Just Transition

— Creating New Jobs for a Decarbonized Society —

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Just Transition

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Climate change has serious impacts—not only on the climate itself and the environment in which we live, but also on our society, economy and livelihoods. These impacts have been intense, and will increase as we continue to emit greenhouse gases into the atmosphere; failing to take action now will lead to us being unable to maintain a safe and sustainable way of life.

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The Paris Agreement, adopted in 2015, emphasizes the necessity of limiting the global temperature rise to 1.5°C, and to reach this goal, over 120 nations of the world have committed to achieve net zero greenhouse gas emissions by 2050. As the world moves quickly to reduce its emissions, phasing out coal power, the largest source of emissions, must be prioritized; to meet the 1.5°C goal of the Paris Agreement, the scientific community tells us that OECD countries need to phase out coal by 2030.

Many sectors and industries are energy-intensive, and our economy still relies heavily on fossil fuels. Therefore, moving away from fossil fuels could result in significant structural changes in many industries, which will affect jobs and regions connected to those industries. Because of this, it is important to identify the social impacts of the transition to a zero-emission society and take action to build a better society while protecting the economic and social well-being of the people and communities affected by the phase-out of fossil fuels. This is known as just transition.

How we achieve net zero emissions by 2050 will affect our jobs, our communities, and our lifestyles, but it is also an opportunity to create clean, high-quality jobs and develop a thriving, sustainable economy. In planning the best approach to take advantage of this opportunity and effectively accelerate the transition without delay, it is crucial that everybody has the opportunity to make their voice heard and engage in the process. Based on open and meaningful stakeholder participation, just transition gives communities the power to choose their own path, ensuring that no one is left behind in the shift to a zeroemission society.

A just transition provides workers with high-quality, well-paying jobs, promotes sustainable economic diversification on the local, regional, and national levels, and strengthens the resilience of communities,



all of which are essential on the path to smoothly and successfully realize a zero-emission society. Just transition is also listed in the Paris Agreement as integral to preventing climate change.

Globally, just transition has become a central issue in the movement toward a decarbonized society.* Presented here are some examples of national, regional, and local just transition in action around the world, illustrating the roles and contributions of a wide variety of stakeholders, including citizens, national and regional governments, local municipalities, business, academia, and labor groups. Following Japan's 2050 net zero declaration, it is now necessary to introduce concrete steps in achieving net zero emissions. In doing this, we must do all we can to take full advantage of the social and economic benefits of the transition to sustainable energy, while avoiding the impacts that can come without adequate planning.

The International Labor Organization's just transition principles

The International Labor Organization (ILO), an agency of the United Nations, developed "Guidelines for a just transition towards environmentally sustainable economies and societies for all." This comprehensive vision for just transition outlines a framework of sectoral policies and institutional arrangements to address the social and economic opportunities and challenges associated with a transition away from fossil fuels. It features the following seven Guiding Principles:

- 1) Adequate stakeholder consultation
- 2) Strengthening and promoting rights at work
- 3) Gender equity
- Propelling transition with adequate economic, environmental, education, labor and social policies
- 5) Implementing a just transition framework in all relevant policies in order to stimulate job creation
- Tailoring just transition policies for the unique context of each country and region
- Fostering international cooperation among countries in implementing sustainable development strategies

^{*} A number of organizations have developed just transition guidelines and principles, including the United Nations Framework Convention on Climate Change, International Labour Organization, International Trade Union Confederation, and World Wildlife Fund.

Just transition is already underway across the globe

In many countries throughout the world, a just transition has already begun. Together, these examples from various countries show that the inevitable transition away from fossil fuels requires careful consideration of its impacts on jobs, the economy, and human society, along with proactive and assertive planning, wide public support, and collaboration between different actors in order to address them. Moreover, these cases highlight the variety of roles civil society, government, business, and other actors can play in ensuring a just transition, and the many benefits to society as a whole.

In the Ruhr region of Germany, a former coal mine was turned into a mining museum in order to preserve the cultural heritage of the coal industry in the region as it transitions to renewable energy.

Europe (EU) 💟

An unprecedented large-scale, top-down approach to just transition.....

The European Commission has given high priority to job transition in its 2050 net zero goal and European Green Deal policy initiatives. 2020 saw the launch of the Just Transition Mechanism, a top-down framework of unprecedented scale to support the social and economic aspects of national and regional just transition efforts in EU member countries. Focusing on the most carbonintensive regions and areas with high fossil fuel-related employment, the Mechanism aims to mobilize around €150 billion of funding for territorial just transition plans from 2021-2027 through a three-pillar structure: the €17.5 billion Just Transition Fund for grants, InvestEU "Just Transition" scheme (which provides investment loan guarantees and an advice hub), and EIB public sector loan facility.

It also includes the Just Transition Platform, which acts as a single access point to provide knowledge and assistance to EU members in their just transition efforts, including information on funding opportunities, regulatory updates, and technical and advisory support for all relevant stakeholders.

After a just transition plan is submitted by an EU Member State, support is provided for activities that match the criteria for a just transition. Activities involving fossil fuels or nuclear energy are excluded from support, and eligible activities include 1) upskilling, reskilling, and job-search assistance for workers; 2) investments to diversify the local economy, prioritising SMEs; 3) infrastructure development for renewable energy, energy efficiency, and greenhouse gas emission reductions; 4) activities to increase local mobility; 5) investment in research and innovation; and 6) activities in the areas of education and social inclusion.

Germany 🧮

The importance of multi-sector engagement and long-term strategy-building-------

The coal and steel industry in the Ruhr region of Germany once employed nearly a million people, constituting 70% of the region's workforce. However, as the coal industry declined and unemployment increased throughout the latter half of the 20th century, a number of measures were implemented to transition workers to other industries and revitalize the regional economy. By 2018, coal mining had been successfully phased out in the region.

Noticing coal power's declining trend and recognizing the necessity to transition the region's economy in a way beneficial to workers and their communities, an agreement between coal companies, labor unions, and federal and state governments was reached in 2007 to completely phase out coal mining in the region by 2018. Under this agreement, $\in 17$ billion in funding from federal and state governments was pledged to transition workers and their surrounding communities. Workers were offered early retirement schemes, job finding services, training and requalification, and assistance on transition to other sectors. In addition, communities and local businesses could also access this funding for economic and environmental revitalization projects.

This agreement was the culmination of decades of long-term planning, starting with the greening of the coal and steel industries, later shifting to an emphasis on diversifying the region's industries, and finally resulting in a focus on renewable energy. Today, the economy of the region has been transformed into a diverse mix of industries that includes technology, environmental compliance, eco-tourism, universities, and renewable energy manufacturing.

Poland 🕳

Proactive cooperation of coal companies in the transition process

More than 4,000 people work in coal mines and power plants in the Polish coal region of Eastern Wielkopolska. However, in the face of decreasing profitability of coal power, high unemployment, and environmental degradation, utility owners ZE PAK declared in October 2020 a complete phase-out of coal mining and burning in the region by 2030, and regional authorities pledged to achieve climate neutrality by 2040.

The just transition plan, "Concept of Just Transition for the Eastern Wielkopolska region," was developed with input from local governments, think-tanks, NGOs, labor unions, and local businesses with the aim of establishing a zero-emission, circular economy for the region. The plan prioritizes not only environmental sustainability and health, but social and economic as well, by providing job transition and reskilling assistance for workers, implementing revitalization programs for urban and rural areas, and developing initiatives to reduce poverty and improve public health and well-being, prioritizing vulnerable and disadvantaged groups.

Recognizing the benefits of a just transition, ZE PAK, the owner of the region's coal mines and power plants,

has been proactive in the shift to decarbonization. In 2019, over 90% of its electricity was generated from coal, and new coal mines were planned. However, only one year later, ZE PAK announced it would close all coal mines and power plants by 2030 (with all but one mine shut down by 2023). The company also declared that 70% of its electricity would come from renewables by 2025, and 100% by 2030, demonstrating that energy companies can also play an active role in and greatly benefit from a just transition. In June 2021, Eastern Wielkopolska and ZE PAK both formally committed to phasing out coal by 2030 by becoming the first Polish members of the Powering Past Coal Alliance (PPCA).

Banners calling for Poland to be coal-free by 2030 © Greenpeace Poland





Consensus between labor, industry, and government

Until May 2020, there were 14 coal plants operating in Spain, but now the country is on track to completely phase out coal-fired power by the mid-2020s. Spain's Just Transition Strategy, part of the broader Strategic Energy and Climate Framework, adopts the ILO's just transition guidelines and establishes a governance framework to implement the ILO's principles. This includes a Just Transition Institute and an advisory council with stakeholder dialogue roundtables to monitor progress.

The Strategy also features the Urgent Action Plan for Coal-mining Regions and Power Plant Closures, which includes financial support, job planning and placement, and vocational training for workers. Just Transition Agreements, regional just transition plans designed to be negotiated between as many stakeholders as possible, identify the sectors and groups impacted by the closures and propose measures to support them.

A significant development in Spain's just transition is the "Agreement for a Just Energy Transition for thermal power stations: jobs, industry and regions," signed in March 2021. This tripartite agreement developed by consensus between the Government of Spain, trade unions, and energy companies, requires a just transition plan for the closure of each coal-fired power plant in the country. This includes vocational training and job transition plans for workers, as well as economic diversification and investment plans for communities in former coal regions, with an emphasis on renewable energy.

Maintaining solar panels in Seville, Spain © Greenpeace / Markel Redondo



Slovakia 🚘

Effective bottom-up just transition planning

Transitioning away from the region's long tradition of coal mining and burning was a topic long considered taboo in Slovakia's Upper Nitra region. However, through an inclusive process based on the direct input and participation of local communities and stakeholders, local governments were able to successfully draft a regional just transition plan praised by residents, adopted by the national Government, and supported by the European Commission.

The Transformation Action Plan of Coal Region Upper Nitra started from a participatory process spearheaded in 2018 by the mayor of Prievidza. While this process was based on enhancing local residents' capacity to determine their own future, a separate parallel process aimed at providing "quick wins" was started by a different regional authority a month later, and was supported by the European Commission and Slovakian Government but excluded the voices of parliamentarians, local businesses, NGOs, and other stakeholders. However, due to pressure from civil society, the Slovakian Government made the decision to adopt the first Action Plan as a national strategy, and requested the European Commission to support it.

The Action Plan, approved by Slovakia's Government in July 2019, is based on four pillars: 1) mobility and interconnection; 2) economy, entrepreneurship and innovation; 3) sustainable environment; and 4) quality of life and social infrastructure. That same month, Slovakia announced that it would phase out coal power by 2023, and now Slovakia stands as an example of the effectiveness of bottom-up initiatives and the participation of local governments and citizens in the just transition to clean energy.

Ireland 🚺

A top-down national approach to planning, funding and implementing JT.....

With the passage of the Just Transition (Worker and Community Environmental Rights) Bill 2018, Ireland's Government established the National Just Transition Commission to provide policy recommendations, track national and regional just transition progress, develop progress reports, and work with regional "Transition Teams" on just transition planning. Since then, just transition has played a key role in Ireland's climate policies, including the national Climate Action Plan 2019, Report of the Joint Committee on Climate Action, and the revised Climate Action and Low Carbon Development Act 2015.

In 2020, Ireland's Department of Environment, Climate, and Communications established the national 2020 Just Transition Fund, which in its first two application periods approved 63 projects with €29 million in funding. The focus of these efforts is on Ireland's Midlands region, where the peat industry plays a significant role in regional employment. After semi-state energy company Bord na Móna announced it would accelerate its decarbonization plan and end peat harvesting by 2027, local stakeholders formed the Midlands Regional Transition Team. Receiving technical assistance from the National Just Transition Commission and the European Commission, the Team works to develop and implement a number of programs focused on training and upskilling workers, and diversifying the regional economy with an emphasis on clean energy, local entrepreneurship, and innovation.

Scotland 🔀

Robust and effective re-skilling programs for workers

Despite a thriving fossil fuel economy with many jobs in oil and gas, Scotland saw greater opportunity in transitioning away from fossil fuels and declared a target of 75% greenhouse gas emission reductions by 2030, and net zero emissions by 2045.

In 2014, the Scottish government implemented the Oil and Gas Transition Training Fund, an agency and scheme for the re-skilling and retraining of workers in the oil and gas industry to find high-quality jobs in other industries in the country's transition away from fossil fuels. 4,270 workers were retrained over the three-year program, with 89% finding employment soon after completion. Due to the success of the program, Scotland expanded the retraining of its workforce for jobs in clean industries and established the National Transition Training Fund in 2017, and the five-year Climate Emergency Skills Action Plan in 2020.

Additionally, In 2019 Scotland established its Just Transition Commission, a government body to advise Scottish Ministers on how to apply just transition principles across agencies and policies in order to maintain high employment and address poverty and inequality in the national transition to net zero. Based on the ILO's just transition guidelines, the Just Transition Commission actively consulted with multiple stakeholders and government agencies for two years, including public calls for comments and feedback. The Commission develops reports with concrete policy recommendations on how to transition the nation to net zero emissions while providing support for impacted workers and communities.

Wind turbine manufacturing plant in Campbeltown © Kate Davison / Greenpeace



New Zealand 📂

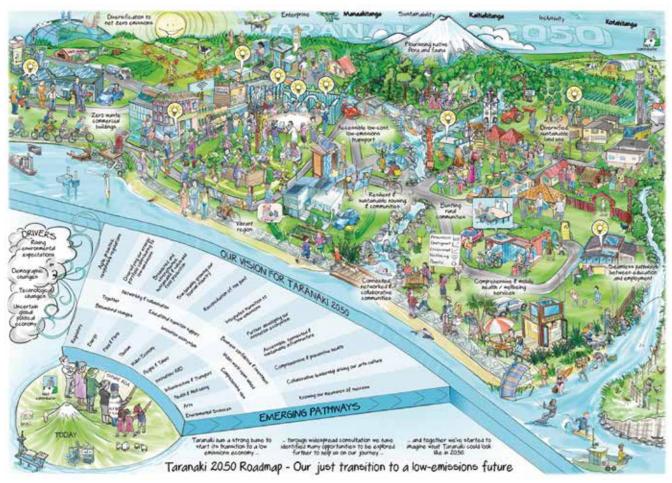
Stakeholder participation in vision-level planning

With the federal government's Just Transitions Unit (JTU), New Zealand is another country taking major actions to move away from a fossil fuel-based economy. Among the JTU's roles are identifying the regions, sectors and communities most impacted by transitionrelated decisions, engaging with stakeholders, developing a just transition knowledge base for use in climate policy processes, and advancing policy coherence and alignment with various government agencies to "ensure a just transition lens is used in the development of policy and operational work."

The JTU has also focused on the Taranaki region of New Zealand, which will require effective transition planning as the country takes action to meet its national emission reduction targets; Taranaki's economy is based around many carbon-intensive industries, with the energy sector representing 28% of the region's economic output. Together with the Taranaki Regional Development Agency, the JTU has developed the Taranaki 2050 Roadmap, a long-term just transition plan based on the participation of all relevant stakeholders in the planning process.

Beginning with vision-level planning for the region, 28 workshops were held with the participation of over 1,000 Taranaki residents and seven stakeholder groups (local government, central government, lwi and Māori, education, business, labor, and community organizations) to identify the best industries for the region to boost the economy and lower greenhouse gas emissions without leaving anyone behind. Results of these workshops were then publicized, and revisions to the Roadmap were made based on feedback solicited from over 1,000 local residents.

The New Zealand Government's Just Transition Unit and the Taranaki Regional Development Agency have collaborated to develop the Taranaki 2050 Roadmap for a coal-free Taranaki region. Source: Venture Taranaki (2019), "Taranaki 2050 Roadmap: Our Just Transition to a Low-Emissions Economy".



Australia 찬

Understanding the social background and history of transition regions

Workers and local communities in Australia's Latrobe Valley were shocked when electricity utility ENGIE announced in November 2016 that its Hazelwood Power Station—Australia's most polluting and inefficient power plant—would close within five months, citing coal's impact on the climate and local environment as well as its declining economic viability. Gaining support from local Latrobe Valley communities to transition away from coal was considered a difficult task; the region had previously seen negative economic impacts from national climate legislation drafted and implemented without their input, leaving many residents skeptical of new climate policies and supportive of the coal industry they had long depended on.

However, through collaboration between community groups, trade unions, local businesses, environmental groups and regional and local governments, just transition measures and programs were successfully implemented with the support of coal workers and their communities. Led by local citizen groups, advocacy campaigns and consultations with regional governments resulted in a number of programs to support workers after the closure of the power station. These include education and training programs for workers in transition; a Worker Transition Centre, website and phone service for individual support; transition support for local businesses; and funding for community projects to improve the economy and quality of life in the region.

Together, these initiatives have resulted in workers finding high-quality employment, creation of new jobs, and the reinvigoration of former coal communities, all with the support of local residents that were once hesitant to transition away from coal.

Costa Rica 🧮

Adapting international best practices to a national context

After declaring a national target of net zero greenhouse gas emissions by 2050, Costa Rica introduced its National Decarbonization Plan, a comprehensive plan that addresses each sector of the economy. For each sector, the Plan includes a long-term "Transformation Vision" supported by a set of short-, mid-, and long-term goals, activities, and policy packages spanning 2018-2050. Just transition is identified as one of eight cross-cutting strategies crucial to planning for decarbonization, and an emphasis is placed on the necessity to "identify the international best practices of just transition processes, evaluating their applicability in the Costa Rican context."

Led by the Ministry of Labor, this strategy applies methodologies developed to determine the impact of decarbonization on Costa Rica's labor market for each sector, as well as for the overall economy. The sectors, regions, and populations exposed to the greatest impacts are identified and researched, and institutional reform based on a "culture of service to citizens" is emphasized as a major strategy to promote change. Notably, the plan points out the importance of looking to global examples of just transition and applying existing guidelines, past experiences, and lessons learned in developing unique strategies for the workers, businesses, and citizens of Costa Rica.

A worker performing maintenance on a solar panel in Costa Rica © Joe Raedle / Getty Images



Canada 💌

Accessible just transition resources for workers and communities.....

In 2014, 55% of Alberta's electricity came from its 18 coal-fired power plants. One year later, the province set a target to phase out coal-fired power by 2030. In 2016, a provincial Advisory Panel on Coal Communities was established to carry out a series of stakeholder consultations in coal communities and make policy recommendations to the provincial government. These consultations resulted in the establishment of two notable programs: 1) the Coal Workforce Transition Program (CWTP), a support program for workers impacted by the phase-out of coal power; and 2) the Coal Community Transition Fund, an easily-accessible support scheme funded by the province's carbon tax revenue to aid local governments in developing community-level strategies for diversifying their economy in the transition away from coal. Alberta's coal-fired power phase-out is now likely to be met by 2023, far ahead of schedule.

The CWTP provides a number of financial support

services to affected workers, including bridging to reemployment, bridging to retirement, relocation assistance, and tuition vouchers for education, as well as career counseling and retraining / re-skilling assistance. These services can be accessed by phone, online, or in person, and partnerships with First Nation communities and organizations provide easy access to all impacted workers in the region.

In 2018, Canada set a national 2030 coal-fired power phase-out target, and launched the Task Force on Just Transition for Canadian Coal Power Workers and Communities made up of 11 members representing unions, business, civil society NGOs, academia, and local governments. Through a consultation process with coal communities, two recommendation reports were written to provide the central government with policy recommendations to support coal workers in the nationwide phase-out of coal power.

United States 🧱

Supporting not only workers, but their communities as well.....

After the staggered closure of the coal-fired Huntley Generating Station in the state of New York, the reduction of tax payments to the host town of Tonawanda from plant owners NRG Energy caused significant economic impacts, leading to public school closures, an increase in unemployment, and the loss of a major source of revenue to the region. To address this, the Huntley Alliance, a coalition of educators, labor unions, and NGOs, was formed, successfully advocating the New York state legislature to establish a state-financed just transition fund to backfill tax losses, provide financial assistance for workers in transition, and fund public schools, public services, and businesses in impacted communities.

Additionally, through the Federal Government's Partnerships for Opportunity and Workforce and Economic Revitalization (POWER) Initiative, the Alliance was also able to secure a grant to develop a plan to improve and stabilize the town's economy, emphasizing investment in clean energy industries. The POWER Initiative was launched in 2015 as a multi-agency program to provide just transition support to coal communities, providing grants from the budgets of various agencies to fund projects collaboratively designed by regional and local stakeholders. As of October 2020, \$238 million USD has been invested into 293 projects aimed at bringing economic opportunities to coal communities in the US.

2017 workshop in Tonawanda where many residents participated and shared their views on the future of the region $\$ University at Buffalo Regional Institute



Just Transition in Japan 💌

In 2016, Japan joined the other nations of the world in ratifying the Paris Agreement. To meet the 1.5°C goal of the Agreement, Japan needs to achieve net zero greenhouse gas emissions by 2050. In April 2021, Japan enhanced its greenhouse gas emission reduction target to -46% from FY2013, aiming to further raise it to -50% by 2030.

This new reduction target is still not enough to be compatible with the 1.5 °C goal, and so further reductions from Japan are necessary. This means that fundamental changes to its economic structure are required for decarbonization. Employees and businesses in fossil fuelrelated and energy-intensive industries may be particularly impacted; one study analysing data from FY2016 shows that there are approximately 150,000 people employed in those sectors, which in total produce more than four trillion JPY in value added (see Table).

The transition is already underway. In the electric power sector, J-Power announced it will abandon its joint venture with Ube Industries to build a new coal-fired

Table.

Estimate of labor forces in fossil fuel and energy-intensive industrial sectors and their value added (as of FY2016)

Sectors	Employees	Value Added (Billion Yen)
Electricity Generation	10,000	551.7
Oil Refinery	11,000	543.2
Steel Production	36,000	493.6
Chemical	65,000	2169.8
Cement	5,000	158.1
Paper Pulp	24,000	584.6
(Nuclear)	(50,000)	
Total	151,000	4,510.

Source: Research Group on Energy Transition for the Future (2021) * Figures in the original data are rounded to the nearest 1,000 for the number of employees and to the nearest 100 million yen for value added.

power plant in Ube, Yamaguchi Prefecture. In the steel production sector, Nippon Steel Corporation announced that it will close five domestic blast furnaces, reducing its fleet from 15 to 10 by 2025. In the automobile sector, Honda Motor Co. announced that it will close its engine manufacturing plant in Moka, Tochigi Prefecture by 2025. These recent decisions taken by companies in these industries highlight the need to urgently develop and implement policy measures to ensure a just transition.

The "scrap and build" of the coal-mining sector serves as one example of just transition in Japan. Over a period of 40 years, from the 1960s to 2000s, 928 coal-mines were closed, and more than 200,000 jobs were lost throughout the process. To support workers impacted by the transition, the government spent four trillion JPY to fund various policy measures. While initial policies focused on transitioning workers through job training and job creation in other industries, later policies provided direct benefits to them. This experience can be used in many ways as a reference for the just transition ahead; the national government (Employment Promotion Corporation) and relevant departments of local governments worked together with coal companies and labor unions to address unemployment, efforts began as soon as it became clear that the mine was scheduled to close, and follow-up support and consultation services were provided to former coal workers to help them adjust to their new jobs.

One lesson that can be drawn from the experience of the "scrap and build" of the coal mines is that the just transition of fossil fuel-related and energy-intensive industries will require long-term, large-scale financial and organizational commitment from the national government. It is important to note that the closure schedule of the coal mines was announced ahead of time, and the mining companies and their employees planned their next steps in advance. For the transition of today's industries, it is necessary to take into account past experiences and lessons learned, and to begin discussion and take action as soon as possible to ensure a just transition to a prosperous and sustainable society.



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