesis Liberal Arts and Sciences, Tilburg University (June 2022), 22, https://arno.uvt.nl/show.cgi?fid=158724.

886 Pucheta, Álvarez, and Sánchez, "Just Transition and Workers' Rights," 4.

887 Sirotin, "'No Jobs on a Dead Planet'," 22.

888 ILO Guidelines, ¶ 24(c).

889 ILO Guidelines, ¶ 25(c).

890 ILO Guidelines, ¶¶ 25(b)–(c).

891 Hae Kyeung Chun et al., *ILO Skills Development Policy Brief*, 3, 13.

early phases of addressing both environmental and skills issues."[892] It also notes that there are not enough professionals and university graduates, especially those with STEM skills, in developing countries to fill all the high-skilled roles in renewable energy industries needed, in part due to inadequate education and training opportunities.[893] Furthermore, the policy brief recognizes that most developing countries lack systems for monitoring skills needs for green jobs or otherwise[894] or for anticipating skills needs.[895] To make up for this gap, it recommends developing countries "create structures such as a national human resources development council (NHRC), involving government, employers, workers and providers of training and education in order to facilitate the exchange of information and to establish industry groupings that could later be formalized as sectoral skills bodies."[896]

Further international just transition guidance should differentiate between skills development and training challenges relevant to developing and developed countries, as is the case in the Skills Development Policy Brief. It should also consider how governments can update skills development opportunities to be relevant and accessible for vulnerable groups and responsive to the need in the green economy for more professionals with university degrees and who are trained in STEM.

4.7 Effective Phase-out of Fossil Fuel Production, Use, and Subsidies

Achieving a just energy transition requires phasing out fossil fuels and fossil fuel subsidies, an issue that the ILO Guidelines do not adequately address.

4.7.1 Phase-out of Fossil Fuel Production and Use

A key aspect of a just transition is phasing out fossil fuel production and use. Relatedly, each of the experts interviewed noted a just transition necessarily involves a transition away from fossil fuels to renewable energy.[897] Interviews with stakeholders in Germany provided insight on this issue, given the country is in the middle of phasing out coal. Multiple German stakeholders pointed out that when the coal exit laws were being designed, coal was not an especially economical form of energy production, and the industry had a strong business case for closing their operations.[898] Therefore, the interviewees found the KVBG's compensation scheme for coal mine and plant operators to be more generous than it could have been. In addition, one German stakeholder emphasized the need to tie structural assistance for fossil fuel regions, such as that provided by the StStG, to coal plant and mine closures.[899]

Developing and developed countries also have different responsibilities with regard to phasing out production and use of fossil fuels given their distinct contributions to climate change and current capacities to decarbonize. Western Europe and North America were able to industrialize in the 18th and 19th centuries by relying on fossil fuels as well as the labor of enslaved people and the extraction of raw materials from colonies. This development path has created global inequalities that persist into the present day and allowed developed countries to accumulate enough wealth to achieve a high standard of living. Several developed countries remain among the top cumulative emitters of greenhouse gasses since the Industrial Revolution.[900] Developed countries are,

892 Hae Kyeung Chun et al., *ILO Skills Development Policy Brief*, 6–7.
893 Hae Kyeung Chun et al., *ILO Skills Development Policy Brief*, 8.
894 Hae Kyeung Chun et al., *ILO Skills Development Policy Brief*, 10.
895 Hae Kyeung Chun et al., *ILO Skills Development Policy Brief*, 13.
896 Hae Kyeung Chun et al., *ILO Skills Development Policy Brief*, 13.
897 Zoom interviews with anonymous expert interviewees (June 12, June 15, June 20, July 5, July 14, Aug. 7 and Aug. 30, 2023).
898 Zoom interviews with anonymous expert interviewees (June 20 and July 14, 2023).
899 Zoom interview with anonymous expert interviewee (June 20, 2023).
900 Simon Evans, "Analysis: Which Countries are Historically Responsible for Climate Change?" *Carbon Brief*, October 5, 2021, https://www.carbonbrief.org/analysis-which-countries-are-historically-responsible-for-climate-change.

therefore, in the best position to pay for climate action measures,[901] and they should therefore have the responsibility to bear the brunt of rapidly phasing out their use of fossil fuels and reducing global emissions to net zero.[902]

In contrast, as developing countries increase their standards of living, their emissions are likely to increase in the near term if economic growth continues to rely on carbon-intensive energy.[903] While there is a robust economic case for developing countries to leapfrog to renewable energy systems,[904] some continue to bet on fossil fuel–based development.[905] Many developing country governments may perceive fossil fuels to be necessary to provide revenue to pay for an energy transition.[906] In the case of South Africa, one expert interviewee noted that while renewable energy projects are being facilitated in the country, there is still legacy political support for developing new fossil fuel projects.[907] Thus, in line with equity principles in the Paris Agreement, developing countries should reduce their emissions, but with greater flexibility than developed countries, and relying on financing and investment from developed countries, to achieve a full phase-out of fossil fuel production and use.[908]

While the ILO Guidelines are focused on economies transitioning to becoming more environmentally sustainable and green overall, they do not specifically reference the need for an equitable phase-out of fossil fuels globally. This omission may be explained by the fact that the ILO Guidelines are intended to cover more than only the energy sector,[909] and by the broader reluctance in international forums to specifically call for a phase-out of fossil fuels.[910] However, the ILO's 2022 Sectoral Policy Brief[911] references the imperative to phase out and divest from fossil fuels, and its 2022 Macroeconomic Policy Brief recommends directing financial resources to sustainable industries, "replacing fossil fuels" and adopting a "green monetary policy" that favors "green credit flows instead of fossil fuels."[912] However, these materials do not explain how reducing reliance on fossil fuels will materialize differently in developing and developed countries.

International just transition guidance should clearly call for a phaseout of fossil fuels (combined with enhanced social protection measures) and provide differentiated guidance on how to realize just fossil fuel phaseouts in developing an developed countries.

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901 *See* Paris Agreement, Art. 9 (referring to the obligation of developed country parties to provide financial resources to assist developing country parties on mitigation and adaptation and to take the lead on mobilizing climate finance).

902 *See* Paris Agreement, Art. 4.4 (noting developed countries "should continue taking the lead by undertaking economy-wide absolute emission reduction targets," "should continue enhancing their mitigation efforts," and "are encouraged to move over time towards economy-wide emission reduction or limitation targets in the light of different national circumstances"). *See also* Jeffrey D. Sachs, Perrine Toledano, and Martin Dietrich Brauch, with Tehtena Mebratu-Tsegaye, Efosa Uwaifo, and Bryan Michael Sherrill, *Roadmap to Zero-Carbon Electrification of Africa by 2050: The Green Energy Transition and the Role of the Natural Resources Sector (Minerals, Fossil Fuels, and Land)* (New York: CCSI, November 2022), 57 https://ccsi.columbia.edu/content/roadmap-zero-carbon-electrification-africa (noting that some analysts view the principle of common but differentiated responsibilities as justification for exploiting more fossil fuel resources in Africa, but also that there is a strong economic case for Africa to leapfrog to low-carbon development); Martin Dietrich Brauch and Brenda Akankunda, "Investment Governance in Africa to Support Climate Resilience and Decarbonization," *CCSI* (blog), December 10, 2021, https://ccsi.columbia.edu/news/investment-governance-africa-support-climate-resilience-and-decarbonization (noting that African nations should not be expected to take the lead in addressing the climate emergency, but instead should receive support and investment, given their marginal contributions to climate change).

903 Vanegas Cantarero, "Of Renewable Energy," 5.

904 *See* Sachs et al., *Roadmap to Zero-Carbon Electrification of Africa by 2050*, 57; Martin Dietrich Brauch and Perrine Toledano, "Why Zero-Carbon Energy Makes Economic Sense for Africa," *CCSI* (blog), November 2, 2022, https://ccsi.columbia.edu/news/why-zero-carbon-energy-makes-economic-sense-africa.

905 Damian Carrington, "Revealed: Saudi Arabia's Grand Plan to 'Hook' Poor Countries on Oil," *The Guardian*, November 27, 2023, https://www.theguardian.com/environment/2023/nov/27/revealed-saudi-arabia-plan-poor-countries-oil.

906 Alarcon et al., *Rethinking 'Just Transition'*, 14.

907 Zoom interview with anonymous expert interviewee (June 12, 2023).

908 *See* Paris Agreement, Preamble, Art. 2

909 *See* Section 1.

910 Falling short of calling for a phase-out of fossil fuel exploration, exploitation, and use, parties at the 28th Conference of the Parties (COP) to the UNFCCC merely called on Parties to contribute to "[t]ransitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science." UN Climate Change, Outcome of the First Global Stocktake, Draft decision -/CMA.5, UN Doc. FCCC/PA/CMA/2023/L.17, (December 13, 2023), ¶ 28(d), https://unfccc.int/sites/default/files/resource/cma2023_L17_adv.pdf.

911 Lucy Lu Reimers and ILO Sectoral Policies Department, *Just Transition Policy Brief: Sectoral Policies for a Just Transition towards Environmentally Sustainable Economies and Societies for All* (Geneva: ILO, August 2022) (*ILO Sectoral Policy Brief*), 6, 12, https://www.ilo.org/publications/sectoral-policies-just-transition-towards-environmentally-sustainable.

912 Braga et al., *ILO Green Macroeconomic Policy Brief*, 4, 11.

4.7.2 Fossil Fuel Subsidy Reform

In addition to the imperative to phase out the use of fossil fuels, fossil fuel subsidy (FFS) reform is another important aspect of a just transition.[913] FFSs impose costs on tax payers and artificially lower prices of energy produced by fossil fuels, thereby discouraging renewable energy growth.[914] FFS are especially common in developing countries, and reforming them will face particular challenges in these countries.[915] While removing FFSs is important for transitioning from fossil fuels to renewable energy, removing them can cause short-term price increases, which have a disproportionate impact on people with limited or fixed incomes, such as informal workers.[916] Therefore, enhanced social protection measures, such as targeted cash transfers to offset the impacts of price increases on low-income households, can ensure FFS reform is just.[917]

The ILO Guidelines do not specifically reference FFS, although they acknowledge the need to "explore and identify an appropriate combination of taxes, *subsidies*, incentives, guaranteed prices, and loans to encourage a transition towards economically sustainable activities" (emphasis added).[918] In addition, the ILO's 2022 Green Works Policy Brief recommends reallocating "investments and subsidies from activities that damage the environment towards more sustainable activities,"[919] and the Macroeconomic Policy Brief recommends adjusting government subsidies to price in climate externalities.[920] Furthermore, the Social Protection Policy Brief acknowledges that phasing out FFS may increase energy costs but that such increases can be alleviated by increasing spending on social protection.[921]

International institutions providing policy guidance for a just transition should expressly call for FFS reform and provide guidance to countries on how to realize such reforms while ensuring negative impacts are not disproportionately felt by low-income people.

4.8 International Cooperation and the Principle of Common but Differentiated Responsibilities

International cooperation is necessary for just transitions globally, which the ILO Guidelines address, although their guidance is brief and generalized

As noted in Section 4.7, the history of industrialization in Western Europe and North America and colonialism in the Global South created inequalities between developing and developed countries. As a result, most developing countries lack sufficient financial

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913 *See generally* IEA, *Fossil Fuel Subsidies in Clean Energy Transitions: Time for a New Approach?* (Paris: IEA, February 2023), https://www.iea.org/reports/fossil-fuel-subsidies-in-clean-energy-transitions-time-for-a-new-approach; "Explainer: Fossil Fuel Subsidy Reform by the Numbers," IISD, August 26, 2021, https://www.iisd.org/articles/explainer/fossil-fuel-subsidy-reform-numbers; Simon Black, Antung A. Liu, Ian W.H. Parry, and Nate Vernon, "*IMF Fossil Fuel Subsidies Data 2023 Update*" (International Monetary Fund [IMF] Working Papers, WP/23/169, Washington, DC: IMF, August 2023), https://www.imf.org/en/Publications/WP/Issues/2023/08/22/IMF-Fossil-Fuel-Subsidies-Data-2023-Update-537281; Grégoire Garsous, *OECD Inventory of Support Measures for Fossil Fuels* (Paris: Organisation for Economic Co-operation and Development (OECD), December 2023), https://doi.org/10.1787/87dc4a55-en.

914 Sachs et al., *Roadmap to Zero-Carbon Electrification of Africa by 2050*, 72.

915 Vanegas Cantarero, "Of Renewable Energy," 5.

916 Otlhogile and Shirley, "The Evolving Just Transition," 6.

917 "Climate Change: Fossil Fuel Subsidies," IMF, https://www.imf.org/en/Topics/climate-change/energy-subsidies#A%20Plan%20for%20Reform. For an overview of cash transfer programs in the context of energy subsidy reform, *see* Anit Mukherjee, Yuko Okamura, Ugo Gentilini, Defne Gencer, Mohamed Almenfi, Adea Kryeziu, Miriam Montenegro, and Nithin Umapathi, *Energy Subsidy Reform in Action: Cash Transfers in the Context of Energy Subsidy Reform* (Washington, DC: World Bank, July 2023), https://openknowledge.worldbank.org/server/api/core/bitstreams/041897fe-02ef-4c40-b42c-8cb6320aab73/content.

918 ILO Guidelines, ¶ 19(c)(i).

919 Hannah Reid and Maikel Lieuw-Kie-Song, *Just Transition Policy Brief: Green Works to Support a Just Transition* (Geneva: ILO, October 2022) (*ILO Green Works Policy Brief*), 17, https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_860571/lang--en/index.htm.

920 Braga et al., *ILO Green Macroeconomic Policy Brief*, 5.

921 Dankmeyer, *ILO Social Protection Policy Brief*, 5, 17.

resources to pay for just transition policies, let alone basic public goods in many cases.[922] In addition, developed countries are the most responsible for climate change. Thus, increased and effective international cooperation could serve as a form of restorative justice as well as a practical means for enabling just transition policies in developing countries.[923] One stakeholder in South Africa also highlighted the need for developed countries to act in response to their differentiated responsibility for the climate crisis, for instance by compensating for climate loss and damage.[924]

The imperative for developed countries to provide financial support for just transition measures in developing countries is being recognized by leaders worldwide, as evinced by the commitment made by developed countries at the 16th Conference of Parties (COP16) of the UNFCCC to mobilize USD 100 billion annually by 2020 to support climate action in developing countries[925] and the JETP. However, the USD 100 billion goal has not been achieved as of 2021, with only USD 89.6 billion being mobilized that year.[926] Moreover, the JETP has been criticized for "reproduc[ing] classic shortcomings of development cooperation such as inducing dependence on foreign technology in Global South countries in the long term."[927] A South African expert we interviewed also expressed concerns regarding the fact that the JET IP investments are primarily loans rather than grants, thereby increasing South Africa's international debt. Another expert in South Africa also expressed concern that the JETP would pose financial repercussions for South Africa down the line and that the partnership gives developed donor countries disproportionate influence over South Africa's just transition.[928] Thus, it is important not only for developed countries to provide financial support, but to also avoid "reinforcing the current dynamics of international cooperation."[929] In addition, as noted in Section 4.2, international aid programs should not divert decision-making power from affected communities.[930]

The ILO Guidelines provide general guidance on international cooperation. However, they do not explicitly mention the specific issue of developed countries' disproportionate greenhouse gas emissions nor do they advance specific policy recommendations and guidance for enhanced international cooperation. The ILO Guidelines' guiding principles recognize the importance of fostering international cooperation among countries in implementing sustainable development policies.[931] The ILO Guidelines also recall the principle of common but differentiated responsibilities[932] and note that member states "have widely varying capabilities" to act.[933] They also recommend that governments "mobilize funding, support and assistance, facilitated where appropriate by international organizations"[934] and promote cooperation at the international level, including assistance and capacity building, as a way to carry

922 Mohlakoana et al., "Varieties of Just Transition," 2.

923 Pucheta, Álvarez, and Sánchez, "Just Transition and Workers' Rights," 9.

924 Zoom interview with anonymous expert interviewee (June 12, 2023).

925 UNFCCC Standing Committee on Finance, *Report on Progress Towards Achieving the Goal of Mobilizing Jointly USD 100 Billion per Year to Address the Needs of Developing Countries in the Context of Meaningful Mitigation Actions and Transparency on Implementation* (Bonn, Germany: UN Climate Change, 2022), 10, https://unfccc.int/process-and-meetings/bodies/constituted-bodies/standing-committee-on-finance-scf/progress-report. Developed countries are slated to update the 100 billion climate finance goal at COP 29 in 2024. Report of the COP serving as the meeting of the Parties to the Paris Agreement, *New Collective Quantified Goal on Climate Finance*, 8/CMA.5, UN Doc. FCCC/PA/CMA/2023/16/Add.2 (November 30, 2023), https://undocs.org/FCCC/PA/CMA/2023/16/Add.2. *See also* "New Collective Quantified Goal on Climate Finance," UN Climate Change, https://unfccc.int/NCQG; David Waskow, Jamal Srouji, Jennifer Layke, Nataniel Warszawski, Gabrielle Swaby, Preety Bhandari, Natalia Alayza, Edward Davey, Rogier van den Berg, Mario Julien Díaz, Roman Paul Czebiniak, Paige Langer, Subrata Chakrabarty, David Burns, Nathan Cogswell, Deirdre Cogan, and Rhys Gerholdt, "Unpacking COP28: Key Outcomes from the Dubai Climate Talks, and What Comes Next," *WRI*, December 17, 2023, https://www.wri.org/insights/cop28-outcomes-next-steps#climate-finance.

926 OECD, "Growth Accelerated in the Climate Finance Provided and Mobilised in 2021 but Developed Countries Remain Short and Must Continue Scaling up to Reach the USD 100 Billion Goal," press release, November 16, 2023), https://www.oecd.org/newsroom/growth-accelerated-in-the-climate-finance-provided-and-mobilised-in-2021-but-developed-countries-remain-short.htm.

927 Alarcon et al., *Rethinking 'Just Transition'*, 8.

928 Zoom interview with anonymous expert interviewee (June 15, 2023).

929 Alarcon et al., *Rethinking 'Just Transition'*, 8.

930 Okpanachi, Ambe-Uva, and Fassih, "Energy Regime Reconfiguration," 10 (noting how energy transition policy measures in Morocco were geared toward complying with international standard procedures rather than coming out of a "participatory and community-oriented process" and therefore does not adequately take into account social issues).

931 ILO Guidelines, ¶ 13(g).

932 ILO Guidelines, ¶ 11.

933 ILO Guidelines, ¶ 10.

934 ILO Guidelines, ¶ 16(b).

out SDGs.[935] Several of the policy briefs also reference international cooperation. The ILO's 2022 Disability Rights Policy Brief recommends ensuring bilateral or multilateral development cooperation funding used for just transitions be required to include disability issues.[936] The ILO's 2022 Green Works Policy Brief acknowledges that donor, bilateral, and multilateral funding can help support sustainable, low-carbon public works.[937] The Social Protection Policy Brief recommends incorporating universal social protection and decent work in international climate financing strategies.[938] It also states that the ILO's roles could involve exploring ways to mobilize international financing for social protection on the basis of international solidarity, including by working with international financial institutions, as well as initiating discussions for developing new international financing mechanisms to help achieve universal social protection.[939]

International just transition guidance should advance specific policy recommendations for ensuring developed countries fulfill their responsibility to provide finance for developing countries to enable just transition policy measures. It should also expressly ground such recommendations in developed countries' disproportionate contributions to climate change and greater access to finance.

4.9 Human Rights

Protecting human rights is a core policy area for a just transition. This subsection highlights two significant sets of risks created by energy transitions, including risks to the land rights of Indigenous Peoples and local communities as well as risks created by the primary and secondary mining of critical minerals, which the ILO Guidelines do not sufficiently address.[940]

4.9.1 Land Rights of Indigenous Peoples and Local Communities

Energy transitions pose risks to the rights of Indigenous Peoples and local communities. Because many Indigenous Peoples' lands lack formal state recognition, they are at risk of being appropriated for renewable energy projects without their consent, leading to "loss of land, livelihoods, and cultural integrity, along with grave impacts on human rights defenders and workers."[941] Land-grabbing and forced displacement for renewable energy projects have already taken place in some instances.[942] The risk for land dispossession is especially high because one to two orders of magnitude more land acreage is needed for wind and solar projects compared to coal, natural gas, and nuclear power.[943] There are also challenges with regards to consultation. For example, during one interview, an expert in South Africa noted that Indigenous Peoples were neglected by the PCC's consultation process.[944]

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935 ILO Guidelines, ¶ 16(e)(i).

936 Alexis Buettgen, Monica Castillo, Jürgen Menze, and Stefan Trömel, *Just Transition Policy Brief: "Nothing About Us Without Us": Realizing Disability Rights Through a Just transition Towards Environmentally Sustainable Economies and Societies* (Geneva: ILO, November 2022), 15, https://www.ilo.org/publications/nothing-about-us-without-us-realizing-disability-rights-through-just.

937 Reid and Lieuw-Kie-Song, *ILO Green Works Policy Brief*, 14.

938 Dankmeyer, *ILO Social Protection Policy Brief*, 1, 19.

939 Dankmeyer, *ILO Social Protection Policy Brief*, 17.

940 For more resources related to the impact of the energy transition on human rights, *see* "Natural Resources and Just Energy Transition," Business & Human Rights Resource Centre, , https://www.business-humanrights.org/en/big-issues/natural-resources.

941 "Enabling a Just Transition: Protecting Human Rights in Renewable Energy Projects," *CCSI*, https://ccsi.columbia.edu/content/enabling-just-transition-protecting-human-rights-renewable-energy-projects.

942 Agrawal et al., *Enabling a Just Transition*, 4.

943 *See, e.g.*, Michael B. Gerrard, "A Time for Triage," *Environmental Forum* 39, no. 6 (2022): 38–44, 39, https://scholarship.law.columbia.edu/faculty_scholarship/3867.

944 Zoom interview with anonymous expert interviewee (June 12, 2023).

Indigenous Peoples are also especially impacted by the just transition processes in developing countries. Of the world's Indigenous population, 70.5% is located in Asia and the Pacific, 16.3% in Africa, and 11.5% in Latin America and the Caribbean.[945] In addition, 96% reside in either low- or middle-income countries.[946] According to the IRENA, more than 50% of critical minerals are also located on or near Indigenous Peoples' lands.[947]

An essential component of a just transition is centering human rights, including the rights of Indigenous Peoples, especially in the context of siting renewable energy projects.[948] To ensure adequate participation of Indigenous Peoples as well as rural communities in policymaking, a South African expert we interviewed emphasized allocating greater amounts of time to prepare for consultations and to identify the most important stakeholders.[949] In addition, they recommended that governments planning for consultations make sure they consult with individuals who possess location-specific knowledge, such as important traditional tribal leaders. Another South African expert also recommended siting renewables projects in brownfields,[950] such as former mining sites, which would also help avoid (although not on its own fully prevent) displacing or otherwise negatively impacting local communities.[951]

The ILO Guidelines do not reference Indigenous Peoples or local communities, but the ILO's 2022 Indigenous Peoples Policy Brief provides an overview of the ways that Indigenous Peoples are uniquely impacted by climate change and identifies relevant international labor standards, such as the ILO Indigenous and Tribal Peoples Convention 1989 (ILO 169).[952] The brief acknowledges that responses to climate change, including renewable energy projects, can have harmful impacts on Indigenous communities.[953] This risk was also raised in one of our interviews with an expert who stressed that land rights should be at the forefront of just transition policymaking, especially given that some actors believe appropriating Indigenous lands and otherwise curtailing procedural safeguards is justified in the name of rapid decarbonization.[954] On this issue, the Indigenous Peoples Policy Brief recommends that those having policy discussions "explore ways to ensure that climate mitigation and adaptation measures do not generate additional risks and vulnerabilities for Indigenous Peoples' livelihoods and working conditions."[955] The brief also highlights the opportunity for low-carbon sectors to create decent work opportunities for Indigenous Peoples.[956] Lastly, the policy brief enumerates seven pertinent policy recommendations, including that states establish legal frameworks for consultations with Indigenous Peoples, accelerate the formal recognition of their lands, and ratify ILO 169.[957] In addition, the ILO's Sectoral Policy Brief notes that mining projects for transition minerals risk displacing or altering communities and affecting livelihoods.[958] It also

945 Gabriela Balvedi Pimentel, *Just Transition Policy Brief: Indigenous Peoples and a Just Transition for All* (Geneva: ILO, November 2022) (*ILO Indigenous Peoples Policy Brief*), 4, https://www.ilo.org/publications/indigenous-peoples-and-just-transition-all.

946 Rishabh Kumar Dhir, Umberto Cattaneo, Maria Victoria Cabrera Ormaza, Hernan Coronado, and Martin Oelz, *Implementing the ILO Indigenous and Tribal Peoples Convention No. 169: Towards an Inclusive, Sustainable and Just Future* (Geneva: ILO, 2019), 13, https://www.ilo.org/global/publications/books/WCMS_735607/lang--en/index.htm.

947 "Geopolitics of the Energy Transition," IRENA, https://www.irena.org/Digital-Report/Geopolitics-of-the-Energy-Transition-Critical-Materials.

948 In particular, governments should (1) "[r]ecognize and respect human rights, including all legitimate tenure rights;" (2) "[f]acilitate meaningful engagement with affected peoples and communities;" (3) "[a]dvance local-level development, including through co-equity models and benefit sharing;" (4) "[i]nstitute systems to address human and land rights harms," and (5) "[p]rotect the safety of environmental, land, and human rights defenders." Hansika Agrawal, Laura El-Katiri, Kimathi Muiruri, and Sam Szoke-Burke, *Enabling a Just Transition: Protecting Human Rights in Renewable Energy Projects* (New York: CCSI, April 2023), 2, https://ccsi.columbia.edu/content/enabling-just-transition-protecting-human-rights-renewable-energy-projects.

949 Zoom interview with anonymous expert interviewee (June 12, 2023).

950 Brownfields are "abandoned, idled or underused industrial and commercial properties where expansion or redevelopment is complicated by real or perceived environmental contamination." "Brownfields Basics," Environmental Law Institute, https://www.eli.org/brownfields-program/brownfields-basics.

951 Zoom interview with anonymous expert interviewee (June 12, 2023).

952 Balvedi Pimentel, *ILO Indigenous Peoples Policy Brief*, 11.

953 Balvedi Pimentel, *ILO Indigenous Peoples Policy Brief*, 3, 15.

954 Zoom interview with anonymous expert interviewee (June 12, 2023).

955 Balvedi Pimentel, *ILO Indigenous Peoples Policy Brief*, 11.

956 Balvedi Pimentel, *ILO Indigenous Peoples Policy Brief*, 11.

957 Balvedi Pimentel, *ILO Indigenous Peoples Policy Brief*, 16.

958 Reimers and ILO Sectoral Policies Department, *ILO Sectoral Policy Brief*, 6.

recommends governments adopt sectoral policies that respect the land rights and livelihoods of communities affected by renewables projects and their supply chains.[959]

International just transition guidance should be clear about the risks energy transitions pose to Indigenous Peoples' land rights and other human rights and provide specific guidance on how to ensure such rights are fully recognized and respected, including the right to Free, Prior and Informed Consent.[960]

4.9.2 Human Rights Impacts of Primary and Secondary Production of Critical Minerals and Waste Management

Minerals such as lithium, cobalt, copper, and nickel are critical to produce technologies for the energy transition,[961] and the demand for these minerals is projected to double or quadruple by 2040.[962] Critical minerals tend to be geographically concentrated, including within several developing countries. For example, around 50% of the global reserves of cobalt are said to be found in the Democratic Republic of the Congo.[963] A range of human rights violations have been linked to the primary and secondary production of these minerals. Regarding primary production, there have already been allegations of human rights abuses connected to the mining of critical minerals, including low wages that neglect labor laws, environmental impacts, insufficient compensation to communities, failure to consult affected communities, forced evictions, food insecurity, and child labor.[964] In addition, tailings (the waste materials produced by mining) are laced with metals and toxic materials dangerous to the environment and human health, and can have disastrous consequences for people and ecosystems if not safely managed.[965] Catastrophic tailings dam failures have also been increasing in frequency in recent years,[966] which can disproportionately impact Indigenous peoples.[967]

In addition, the demand for critical minerals from secondary sources, such as processing electronic or "e-waste," is expected to increase as the transition to a circular economy gains traction worldwide.[968] E-waste processing can be a source of human rights violations, as electronic components in renewable energy technologies contain many hazardous materials that, without adequate safeguards, can be released into the environment and harm human health.[969] One of the largest e-waste dumpsites in the world is

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959 Reimers and ILO Sectoral Policies Department, *ILO Sectoral Policy Brief*, 6.

960 Indigenous and Tribal Peoples Convention, 1989 (No. 169), opened for signature June 27, 1989, entered into force September 5, 1991, https://normlex.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169; United Nations General Assembly, United Nations Declaration on the Rights of Indigenous Peoples, UN Doc. A/RES/61A/295 (September 13, 2007), Art. 19, http://undocs.org/A/RES/61/295.

961 Tae-Yoon Kim et al., *The Role of Critical Minerals in Clean Energy Transitions* (Paris: IEA, May 2021), 43–44, https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions.

962 Kim et al., *The Role of Critical Minerals*, 50.

963 Clare Church and Laurin Wuennenberg, *Sustainability and Second Life: The Case for Cobalt and Lithium Recycling* (Winnipeg, Canada: IISD, March 2019), 13, https://www.iisd.org/system/files/publications/sustainability-second-life-cobalt-lithium-recycling.pdf.

964 Amnesty International, "Democratic Republic of Congo: Cobalt and Copper Mining for Batteries Leading to Human Rights Abuses," news release, September 12, 2023, https://www.amnesty.org/en/latest/news/2023/09/drc-cobalt-and-copper-mining-for-batteries-leading-to-human-rights-abuses; Stephanie Ngo Pouhe and Manson Gwanyanya, *Fast and Fair: Achieving a Just Energy Transition in Africa* (London: Business & Human Rights Resource Centre, June 2023), 3, https://media.business-humanrights.org/media/documents/2023_Africa_clean_energy_3.pdf.

965 MiningWatch Canada and Earthworks, *Mine Tailings Waste Storage*, https://earthworks.org/wp-content/uploads/2022/06/INFOGRAPHIC-Safety-First-Mine-Tailings-Waste-Storage.pdf; Jan Morrill, David Chambers, Steven Emerman, Richard Harkinson, Jamie Kneen, Ugo Lapointe, Ann Maest, Bruno Milanez, Paulina Personius, Payal Sampat, and Rodrigue Turgeon, *Safety First: Guidelines for Responsible Mine Tailings Management* (Earthworks, MiningWatch Canada, and London Mining Network, May 2022), 11, 15, https://earthworks.org/wp-content/uploads/2022/05/Safety-First-Safe-Tailings-Management-V2.0-final.pdf; "Tailings," Earthworks, https://earthworks.org/issues/tailings.

966 "Protecting Communities from Tailings Disasters," Earthworks, https://earthworks.org/issues/protecting-communities-from-tailings-disasters.

967 Arnim Scheidel, Álvaro Fernández-Llamazares, Anju Helen Bara, Daniela Del Bene, Dominique M. David-Chavez, Eleonora Fanari, Ibrahim Garba, Ksenija Hanaček, Juan Liu, Joan Martínez-Alier, Grettel Navas, Victoria Reyes-García, Brototi Roy, Leah Temper, May Aye Thiri, Dalena Tran, Mariana Walter, and Kyle Powys Whyte, "Global Impacts of Extractive and Industrial Development Projects on Indigenous Peoples' Lifeways, Lands, and Rights," *Science Advances* 9, no. 23 (June 2023), 3, https://doi.org/10.1126/sciadv.ade9557 (finding mining is the largest source of environmental conflicts involving Indigenous Peoples).

968 Perrine Toledano, Martin Dietrich Brauch, and Jack Arnold, *Circularity in Mineral and Renewable Energy Value Chains: Overview of Technology, Policy, and Finance Aspects: Executive Summary* (New York: CCSI, October 2023), https://ccsi.columbia.edu/circular-economy-mining-energy.

969 BAN Toxics (BT) and Center for International Environmental Law (CIEL), *Human Rights Impacts of E-Waste*, https://www.ciel.org/wp-

located in Agbogbloshie in Ghana, where thousands of people live and work and are thereby exposed to hazardous substances.[970] E-waste recycling also tends to be unregulated in many developing countries.[971] For instance, in India unskilled migrant laborers and people with marginalized identities often work in the informal e-waste recycling sector in hazardous conditions without protective equipment.[972] Energy transitions that rely on critical minerals cannot be considered just if the social and environmental risks and harms caused by primary and secondary sourcing of critical minerals are not well managed and if they disproportionately affect vulnerable populations, particularly in developing countries.[973]

The ILO Guidelines reference rights as a key just transition policy area[974] and address some human rights risks associated with e-waste, although they do not reference critical minerals. They recommend governments regulate and incentivize companies to reduce or eliminate hazardous materials in their supply chains and production processes.[975] They also recommend governments address the OSH impacts of and promote formalization in waste management, materials recovery, and recycling.[976] In addition, the ILO's Sectoral Policy Brief addresses issues related to primary and secondary sourcing of critical minerals. It acknowledges the demand for intensive mining created by the energy transition and notes such mining jobs are "often informal, dangerous, and poorly paid, especially in areas where governance is weak."[977] It, in turn, recommends that policies for specific economic sectors "ensure respect for the labour rights of workers mining 'technology-critical' minerals, building low-carbon technologies, and processing e-waste (such as decommissioned solar panels and turbines)."[978] The policy brief also references the demand being made by some stakeholders for a "whole of supply-chains approach" to sectoral just transition policies that emphasize human rights and circularity.[979]

International institutions' just transition policy guidance should address how countries that export critical minerals can directly manage the environmental and human rights impacts of their primary and secondary production. It should also encourage importing countries to mandate and enforce requirements that companies mitigate, prevent, and remedy their human rights and environmental impacts, including those that occur abroad.

4.10 Access to Affordable and Sustainable Energy

Another key pillar of a just transition is achieving universal access to affordable renewable energy, in line with SDG 7.[980] The ILO Guidelines acknowledge this policy area and provide accompanying policy guidance but do not address certain challenges that are especially relevant for developing countries.

Energy plays a central role in development, contributing to poverty eradication, public health, and helping provide for basic human needs, a point that has been endorsed by the UN General Assembly.[981] Indeed, energy access is important for achieving other

content/uploads/2015/10/HR_EWaste.pdf.

970 OHCHR, "Ghana: Toxics Exposure Violating Human Rights, Urgent Action Needed, Says UN Expert," press release, December 13, 2022, https://www.ohchr.org/en/press-releases/2022/12/ghana-toxics-exposure-violating-human-rights-urgent-action-needed-says-un.

971 BT and CIEL, 6.

972 BT and CIEL, 6.

973 Otlhogile and Shirley, "The Evolving Just Transition," 4, 7–8.

974 ILO Guidelines, 7.

975 ILO Guidelines, ¶ 26(i).

976 ILO Guidelines, ¶ 20(f), 27(c).

977 Reimers and ILO Sectoral Policies Department, *ILO Sectoral Policy Brief*, 6.

978 Reimers and ILO Sectoral Policies Department, *ILO Sectoral Policy Brief*, 6.

979 Reimers and ILO Sectoral Policies Department, *ILO Sectoral Policy Brief*, 6.

980 Peter Newell and Dustin Mulvaney, "The Political Economy of the 'Just Transition,'" *The Geographical Journal* 179, no. 2 (June 2013): 132–140, 135, https://doi.org/10.1111/geoj.12008. SDG 7 is to "[e]nsure access to affordable, reliable, sustainable and modern energy for all". UNGA, Transforming Our World: The 2030 Agenda for Sustainable Development, UN Doc. A/RES/70/1 (September 25, 2015), 14, http://undocs.org/A/RES/70/1.

981 UNGA, The Future We Want, UN Doc. A/RES/66/288 (July 27, 2012), ¶ 125, http://undocs.org/A/RES/66/288.

SDGs.[982] At least two of the South African stakeholder experts we interviewed concurred, noting that, within the topic of the energy transition, energy access and affordability are top concerns of the public.[983]

Despite the importance of energy access, energy poverty—a lack of access to electricity or sustainable, renewables-based fuels due to insufficient infrastructure, inefficiencies, or unaffordability—remains a challenge worldwide, especially in developing countries. As of 2023, 760 million people lack access to electricity, a figure that increased for the first time in decades in 2022 due to the COVID 19 pandemic and energy crisis caused by Russia's invasion of Ukraine.[984] Three quarters of the world's unelectrified communities reside in Sub-Saharan Africa,[985] where high rates of energy poverty are linked to a history in which colonial governments prioritized building electricity infrastructure only to the extent needed to integrate the continent into the "global capitalist order," leaving out many rural communities.[986] Under-investment in electricity infrastructure in rural regions in Africa persists into the present day in part because such investments often are not perceived to be commercially profitable.[987] Other challenges related to energy in developing countries include the widespread domestic use of traditional unprocessed biomass for cooking and heating[988] and a growing energy demand paired with at times size-constrained and unreliable power systems.[989] Moreover, a lack of energy security is often seen by governments as a compelling reason to continue or even increase their reliance on fossil fuels. For example, one stakeholder interviewee noted that the idea of natural gas as a "transition fuel" in South Africa has gained traction because of the urgent need for increased power capacity.[990] As a response to the energy crisis in South Africa, Eskom is also attempting to procure 3000 megawatts of gas power.[991]

Thus, many developing countries face the dual challenges of expanding energy access while also transitioning to renewable energy. This feat is made more challenging by the fact that energy transitions themselves, without safeguards, risk exacerbating energy poverty. For instance, energy transitions can potentially cause short-term energy cost increases due to costs of new infrastructure and technology, which would disproportionately impact low-income and poor households and thereby worsen inequality.[992]

Governments can take various policy measures to improve energy access, especially through expansions of renewable energy. Off-grid renewable energy, including stand-alone systems and mini-grids, are one way to increase access, especially in rural communities.[993] Energy access and affordability can also be improved through efficiency and weatherization measures, such as efficient light bulbs or window sealing and insulation.[994] Governments can increase affordability through assistance programs such

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982 United Nations Department of Economic and Social Affairs, *Policy Briefs in Support of the High-Level Political Forum 2022: Addressing Energy's Interlinkages with Other SDGs* (United Nations, 2022), 11, https://sdgs.un.org/publications/report-2022-sdg7-tag-policy-briefs-addressing-energys-interlinkages-other-sdgs-47727.

983 Zoom interviews with anonymous expert interviewees (both on June 12, 2023).

984 Laura Cozzi, Daniel Wetzel, Gianluca Tonolo, Nouhoun Diarra, and Arthur Roge, "Access to Electricity Improves Slightly in 2023, but Still Far from the Pace Needed to Meet SDG7," *IEA*, September 15, 2023, https://www.iea.org/commentaries/access-to-electricity-improves-slightly-in-2023-but-still-far-from-the-pace-needed-to-meet-sdg7.

985 "Our Work Areas: Energy Access," UNDP, https://www.undp.org/energy/our-work-areas/energy-access#:~:text=It%20is%20unacceptable%20that%202.4,poorest%20and%20improves%20people's%20lives.

986 Sokona et al., *Just Transition*, 49.

987 Rebekah Shirley and Haileslassie Medhin, "Practical Solutions for Energy Transition Emerging in Sub-Saharan Africa," *Environmental Research: Infrastructure and Sustainability* 2, no. 040401 (2022): 2, http://dx.doi.org/10.1088/2634-4505/aca628

988 Vanegas Cantarero, "Of Renewable Energy," 4.

989 Vanegas Cantarero, "Of Renewable Energy," 5.

990 Zoom interview with anonymous expert interviewee (June 12, 2023).

991 Mimi Mfundisi, "Eskom Attempts to Build Gas Power Plant in KZN," *SA People News*, May 30, 2023, https://www.sapeople.com/news/eskom-attempts-to-build-gas-power-plant-in-kzn.

992 Carley and Konisky, "Justice and Equity Implications," 571.

993 Divyam Nagpal and Bishal Parajuli, *Off-grid Renewable Energy Solutions to Expand Electricity Access: An Opportunity Not to Be Missed* (Abu Dhabi: IRENA, 2019), 5, https://www.irena.org/publications/2019/Jan/Off-grid-renewable-energy-solutions-to-expand-electricity-to-access-An-opportunity-not-to-be-missed; Sachs et al., *Roadmap to Zero-Carbon Electrification of Africa by 2050*, 41 et seq.

994 Carley and Konisky, "Justice and Equity Implications," 573; IEA, *Financing Clean Energy Transitions in Emerging and Developing Economies* (Paris: IEA, June 2021), 15, https://www.iea.org/reports/financing-clean-energy-transitions-in-emerging-and-developing-economies.

as bill subsidies,[995] while utilities can also do so through measures such as level-billing, waiving late fees, and debt-forgiveness or flexible deferred payment programs.[996] Governments should also ensure progressive carbon pricing through revenue recycling (compensating low income households with the revenues raised by a carbon tax) or reducing taxes.[997]

In addition, some scholars have proposed taking advantage of energy transitions as opportunities to promote energy justice, energy democracy, and energy sovereignty.[998] Although these concepts have been defined in slightly different ways, the three overlap in their aims to achieve universal energy access while also making energy systems more equitable, non-discriminatory, inclusive, and participatory. Under these models, individuals would be able to participate in energy decision-making and access the necessary information to do so, thereby transforming their role from being passive into a more active one.[999] Therefore, this approach rejects concentrating energy decision-making power in states, private utilities, and their market partners. An example of these models are socially-owned renewables,[1000] which were proposed by one stakeholder in South Africa.[1001]

The ILO Guidelines underscore that the just transition presents an opportunity to improve access to affordable and sustainable energy and thereby improve social inclusion, particularly for women and rural populations.[1002] The Gender Equality Policy Brief also notes the potential for just transition policies to "drive inclusion outcomes through, for example, improved access to affordable, environmentally sustainable energy."[1003] In addition, the ILO Guidelines call attention to the risks the energy transition poses to poor households in the form of possible higher energy and commodity prices.[1004] The ILO's Indigenous Peoples Policy Brief briefly addresses the topic of energy sovereignty, although it does not make any express recommendations on the topic. In particular, it references ILO Convention No. 169 regarding the meaningful participation of Indigenous Peoples in green economy projects, and it cites a case study of the Mapuche Huilliche Indigenous community in Chile, which was heavily involved in the development of a local photovoltaic electrification project from start to finish.[1005]

On policy recommendations, the ILO Guidelines recommend that governments consider compensating low-income households when adopting energy transition measures,[1006] although this recommendation neglects supply-side policy measures for managing energy affordability.[1007] Relatedly, the ILO's 2022 Greening Macroeconomic Policy Brief recommends, when implementing carbon pricing, to exempt low-income households and protect them against rising costs of food, transportation, and housing.[1008] The Social Protection Policy Brief similarly notes the importance of meeting the needs of vulnerable groups facing risks of the adverse effects

995 Carley and Konisky, "Justice and Equity Implications," 573.

996 Carley and Konisky, "Justice and Equity Implications," 573.

997 David Klenert and Linus Mattauch, *Carbon Pricing for Inclusive Prosperity: The Role of Public Support* (Economics for Inclusive Prosperity, September 2019), 4, 8, https://econfip.org/policy-briefs/carbon-pricing-for-inclusive-prosperity-the-role-of-public-support; Julius Andersson and Giles Atkinson, "The Distributional Effects of a Carbon Tax: The Role of Income Inequality" (Centre for Climate Change Economics and Policy Working Paper No. 378, Grantham Research Institute on Climate Change and the Environment Working Paper No. 349, London School of Economics and Political Science, September 2020), 5, https://www.lse.ac.uk/granthaminstitute/publication/the-distributional-effects-of-a-carbon-tax-the-role-of-income-inequality.

998 Kali Akuno, Katie Sandwell, Lyda Fernanda Forero, and Jaron Browne, *From Crisis to Transformation: What is Just Transition? A Primer* (Amsterdam and Washington, DC: Transnational Institute and Grassroots Global Justice Alliance, September 2022), 46, https://www.tni.org/en/publication/from-crisis-to-transformation; Okpanachi, Ambe-Uva, and Fassih, "Energy Regime Reconfiguration," 3-4.

999 Carley and Konisky, "Justice and Equity Implications," 569–570; Vanegas Cantarero, "Of Renewable Energy," 8, 10; Okpanachi, Ambe-Uva, and Fassih, "Energy Regime Reconfiguration," 3–4.

1000 Perrine Toledano, Chris Albin-Lackey, Maria Diez Andres, and Martin Dietrich Brauch, *Community Benefit Sharing and Renewable Energy and Green Hydrogen Projects: Policy Guidance for Governments* (New York: CCSI, September 2023), 15 et seq., https://doi.org/10.7916/wyx5-ae62 (describing the shared community ownership model for renewables projects).

1001 Zoom interview with anonymous expert interviewee (June 15, 2023).

1002 ILO Guidelines, ¶ 12(c).

1003 Pozzan, Dedova, and Balvedi Pimentel, *ILO Gender Equality Policy Brief*, 5.

1004 ILO Guidelines, ¶ 12(f).

1005 Balvedi Pimentel, *ILO Indigenous Peoples Policy Brief*, 13.

1006 ILO Guidelines, ¶ 28(i).

1007 The latter strategy (involving supply-side policy measures) was implemented in Germany: per KVBG Art. 4.5, in 2023 the German national government will begin to pay subsidies to transmission system operators as a means to reduce electricity costs. *See also* Sachs et al., *Roadmap to Zero-Carbon Electrification of Africa*, Sects. 3.2.3 and 3.2.4 (discussing electricity affordability challenges facing many African households and principles for governments to enable greater affordability).

1008 Braga et al., *ILO Green Macroeconomic Policy Brief*, 1.

of potentially higher energy costs resulting from climate policies.[1009] The policy brief recommends non-contributory schemes to promote energy affordability and stresses that such programs should be regular and predictable.[1010] It also contains the only explicit reference to energy poverty among the ILO's just transition guidance, which it mentions with regards to a Spanish policy that reduced energy poverty in two regions through guaranteed minimum income schemes.[1011] However, the ILO's guidance does not address the challenges developing countries face of expanding energy access while simultaneously phasing out fossil fuels, nor the risk that governments may use energy insecurity as justification to continue relying on fossil fuels while failing to reap the economic and sustainability co-benefits of a just transition to renewables-based energy systems.

To be more relevant for developing countries, international just transition policy guidance should address how developing countries can simultaneously expand access to affordable energy and transition to renewable energy systems. Such recommendations should also account for the risk of governments using energy insecurity to attempt to justify continued unsustainable reliance on fossil fuels.

4.11 Adequate Finance

Governments must secure adequate finance to enable just transition policies, making finance another key policy area for a just transition. The ILO Guidelines address this area at a high level but they do not acknowledge the different challenges faced by developing and developed countries in financing just transition policies.

While investments in energy transitions are increasing worldwide, the vast majority of investment inflows are going to China and developed countries.[1012] Developing economies receive only one-fifth of renewable energy investments despite accounting for two-thirds of the global population.[1013] In the case of South Africa, its government estimates that the energy transition alone will cost USD 250 billion over the next 30 years.[1014] The JETP will only deliver USD 8.5 billion,[1015] and such funds will comprise mostly loans rather than grants,[1016] an issue also underscored by one of our South African interviewees.[1017] This amount is also much lower than the USD 98.7 billion that the JET IP identifies will be necessary to finance the first five years of South Africa's energy transition.[1018] To reach net-zero global emissions by 2050, annual capital spending on renewable energy in developing countries must increase from USD 150 billion in 2020 to more than USD 1 trillion by the end of the 2020s.[1019]

Developing countries face several roadblocks in securing financing for renewable energy projects. They pay higher interest rates on their borrowing, making capital more expensive, and are only able to borrow at short maturities.[1020] These conditions make it difficult to rapidly expand renewable energy, as these projects require higher upfront capital financing compared to fossil fuel

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1009 Dankmeyer, *ILO Social Protection Policy Brief*, 7.

1010 Dankmeyer, *ILO Social Protection Policy Brief*, 10.

1011 Dankmeyer, *ILO Social Protection Policy Brief*, 11.

1012 IEA, *Financing Clean Energy Transitions*, 16 (noting that "[m]ore than 90% of the increase in clean energy investment since 2021 has taken place in advanced economies and China.").

1013 IEA, *Financing Clean Energy Transitions*, 13.

1014 South African Just Transition Framework, 24.

1015 European Commission, "Joint Statement: South Africa Just Energy Transition Investment Plan," press release, November 7, 2022, https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_22_6664.

1016 *See* Section 2.2.2.

1017 Zoom interview with anonymous expert interviewee (June 12, 2023).

1018 European Commission, "Joint Statement: South Africa Just Energy Transition Investment Plan," 8.

1019 IEA, *Financing Clean Energy Transitions*, 14.

1020 "Scaling Renewables: Jeffrey Sachs on Development Finance," *CCSI* (blog), June 27, 2023, https://ccsi.columbia.edu/news/scaling-renewables-jeffrey-sachs-development-finance; Mithatcan Aydos, Perrine Toledano, Martin Dietrich Brauch, Ladan Mehranvar, Theodoros Iliopoulos, and Sunayana Sasmal, *Scaling Investment in Renewable Energy Generation to Achieve Sustainable Development Goals 7 (Affordable and Clean Energy) and 13 (Climate Action) and the Paris Agreement: Roadblocks and Drivers* (New York: CCSI, December 2022), 15, https://ccsi.columbia.edu/content/renewable-energy-investment-roadblocks-drivers.

ones.[1021] In addition, there is insufficient local debt finance in developing countries, as local banks "generally prefer high-yielding, low-risk, short-term investment tools."[1022]

There are various measures public financial institutions can take to make low-cost capital available to developing countries. They can provide developing countries with concessional loans to develop renewable energy projects with "longer loan tenors, lower interest rates, and extended grace periods."[1023] In addition, they can develop innovative financing structures that reduce the risk of early-stage investments in renewables.[1024] Development finance institutions can also collaborate with commercial banks on lending to spread risk among lenders.[1025] Multilateral development banks should significantly increase their financing,[1026] as they can borrow on capital markets on better terms than developing countries and then can on-lend to developing countries.[1027] On-lending by development finance institutions to governments or other institutions through credit lines can also improve access to local debt financing.[1028] Private financial institutions can lower capital costs by buying multilateral development banks bonds and co-financing new investment plans in developing countries.[1029] In addition, export credit agencies, which protect financial institutions from certain hazards, can reduce risk and enable these institutions to lower their interest rates.[1030] As such, these agencies can align their mandates with climate goals.[1031]

With regards to domestic financial resources, the ILO Guidelines recommend that states determine their "long-term financing needs and establish sustainable funding mechanisms" for their just transition frameworks.[1032] They also recommend using "an appropriate combination of taxes, subsidies, incentives, guaranteed prices, and loans."[1033] In addition, the ILO's 2022 Green Macroeconomic Policy Brief provides an overview of research on green macroeconomic policies and instruments and offers recommendations.[1034] For instance, it proposes ways to design carbon taxes to be more progressive and to ensure their revenue is redistributed in a way that advances social justice.[1035]

Regarding developing countries specifically, the Green Macroeconomic Policy Brief acknowledges that they can rely on credit from multilateral development banks, which it states are "among the largest green bond issuers and channel these resources to offer loans and de-risk green investment."[1036] It also summarizes "green" monetary policies that have been tested by various central banks, including some in developing countries.[1037] In addition, the policy brief references a few specific challenges faced by developing countries. For instance, it notes that green bonds are mostly issued in high- and middle-income countries that have greater fiscal space and access to financial markets.[1038] However, the policy brief does not provide policy guidance that responds to financing challenges, aside from its reference to multilateral development banks and green bonds. It also does not acknowledge how countries' economic development statuses would affect their ability to expand green industry and thereby generate domestic

1021 Aydos et al., *Scaling Investment in Renewable Energy Generation*, 15.
1022 Aydos et al., *Scaling Investment in Renewable Energy Generation*, 24.
1023 Aydos et al., *Scaling Investment in Renewable Energy Generation*, 19.
1024 Aydos et al., *Scaling Investment in Renewable Energy Generation*, 22.
1025 Aydos et al., *Scaling Investment in Renewable Energy Generation*, 22.
1026 CCSI, "Scaling Renewables."
1027 CCSI, "Scaling Renewables."
1028 Aydos et al., *Scaling Investment in Renewable Energy Generation*, 24.
1029 CCSI, "Scaling Renewables."
1030 Aydos et al., *Scaling Investment in Renewable Energy Generation*, 26.
1031 Aydos et al., *Scaling Investment in Renewable Energy Generation*, 26; *see also* Lisa Sachs, Nora Mardirossian, and Perrine Toledano, *Finance for Zero: Redefining Financial-Sector Action to Achieve Global Climate Goals* (New York: CCSI, June 2023), https://ccsi.columbia.edu/finance-for-zero.
1032 ILO Guidelines, ¶ 19(b)(iii).
1033 ILO Guidelines, ¶ 19(c)(i).
1034 *See* Braga et al., *ILO Green Macroeconomic Policy Brief*.
1035 Braga et al., *ILO Green Macroeconomic Policy Brief*, 5–6.
1036 Braga et al., *ILO Green Macroeconomic Policy Brief*, 9.
1037 Braga et al., *ILO Green Macroeconomic Policy Brief*, 10.
1038 Braga et al., *ILO Green Macroeconomic Policy Brief*, 9.

capital to finance their just transitions, or the need to reform international financial institutions to ensure that developing countries have access to low-cost, long-term financing.

International institutions should provide policy guidance on how developing countries can finance their domestic just transition measures, including what reforms international financial institutions should take to increase developing countries' access to low-cost, long-term finance.

4.12 Environmental Remediation and Repurposing Former Industrial Sites

Another key element of a just transition is environmental remediation and repurposing of former sites of fossil fuel extraction, energy production, and related industrial activity.[1039] The ILO Guidelines encourage remediation but do not reference repurposing, nor do they provide guidance tailored to developing countries.

The issue of environmental remediation was raised by one German expert interviewee and is an element of both South Africa's Framework and Germany's coal exit laws.[1040] In the case of coal mines, if they are not properly closed and rehabilitated, some air pollution can continue, as well as other environmental problems, such as acid mine water pollution.[1041] Decommissioned mines also pose economic liabilities if not properly closed and rehabilitated.[1042] Governments should make plans for environmental remediation as part of their energy transitions to manage the social implications of mine closure and prevent costs from falling on local communities.[1043] As fossil fuel production has a disparate adverse impact on people of color, Indigenous Peoples, women, and other marginalized groups, remediation can help reduce historical injustices.[1044] In addition, environmental rehabilitation supports economic development by increasing local property values, generating employment (at least temporarily), and attracting new businesses.[1045] It is also important that remediation projects have a stakeholder engagement strategy in order to leverage the local knowledge of community members.[1046]

1039 For an in-depth analysis concerning the decommissioning of offshore oil and gas infrastructure, *see* Martin Lockman, Martin Dietrich Brauch, Esteban F. Fresno Rodríguez, and José Luis Gallardo Torres, *Decommissioning Liability at the End of Offshore Oil and Gas: A Review of International Obligations*, *National Laws, and Contractual Approaches in Ten Jurisdictions* (New York: Sabin Center for Climate Change Law and CCSI, August 2023), https://ccsi.columbia.edu/content/decomissioning-liability-offshore-oil-gas-infrastructure.

1040 Zoom interview with anonymous expert interviewee (July 14, 2023). The South African Framework recommends creating "opportunities for rehabilitation of degraded land, air sheds, and water systems." South African Just Transition Framework, 9. It also encourages ecosystem restoration as a way to increase resilience of people to climate impacts while also creating new jobs. South African Just Transition Framework, 8, 20. One of the StStG state funding program's funding areas includes measures for the renaturation, redevelopment, and reforestation of former opencast mining areas. StStG § 4.1.

1041 Daniel Raimi, Aurora Barone, Sanya Carley, David Foster, Emily Grubert, Julia Haggerty, Jake Higdon, Michael Kearney, David Konisky, Jennifer Michael, Gilbert Michaud, Sade Nabahe, Nina Peluso, Molly Robertson, and Tony Reames, *Policy Options to Enable an Equitable Energy Transition*, Report 21-09 (Washington, DC: Resources for the Future, April 2021) 18, 20, https://media.rff.org/documents/RFF_Report_21-09_Policy_Options_to_Enable_an_Equitable_Energy_Transition.pdf; Marais et al., "Mine Closure in the Coal Industry," 41, 42; Deidré van Rooyen and Johan van Zyl, "Boom or Bust for Emalahleni Businesses?" in *Coal and Energy in South Africa: Considering a Just Transition,* 154.

1042 Marais et al., "Mine Closure in the Coal Industry," 42.

1043 Marais et al., "Mine Closure in the Coal Industry," 42; Christiane Beuermann, *Toolkit. Environmental Rehabilitation and Repurposing. Guidance on the Governance of Environmental Rehabilitation and Repurposing in Coal Regions in Transition* (Brussels: European Commission), 13, https://energy.ec.europa.eu/system/files/2020-05/environmental_rehabilitation_and_repurposing_toolkit_-_platform_for_coal_regions_in_transition_0.pdf; Amnesty International, *Fatal Fuels: Why Human Rights Protection Urgently Requires a Full and Equitable Fossil Fuel Phase Out* (London: Amnesty International, 2023), 18, https://www.amnesty.org/en/wp-content/uploads/2023/11/POL3073822023ENGLISH.pdf; Catherine Macdonald, "The Role of Gender in the Extractive Industries" in *Extractive Industries: The Management of Resources as a Driver of Sustainable Development*, eds. Tony Addison and Alan Roe (Oxford University Press, September 2018), 446, https://doi.org/10.1093/oso/9780198817369.003.0021.

1044 Raimi et al., *Policy Options to Enable an Equitable Energy Transition,* 18.

1045 Raimi et al., *Policy Options to Enable an Equitable Energy Transition,* 18; Daniel Raimi, *Environmental Remediation and Infrastructure Policies Supporting Workers and Communities in Transition* (Report 20-11, Washington, DC: Resources for the Future and Environmental Defense Fund, September 2020), 1, https://media.rff.org/documents/RFF_Report_20-11_Fairness_for_Workers.pdf; Beuermann, *Toolkit*, 5; Claudia Strambo, Jesse Burton, and Aaron Atteridge, *The End of Coal? Planning a "Just Transition" in South Africa* (Stockholm: Stockholm Environment Institute, February 2019), 9, https://www.sei.org/wp-content/uploads/2019/02/planning-a-just-transition-in-south-africa.pdf.

1046 Rosalie O'Brien, Thomas Phelan, Nicole Smith, and Kathleen Smits, "Remediation in Developing Countries: A Review of Previously Implemented Projects and Analysis of Stakeholder Participation Efforts," *Critical Reviews in Environmental Science and Technology* 51, no. 12 (2021): 1259–1280, 1261,

Developing countries can face greater social and economic barriers to environmental remediation compared to the most developed ones.[1047] Some specific challenges include technological barriers, political instability, and "insufficient capacity for regulation and supervision from government and local institutions."[1048]

In South Africa, there have been certain challenges in closing coal mines and restoring the land, which can be illustrative. South Africa has environmental regulations related to mine closure and requires mining companies to set aside funds for rehabilitation post-closure.[1049] However, there are widespread concerns that mining companies will fail to fulfill these legal obligations, and these laws have been criticized on a number of bases, including for being unclear, inconsistent, and lacking transparency and accountability.[1050] Smaller mining companies are less likely to comply with regulations,[1051] and sometimes large companies sell their mines to smaller firms, which lack the financial means to carry out proper rehabilitation.[1052] In addition, mining companies that intend to permanently close a mine sometimes opt for "care and maintenance," a designation intended for cases where mines are closed temporarily, to avoid the environmental obligations that accompany full closure.[1053] In addition, because mines are often sited in remote areas, even if such sites are rehabilitated, there remain challenges in linking such sites with the mainstream economy.[1054] Moreover, aside from mining closures brought on by the energy transition, there are already thousands of abandoned mines, including coal mines, that South Africa must address.[1055]

Regarding environmental remediation, the ILO Guidelines recommend governments promote cooperation with regards to "restoration of natural resources."[1056] The Green Works Policy Brief also promotes ecosystem restoration and environmental rehabilitation activities as subcategories of green works.[1057] While the ILO encourages these activities, it does not provide specific policy recommendations, nor does it provide guidance tailored to developing countries to help them ensure both the regulation and the funding of environmental remediation of former fossil fuel extraction sites. It also does not provide guidance in relation to repurposing sites for other economic activities.

International just transition policy guidance should address how governments can ensure environmental remediation measures as essential components of their just transitions. They should also address challenges faced by developing countries in the regulation and financing of such measures.

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https://doi.org/10.1080/10643389.2020.1755203.

1047 O'Brien et al., "Remediation in Developing Countries," 1260.

1048 O'Brien et al., "Remediation in Developing Countries," 1260.

1049 Strambo, Burton, and Atteridge, *Planning a "Just Transition" in South Africa*, 8; Lochner Marais, Philippe Burger, Maléne Campbell, Stuart Paul Denoon-Stevens, and Deidré van Rooyen, "Is a Just Transition Possible?" in *Coal and Energy in South Africa: Considering a Just Transition*, 232.

1050 Etienne Nel, Lochner Marais, and Zolile Mqotyana, "The Regional Implications of Just Transition in the World's Most Coal-dependent Economy: The Case of Mpumalanga, South Africa," *Frontiers in Sustainable Cities* 4, no. 1059312 (2022): 11, 13, https://doi.org/10.3389/frsc.2022.1059312; Strambo, Burton, and Atteridge, *Planning a "Just Transition" in South Africa*, 8.

1051 Marais et al., "Is a Just Transition Possible?" 232.

1052 van Rooyen and van Zyl, "Boom or Bust for Emalahleni Businesses?" 154; Marais et al., "Is a Just Transition Possible?" 232, 237; Marais et al., "Mine Closure in the Coal Industry," 41.

1053 Marais et al., "Is a Just Transition Possible?" 232, 237; Mia Pepper, Michael Hughes, and Yvonne Haigh, "Loophole or Lifeline? The Policy Challenges of Mines in Care and Maintenance," *The Extractives Industries and Society* 8, no. 100879 (2021): 1, https://doi.org/10.1016/j.exis.2021.01.014; Marais et al., "Mine Closure in the Coal Industry," 41.

1054 Marais et al., "Mine Closure in the Coal Industry," 38

1055 Strambo, Burton, and Atteridge, *Planning a "Just Transition" in South Africa*, 8.

1056 ILO Guidelines, ¶ 16(e)(ii).

1057 Reid and Lieuw-Kie-Song, *ILO Green Works Policy Brief*, 3 et seq.

5 Conclusion and Recommendations

In this report, we present an in-depth comparison of South Africa's Just Transition Framework and Germany's coal exit laws with the ILO's Just Transition Guidelines. There is strong overlap between the ILO Guidelines and South Africa's Framework and Germany's coal exit laws, but there are also various instances in which the ILO Guidelines' policy recommendations are not directly reflected in the national policies analyzed. This comparison helps reveal what policy issues are especially relevant for just transitions in different country contexts.

A just transition has various facets beyond green jobs and social protection of which policymakers should be mindful. Indeed, these areas should not be thought of as a menu to select from but rather as a package deal, because the global energy transition cannot be characterized as "just" if it is carried out at the expense of vulnerable populations. In addition, given that the existing just transition literature disproportionately concentrates on developed countries, more research should focus on what it means to realize a just energy transition in developing countries.

While the ILO Guidelines are a useful resource and their adoption by the ILO Governing Body marked an important milestone, they do not sufficiently address some of the key facets of just energy transitions. To ensure that future international soft-law guidance for national-level just energy transition policy is suitable and readily adaptable to different country contexts, the ILO and other international organizations should seek a better understanding of these key facets this report has identified, including challenges that are particularly relevant for developing countries, and expand their policy guidance to address the challenges identified. Future research is needed to explore how the broad issues identified in this report manifest in specific contexts, and how to implement just transition policies in those specific contexts.

This report has identified the following issues as deserving additional policy guidance (and research as needed) from international institutions:

Developing countries

- How developing country governments with institutional capacity constraints can achieve a just transition, including what forms of technical and financial assistance are available.
- How to achieve a just transition in the context of widespread government corruption, given its effect on public trust in institutions and risks of mismanagement of funds.
- How developing countries grappling with high rates of unemployment and informal work can ensure decent employment during the just transition and beyond.
- How developing countries can simultaneously expand access to affordable energy and transition to renewable energy systems, accounting for the risk of governments using energy insecurity to attempt to justify continued unsustainable reliance on fossil fuels.
- What measures need to be taken for developing countries with low rates of social protection to expand their social protection floor so that it is capable of meeting new demands posed by the transition.
- How developing countries can fund their domestic just transition measures, including what reforms international financial institutions should take to increase developing countries' access to low-cost, long-term financing.
- How developing countries should design and implement green industrial policies for achieving economic diversification and developing internationally competitive green industries.

Developed countries

- How developed countries can avoid undermining developing countries' just transition efforts, including by seeking to avoid making their own green industrial policies overly protectionist.
- How to acknowledge and enforce developed countries' responsibility to provide finance for developing countries to enable just transition policy measures given developed countries' disproportionate responsibility for climate change and their greater access to finance.
- How developed countries and international organizations can help enable developing countries' green industrial policies.

All countries

- How governments can ensure affected communities, including traditional and rural communities, youth, women, and informal workers, are consulted adequately at every stage of just transition policymaking, while preventing their voices from being overshadowed by investors, external development partners, and other more powerful stakeholders, and overcoming challenges such as a lack of connectivity and access to venues.
- How the just transition affects Indigenous Peoples, and how to address their particular challenges and needs in this context.
- How countries that export critical minerals can directly manage the environmental and human rights impacts of their primary and secondary production and how importing countries can mandate companies carry out human rights and environmental due diligence.
- How governments can update skills development opportunities to (i) be relevant and accessible for vulnerable groups and (ii) encourage university-level education and education in STEM fields, which are in high demand in the green economy.
- How to reform fossil fuel subsidies and ensure a swift phaseout of fossil fuel production and consumption (combined with enhanced social protection measures) as integral parts of a just transition.
- How to ensure environmental remediation measures as essential components of a just transition and address challenges faced by developing countries in the regulation and funding of such measures.
- How to advance gender equity and equality in just transition processes in different country contexts.[1058]

Just transition policymaking requires incorporating various perspectives. While this report focuses on the ILO Guidelines, there are numerous other organizations with relevant expertise for contributing to defining a just transition, exploring how it can be achieved in different country contexts, and supporting developing country governments to achieve it. In addition, multi-stakeholder collaboration is necessary to formulate policy guidance as well as develop and implement just transition policy. Collaboration must include, among others, human rights organizations, civil society organizations, academics, the private sector, governments at all levels, international and regional organizations, and international financial institutions.

[1058] While recognizing the critical importance of a thorough exploration of the gender dimensions of just transition processes, this policy brief does not include in its scope a detailed examination of the gender dimension of a just transition. Dedicated resources on the gender dimension of a just transition include: Emanuela Pozzan, Elena Dedova, and Gabriela Balvedi Pimentel, *Just Transition Policy Brief: Gender Equality, Labour and a Just Transition for All* (Geneva: ILO, October 2022), https://www.ilo.org/publications/gender-equality-labour-and-just-transition-all; Carla Kraft and Seemin Qayum, *A Gender-Responsive Just Transition for People and Planet* (New York: UN Women, 2023) https://www.unwomen.org/sites/default/files/2023-11/policy-brief-a-gender-responsive-just-transition-for-people-and-planet-en.pdf; Johanna Lehtmets and Laura Del Duca, "Q&A: Bridging Gender and Just Energy Transitions," SEI, April 18, 2023, https://www.sei.org/features/qa-bridging-gender-and-just-energy-transitions/; "Why Does Gender Matter in a 'Just Transition'?" International Institute for Environment and Development (recording of online event), October 26, 2023, https://www.iied.org/why-does-gender-matter-just-transition.

Appendix A: ILO Just Transition Policy Briefs and Related Publications

Title	Date	Description[1059]	Link
Occupational safety and health in a just transition	Sept. 2023	Aims "to present the linkages between just transition and occupational safety and health (OSH), providing stakeholders with information and recommendations for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_895605/lang--en/index.htm
The role of active labour market policies for a just transition	June 2023	Aims "to present the linkages between just transition and the role of active labour market policies, providing stakeholders with information and recommendations for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_886544/lang--en/index.htm
Social protection for a just transition	Feb. 2023	Aims "to present the linkages between just transition and social protection, providing stakeholders with information and recommendations for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_867426/lang--en/index.htm
A just transition for people living with HIV in the world of work	Feb. 2023	Aims "to present the linkages between just transition and people living with, at risk of and affected by HIV, providing stakeholders with information and recommendations for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_867187/lang--en/index.htm
Greening macroeconomic policies: Current trends and policy options	Nov. 2022	Aims "to present the linkages between just transition and macroeconomic and growth policies, providing stakeholders with information and recommendations for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_863317/lang--en/index.htm
"Nothing about us without us" – Realizing disability rights through a just transition towards environmentally sustainable economies and societies	Nov. 2022	Aims "to present the linkages between just transition and persons with disabilities, providing stakeholders with information and recommendations for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_860628/lang--en/index.htm
Skills Development for a Just Transition	Nov. 2022	Aims "to present the linkages between just transition and skills development, providing stakeholders with information and recommendations for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_860617/lang--en/index.htm
Indigenous Peoples and a Just Transition for All	Nov. 2022	Aims "to present the linkages between just transition and indigenous peoples, providing stakeholders with information and recommendations for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_860607/lang--en/index.htm
Human mobility and labour migration related to climate change in a just transition towards environmentally sustainable economies and societies for all	Nov. 2022	Aims "to present the linkages between just transition and labour migration and human mobility, providing stakeholders with information and recommendations for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_860606/lang--en/index.htm

[1059] Description of policy briefs adapted from "Just Transition Policy Briefs," ILO, https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/lang--en/nextRow--0/index.htm.

Title	Date	Description[1059]	Link
Green works to support a just transition	Nov. 2022	Aims "to present the linkages between just transition and green works, providing stakeholders with information and recommendations for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_860571/lang--en/index.htm
Gender equality, labour and a just transition for all	Nov. 2022	Aims "to present the linkages between just transition and gender equality and labour, providing stakeholders with information and recommendations for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_860569/lang--en/index.htm
Sectoral Policies for a Just Transition towards Environmentally Sustainable Economies and Societies for All	Oct. 2022	Aims "to present the linkages between just transition and industrial and sectoral policies, providing stakeholders with information and recommendation for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_858856/lang--en/index.htm
How MSMEs can contribute to and benefit from a just transition	Oct. 2022	Aims "to present the linkages between just transition and MSMEs, providing stakeholders with information and recommendation for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_858855/lang--en/index.htm
The Role of Social Dialogue and Tripartism in a Just Transition towards Environmentally Sustainable Economies and Societies for All	Oct. 2022	Aims "to present the linkages between just transition and social dialogue and tripartism, providing stakeholders with information and recommendations for implementation."	https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/WCMS_858810/lang--en/index.htm
Just Transition Towards Environmentally Sustainable Economies And Societies For All: ILO ACTRAV Policy Brief	2018	Aims to "address the main challenges in fulfilling [the Paris Agreement] goals [and SDGs], how just transition can work in practice and what trade unions and workers' organizations can do. In doing so, the [ILO Guidelines] provide the basic framework with a view to implementing the Paris Agreement and [SDGs]".	https://www.ituc-csi.org/IMG/pdf/wcms_647648.pdf
User's manual to the ILO's Guidelines for a just transition towards environmentally sustainable economies and societies for all	Nov. 2021	Aims to "encourag[e] and assist[] workers' organizations to engage in policy discussions at all levels in shaping just transition, including in the implementation of the [NDCs] of the Paris Agreement."	https://www.ilo.org/publications/users-manual-ilos-guidelines-just-transition-towards-environmentally

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