



► Just Transition Policy Brief

August 2022

Sectoral Policies for a Just Transition towards Environmentally Sustainable Economies and Societies for All

Key messages

- ▶ As the world moves towards carbon-free energy, more careful stewardship of the environment, and sustainable production and consumption practices, some sectors will decline, others will grow, and many will transform through new technologies, modes of production and work.
- ▶ A just transition will therefore require “industrial and sectoral policies to address environmental, economic and social sustainability simultaneously”, according the 2015 ILO Guidelines for a Just Transition. A sectoral approach to just transition can ensure that policies and practices respond to the needs of specific sectoral employers and workers.
- ▶ Sector-specific policies are needed to ensure relevant skills development for green and sustainable production and growth, social protection to support workers in transition, enterprise development support for growing green sectors, and respect for international labour standards.
- ▶ Sectoral social dialogue is also essential to ensure that just transition strategies include the voices of sectoral employers, workers, and other relevant stakeholders.
- ▶ A just transition will therefore require engagement by sectoral employers’ and workers’ organizations, coordination across sectors through federations of employers’ and workers’ organizations, and engagement of and coordination between a wide range of relevant government ministries and international organizations.





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Background

The ILO Guidelines for a *Just Transition towards Environmentally Sustainable Economies and Societies for All* (hereafter the Just Transition Guidelines), adopted by representatives of governments, employers' and workers' organizations in 2015, provide a policy framework and an operational tool to address environmental change in a way that advances social justice and promotes decent work creation. This policy brief is part of a series of briefs that seek to deepen the technical and policy understanding of the application of the Just Transition Guidelines. They are mutually reinforcing and together form a body of policy guidance on the Just Transition Guidelines.

The just transition briefs are intended for use by policymakers and practitioners at all levels to provide practical information and guidance, fostering a common understanding of what is meant by a just transition in specific topic areas and providing recommendations for implementation by countries, international institutions and other actors in academia and civil society. The briefs seek, in particular, to provide guidance on just transition to

ILO constituents, including workers' organizations, employers' organizations, and governments and relevant line ministries.

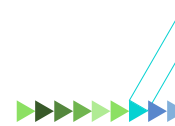
The briefs cover the following thematic areas: macro-economic and growth policies; industrial and sectoral policies; active labour market policies; enterprise policies; skills development; green works; occupational safety and health; social protection; rights; social dialogue and tripartism; collective bargaining; labour migration and human mobility; indigenous peoples; gender and labour; youth employment; persons with disabilities; persons with HIV/AIDS; and financing a just transition.

This policy brief is intended to present the linkages between just transition and industrial and sectoral policies, providing stakeholders with information and recommendations for implementation. The broad implementation of just transition across all policy areas and cross-cutting thematic topics requires careful consideration of the guidance provided in the ILO Just Transition Guidelines, taking into account the needs, priorities and circumstances of each country.

1. Introduction

The 2015 ILO Guidelines for a Just Transition towards Environmentally Sustainable Economies

and Societies for All call for "industrial and sectoral policies to address environmental, economic and



social sustainability simultaneously”.¹ They further recognize that “policies and programmes need to be designed in line with the specific conditions of countries, including their stage of development, economic sectors and types and sizes of enterprises”. They also call for “cooperation and coordination between employment authorities and their counterparts in various fields, including finance, planning, environment, energy, transport, health and economic and social development”. For the ILO, these provisions mean that in addition to promoting the decent work agenda and a just transition at the general level, specific policies are also needed to address the sectoral dynamics of such a transition, which require coordination between government entities beyond employment and labour. The following brief, as part of a series of thematic policy briefs on the Just Transition Guidelines, examines the sectoral dimensions of a just transition, and highlights opportunities and challenges with regard to transitioning specific sectors towards more sustainable and socially just models. In this respect, this brief complements the other briefs in the just transition series by offering insights and guidance for constituents acting at the sectoral level.

2. Key stakeholders

The key stakeholders of a sectoral approach to a just transition include labour ministries and most representative employers’ and workers’ organizations. As the Just Transition Guidelines suggest, stakeholders also include sectoral stakeholders. They include relevant line ministries such as those dealing with energy, public services, extractives, tourism, transport, finance, education, health, water, agriculture, maritime affairs, to sector-specific employers’ and workers’ organizations.

A sectoral approach to a just transition highlights the interplay and interdependence between sectors as a society moves towards sustainability. As the brief demonstrates, some sectors will inevitably decline in a transition to a green economy, requiring strategies to provide businesses and workers the means to reskill and transition into new sectors. Other sectors will grow in a green economy, and the challenge here will be to ensure decent work. And finally, there will be sectors that will radically transform, ushering in new ways of working, producing, consuming, living and engaging with the sector as a whole.

Sectoral policies and strategies are key for implementing a just transition towards a sustainable economy. Sectoral approaches can support sectoral social dialogue about transition, ensuring its benefits are equally shared, tailor policies to meet the needs of transition enterprises and workers and boost employment opportunities for women and youth in green growth sectors. A sectoral approach can also promote decent work in green growth sectors and connect with skills development policies to foster learning for sustainable development.

They can also include sector-specific civil society organizations, such as organizations of indigenous peoples, migrant workers and businesses. While many of these groups are already dealing with issues related to just transition, the ILO has an important role to highlight the interdependence of various sectoral transitions, and to support stakeholders in devising just sectoral transition strategies.

3. International labour standards, social dialogue, and other tools

Sectoral strategies for a just transition can be supported by fundamental principles and rights at work and international labour standards, including a number of sectoral standards, codes and guidelines that have been developed by the ILO.² Many of these standards and tools set out decent work conditions within the sector and call for robust

social dialogue in the establishment of policies and practices. Such standards and tools can therefore guide constituents in pursuing dialogue to ensure decent work, productivity, reskilling and job mobility as sectors transition from current practices to low-carbon and sustainable models. Many of these standards also contain provisions on inclusivity

¹ ILO, *Guidelines for a Just Transition towards Environmentally Sustainable Economies and Societies for All*, 2015.

² See the [ILO Sector-specific International Conventions and Recommendations](#) and [Codes of Practice and Guidelines](#), a list of sectoral tools.

and non-discrimination, which in the context of just transition have an important sectoral dimension. Some sectors are highly gendered, such as oil and gas, with a high proportion of men, and health, with a high proportion of women. Transition strategies will need to take such gender dimensions into account. Similarly, persons with disabilities (whether consumers or workers) or ethnic minorities might

not be full engaged when sectors shift to greener models. The inclusion of underrepresented groups in policy dialogue around the transition of sectors is a key strategy in ensuring a just and inclusive transition. Global, regional and national social dialogue around sectoral just transition issues is supported by the ILO's [Sectoral Policies Department](#).

4. Sectoral policies and the just transition

4.1 General

A just transition to a green economy, meaning policies that advance decent work and social justice while tackling environmental problems, will impact different sectors in different ways.³ While transport, resource and emissions-intensive economic sectors (for example, mining and quarrying and manufacturing) will come under increasing pressure to shrink and transform, new and emerging “green sectors” (such as renewable energy) are likely to be buoyed by an influx of investment and policy support.⁴ “Generally, output and employment in low-carbon industries and services will grow, while energy and resource-intensive sectors are likely to stagnate or contract”.⁵ The challenge that the green/just transition presents is two-fold: (a) to ensure that workers and enterprises in declining sectors receive the support necessary to transition and thrive in a green economy, including through re-skilling and up-skilling programmes, active labour market policies, and adequate social protection; and (b) to ensure that jobs in emerging and growing sectors are not just green (in terms of growing the green economy) but also sustainable and decent. Moreover, climate change has a direct impact on numerous sectors, from changing agricultural conditions to heat stress in manufacturing, adding further challenges for sectoral productivity and protection of workers.⁶ The following section will briefly examine aspects of the just transition in a wide number of sectors. It is followed by a deeper examination of three sectors in particular.

4.2 Manufacturing

Manufacturing industries (including the production of electronics, metal, chemicals, pharmaceuticals and transport equipment) account for approximately 22.6 per cent of employment globally and around 30 per cent of global greenhouse gas emissions. The majority of these emissions come from the energy used to produce iron, steel and other goods. The remainder is mostly a by-product of cement, chemicals and petrochemical production processes. Governments across the world are adopting a host of new policies to achieve climate mitigation. Many of these, such as bans on the sale of gasoline-powered cars and measures to curb the consumption and production of single-use plastics, will have significant implications for the manufacturing sector. The response from the industry to a new and greener policy regime and to changing consumer preferences generally comprises: (a) switching to cleaner energy sources, (b) investing in more resource-efficient production processes and technologies, (c) linked to this, exploring circular economy business models, (d) producing greener products, (e) and further improving emissions and waste management.

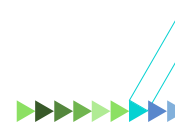
As a result of the green transition, some segments of the manufacturing industry will experience a period of rapid (and historic) transformation. The automotive sector is a case in point: with the shift to electric mobility, enterprises and jobs linked to the manufacturing and maintenance of combustion engines will decline drastically. At the same time, the growth of low emissions mobility is expected to generate new employment opportunities (such as in

3 The ILO works on 22 defined sectoral groups. For more see the [Sectoral Policies Department](#).

4 ILO, *World Employment and Social Outlook 2018: Greening with Jobs*, 2018.

5 UNFCCC, “Just Transition of the Workforce, and the Creation of Decent Work and Quality Jobs”, 2020, 15.

6 Tord Kjellstrom and Nicolas Maître, *Working on a Warmer Planet: The Effect of Heat Stress on Productivity and Decent Work*, ILO, 2019.



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battery production).⁷ However, a transition towards electrification and greater resource efficiency is unlikely to generate as many jobs in manufacturing than are lost. Electric vehicles, for instance, have substantially fewer moving parts than gasoline-powered ones, and thus require less labour to manufacture.⁸

Appropriate sectoral policies, however, can advance decent work in the sector, alleviating some of the effects of job elimination while ensuring quality jobs in the new areas. Examples are attaching specific requirements on labour standards to policies to develop the electric vehicle market, strengthening social protection (such as extending unemployment benefits), and the promotion of social dialogue and collective bargaining (ensuring freedom of association and unionization is critical in this regard). In order to scale back the workforce, some car manufacturers are offering part-time retirement and severance packages, as well as relying on attrition (workers that resign or retire are not replaced);

factory workers in certain companies can also rely on prior agreements that guarantee their employment until the end of the decade.⁹

The green transition implies a reallocation of a certain number of jobs from manufacturing to waste management, recycling, services, repair and rent.¹⁰ However, jobs in these growing sectors are not necessarily decent or green. The work of dismantling and extracting valuable materials from electronic waste (e-waste) is a prime example: dealing with e-waste is hazardous, polluting, and often occurs in small-and-medium enterprises in the informal economy.¹¹ At the same time, dismantling and repairing e-waste is an increasingly important source of income for many workers. In order to support a just transition in e-waste, and the waste management sector more broadly, promoting skills development and sustainable enterprises, formalization, the establishment of employers' and workers' organizations, and social dialogue are key.¹² In addition to reducing the environmental footprint

7 Sören Amelang, "How Many Car Industry Jobs Are at Risk from the Shift to Electric Vehicles?" *Clean Energy Wire*, 7 July 2021.

8 Noam Scheiber, "What Will It Take for Electric Vehicles to Create Jobs, Not Cut Them?" *The New York Times*, 22 September 2021.

9 Jack Kelly, "Daimler AG Plans to Cut 10,000 Jobs As The Company Turns To Electric Cars" *Forbes* 3 December 2019.

10 ILO, *WESO 2018: Greening with Jobs*, 2018, 37.

11 ILO, "Urgent Action Needed to Better Manage E-Waste: ILO" (press release, 17 April 2019).

12 ILO, "Decent Work in the Management of Electrical and Electronic Waste (e-waste)" Issues Paper for the Global Dialogue Forum on Decent Work in the Management of Electrical and Electronic Waste (E-waste), 2019.

of high-consumption societies, investing in waste diversion, recycling and recovery programmes helps create jobs (repair work is particularly labour intensive) and enables technological upgrading and skills and knowledge transfer. It also encourages innovation in the manufacturing sector and may prompt the establishment of cooperatives and other solidarity economy organizations (for example, drivers at one worker-owned waste management company in San Francisco earn above-average wages).¹³

4.3 Extractives (energy and mining)

Mitigating climate change requires “a fundamental restructuring of the energy supply sector”, moving away from fossil fuel-based energy production to clean, renewable sources.¹⁴ Intensive extractive activities will be required to meet the demand for critical minerals used in renewable energy production and electric vehicle manufacturing (in particular, copper, lithium, nickel, cobalt and rare earth elements).¹⁵ This means that although coal-related mining jobs are expected to decline, the green transition does not mean the end of mining itself – in fact, the shift to low-carbon energy will raise demand for green “technology-critical” minerals in specific regions and countries, including Latin America (with respect to copper, iron ore, silver, lithium, aluminium, nickel, manganese, and zinc), Africa (with respect to platinum, manganese, bauxite, and chromium), and China (with respect to rare earth minerals).¹⁶ Notably, jobs in the mines that supply the energy transition are often informal, dangerous, and poorly paid, especially in areas where governance is weak.¹⁷ New extractive projects driven by growing demand from the renewable energies sector also risk displacing or altering local communities, degrading local water supply and ecosystems, and affecting

livelihoods in sectors that depend on a healthy environment.¹⁸

In order to ensure that the energy transition does not lead to new forms of social inequality, exclusion, and environmental degradation, sectoral policies must 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), and the livelihoods and land rights of those impacted by renewables projects and its supply chain (for example, fishers affected by wind power developments).¹⁹ In this regard, some stakeholders are calling for an expanded notion of the just transition to include a *whole of supply-chains approach* with a special emphasis on human rights and circularity (e.g., directing efforts towards recovering critical minerals rather than embarking upon socially and ecologically costly new extractive projects). In addition, the “cooperative business model is well positioned to play a role in addressing some of the challenges in the renewable energy industry, particularly through community-driven initiatives supporting access to affordable and clean energy sources for all”.²⁰ Policies are also needed to ensure an enabling environment for entrepreneurship and sustainable enterprises in the sector, in particular with respect to enhancing productivity and improved management practices.

4.4 Transport (air, maritime, road)

Close to a quarter of global GHG emissions come from the transport sector.²¹ According to the IPCC, the continuing growth in passenger and freight activity could outweigh all mitigation measures unless rapid decarbonization of the transport sector (and demand reduction) can be achieved.²² The

13 GAIA, “Zero Waste and Economic Recovery: The Job Creation Potential of Zero Waste Solutions”, 2021.

14 UNFCCC 2020, 15.

15 Deanna Kemp and Nick Bainton, “More Clean Energy Means More Mines – We Shouldn’t Sacrifice Communities in the Name of Climate Action” *The Conversation*, 4 November 2021; Claire Asher, “Climate-Positive, High-Tech Metals Are Polluting Earth, but Solutions Await” *Mongabay Environmental News*, 15 March 2022.

16 World Bank, “The Growing Role of Minerals and Metals for a Low Carbon Future”, 2017, xiii; IEA, (International Energy Agency), “The Role of Critical Minerals in Clean Energy Transitions. World Energy Outlook Special Report”, 2022.

17 Pete Pattison, “‘Like Slave and Master’: DRC Miners Toil for 30p an Hour to Fuel Electric Cars”, *The Guardian*, 8 November 2021.

18 Daniel Boffey, “Rio Tinto’s Past Casts a Shadow over Serbia’s Hopes of a Lithium Revolution” *The Guardian*, 19 November 2021; Business and Human Rights Resource Centre, “Renewable Energy & Human Rights Benchmark 2021”, 2 November 2021.

19 María Paula Rubiano, “Report: The Renewable Future Is Being Built on Exploitation, Too”, *Grist*, 8 November 2021.

20 ILO, *WESO 2018: Greening with Jobs*, 61.

21 United Nations, “Sustainable Transport Key to Green Energy Shift: UN Secretary-General”, *UN News*, 14 October 2021.

22 IPCC, “Chapter 8: Transport”, in *AR 5: Climate Change 2014: Mitigation of Climate Change*. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. (Cambridge University Press, 2014), 603–604.



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aggressive mitigation policies needed to transition the sector (including the electrification of private passenger and freight transport, the uptake of clean and renewable fuels, and expanding public transport services) will have significant implications for jobs.²³ Notably, land transport accounts for more than 60 million direct jobs around the world (representing over 2 per cent of global employment).²⁴

With regard to urban transport, the structural shift away from fossil fuels-dependent mobility towards electrification and the increased use of public transport services is expected to lead to net employment gains. However, the positive prognosis masks considerable reallocation: while new jobs are created in public transport services, rail infrastructure construction, and electric vehicles manufacturing, jobs are likely to be lost in the conventional automobiles and petroleum industries.²⁵ In addition, large numbers of jobs in environmentally unsustainable small-scale and

informal transport services are potentially at risk. Notably, urban passenger transport (UPT) services are a significant source of employment for many, and in many regions, up to 40 per cent of urban passenger transport jobs are informal.²⁶ In order to protect those workers and their communities, complementary policies are critical, including investing in skills development, social protection, and active labour market policies.²⁷ In addition, approaches should be tailored to take into account the needs and vulnerabilities of workers in the informal economy. In this regard, professionalizing the training of UPT workers can effectively promote the transition to formality; this should be accompanied by robust labour law enforcement systems, including occupational safety and health provisions.²⁸

The maritime industry transports around 90 per cent of global trade, employs 1.9 million seafarers, and is responsible for nearly 3 per cent of global

23 IPCC, 603–606. Transport emissions are strongly linked to GDP/income and reflect broader economic inequalities: 10 per cent of the global population account for 80 per cent of total motorized passenger-kilometres; OECD countries dominate GHG transport emissions.

24 ILO and UNECE, *Jobs in Green and Healthy Transport: Making the Green Shift*, 2020.

25 ILO and UNECE, *Jobs in Green and Healthy Transport*, 2020, vii.

26 ILO, “*Meeting Report for the Technical Meeting on the Future of Decent and Sustainable Work in Urban Transport Services*”, 30 August–3 September 2021, 15–16.

27 ILO and UNECE, *Jobs in Green and Healthy Transport*, 2020.

28 ILO, *Technical Meeting on the Future of Decent and Sustainable Work in Urban Transport Services: Conclusions*, 30 August–3 September 2021.

GHG emissions (as well as causing maritime pollution, noise pollution, and biodiversity impacts). Significant efforts are underway to put the maritime sector on course towards more environmentally sustainable shipping. The International Maritime Organization (IMO), for instance, has adopted mandatory measures under its pollution prevention treaty (MARPOL) to drastically reduce carbon intensity and GHG emissions from international shipping. Emissions reductions can be achieved by the adoption of new technologies (such as zero-emission vessels) and sustainability practices that track and improve energy efficiency in freight transport.²⁹

A “Just Transition Maritime Task Force” was formed at COP26 by the International Chamber of Shipping, the International Transport Workers’ Federation and the UN Global Compact to drive decarbonization in the industry while supporting a just transition for the maritime workforce; the ILO and IMO have joined the task force as formal partners.³⁰ The Task Force will coordinate efforts with governments, industry, workers and their representatives. Research and lessons learned will be developed around the green training and upskilling needs for the maritime industry’s transition and the green job potential of new fuels. A core driver will be how the maritime industry can achieve an equitable transition – creating opportunities for local communities and ensuring that green infrastructure, technology investments and opportunities for job creation are open to all.

The ILO will seek a human-centred approach to achieving green shipping, stressing the principles set out in the Guidelines for a Just Transition and respecting the provisions of the [Maritime Labour Convention, 2006, as amended](#), particularly regarding the safety of seafarers in the context of new technologies and fuels.

4.5 Tourism

Climate change impacts such as extreme weather events and rising sea levels pose an economic threat to countries highly dependent on tourism, an important sector employing up to 120 million people worldwide.³¹ At the same time, the growth of travel and tourism is linked to rising GHG emissions and other forms of environmental degradation (such as plastic pollution).³² Greening the tourism sector can thus help mitigate climate change as well as offering a sustainable path to recovering a sector hard hit by the COVID-19 pandemic.³³ A green transition in the tourism sector requires, among other things, the uptake of low-carbon and circular business solutions; the development of low-carbon transport options; the integration of nature-based solutions into tourism operations; and the responsible development of tourism infrastructure (such as refraining from encroaching on fragile and biodiversity-rich ecosystems).³⁴ Recovery efforts in the wake of the pandemic offer a unique opportunity to ensure a just transition in the sector by engaging all stakeholders, including indigenous peoples, for better planning and managing of tourism, and investing in decent jobs and upskilling programs (especially for women, young people, and migrant workers).³⁵ Notably, skills development for eco-tourism will change, as greater emphasis is placed on such topics such as biodiversity management and conservation. Importantly, a just transition also requires that decent work deficits in the sector are addressed (such as excessively long working hours, the lack of social protection and gender-based discrimination).³⁶

4.6 Construction

The construction industry is one of the most influential sectors globally and provides employment for an estimated 220 million people (or 7 per cent of total global employment).³⁷ The buildings

29 The International Council on Clean Transportation, “Green Freight”, in *Global Green Freight*, 2018.

30 Offshore Energy, “COP26: New Task Force to Support Seafarers through Green Transition”, 11 November 2021.

31 IPCC, *AR 5: Climate Change 2014*, 613; UN (United Nations), “COVID-19 and Transforming Tourism”, Policy Brief, 2020, 3, 8.

32 UNWTO (UN World Tourism Organization) and UNEP (United Nations Environment Programme), “Climate Change and Tourism: Responding to Global Challenges”, 2008, 33.

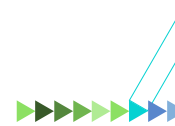
33 ILO, “The Impact of COVID-19 on the Tourism Sector”, ILO Sectoral Policy Brief, May 2020.

34 World Travel and Tourism Council, UNEP and UNFCCC Secretariat, *A Net Zero Roadmap for Travel and Tourism: Proposing a New Target Framework for the Travel and Tourism Sector*, November 2021; UNWTO, *Recommendations for the Transition to a Green Travel and Tourism Economy*, 2021.

35 UN, “COVID-19 and Transforming Tourism” 16; ILO, *A Global Call to Action: For a Human-centred Recovery from the COVID-19 Crisis that is Inclusive, Sustainable and Resilient*, ILC – 109th Session, 2021.

36 ILO, *Guidelines on Decent Work and Socially Responsible Tourism*, 2017, 3.

37 ILO, *Developing the Construction Industry for Employment-Intensive Infrastructure Investments*, 2019, 4.



and construction sector is also one of the most carbon-intensive sectors worldwide, with carbon dioxide emissions representing some 40 per cent of global energy and process-related emissions.³⁸ As such, a green transition in the sector holds enormous potential for accelerating progress towards achieving climate objectives, for example, by switching to low carbon construction materials, retrofitting buildings for greater energy-efficiency, and building zero-emission buildings. Notably, many governments are turning to the building industry to generate employment and strengthen local businesses in the wake of the pandemic.³⁹ The Just Transition Guidelines recommend Governments (in consultation with social partners) to “use public investments to develop infrastructure with the lowest possible environmental impact” (19d). Yet while efforts to reduce the carbon footprint of the buildings sector are being considered a core element of many COVID-19 recovery packages, what remains untapped is the full potential of harnessing public investments for a green recovery in construction (for example, through green conditionality for building sector stimulus packages. The construction sector is unique in that governments can stimulate demand and job creation directly through public infrastructure investment. Additionally, the diverse nature of the work allows the sector to absorb workers from other sectors, and workers displaced from declining sectors, including the traditional construction sector, may successfully relocate to green building if relevant retraining programmes are accessible.⁴⁰ In 2020, for example, Ørsted, a global offshore wind development company, announced an initiative with North America’s Building Trades Unions (NABTU) to transition U.S. union construction workers into the offshore wind industry in collaboration with NABTU affiliates and the AFL-CIO.⁴¹ Nonetheless, jobs in the construction sector often come without job security and labour conditions vary widely around the world. Therefore, tripartite cooperation and social dialogue, together with the application of international labour



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standards, are key for ensuring a just transition for construction workers.⁴²

As climate change increases the frequency of extreme weather events and disasters, construction workers are increasingly relied upon to help rebuild communities in the aftermath of hurricanes, fires and floods. So called *re*-construction workers often face hazardous/dangerous working conditions (for example, electrocutions and bacterial infections), receive poor remuneration, and have few social

38 ILO, “Impact of COVID-19 on the Construction Sector”, ILO Sectoral Policy Brief, January 2021.

39 ILO, “The Impact of COVID-19 on the Construction Sector”.

40 ILO, “Skill and Occupational Needs in Green Building”, 2011; ILO, “The Impact of COVID-19 on the Construction Sector”, 4.

41 Ørsted, “North America’s Building Trades Unions (NABTU) and Ørsted Sign Landmark MOU for U.S. Offshore Wind Workforce Transition”, press release, 18 November 2020.

42 ILO, “The Impact of COVID-19 on the Construction Sector”.

protections as the disaster relief industry is, in many countries, not yet well regulated.⁴³ The undocumented status of many workers in this sector represents an additional obstacle to decent work. To ensure a just transition for the “essential workers of the climate change era”, social protection, skills training, and social dialogue are critical.⁴⁴ In addition, governments and employers should work jointly to ensure safe and decent working conditions for all labourers engaged in disaster/crisis response, including those in the informal economy.

4.7 Forestry

Forests and the forest sector play a key role for a just transition, and they are high on the global climate change policy agenda: on the positive side, healthy forests contribute to climate change mitigation through carbon sequestration, flood prevention and soil protection. However, deforestation and forest degradation greatly contribute to greenhouse gas emissions. The sustainable management and conservation and restoration of forests is a key commitment of the UN Framework Convention on Climate Change (UNFCCC) and is part of the 2015 Paris Agreement, which also recognizes “the imperatives of a just transition of the workforce and the creation of decent work and quality jobs” in forest management, conservation and restoration.⁴⁵ In this respect, the sector, which currently employs some 13.7 million workers in the formal economy globally, is likely to grow.

In the future, highly skilled forest workers will be required for increasingly specialized forest work. As forestry is among those sectors likely to be the most affected by structural change in the wake of the green transition, ensuring a just transition in that sector will require providing forest workers with the right skills and access to meaningful and high-quality training and skills upgrading. These include the adoption of new technologies, knowledge on green production processes and relevant skills

in areas such as renewable energy, products for wooden construction, low-impact logging, carbon accounting, biodiversity protection, reforestation, rewilding, and the promotion of indigenous peoples’ knowledge and practices.

4.8 Services

As acknowledged in the Paris Agreement, the service sector contributes fewer GHG emissions than other sectors per person employed, but it is a relevant contributor because of its large size.⁴⁶ Public and private services (including commerce, education, finance, health, media and culture, postal and telecommunications, public services, utilities) will be affected in different ways as societies transition to a sustainable economy. This includes accelerated growth as some industries shift towards a service business model (such as from manufacturing to repair, recycle and resale services). Large public services such as public administration, health and education contribute significantly to GHG emissions and will require a switch to green buildings and technologies. In healthcare, for example, a switch to climate-friendly buildings, community-near (or decentralized) care with a focus on prevention combined with greater use of telemedicine, and more efficient management of health waste will be key strategies to improving the sector’s sustainability.⁴⁷ E-commerce business models are already supporting enterprises to reduce their carbon footprint and resource waste. Skills upgrading will be required as service workers address climate-change related issues: health workers will increasingly need to deal with environment-related illness;⁴⁸ educators will be required to teach skills for sustainability;⁴⁹ finance workers will be asked to integrate sustainability into investments and loans;⁵⁰ and utility and sanitation workers will have acquired new skills to manage green and sustainable water and energy supplies. In sanitation work, as well as in repair or second-hand businesses, where in some countries informality and

43 Sarah Stillman, “The Migrant Workers Who Follow Climate Disasters” *The New Yorker*, 8 November 2021; Kjellstrom and Maître, *Working on a Warmer Planet*.

44 Resilience Force, «Policy», 2021.

45 UN, [Paris Agreement to the United Nations Framework Convention on Climate Change](#). 2015 Preamble, Article 5.

46 ILO, *WESO 2018: Greening with Jobs*, 2018, 18.

47 World Bank Group, *Climate Smart Healthcare: Low-carbon and Resilience Strategies for the Health Sector*, 2017.

48 A. M. Vicedo-Cabrera et al., “The Burden of Heat-related Mortality Attributable to Recent Human-induced Climate Change, *Nature Climate Change* 11 (June 2021): 492–500.

49 UNESCO, *Getting Every School Climate-ready: How Countries Are Integrating Climate Change Issues in Education*, 2021.

50 ILO, “Digitalization and the future of work in the financial services sector”, Issues paper for the Technical meeting on the impact of digitalization in the finance sector, Geneva, 24–28 January 2022.



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decent work deficits are widespread, a transition to environmental sustainability will need to be accompanied by investments in improving labour conditions.⁵¹ Services that require high-powered IT infrastructure such as e-commerce, financial services and entertainment streaming will also require transitioning to more sustainable platforms.⁵² Social protection measures (such as unemployment benefits and wage assistance programmes) may be needed to support workers and enterprises in the service sectors affected by the transition.

Park and wildlife rangers play a critical role in biodiversity management and prevention of poaching, and require special protection as they

often face violence and harassment in the line of duty.⁵³ Environmental human rights defenders and whistle-blowers, too, require additional safeguards (the harassment and criminalization of environmental human rights defenders is a particularly worrying trend).⁵⁴ Notably, the realization of the right to a safe, clean healthy and sustainable environment requires States to provide “a safe and enabling environment in which individuals, groups and organs of society that work on human rights or environmental issues can operate free from threats, harassment, intimidation and violence” (Principle 4).⁵⁵

51 ILO, “Report of the Discussions”, South Asia Sub-regional Workshop on Decent Work for Sanitation Workers, 11–13 October 2021.

52 The Royal Society, “Digital Technology and the Planet: Harnessing Computing to Achieve Net Zero”, 2020.

53 WWF, *Life on the Frontline 2019: A Global Survey of the Working Conditions of Rangers*, 2019.

54 Iheb Chalouat, Carlos Carrión-Crespo and Margherita Licata, “Law and Practice on Protecting Whistle-blowers in the Public and Financial Services Sectors”, ILO Working Paper No. 328, 2019.

55 UN, *Report of the Special Rapporteur on the Issue of Human Rights Obligations relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment*, 19 July 2021 (A/76/179) 6.

5. Specific case studies: sectors in transition

5.1 Coal and petroleum

Coal supplies over one third of global electricity generation and plays a crucial role in heavy industries such as iron and steel production.⁵⁶ Coal is also the most polluting form of power generation and the single biggest contributor to climate change (accounting for 46 per cent of global GHG emissions).⁵⁷ The oil and gas industry, meanwhile, accounts for 9 per cent of total GHG emissions and is associated with significant indirect emissions (for example, venting methane during extraction processes).⁵⁸ In addition, the oil and gas industry produces the fuels responsible for another 33 per cent of global emissions.⁵⁹ Despite the imperative to transition away from fossil fuels, many countries continue to rely on coal for energy (in 2019, coal produced around 37 per cent of the world's electricity),⁶⁰ and the yearly consumption/demand for crude oil has been stable and growing during the past decade (except for a drop in 2020 as a result of the COVID pandemic).⁶¹

Although coal and petroleum will likely continue being parts of the energy system for decades to come, increasing pressure to decarbonize energy systems will lead to significant changes in the industry. Overall, momentum to divest from fossil fuels is growing. The signing of the “Global Coal to Clean Power Transition Statement” at COP26 is the latest signal that governments are getting serious about phasing out coal.⁶² Although a phase-out

of oil is not as imminent as the transition away from coal, short-term measures can be adopted to mitigate the environmental impact of extraction and processing, for instance, improving maintenance routines to reduce fugitive emissions from methane leaks.⁶³ Oil and gas is phasing out with less priority. There is further need to identify the main barriers to decarbonization and to business mitigation and adaptation to climate change at country and sectoral levels. This is essential to developing adequate national strategies to decarbonize the economy. Notably, some oil and gas organizations have begun changing their asset portfolios, investing in renewable fuel projects (such as green hydrogen).⁶⁴ In the long term, it will be critical for the oil and gas industry and the coal industry to put transition plans in place.⁶⁵

Job quality

The energy transition will be accompanied by a labour market transition: jobs will be lost in traditional energy sources as coal and petroleum are phased out, while new jobs are expected to emerge in the renewable energy industry and related sectors.⁶⁶ It is estimated that under certain conditions, jobs created by the renewable energy industry in manufacturing, installing, operating and maintaining renewable energy systems could more than offset the jobs lost in the fossil fuel industries.⁶⁷ However, it remains unclear if newly created jobs will directly substitute for job losses: they will likely

56 IEA, “Fuels and Technologies: Coal”, n.d.

57 “COP26: More than 40 Countries Pledge to Quit Coal”, *BBC News*, 4 November 2021.

58 IEA, “Oil and Gas Innovation”, in *World Energy Outlook 2018*, 2018.

59 Chantal Beck, Sahar Rashidbeigi, Occo Roelofsens and Eveline Speelman, “The Future of Oil and Gas Is Now: How Companies Can Decarbonize” McKinsey & Company, 7 January 2020.

60 Neil Hume, “Coal Miners Profit from Energy Market Turmoil”, *Financial Times*, 3 November 2021. In 2021, energy shortages led to a “record level” surge in the price of thermal coal.

61 Statista, “Daily Demand for Crude Oil, from 2006 to 2020”. n.d.

62 Leslie Hook, Neil Hume and Jim Pickard, “COP26 Pact to End Coal Use Undermined as US Fails to Sign”, *Financial Times*, 4 November 2021. The so called “coal pact” includes 40 countries that for the first time are promising to phase out or stop investing in new coal-fired power plants domestically and internationally.

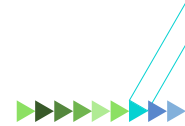
63 Chantal Beck et al.

64 IndustriALL, Friedrich Ebert Stiftung and Ineeq, *Energy Transition, National Strategies and Oil Companies: What Are the Impacts for Workers?*, 2020.

65 Erik Dalhuijsen, “Britain's Oil and Gas Workers Want a Green Transition – but the Industry Doesn't”, *The Guardian*, 23 October 2021.

66 ILO, *WESO 2018: Greening with Jobs*, 2018, 43. According to an IEA scenario/model, limiting global warming to 2 degrees through a greater reliance on renewable energy sources will result in around 2 million job losses in the mining and extraction of coal, petroleum and natural gas, although these losses will be partially compensated at the macro level by the growing demand for the mining of copper, nickel, and other metals/minerals for electric vehicles and electrical machinery.

67 UN, “Transforming Extractive Industries for Sustainable Development”, Policy Brief 12, 2021. (Referencing IRENA, 2020. *Global Renewables Outlook: Energy Transformation 2050. Global Renewables Outlook: Energy Transformation 2050.*)



require different skill sets, and there is no guarantee that they will be located in the same areas where jobs are lost. In addition to the macro-level shift away from fossil fuels towards renewable energies, the transition also implies a shift in the way that coal and petroleum are extracted, processed and consumed. This, too, will have implications for enterprises and labour. Efforts to reduce methane emissions in the oil and gas sector, for instance, will require skills training for workers to further develop extractive processes that are less polluting.

The phasing out of coal (and petroleum) carries socio-economic implications beyond the relatively small share of workers working in those industries.⁶⁸ Many coal-mining regions lack economic diversification and alternative job opportunities.⁶⁹ The remoteness of some mining regions, and the sense of identity that many communities derive from mining, add to the challenge of ensuring a just transition. Local socioeconomic impacts from transition are likely to be high and previous attempts have shown little success in fostering economic alternatives in local communities. Going forward, clear communication and notice of energy transition policies and the development of detailed economic transition plans will be key to ensuring a just transition for workers and enterprises. Such plans could include measures for enabling business conversion and adaptation, enhancing social protection, re-skilling workers and communities, rehabilitating mines and surrounding areas and strategies for economic diversification.⁷⁰

Existing policies and action plans

Governments have begun adopting concrete action plans and establishing institutional bodies to support a just transition for workers and regions particularly affected by the green transition. In March 2021, the United Kingdom published the North Sea Transition Deal, which includes a joint commitment from government and oil and gas companies to invest up to £16 billion by 2030 to support local economic diversification and jobs, carbon capture utilization

and storage (CCUS), and hydrogen, as well as skills training.⁷¹ In Scotland, there is a dedicated Minister for Just Transition, Employment and Fair Work, supporting the Cabinet Secretary for Finance and the Economy and the Cabinet Secretary for Net Zero, Energy, and Transport – evidence of significant structural shifts in the organization of national economies and governance.

In the European Union, a just transition mechanism (JTM) has been set up to alleviate the socio-economic impact of climate mitigation measures on affected regions and workers. The JTM is expected to especially benefit territories heavily dependent on coal mining and associated industries by facilitating the up- and reskilling of workers, creating new employment opportunities in the green economy and investing in the transformation of carbon-intensive installations and infrastructure.

Civil society leadership and local alliance building can help make a just transition possible in areas heavily reliant on the fossil-fuel industry for employment and revenue. The World Benchmarking Alliance (WBA) is an initiative launched in 2018 between businesses and civil society, including the International Trade Union Confederation, to develop a series of benchmarks assessing 2,000 of the world's most influential companies, ranking and measuring them on their contributions to the SDGs.⁷²

Community efforts to support workers after a coal-fired power plant in Tonawanda, New York was shut down, are a case in point.⁷³ An alliance between labour unions, community groups, and the non-profit sector successfully persuaded New York state legislators to provide the town with a temporary cash infusion, which successfully cushioned the wider socio-economic impacts triggered by the closing of the plant and loss of tax revenue (such as funding for schools).⁷⁴ The alliance then launched an Economic Action Plan to advance Tonawanda as a key regional economic hub with decent jobs “for the 21st century”.⁷⁵ Notably, the gap fund initially created for Tonawanda was later expanded to support other

68 ILO, *WESO 2018: Greening with Jobs*, 2018, 18.

69 World Bank Group, *Managing Coal Mine Closure: Achieving a Just Transition for All*, November 2018.

70 Climate Investment Funds, *Supporting Just Transitions in India*, 2021, 6.

71 Department for Business, Energy & Industrial Strategy (United Kingdom), *North Sea Transition Deal*, March 2021.

72 World Benchmarking Alliance, www.worldbenchmarkingalliance.org.

73 YCC Team, “How Tonawanda, New York, Protected Its Economy after Its Coal Plant Closed”, *Yale Climate Connections*, 24 July 2020.

74 Elizabeth McGowan, “Rising from the Ashes, a Buffalo Suburb Ends Its Dependence on Coal”, *Grist*, 11 July 2017.

75 Tonawanda Tomorrow, *Town of Tonawanda Economic Action Plan: Growing the Town's Economic Future*, 2017.

communities affected by the state of New York's coal phase-out.

Just transition efforts from all parts of society are mirrored by commitments at the international level. COP26 saw the adoption of the Just Transition Declaration by fourteen governments and the European Union (prepared in close collaboration between the UK's Just Transition lead, the ITUC, IndustriALL Global Union, and IndustriALL Europe). It sets out principles to ensure that "no one is left behind as the world transitions to a climate-friendly economy".⁷⁶ The principles cover support for workers in the transition to new jobs; the promotion of social dialogue and stakeholder engagement; economic strategies for sustainable development (for example, to support economic diversification in fossil fuel dependent economies); the creation of local, inclusive and decent work; a supply chains approach; and a commitment to report on progress within the framework of the Paris Agreement.

5.2 Agro-food

Today's food systems based on industrial agricultural production contribute up to one third of GHG emissions, up to 80 per cent of biodiversity loss, and up to 70 per cent of freshwater use, while failing to provide millions of people with a nutritious diet.⁷⁷ The intensification of livestock production for meat consumption, especially, is linked to widespread environmental degradation and growing food insecurity. Unsustainable and destructive fishing practices, meanwhile, are driving the collapse of global fish stocks, leading to long-term economic losses and threatening the livelihoods of fishers and fishing communities.⁷⁸ Climate change-related impacts such as changing rain patterns and increasing temperatures on agriculture exacerbate challenges in the sector, pushing farmers into poverty and increasing the risk of social conflict and gender-based violence.⁷⁹ A just transition in the agro-foods sector – the transformation of food systems

for the benefit of farming communities, workers, food consumers and the environment – is thus imperative to providing food security and nutrition for a growing world population. It is critical to ensuring decent work on farms and along the entire agro-food supply chain as well as to addressing the interlocking challenges of climate change and biodiversity loss.⁸⁰ This challenge is particularly important in view of the high numbers of people employed in agriculture.

Policy interventions to help transition the agricultural sector include supply-side measures to improve production practices (for example, reducing use of mineral and chemical pesticides and synthetic fertilizers, improving land stewardship and conservation practices and reducing water-use in food processing) as well as demand-side measures to promote sustainable consumption (for example, promoting plant-based diets and reducing food waste).⁸¹ The pressure to decarbonize the agro-food sector is also leading to experimentation with new technologies on farms and plantations, such as agrivoltaics (the simultaneous use of areas for land for solar energy generation and agriculture),⁸² and driving innovation in the food industry to produce sustainable meat and seafood alternatives. Businesses focusing on plant-based protein attracted significant investments and funding over the course of the pandemic,⁸³ a trend that will likely have job implications down the line.

Beyond the adoption of more sustainable practices in the production and processing of agro-foods, a just transition in the sector must also address social justice issues such as decent work, land ownership, and the needs of small-scale farmers.⁸⁴

A just transition in the agro-food sector, therefore, could centre small-scale farmers/rural communities and the wellbeing of workers along the entire agro-food supply chain. Establishing social and solidary economy enterprises, community-managed

76 IndustriALL, "Just Transition Declaration Adopted at COP26", 5 November 2021; UKCOP26, "Supporting the Conditions for Just Transition Internationally", 4 November 2021.

77 UNEP, "Why Agricultural Support Must Be Reformed to Work with Nature", 14 September 2021.

78 ILO, *WESO 2018: Greening with Jobs*, 2018, 22.

79 ILO, *WESO 2018: Greening with Jobs*, 2018, 24.

80 OECD, *Making Better Policies for Food Systems*, 2021, 11.

81 IPCC, "Chapter 11: Agriculture, Forestry and Other Land Use (AFOLU)", *AR 5: Climate Change 2014*, 811.

82 Frauenhofer ISE, "Agrivoltaics: Opportunities for Agriculture and the Energy Transition", 2020.

83 CB Insights Research, "Plant-Based Meat Industry: Global Meat Market's Meatless Future", 9 August 2021.

84 UN, *Interim Report on the Right to Food (A/66/262)* 2011, 12; Jennifer Clapp, "The Problem with Growing Corporate Concentration and Power in the Global Food System" *Nature Food*, 2021, No. 2, 404.



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agricultural schemes, and partnerships with indigenous communities can help rebuild sustainable local food systems and ensure more effective and inclusive climate change adaptation.⁸⁵ In addition to directing support to diverse farming systems and territorial markets, investing in local packaging, processing and distribution capacity can allow small-scale food producers to upgrade to higher-value activities, generate decent jobs, alleviate rural poverty and help realize the right to food.⁸⁶ Sector-specific climate and environmental targets and investing in skills development (such as agroecological farming practices), rural infrastructure and organization are also key to helping farmers and other workers in the agro-foods sector transition to a green economy. Sectoral policies for a just transition in the agro-foods sector must also address decent work deficits downstream of global supply chains, for example, precarious and unsafe working conditions in the meatpacking industry.

Job quality

An estimated 3.2 billion livelihoods depend on food systems, with 2 billion livelihoods related to primary production, mostly located in developing countries.⁸⁷ More than 1.5 billion people globally live and work on small farms; a majority live in conditions of extreme poverty (though small-scale farmers provide the majority of the world's food supplies).⁸⁸ In low-income and middle-income countries, the agricultural sector remains the most important source of employment, particularly for women. However, they are often unpaid or poorly paid while conducting labour-intensive activities.⁸⁹ Food industry workers downstream of global supply chains also face decent work deficits. In the meat processing industry, for instance, workers are often exposed to occupational safety and health risks (slaughterhouse work, for example, is difficult and dangerous).

As climate change has become a daily reality rather than a distant prospect, agricultural workers increasingly face the physical effects of climate

85 UN, *Interim Report on the Right to Food*, 15; IISD, *Farming the Future: Agriculture and Climate Change on the Canadian Prairies*, 2021.

86 UN, *Interim Report on the Right to Food*, 15.

87 UN, *Policy Brief: the Impact of COVID-19 on Food Security and Nutrition*, 2020.

88 UN, *Final Report: The Transformative Potential of the Right to Food (A/HRC/25/57)* 2014, 11.

89 ILO, "Green Initiative Policy Brief: Gender, Labour, and a Just Transition towards Environmentally Sustainable Economies and Societies for All", 2017.

change such as heat stress.⁹⁰ Women, in particular, will be affected by a heightened workload (due to water-fetching), increased health and safety risks, and productivity losses.⁹¹ At the same time, women often have less access than men to the resources needed to adapt to climate change, including land, credit, agricultural inputs, technology and social insurance and training.⁹² In order to ensure an inclusive adaptation process, farmers and farmworkers (especially women) will need access to appropriate resources, including improved seed varieties, skills development (in agroecological farming practices, digital technologies, for example), funds to improve irrigation infrastructure and rainwater collection systems and opportunities to migrate safely.⁹³ In addition, social protection measures must be extended to cover workers affected by climate impacts (for example, the loss of working hours due to heat stress).⁹⁴

Shifts towards less carbon-intensive and plant-based diets may lead to the loss of jobs along the entire animal products supply chain (for example, feedstock and livestock farmers, meatpacking workers and salespeople in butcher shops).⁹⁵ However, if the plant-based industry can scale up production (and grow their markets), many new jobs and business opportunities could be created (for example, in the meat-alternative industry), while livestock and dairy farmers may be able to transition to growing different crops. Appropriate sectoral policies, including re-skilling, are needed, however, to address the inevitable socioeconomic impacts of such food transitions. Notably, some farmers face geographical constraints in making the switch, and “alternative protein processing tends to be more automated”.⁹⁶

Existing policies and practices

The Just Transition Guidelines emphasize the importance of strong social consensus on the goals and pathways to sustainability: “[a]dequate,

informed and ongoing consultation should take place with all relevant stakeholders”.⁹⁷ Public consultations held in 2021 by the California Department of Food and Agriculture (CDFA) to solicit farmer and rancher-led climate solutions for the agriculture sector are a good illustration of effective social dialogue at the regional level. Recommendations made by the participants will be used to inform the development of the next Climate Change Scoping Plan and future work related to climate strategies in the sector.⁹⁸

In Senegal, an “unprecedented consultation of rural stakeholders” was conducted in order to inform public policy on transitioning the agriculture and food sector at the national level. Following the official incorporation of agroecology into national agriculture policy, “non-governmental organizations, farmer organizations, research establishments, multistakeholder platforms, consumer associations and pioneering elected representatives have been working on a policy dialogue with the State”.⁹⁹ In February 2020, following consultations with more than a thousand stakeholders and visits to around 30 sites around the country, the Dynamique pour une Transition Agroécologique au Sénégal (DyTAES) handed the Senegalese Government a policy report to support the country’s agroecological transition. The report highlights major challenges for the sector, including ensuring food security and sovereignty, access to land, decent jobs for young people, protection of local agro-biodiversity, and sustainable consumption.

Community-based, bottom-up strategies are critical for implementing (and scaling up) the just transition in the agro-foods sector, in particular giving voice to rural workers. In many countries, community-based organizations play an important role in helping local farmers organize themselves into collectives and cooperatives to help ensure community-led local development and accelerate the

90 ILO, *WESO 2018: Greening with Jobs*, 2018, 26.

91 ILO, [Green Initiative Policy Brief](#). For example, water scarcity, especially in rural areas, can enhance the daily workload of women who might be forced to walk and cover large distances in search of water. It also increases women’s vulnerability to discrimination sexual violence and health risks.

92 ILO, *WESO 2018: Greening with Jobs*, 2018, 25.

93 UNEP, “In Latin America, Farmers Use Microfinance to Fight Climate Change”, 12 February 2020.

94 Kjellstrom and Maître, *Working on a Warmer Planet*.

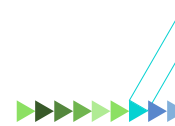
95 ILO and Inter-American Development Bank, “Jobs in a Net-Zero Emissions Future in Latin America and the Caribbean”, 2020, 46.

96 Jenny Splitter, “What a Meatless Future Could Mean for Farmers”, *Vox*, 5 August 2021.

97 ILO, *Guidelines for a Just Transition*, 2015, para 13(a).

98 CDFA (California Department of Food and Agriculture), “Farmer and Rancher-Led Climate Change Solutions: Listening Sessions. Summary of Public Input”, June 2021.

99 CIRAD, “Senegal: Getting to Work on the Agroecological Transition,” *Agroecology*, 13 February 2020.



uptake of sustainable farming practices.¹⁰⁰ Municipal and community-led food strategies (for example, community gardens and urban farming), moreover, are helping to reconnect urban consumers with local producers, improve access to food and nutrition in cities, and create new jobs (especially for youth), as well as making cities greener and reducing GHG emissions associated with long-distance food transportation.¹⁰¹

Social and peasant movements and small farmers' organizations such as Via Campesina have long advocated for food sovereignty and human-centred and local food systems (based on agroecology) at the international level, with varying success. The Green Climate Fund (GCF)'s "sustainable pathways" project "promotes resilient agroecology to support mitigation and adaptation as well as encouraging farming conditions that counteract climate risks and reconfiguring food systems", while international associations such as the Coalition of Action on Decent Work and Living Incomes and Wages for All Food Systems Workers, "advance equitable livelihoods by promoting labour and human rights and increasing opportunities for decent and productive employment within the agri-food sector, including achieving 100% living incomes and wages".¹⁰²

Launched at the 2019 UN Climate Action Summit, the Just Rural Transition Initiative "brings together food producers, governments, businesses, investors, civil society, rural and indigenous peoples to champion equitable solutions to food systems challenges".¹⁰³ The initiative advocates for policies, investments and multi-stakeholder solutions that help "farming, fishing, livestock-keeping and indigenous communities to adapt"; "provide sustainable, healthy and affordable food for all people"; and "[embed] a strong focus on job creation, equity and social justice within the transition to sustainable food systems, just land use, and the provision of sustainable and healthy diets".

5.3 Textiles

As the third-largest manufacturing sector, the textiles industry is "key to the economic and social development of many developing and emerging countries", and provides high levels of employment.¹⁰⁴ At the same time, the sector is responsible for eight to ten per cent of global GHG emissions (exceeding emissions associated with the aviation and maritime shipping industries), as well as contributing to excessive water use, soil erosion, the release of hazardous chemicals and micro-fibres into the environment, tropical deforestation, and damage to human health.¹⁰⁵ The industry's business model, which is premised on continuously "stepping up the pace of design and production" in order to produce increasingly affordable and short-lived clothing, further exacerbates the rate of environmental degradation.¹⁰⁶ At the same time, climate change is having a growing socioeconomic impact on the sector, affecting cotton production and manufacturing, causing productivity losses and exacerbating occupational health and safety risks.¹⁰⁷

A green and just transition in the textiles sector, driven by mounting civil society pressure, shifting consumer preferences, and, increasingly, technological advances, is expected to transform each stage of the supply chain: regenerative and organic agriculture and innovations in materials science will help reduce environmental externalities associated with textiles production; digitalization and supply chains improvements could help drive efficiencies and foster new business models in retail and distribution; while recycling technologies are expected to allow for the recovery of textiles for re-manufacturing. According to *The State of Fashion 2022*, a report by McKinsey, as technologies for closed-loop recycling (a system promising to limit the extractive production of virgin raw materials and decrease textile waste) mature, "companies will need to embed them into the design phase of product development while adopting large-scale collection

100 Thousand Currents, "Community Led Efforts Bring Well Being in Villages of Rajasthan", 6 January 2021.

101 ILO, *Labour Issues in Urban and Peri-Urban Agriculture: Information and Resource Guide*, 2013.

102 Food Systems Summit Community, "Coalition of Action on Decent Work and Living Incomes and Wages for All Food Systems Workers", 22 September 2021. "plainCitation": "Food Systems Summit Community, 'Coalition of Action on Decent Work and Living Incomes and Wages for All Food Systems Workers' (Food Systems Summit Community, 22 September 2021).

103 Just Rural Transition Initiative, <https://justruraltransition.org>.

104 ILO, "The Future of Work in Textiles, Clothing, Leather and Footwear", Working Paper No. 326, 2019.

105 UNEP, *Sustainability and Circularity in the Textile Value Chain: Global Stocktaking*, 2020, 6; Laura Pitcher, "New Study Links Major Fashion Brands to Amazon Deforestation", *The Guardian*, 29 November 2021.

106 World Bank, "How Much Do Our Wardrobes Cost to the Environment?", 23 September 2019; UNEP, *Sustainability and Circularity*, 8.

107 ILO, "The Future of Work in Textiles", 9-10.

and sorting processes”.¹⁰⁸ In addition, the growth of clothing rental services and second-hand markets is increasing the service life of clothing while lowering the environmental impacts of consumption.¹⁰⁹

Beyond improved eco-efficiencies along global supply chains, the impetus is now on the garment sector to “evolve from an industry producing large volumes of essentially disposable items, to one producing valuable items that remain in use for a long time before being repurposed or recycled”.¹¹⁰ Thus, a circular economy model for textiles will also require an end to over-production, for example, through business models that produce on the basis of needs or demand. In short, “the aim of circularity is to shift the ‘take-make-dispose’ linear value chain into a circular system, where materials are not lost after use but remain in the economy, circulating as long as possible at the highest possible value”.

¹¹¹ Upgrading production processes can increase resource efficiency and overall productivity, leading to less waste and resource consumption, and higher wages and better working conditions.

In order to ensure a just transition in the textiles sector, the shift to circularity must be accompanied by tackling long-standing decent work deficits. Due to intense pressure on producers to shorten lead times, allow for production flexibilities and lower prices, production is often pushed to the point at which costs are the lowest possible and environmental and labour standards are poorly enforced or non-existent.¹¹² Furthermore, existing circular business models around repair, recycling and resale tend to have high level of informality, low wages and insecurity.¹¹³ In order to achieve a just transition, such systemic inequalities must be addressed and progressively eradicated.¹¹⁴ A sustainable textile industry has been defined as one that produces “non-toxic, high quality and affordable clothing services and products” on a

resource-efficient and renewable basis, “while providing safe and secure livelihoods”.¹¹⁵ Finally, circularity and efficiency improvements will also need to be accompanied by changes in unsustainable consumption and production patterns and levels.

Job quality

The textiles industry employs over 300 million people globally and has successfully created many employment opportunities for women (who make up more than 80 per cent of the workforce). However, the sector is also in some cases associated with significant decent work deficits, including unsafe workplaces, child and forced labour, and an absence of freedom of association. Geographically dispersed production and the agility of brands that can move from one sourcing country to another represent obstacles to organizing labour and improving working conditions through social dialogue. At the same time, the textiles industries have also “made noticeable progress in experimenting with new forms of collaboration and social dialogue across borders”. Gender and age discrimination, as well as sexual harassment of women workers, moreover, remain prevalent in the sector.¹¹⁶ In addition, COVID-19 has caused significant disruptions in the recent past, halting production in thousands of enterprises and leading to millions of workers losing their livelihoods.¹¹⁷ Over the course of the pandemic, millions of garment workers also faced unpaid wages, increasing food insecurity, and unsafe working conditions (without proper PPE or social distancing), while major fashion brands and their shareholders continued to grow huge profits.¹¹⁸ Nonetheless, some progress has been made, notably the ACT agreement between 19 global brands and IndustriALL Global Union on living wages for workers in textile and garment supply chains.¹¹⁹

¹⁰⁸ McKinsey, *State of Fashion 2022: An Uneven Recovery and New Frontiers*, 2021.

¹⁰⁹ UNEP, *Sustainability and Circularity*, 6.

¹¹⁰ UNEP, *Sustainability and Circularity*, 7.

¹¹¹ UNEP, *Sustainability and Circularity*, 14.

¹¹² UNEP, *Sustainability and Circularity*, 30–33.

¹¹³ BSR, *Keeping Workers in the Loop: Preparing for a Just, Fair, and Inclusive Transition to Circular Fashion*, 2021.

¹¹⁴ EMG Secretariat Nexus Dialogue, «Sustainable Recovery through Sustainable Fashion: A Focus on the Environmental Dimensions», 7 September 2021.

¹¹⁵ UNEP, *Sustainability and Circularity*, 46.

¹¹⁶ ILO, “The Future of Work in Textiles”, 9–10.

¹¹⁷ ILO, “ILO Adopts Code of Practice on Safety and Health in Textiles, Clothing, Leather and Footwear Industries”, 8 October 2021.

¹¹⁸ Fashion Revolution, *Fashion Transparency Index 2021*; UNEP, *Sustainability and Circularity*, 41.

¹¹⁹ Act on Living Wages, “The ACT Initiative: A Global Commitment on Living Wages”.



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During the green transition, shifting production towards natural fibres may boost employment in sustainable and regenerative farming and reduce exposure to toxic substances for workers. However, keeping textiles in use for longer will likely also lead to job losses in virgin fibre production and manufacturing. At the same time, circularity may boost job creation downstream (in sorting, pre-processing, resale, repair and recycling). These new jobs, however, might not substitute job losses in farming and manufacturing since they tend to be based in urban areas, are less labour-intensive and require different skills. Therefore, it will be necessary

to combine social packages with investment in infrastructure, education and tax incentives. It will also be important to strengthen social protection to support workers suffering job losses. In addition, industrial strategies will be needed to generate decent work outside the textiles industry, for example, by creating an enabling environment for small and medium-sized enterprises, including through appropriate regulation. Reskilling, upskilling and lifelong learning will be increasingly important to ensure that workers are able to adapt to more sustainable production processes (such as waterless dyeing), the switch to renewable energies in manufacturing, and the expansion new robotics and digital technologies.¹²⁰

Circular economy principles such as designing “seasonless” clothing products of higher quality, reusing leftover textiles from luxury brands, manufacturing clothing from waste materials, and producing clothing on the basis of demand or orders and with a lower social and environmental impact, are increasingly being adopted by small to medium-sized enterprises in the textiles industry (referred to as “reducing by design”).¹²¹

Crucially, extending the lifecycle of clothing and promoting reuse can also lead to negative socio-economic outcomes. The growing movement to collect and export used textiles, for instance, has “[put] local textile producers [in African countries] out of business and [flooded] landfill sites with waste textiles”, according to UNEP.¹²² Some studies emphasize how certain activities within the circular economy, such as re-selling clothes, are part of a broader economy shift towards a reorganization of work into non-standard and precarious work, instead of being part of a more sustainable transformation of the existing business model.¹²³ This underscores the importance of skills development and private investment to create new green enterprises that can hire adequately skilled workers, but also equipping the social and labour protection systems in countries to cover work arrangements created by the new business models. In Kenya, for example, the second-hand clothing market already employs between 10,000 and 100,000 people, many of whom work

120 ILO, “The Future of Work in Textiles”, 21–27.

121 Kate Fletcher, “Exploring Demand Reduction through Design, Durability and ‘Usership’ of Fashion Clothes”, *Philosophical Transactions of the Royal Society*, 13 June 2017, Vol. 375, Issue 2095

122 UNEP, *Sustainability and Circularity*, 36.

123 Jennifer Lynn Ayres, “The Work of Shopping: Resellers and the Informal Economy at the Goodwill Bins” *Business History*, 2019, No. 61, Issue 1: 122–154.

in the informal economy.¹²⁴ In order to ensure that a just transition to a more circular economy in the textiles industry, the needs and vulnerabilities of the sector's millions of workers must be incorporated into the design of circular economy policies, inter alia by actively including labour unions in the discourse.¹²⁵

Existing policies and practices

Although not specific to the textiles industry, more general frameworks and policies can have a positive impact on ensuring a just transition in the sector. The European Commission's Circular Economy Action Plan (launched in 2020) includes actions related to the design of products, fosters sustainable consumption, and aims to ensure that the resources used are kept in the EU economy for as long as possible.¹²⁶ Importantly, the plan also includes measures "to make circularity work for people, regions, and cities" and "empower consumers and public buyers" through investments in skills and job creation. Meanwhile, the European Circular Economy Stakeholder Platform provides a platform for interested stakeholders to share their initiatives, publications, and events and network and engage with other actors. International instruments for responsible supply chains governance and corporate conduct, such as the International Accord for Health and Safety in the Textiles and Garment Industry, the OECD Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector, and ILO standards and guidelines like the recently adopted ILO Code of Practice on Safety and Health in Textiles, Clothing, Leather and Footwear. Broader frameworks include the ILO Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy and the UN Guiding Principles on Business and Human Rights. These will continue

to play an important role in advancing the decent work agenda as the textiles sector transitions to new business models and practices.

The Fashion Industry Charter for Climate Action, launched in 2018 and revised in 2021 during COP26, aims to drive the fashion industry to net-zero GHG emissions by no later than 2050. While the Charter addresses a wide range of environmental sustainability issues, it is silent on ensuring decent work (although it does promote partnering with stakeholders to develop decarbonization strategies and respect for human rights). By contrast, Keeping Workers in the Loop (KWIL) directly addresses the importance of achieving decent work outcomes for workers alongside sustainability, defining itself as "a collaborative initiative involving industry leaders and stakeholders working to understand circular fashion's potential job impacts".¹²⁷ The ILO-IFC Better Work Programme, meanwhile, brings together governments, global brands, employers, unions and workers to advance decent work in the garment industry while making the sector more competitive.¹²⁸ The ILO is also releasing a "Just Transition Toolkit", including research, which looks at how to drive behaviours and practices throughout the textiles and garment supply chain in Asia, and which will provide specific advice on just transition in the garment sector to social partners and industry stakeholder groups.¹²⁹ In order to promote a transition to environmental sustainability and a circular economy that is just, inclusive, and provides opportunities for decent work, ILO has partnered with PACE (Platform for Accelerating Circular Economy) to integrate decent work as a key element in PACE's new Circular Economy Action Agenda for Textiles.¹³⁰

124 Felix Preston, Johanna Lehne, "A Wider Circle? The Circular Economy in Developing Countries", Chatham House Briefing, December 2017.

125 Patrick Schröder, "Circular Garments: What About the Workers?", Institute of Development Studies, 3 June 2019.

126 European Commission, "Circular Economy Action Plan", March 2020.

127 BSR, *Keeping Workers in the Loop*.

128 ILO and IFC, "Better Work: Progress and Potential. Findings from an Independent Impact Assessment", 2016.

129 ILO, "A 'Just Transition Toolkit' for Textile and Garment Supply Chain in Asia", 1 July 2021.

130 PACE, *Circular Economy Action Agenda: Textiles*, February 2021.

6. Conclusions and key recommendations

A transition to a sustainable and socially just economy will entail a complex shift in sectoral work and policies, as this brief has tried to demonstrate. Urgent measures undertaken to address climate change will result in shifts in modes of production and new technologies that will create, transform and, in some cases, diminish specific sectors. Such changes will go beyond technology to human behaviour and identities related to sectors – from eating habits to fashion taste, travel preferences and work arrangements. Their impact will be transformational, affecting enterprises and workers in significant ways. In 2021, the ILO called for a human-centred recovery from the COVID-19 crisis that is inclusive, sustainable and resilient, one that harnesses investment for sectors hit hardest by the crisis, among other things. Later that year, the Glasgow Climate Pact adopted by the COP26 UN Climate Change Conference in 2021 reiterated the importance of “sectoral action” to address climate change. Drawing on the ILO’s rich body of sectoral standards, codes of practice and guidelines, ILO constituents and other stakeholders can pursue a number of avenues to promote a just transition through sectors.

Governments: labour ministries

Labour ministries can play a key role in coordinating the overall employment and decent work dimension of sectoral change by convening with other line ministries actions to ensure a strategic approach to sectoral transformation.

Governments: other line ministries

Line ministries responsible for specific sectors, such as tourism and agriculture, bear the primary responsibility for leading a just transition. Policy instruments can include regulation, financial incentives, and training programmes. In this regard, the Just Transition Guidelines require Governments to “promote close collaboration between relevant national ministries, including ministries of economic planning and finance, with a view to establishing policies and programmes that can adapt to changes in the fiscal and political landscape” (para. 15e).

Employers’ organizations:

As business organizations, sectoral employers’ organizations play a key role in supporting and guiding member enterprises to undertake the required structural changes in production processes and management practices, comply with environmental regulations, including emission reductions, to meet enterprise objectives regarding sustainability. They also play a key role in developing, in collaboration with governments and vocational training centres, the training of workers and managers to adopt green practices and technologies. In addition, they have a responsibility to engage in social dialogue to bring enterprises’ priorities and concerns to national debates to devise economically and socially viable public policy reform agendas in line with nationally determined contributions (NDCs) to curb climate change, the transition to a green economy. Other key roles include addressing the decent work impact of a transition and building the capacity of their members (for example, MSMEs) to adopt green practices. Governments, employers’, and workers’ organizations can support the formalization of enterprises and create an enabling business environment to provide sustainable services in textiles repair, resale and recycling. They can ensure the protection of workers in the textile sector from emerging health and safety issues, extend the coverage of social protection, invest in up- and reskilling programs, and in particular, support informal workers in new business models to transition into formal employment.

Workers’ organizations:

Sectoral workers’ organizations play a critical role in strengthening workers’ resilience during the transition to green practices, and giving workers a voice during sometimes difficult reform measures, through dialogue with governments, employers, and their own members, ensuring they have resources and are empowered to secure decent green jobs.¹³¹ They can also engage in social dialogue on concrete employment and protection reforms, counterbalancing the effects of environmental policies – e.g., national unemployment insurance schemes and [labour market policies](#) supporting job transitions – as well as ensure the inclusion of labour

131 Anna Markova, “Want to Know What a Just Transition to a Green Economy Looks Like? Ask the Workers”, *The Guardian*, 18 October 2021.



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priorities in the climate agenda at international level.¹³²

ILO:

Through its work on sectoral policies, the ILO can research good practices at the sectoral level on transitions and convene dialogue at the global regional and national level on sectoral transition strategies and their impact on enterprises and workers. The ILO can also promote decent work and just transition in other sector-related multilateral fora, such as global discussions on health, maritime and air transport and tourism. The ILO can research the working time aspects of ensuring work-life-planet balance, to ensure people have enough

“planet care” time to engage in sustainable practices such as recycling and sustainable consumption. Finally, in line with the ILO Centenary Declaration for the Future of Work and the ILO Just Transition Guidelines, the ILO can explore the sectoral dimensions of macroeconomic and trade policies to foster inclusive and sustainable growth, and promote sustainable consumption and production models, including alternative models of growth.¹³³ As entire sectors may be reconceptualized and transformed, the ILO has a unique opportunity to address not only decent work and social justice issues related to them, but, together with enterprises and workers directly involved, tackle as well some of the deeper structural issues in them that perpetuate social inequality and destroy the life-support systems of the planet.

¹³² Adrien Thomas, “Framing the just transition: How international trade unions engage with UN climate negotiations”, *Global Environmental Change*, Vol. 70, 2021.

¹³³ Timothy Jackson, *Prosperity without Growth: Foundations for the Economy of Tomorrow*. 2nd ed. (London: Routledge, 2017); Kate Raworth, *Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist* (Hartford, VT: Chelsea Green, 2018).

Resources

Recent sectoral meetings addressing just transition:

Technical meeting on the future of work in the oil and gas industry (2022)

Technical meeting on COVID-19 and sustainable recovery in the tourism sector (2022)

Technical meeting on the future of work in aquaculture in the context of the rural economy (2021)

Advancing a just transition to a circular economy: Scaling up individual action to collectively driving systemic change (2021)

Technical meeting on the future of decent and sustainable work in urban transport services (2021)

Technical meeting on the future of work in the automotive industry (2021)

Global Dialogue Forum on Decent Work in the Management of Electrical and Electronic Waste (E-waste) (2019)

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