



**United Nations** Climate Change  
Katowice Committee on Impacts

# IMPLEMENTATION OF JUST TRANSITION AND ECONOMIC DIVERSIFICATION STRATEGIES

A compilation of best practices  
from different countries



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**A compilation of best practices  
from different countries**

## Implementation of just transition and economic diversification strategies: a compilation of best practices from different countries

This compilation is prepared as the output of the implementation of activity 2 of the workplan of the forum on the impact of the implementation of response measures and its Katowice Committee of Experts on the Impacts of the Implementation of Response Measures.<sup>1</sup>

Activity 2: Identify country-driven strategies and best practices on just transition of the workforce and creation of decent work and quality jobs and on economic diversification and transformation focusing on challenges and opportunities from the implementation of low greenhouse gas emission policies and strategies towards the achievement of sustainable development.

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<sup>1</sup> As contained in annex II to decisions 4/CP.25, 4/CP.15 and 4/CMA.2.



# FOREWORD

by Catherine Goldberg and Peter Govindasamy,  
Co-chairs of the KCI

The Katowice Committee of Experts on the Impacts of the Implementation of Response Measures finds that economic diversification and transformation and the just transition of the workforce and the creation of decent work and quality jobs are two of the main strategies to mitigate the potential socioeconomic impacts of response measures, while enhancing access to the opportunities that emerge from the low carbon transition. These strategies become even more pertinent as Parties work to meet the Paris Agreement temperature goal of holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels.

This publication provides a compilation of country-driven strategies and best practices on economic diversification and transformation and just transition of the workforce and creation of decent work and quality jobs. It informs on not only the challenges but also opportunities arising from the implementation of low greenhouse gas emission policies towards the achievement of sustainable development and net zero economies.

We believe that this compilation containing real world examples will serve as a valuable reference material for all Parties, and support our shared objective to advance our work to maximize the positive and minimize the negative economic and social impacts of the implementation of response measures.



**Catherine Goldberg**  
Co-chair, KCI

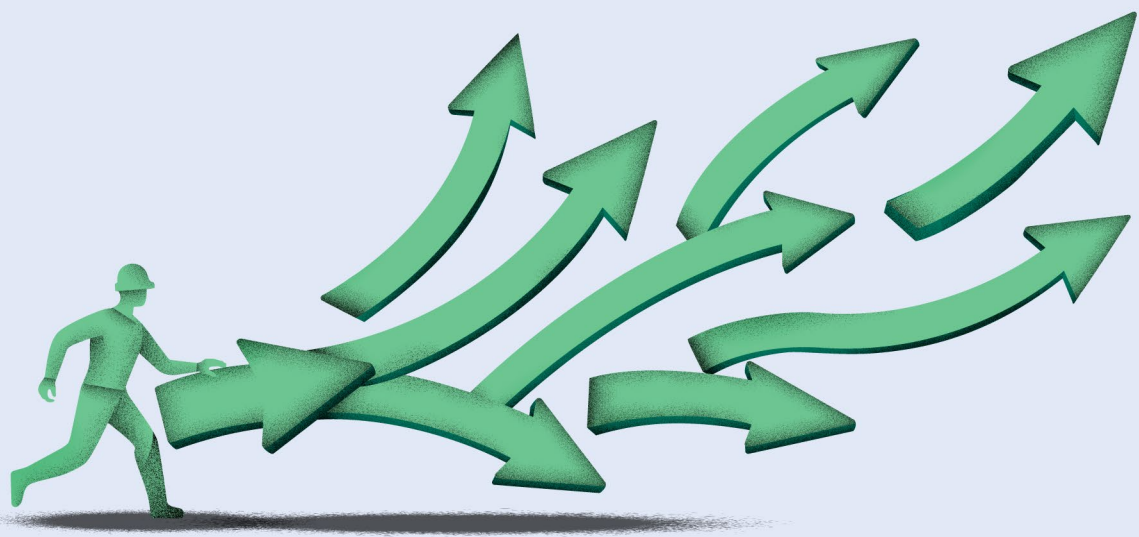


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# TABLE OF CONTENTS

<b>FOREWORD</b>	<b>5</b>
<b>1 INTRODUCTION AND MAPPING OF CONCRETE EXAMPLES</b>	<b>8</b>
<b>2 SYNTHESIS OF COUNTRY-DRIVEN STRATEGIES AND BEST PRACTICES</b>	<b>14</b>
<b>3 COUNTRY-DRIVEN STRATEGIES AND BEST PRACTICES ON JUST TRANSITION OF THE WORKFORCE AND CREATION OF DECENT WORK AND QUALITY JOBS</b>	<b>24</b>
<b>4 CONCRETE EXAMPLES OF COUNTRY-DRIVEN STRATEGIES AND BEST PRACTICES ON ECONOMIC DIVERSIFICATION AND TRANSFORMATION</b>	<b>70</b>
<b>5 CONCLUSIONS</b>	<b>93</b>
<b>6 REFERENCES</b>	<b>94</b>



1

# INTRODUCTION AND MAPPING OF CONCRETE EXAMPLES

Just transition, and economic diversification and transformation are becoming increasingly fundamental to the transition to a low-carbon economy.

The objective of this compilation is to identify country-driven strategies and best practices on just transition of the workforce and creation of decent work and quality jobs and on economic diversification and transformation, focusing on challenges and opportunities from the implementation of low greenhouse gas (GHG) emission policies and strategies towards the achievement of sustainable development.

The basis of the compilation is concrete examples and relevant information submitted by Parties and observers in response to a call for inputs issued by the Katowice Committee of Experts on the Impacts of the Implementation of Response Measures (KCI). Creating the compilation involved the following steps:

1. Making a call for input from experts, practitioners and relevant organizations to submit concrete examples;

2. Creating a list of 41 concrete examples as received from 21 stakeholders;<sup>1</sup>
3. Classifying the examples into two categories: just transition, and economic diversification and transformation;
4. Analyzing the examples on the basis of scope (sector, policy/programme/project, geographical scope), type of challenge and just transition aspect (gender or skills development).

Tables 1 and 2 provide an overview of key characteristics of these examples for just transition and economic diversification and transformation. The policies cover various facets of just transition and economic diversification and transformation of both market and non-market-based policy in various sectors such energy, agriculture, forestry and land use, transport and industry, targeting specific groups (e.g. indigenous peoples, women, people from small island developing States).

<sup>1</sup> Submissions of concrete example from the stakeholders are available at [https://unfccc.int/event/KCI5\\_2](https://unfccc.int/event/KCI5_2).

**Table 1:**  
Overview of key characteristics of examples of just transition

No	Type	Sector	Geographical scope	Aim of the project/policy	Just transition aspect
1	Project	Agriculture	Nigeria	Understand the potential of just transition to agroecology, more sustainable methods of land use and production, and jobs that use higher-level skills	Monitoring working conditions, developing policy measures to promote agroecology at national or regional level
2	Policy	Agriculture	Agrarian countries	Transition from industrial agriculture to agroecology and agroforestry	Developing policies for just transition of workers
3	Programme	Energy efficiency in building	France, 18 countries in Mediterranean, Africa, Southeast Asia, South America, Eastern Europe	Develop and implement technical assistance and capacity reinforcement programme to support adaptation and mitigation through energy-efficient building renovations	Providing project management assistance for implementation, support for verifications and certifications, and capacity reinforcement to stakeholders
4	Programme	Energy efficiency in building	France	Develop simplified broader inclusive plan to accelerate energy-efficient building renovations for reducing energy consumption and greenhouse gas emissions	Providing investment facilities, technical implementation assistance, stakeholder training capacity-building
5	Project	Multiple sectors	Argentina, Bangladesh, Columbia, Ghana, Indonesia, Kenya, Lao People's Democratic Republic, Malawi, Viet Nam	Include just transition in nationally determined contributions, long-term low-emission development strategies, climate strategies	Exploring the concept of just transition and developing just transition strategies in each country
6	Policy	Multiple sectors	Philippines	Develop and implement green jobs content and accounting mechanisms for incentivizing green business enterprise	Developing and implementing a mechanism for selecting green enterprise and incentivizing taxable income, expenses on skills development, capital expenditure for green enterprise
7	Policy	Energy	Philippines	Increase private sector investment in renewable energy	Increasing the role of trade unions in the advancement towards a lower-carbon society
8	Programme	Energy	Ireland	Transition from coal to renewable energy generation	Supporting workers, companies and communities affected by transitioning

No	Type	Sector	Geographical scope	Aim of the project/policy	Just transition aspect
9	Programme	Energy	Indonesia	Increase renewable energy generation	Increasing ways to manage the experts' career development in the power sector
10	Programme	Energy	India	Provide technical assistance to accelerate the development of the solar capacity specifically for capacity-building programmes, and concessional project finance to develop solar parks, energy transmission infrastructure and facilitating rooftop solar power projects	Providing an integrated approach for social and economic development of the communities and stakeholders within the area of operation
11	Policy	Energy	Columbia	Ensure just transition for workers in coal and oil and gas sectors	Planning for a just transition for workers in coal and oil and gas sectors
12	Policy	Energy	Spain	Manage closure of coal mines	Developing a just transition strategy by the Government
13	Policy	Energy	New Zealand	Manage prohibition of offshore oil and gas exploration permits issuance	Developing a transition plan for affected regions
14	Policy	Energy	New Zealand	Manage prohibition of offshore oil and gas exploration permits issuance	Implementing an inclusive planning process. Securing support for workers' skills development, empowerment, job clustering during transition
15	Project	Energy	Morocco	Install and disseminate solar technologies using a cooperative approach	Capacity-building and local empowerment
16	Project	Energy	Marshall Islands	Assemble, install, operate and maintain solar-powered lights, refrigerators and freezers	Training young women technicians on different islands to secure decent work conditions
17	Programme	Energy	South Africa, developing countries	Promote cross-sectoral dialogues to develop informed energy policies and plans. Provision of concessional financing to renewable energy projects	Promoting stakeholder consultations, capacity-building for policy modelling – planning, providing concessional finance

No	Type	Sector	Geographical scope	Aim of the project/policy	Just transition aspect
18	Policy	Energy	United States	Coordinate, empower and identify economic and human resource development programmes to assist diversify economy; create jobs in new or existing industries. Building carbon-based incentives and business development projects support	Coordinating, collaborating, creating jobs, business development support, attracting finance
19	Policy	Energy	South Africa	Develop a plan for coal plant closure, and the unbundling and privatization of Eskom	Overcoming challenges of managing closure of coal mines
20	Project	Forestry	Cameroon	Develop social entrepreneurship focused on tree nursery, beekeeping and transformed by-products	Enhancing the role of grass-roots women, including indigenous and ethnic women as workers and entrepreneurs
21	Project	Manufacturing	Sweden	Evolve and promote fossil fuel free steel manufacturing without use of coking coal; thereby transforming an emissions-intensive industry to a low CO <sub>2</sub> emission or CO <sub>2</sub> emission free production	Integrating joint initiative collaboration. Streamlining permit process. Regional collaboration
22	Policy	Mining	Spain	Develop and implement just transition agreements and large-scale integrated strategies to offset negative impacts and finance green projects	Applying just transition agreements to offset negative impacts. Financing green projects
23	Project	Manufacturing	Bangladesh	Shift away from fast fashion towards more circular business models	Increasing the just transition of workers throughout the supply chain
24	Project	Waste management/waste recycling	Columbia	Ensure decent work in waste recycling sector	Increasing women's empowerment, training community leaders and developing neighbourhood committees
25	Project	Waste management/waste recycling	India	Manage municipal solid waste, including incineration	Managing the livelihoods of waste pickers
26	Programme	Mining	Mineral-producing countries	Establish a principle for just transition in extractives	Ensuring stringent mandatory social requirements for responsible sourcing of minerals used for production of renewable energy equipment

**Table 2:**  
Overview of key characteristics of examples of economic diversification and transformation

No	Type	Sector	Geographical scope	Aim of the project/policy	Economic diversification aspect
1	Project	Agriculture	Zambia	Reduce the vulnerability of rural women farmers to negative impacts of droughts and floods	New economic activities for women by promoting sustainable agriculture practices, adoption of solar home systems and tree planting
2	Project	Agriculture	Indonesia	Create an adaptation project to tackle the threats of landslides, droughts and groundwater scarcity caused by massive deforestation	New economic activity for women by adopting aquaponics models
3	Policy	Multiple sectors	Rwanda and surrounding countries	Develop a key focus on sustainable economic growth and social development	Export diversification, increasing productivity, technological capability and international competitiveness. Rural development and creating 'soft infrastructure' of good governance and institutional arrangements
4	Policy	Multiple sectors	Republic of Korea and members of the Association of Southeast Asian Nations	Build a forward-looking partnership with the Association of Southeast Asian Nations focusing on sustainable development, peace and security	Partnership building, regional cooperation
5	Programme	Multiple sectors	France	Develop local projects that diversify local economy, for sustainability and environmentally responsible development	Partnership programme between the State and local communities to help develop local projects that diversify local economy
6	Programme	Multiple sectors	Sweden	Reduce greenhouse gas emissions	Supporting and strengthening regional and local initiatives, cost-effective greenhouse gas reduction measures, diversified and transformed the implementing regions
7	Programme	Multiple sectors	Australia, China, Israel, Brazil, India, Canada, Japan, Republic of Korea, Taiwan, United Kingdom, United States, Taiwan, etc.	Expedite processing of green technology patent applications to address climate change	Supporting a just and equitable distribution of economic opportunities for small and medium-sized enterprises and to compete with larger companies and organizations, as patents foster growth and commercial opportunities



No	Type	Sector	Geographical scope	Aim of the project/policy	Economic diversification aspect
8	Policy	Energy	Indonesia	Develop a green transformation programme by increasing renewable energy capacity and retiring diesel power plants	Promoting renewable energy, competitive power procurement
9	Programme	Energy	United Kingdom	Implement smart energy meters	Skills development to reskill staff who read meters as smart meter installers
10	Project	Energy	Antigua and Barbuda	Promote grid-interactive solar photovoltaic systems for schools and clinics to provide access and uninterrupted power during disasters	New economic activity for men and women to develop entrepreneurship skills to enter private practice
11	Programme	Energy	India	Enhance implementation of solar technologies	Transformation of power sector infrastructure by making it competitive with fossil-fuel power generation
12	Project	Management of stranded assets	Denmark	Transform port into leading hub for offshore wind, after political decision to end oil and gas production	Industry transformation from fossil to wind energy
13	Project	Management of stranded assets	Denmark	Transform closed shipyards to green industrial parks for wind and renewable energy following closure	Establishing Lindø Offshore Renewables Center through public-private partnership for smooth transformation from shipyard to industrial park
14	Project	Manufacturing	Sweden	Build the world's greenest battery with minimal carbon footprint and highest ambitions for recycling to enable transition to renewable energy	Putting in place regulatory framework and infrastructure for green energy transition, sustainable manufacturing
15	Project	Transport	Antigua and Barbuda	Promote electric mobility	Engaging car dealerships to supply electric vehicles throughout the country

# SYNTHESIS OF COUNTRY-DRIVEN STRATEGIES AND BEST PRACTICES

The examples received as submissions in response to the call for inputs are compiled in chapter 3 and chapter 4.

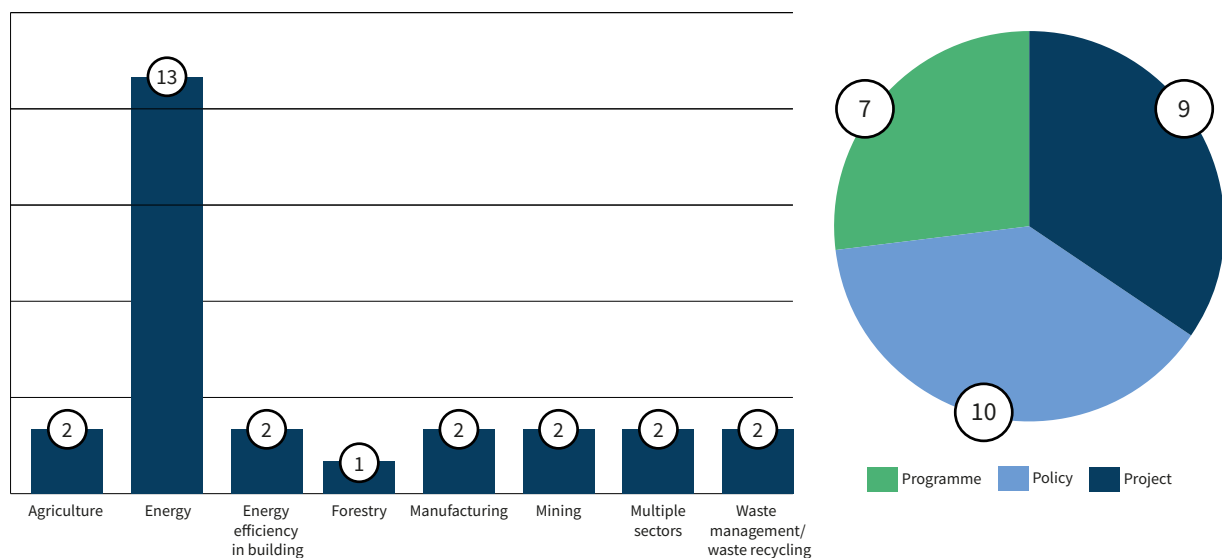
## 2.1 Just transition of workforce and creation of decent work and quality jobs

Most of the low GHG emission development strategies or policies in the concrete examples included a nationally determined contribution

(NDC) mitigation target and information on the present situation of the respective sector or importance of the project with respect to the NDC mitigation target. The present situation of the respective sector was further linked to emphasizing the need for just transition and characteristics of the just transition initiative.

The sectors or areas that are covered by the concrete examples and the distribution of concrete examples as per type are shown in figure 1.

**Figure 1**  
Distribution of just transition concrete examples as per sector/area and type



### 2.1.1 Policies and their characteristics

#### **Agriculture**

As per case studies, the agriculture sector is considered highly vulnerable to the impacts of climate change and there is a need to move away from energy-intensive and industrialized approaches. The policies in the agriculture sector aimed to transform the sector from industrialized agriculture to small farmer based agroecology and agroforestry for climate-resilient farming and reduce GHG emissions by using fewer chemicals for food production. The examples under this sector considered agroecology organic farming as a sustainable method for land use and production as well as for the generation of jobs that use higher-level skills (JTW-1, JTW-2).

#### **Energy efficiency in building**

In the construction sector, the concrete example is associated with energy efficiency improvement. The project is aimed at transforming the construction sector towards an enabling environment for improving buildings' energy efficiency and resilience. The Programme for Energy Efficiency in Buildings (PEEB) Cool supports low-carbon development strategies in the 18 participating countries that have hot and Mediterranean climates. The programme is expected to generate local jobs in construction activities (JTW-22).

#### **Energy**

These concrete examples illustrate policies which aim to increase the renewable energy generation in the country and show how trade unions can support just transition of workers. One example from the Philippines relates to the Government's plans to increase private sector investment in the renewable energy sector (JTW-4). Another example from Indonesia shows how the career development of experts in the power sector can be managed while the Government plans to increase renewable energy generation (JTW-5). The concrete examples also show that increased installations of solar technologies generated new employment opportunities for local people, in particular women (JTW-10, JTW-11, JTW-12, JTW-19).

#### **Mining**

The concrete examples related to managing closure of coal mines included ways to support workers, companies and communities affected by transition.

Another example puts forward principles for just transition in extractives. With more renewable equipment produced, there is a need to mine more minerals. In order to ensure responsible sourcing of minerals, these principles for just transition are established (JTW-26).

#### **Forestry**

The project in the forestry sector of Cameroon aimed to develop social entrepreneurship by involving people in tree nursery, beekeeping and transformed by-products. This project demonstrates the role of grass-roots women, including indigenous and ethnic women as workers and entrepreneurs (JTW-15).

#### **Waste management**

The concrete examples in the waste management sector showcase examples of ways to address issues related to managing livelihoods of waste pickers, women's empowerment, training of community leaders and developing neighbourhood committees.

Training on natural resource management, gender inequalities, local public policies and citizen's initiatives has led the beneficiaries to be empowered, exercise their democratic rights, and protect their environment and cultural heritage. This paves the way for a sustainable and gender-responsive city through economic empowerment of women recyclers and guarantees of decent work (JTW-17, JTW-18).

#### **Manufacturing**

One concrete example is about the shift away from fast fashion towards more circular business models in Bangladesh. It demonstrates that workers in this sector are severely vulnerable to resource efficiency initiatives, environmental impacts and health crises like the coronavirus disease 2019 (COVID-19) pandemic. The example highlighted the role of trade unions as critical in negotiating social protection for workers in this industry. Companies must ensure that workers are paid a living wage and have access to social protection (JTW-16).

Another concrete example relates to a joint green industry transformation initiative on fossil fuel free steel production, Hybrit, which aims to reduce the steel industry's carbon dioxide (CO<sub>2</sub>) emissions by replacing coking coal with hydrogen produced via electrolysis using renewable electricity and water. A process called direct reduction is intended

to replace the blast furnace process that is used today. A pilot plant is expected to generate 1,500 jobs, complemented by new production methods for iron ore using renewable sources, which are expected to generate 2,000 jobs (JTW-24).

### **Multiple sectors**

Concrete examples from Ireland and New Zealand relate to the shift from an economy that is based on fossil fuel to one based on clean energy and low emissions. The examples show the appointment of a just transition commissioner/unit with the role of managing trade and brokering relations in affected regions in order to encourage the transformation towards a just, equitable and inclusive green economy and build relationships with affected communities (JTW-6, JTW-13).

### **2.1.2 Impacts of identified strategy or policy on just transition of the workforce and creation of decent work and quality jobs**

The concrete examples also highlighted some of the impacts and opportunities which could result from the policies, strategies and projects outlined in the examples, as follows:

- Training, development and skill enhancement projects and incorporation of such initiatives into national climate action plans and electricity road maps are expected to contribute to raising climate ambitions and promoting inclusive, just and long-lasting energy policies. Aided by this approach, the Marshall Islands aims to achieve 100 per cent energy from renewable sources by 2050 with at least 20 per cent women among the trained technicians by 2030. The Marshall Islands' Island Eco initiative, which trains women technicians to assemble, install, operate and maintain solar-powered equipment (lights, refrigerators and freezers), can help to achieve this objective while helping to secure decent work conditions (JTW-12);
- A multi-year research policy programme in Indonesia resulted in the successful inclusion of just transition in a revised NDC and the Long-Term Strategy for Low Carbon and Climate Resilience 2050. The programme explored options for incorporating just transition strategies into climate policies (JTW-3);
- Programmes or projects that aim at shifting away from fossil fuels or installing renewable energy generation units enable diverse initiatives to be undertaken in different sectors. A programme in the Midland Region of Ireland covers a range of opportunities which includes new enterprise hubs, support to local business development, research and exploratory studies, tourism and heritage projects, and opportunities for reskilling (JTW-6). Low-income communities in the United States of America benefited from the Clean Energy Incentive Program, which provides incentives for States to reward early investment in wind and solar power schemes (JTW-21). Sweden's Hybrit initiative provides opportunities to decrease emissions and develop sustainable practices for the future of steel and building materials, as well as transforming jobs in an emissions-intensive industry. The initiative is also expected to contribute to enhanced regional cooperation (JTW-24);
- Just transition plans in the agriculture sector provide farmers, workers, women, communities and those that are usually marginalized with an opportunity for an inclusive and participatory processes to shape their own future (JTW-1);
- Programmes in the construction sector aim to promote the utilization of energy-efficient and resilient buildings or houses. PEEB Cool can contribute to a green recovery by, for example, promoting and supporting local employment. This programme was also expected to have positive impacts, in terms of thermal comfort, energy cost savings and improved community services, to numerous beneficiaries in the participating countries (JTW-22). France's MaPrimeRénov' programme, in addition to creating local quality jobs, also helps to reduce heating bills and improve the quality of low-income families' homes (JTW-23).

### **2.1.3 Challenges, opportunities and stakeholder involvement**

A variety of challenges were mentioned in the concrete examples. Most of them relate to the

implementation of projects or policies rather than the challenges in implementing just transition. The challenges include:

- Patriarchal norms, gender stereotypes and monopolistic male-dominated industry as well as a lack of organizational support hinders women's empowerment in just transition in rural areas (JTW-11);
- Landlessness, insecure access to and control over land, and lack of recognition of communal land tenure present major barriers to social justice (JTW-1);
- Stakeholder engagement, which was observed as one of the major challenges, especially in developing countries, owing to different priorities and lack of interlinkages and coordination among relevant actors (JTW-10, JTW-13);
- Lack of expertise and new competencies, specifically in developing countries, which are crucial to building institutional capacity and arrangements. There is a need to set up research centres and collaborate with stakeholders (JTW-5);
- Intermittency characteristics of variable renewable energy such as solar photovoltaic systems and wind power, which limit penetration of clean renewable energy and require improvement in both technical and human capital capacities as well as management of the workforce (JTW-5).

The concrete examples also describe opportunities that have arisen from the implementation of the strategies or policies, including the following:

- Initiatives that promote cooperatives can have an important role in supporting governments in achieving climate or other objectives. In the Philippines, a national trade union federation works with energy cooperatives to promote renewable energy (JTW-4). Women's cooperatives in Morocco contribute to reducing CO<sub>2</sub> emissions and providing opportunities for local economic growth by disseminating solar cookers for agricultural food processing (JTW-11). Women's honey cooperatives in Cameroon

have strengthened their communities' economy resilience (JTW-15);

- Programmes or projects that aim at shifting away from fossil fuels or installing renewable energy generation units provide opportunities for training and/or reskilling for the new technologies. Examples include PEEB Cool (JTW-22), the Clean Energy Incentive Program in the United States (JTW-21) and the IslandEco initiative in the Marshall Islands (JTW-12).

#### 2.1.4 Lessons learned

##### *Integration and implementation of policies*

- There is no 'one size fits all' approach to just transition. The strategy for just transition must be tailored to each individual country (JTW-3, JTW-13). Just transition should not exacerbate inequalities and must be undertaken in a way that supports affected workers (JTW-1, JTW-4). Rushed approaches due to pressure on the policy planning process have a high risk of backfiring and causing more harm than benefits (JTW-1);
- Just transition enabling policies need to be integrated into national climate policies and proposals, as well as in NDCs and national adaptation plans (NAPs). This includes supporting regulatory frameworks and plans for effective implementation on the ground (JTW-1). Social protection and the creation of decent work are important building blocks of just transition in building societal resilience (JTW-8, JTW-16). A national just transition fund can be established to support innovative projects that generate employment projects and help facilitate smooth just transition (JTW-6);
- Understanding the importance of establishing and maintaining relationships with relevant stakeholders to enable ownership of just transition in a specific national context is key for effective implementation and achievement of just transition (JTW-3, JTW-4, JTW-13). On this note, promoting inclusiveness and participation, including during conceptualization and the planning process, is essential for effective implementation of just



transition policies and for achieving desired results (JTW-1, JTW-2, JTW-4, JTW-13);

- Trade unions with adequate expertise and support can play a role in advancement towards a zero- or low-carbon society. Involvement of respective associations and trade unions can help deliver just transition in a smooth and effective manner (JTW-2, JTW-13, JTW-23, JTW-24);
- Peer-to-peer learning and exchanges on just transition could be valuable for energy companies, including their trade unions, as they are at different stage of shifting from fossil fuels to renewable sources (JTW-8).

**Women’s empowerment**

- Gender-responsive energy cooperatives are a way to promote an equal voice for women and men in the development of renewable energy production. With newly acquired skills, women working in productive cooperatives are empowered through more control over the entire value chain (JTW-11);

- The training of trainers (ToT) concept, whereby women are taking on leadership roles, increases their understanding and control over production and income generation alternatives, bringing in a positive change in gender roles that enables women to lead the replication of the initiative, and gaining more recognition within their communities. The use of local experts in ToT also helps enhance continuous learning and sustainability of the model (JTW-17);
- Grass-roots women, including indigenous and ethnic women, play an important role as workers and entrepreneurs, particularly in the rural economy. Social entrepreneurship promotes strong cooperation and knowledge-sharing between local communities and public authorities, research institutes and foundations, and ensures continuous learning for sustainable forest and biodiversity protection. Through awareness-raising, capacity-building, moral and financial support, women contribute to building peaceful livelihoods for their families and their communities (JTW-15);



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- A key strategy for enabling the transition to sustainable land management approaches is to improve land tenure and access, particularly for women (JTW-1).

**Sector specific**

- The key lesson from the concrete example of waste pickers in India for securing just transition is that although trade unions can secure just transition measures via collective bargaining or other forms of social dialogue, these victories are often partial and not necessarily permanent. Therefore, safeguarding a just transition measure may require political and legislative action. Moreover, efforts to formalize informal work should be included when working within a just transition framework for this sector (JTW-18, JTW-24);
- Sweden’s Hybrit initiative, a collaborative project aiming for fossil fuel free steel production, shows that a 1000-year-old production method of industry can be transformed to face the challenges that climate change poses (JTW-24);
- When shifting away from fossil fuels towards renewable energy, the transformation of energy systems must also ensure responsible

minerals extraction, and must not simply shift exploitation and land grabs to new areas (JTW-26).

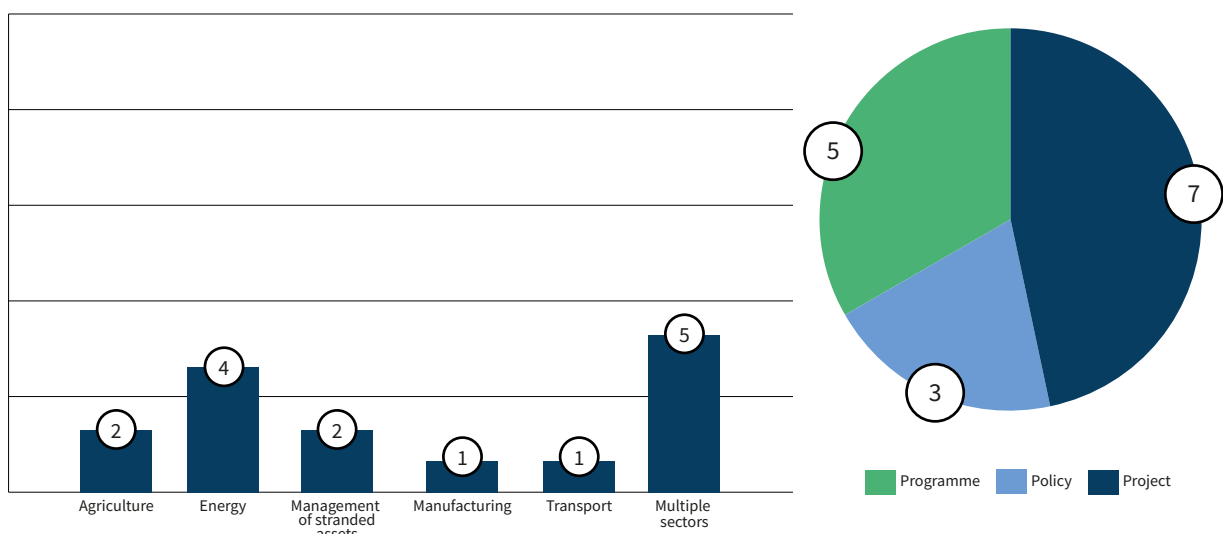
**2.2 Economic diversification and transformation**

Most of the concrete examples dealing with various aspects of economic diversification and transformation included promoting a conducive environment in the form of policies, incentives and infrastructures needed for economic diversification; promoting new low- and zero-carbon, cleaner and more efficient technologies and processes; encouraging collaborative initiatives and accelerating processes (including registration, certification, patent processing) for green technologies as per the present situation of the respective sector or importance of the project with respect to the NDC mitigation target.

The concrete examples provide multiple paths for economic diversification. Different countries will take different diversification paths in line with national circumstances.

The sectors that are covered by the concrete examples and the distribution of concrete examples as per type are shown in figure 2.

**Figure 2**  
Distribution of economic diversification examples as per sector/area and type



### 2.2.1 Policies and their characteristics

#### **Agriculture**

Both of the economic diversification examples in the agriculture sector were projects which aimed to adapt to vulnerability caused by climate-related weather events like droughts, floods, landslides and groundwater scarcity. The examples resulted in new sources of income for communities, specifically for women, by, for example, promoting sustainable agriculture practices, adopting solar home systems, tree planting and adopting aquaponics models (EDT-8, EDT-9).

#### **Energy**

There were a variety of programmes and projects in the energy sector highlighted in the concrete examples. These include programmes to increase renewable energy capacity, retire diesel power plants, accelerate implementation of solar technologies by financing schemes and install smart energy meters.

#### **Manufacturing**

The example under the manufacturing sector presents the implementation of a programme to build the world's greenest battery with minimal carbon footprint and the highest ambition for recycling to enable transition to renewable energy. This project is implemented by putting in place a regulatory framework and infrastructure for green energy transition and sustainable manufacturing (EDT-12).

#### **Management of stranded assets**

There were two interesting examples from Denmark which demonstrated how the existing infrastructure can be used while the industries are shifting from fossil fuel based energy production to renewable energy production. One concrete example showed how a port was transformed into a leading hub for offshore wind after a political decision to end oil and gas production (EDT-10). Another example showed how a shipyard was transformed into a green industrial park for wind and renewable energy following its closure (EDT-11).

#### **Transport**

The concrete example in the transport sector is about promoting electric vehicles in Antigua and Barbuda and how the Government engaged car dealerships with the goal of using them to supply electric vehicles throughout the country.

This initiative also creates business opportunities for charging stations (EDT-13).

#### **Multiple sectors**

Some concrete examples present implemented policies that targeted multiple sectors, mainly to develop local projects that diversify the local economy for sustainability and environmentally responsible development while reducing GHG emissions. One of the examples aimed to provide just and equitable distribution of economic opportunities to small and medium-sized enterprises while dealing with climate change and implemented a policy to expedite the processing of green technology patent applications. Another is the Ecological Transition Contract/Partnership of France, a partnership programme between the State and local communities to help develop local projects that diversify the local economy, for sustainability and environmentally responsible development (EDT-1).

### 2.2.2 Impacts of identified strategy or policy on economic diversification and transformation

The impacts of implementation of some of the policies, programmes and projects on economic diversification are as follows:

- France's Ecological Transition Contract/Partnership promotes, in 107 territories, local development of various sectors such as renewable energy, energy efficiencies, mobility, agriculture, urban planning and circular economies (EDT-1);
- Implementation of a multi-sector economic development or diversification strategy not only assisted in creating a conducive environment to business but also helped to expand the economy. Moreover, export markets add another dimension of export diversification (EDT-2);
- The Economic Development and Poverty Reduction Strategy emphasizes the importance of building a multidisciplinary production and export corridor to include service development, which will begin to transform Rwanda from a subsistence economy to a modern economy (EDT-2);



- Programmes focused on the ‘three Ps’ of people, prosperity and peace help in extending political relations from business to technological, cultural and humanitarian cooperation (EDT-3);
- Programmes such as Climate Leap, which supports regional and local initiatives to reduce GHG emissions, have contributed to diversifying and transforming the implementing regions. These include the installation of charging stations for electric cars, biogas plants, and railway maintenance and energy efficiency projects (EDT-4);
- The transformed Danish ports have a substantial service and hospitality sector, in addition to one of the most advanced local supply chains for offshore wind. This has also led to a circular economy (EDT-11);
- Odense Port and Lindø Offshore Renewables Center is an example of successful transformation from an international shipyard to a thriving hub in the energy, offshore wind and maritime sectors. The project’s objective is to promote innovation in the offshore renewable energy sector, contributing to lowering the levelized cost of energy and making offshore renewable energy viable (EDT-11);
- Sweden’s green battery manufacturer Northvolt plans to deliver batteries with an 80 per cent lower carbon footprint compared with those made using coal energy. The batteries will be used in different vehicles and in applications to store energy. The rapid development of new industries reshapes the pattern of energy usage. There will therefore need to be a regulatory framework and infrastructure in place, as well as engagement from relevant actors to enable this development (EDT-12).
- Despite the achievement of continued growth, poverty remains widespread in developing countries and factors like high population density, a rural ecosystem and low level of land availability creates hinderances for economic diversification (EDT-2);
- Lack of clear priorities or frameworks leads to a lack of strategic planning and implementation. This poses a risk of reimplementing of existing programmes (EDT-3);
- Land acquisition and recognition of marginalized communities remain a challenge in the development of renewable energy such as solar parks (EDT-5);
- There is a lack of funding and organizational skills for market creation of new community-based economic activities (EDT-9);
- Programmes which cover multiple sectors have potential to enable diverse projects that address several environmental or socioeconomic challenges (EDT-1);
- The special economic zones have the potential to jointly and cost-effectively address the constraints in initiating new production lines (EDT-2);
- Climate-friendly strategies in the agroecology sector can provide a financially profitable alternative to both mitigating and adapting to climate change (EDT-8, EDT-9);
- The strategy related to electric mobility creates an opportunity for training on mechanics and maintenance services of electric vehicles, and for a charging station business (EDT-13).

### 2.2.3 Challenges, opportunities and stakeholder involvement

The concrete examples mentioned challenges, opportunities and stakeholder involvement. They can be summarized as follows:

### 2.2.4 Lessons learned

Lessons learned that can be drawn from the concrete examples include:

- The involvement of many different stakeholders throughout the development and implementation of policies contributed to the success of the economic diversification and transformation (EDT-11);

- Transformative change in an economy needs close cooperation between private and public actors (EDT-4);
- There is a need to develop a plan to better spread knowledge, technologies and innovation, and to avoid market failures as part of the economic diversification strategy (EDT-4);
- Diversified livelihoods and farming activities make rural women less vulnerable to potential disasters and strengthen their food security (EDT-8);
- The participatory approach, which includes identification of community capacities and vulnerability, increases the acceptability and relevance of the developed economic diversification strategies (EDT-9).

### 2.3 Training and capacity-building

The focus on skills development within just transition discussions and initiatives is often

limited to reskilling coal miners to help them find alternative employment. However, a just transition of the workforce and the creation of decent work and quality jobs requires significant decarbonization across the entire economy, and this in turn will open up a wide range of new employment and livelihood opportunities. Thus, a key component of just transition will be to anticipate new skills requirements across affected sectors and put in place the institutions and curricula needed to support the development of existing and emerging skills needs.

Similarly, changes in the economy by diversification of markets and adaptation of new markets can lead to shifts in traditional jobs and markets, and transform the economy from high-carbon to low-carbon technologies, processes and products. Economic diversification and transition to a green economy should be seen as an opportunity to overcome any existing systematic injustice and discrimination. Thus, for holistic planning and promotion, economic diversification and transformation should include exploring new avenues for decent green jobs in different new evolving markets, such as green infrastructure



development, clean energy programmes, the development sector, environment conservation and rejuvenation. This in turn requires an innovative thinking and entrepreneurship skill set along with creating awareness and building capacity among the community to help ensure public participation and support. Investments in skills and capacity-building infrastructure/institutions increase the likelihood of success of diversification.

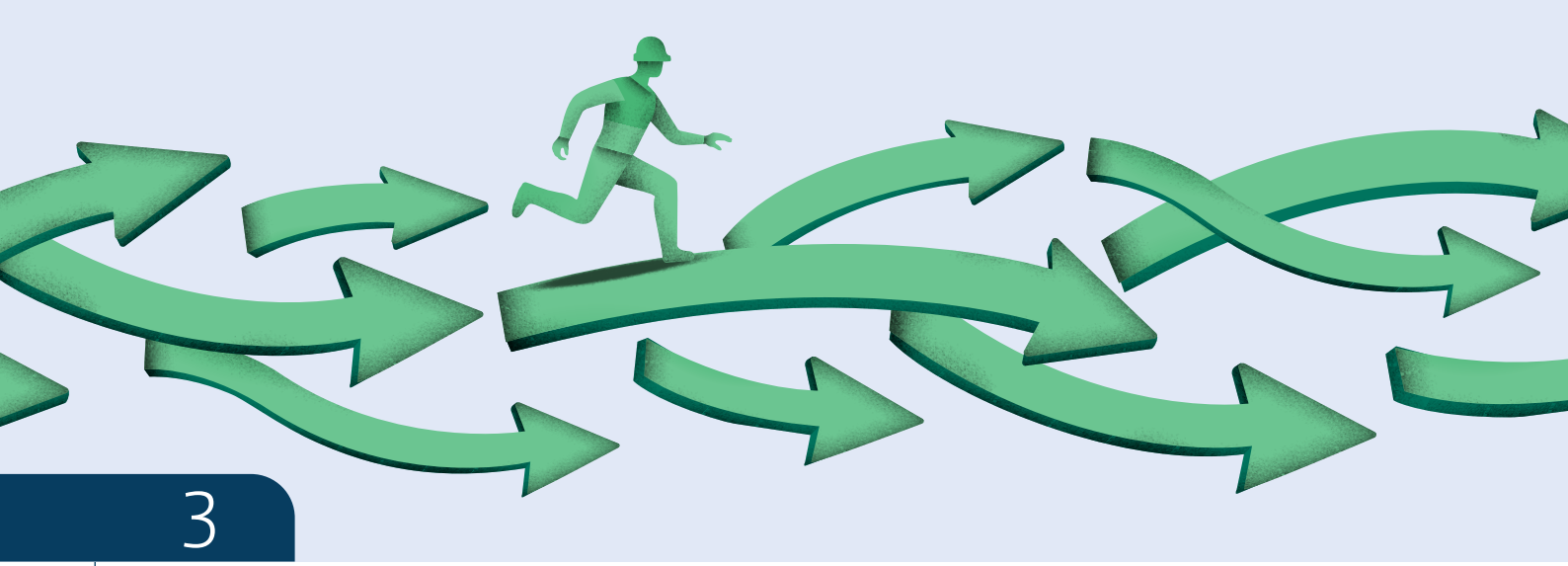
Some of the opportunities and lessons learned that have arisen from the implementation of the strategies or policies described under sections 2.1.3, 2.1.4, 2.2.3 and 2.2.4 above speak to the training and capacity-building aspects related to just transition and economic diversification and transformation. To name a few, the strategies or policies have provided opportunities for training and/or reskilling or upskilling for the new technologies. Public-private partnerships and dedicated educational initiatives can play an important role in the training, reskilling or upskilling process. A unit dedicated to dealing with just transition can help to identify the skills required for the new technologies and conduct job clustering analysis.

Some concrete examples also present training and capacity-building focused on increasing women's capacity for entrepreneurship in their community. These training and capacity-building efforts also enable replication of such entrepreneurship, which will allow for its sustainability.

On the other hand, the challenges mentioned in sections 2.1.3 and 2.2.3 above also show areas where training and capacity-building are necessary in order to overcome those challenges. As an example, the lack of funding and organizational skills for market creation of new community-based economic activities as part of the economic diversification effort demonstrates the need to include training that also focuses on market creation of the products from the community-based economic activities. For instance, stakeholder engagement in the just transition process was observed as one of the major challenges, owing to different priorities and lack of interlinkages and coordination among relevant actors. This calls for capacity-building that can bridge different priorities and establish an efficient process for coordination among different stakeholders.







# COUNTRY-DRIVEN STRATEGIES AND BEST PRACTICES ON JUST TRANSITION OF THE WORKFORCE AND CREATION OF DECENT WORK AND QUALITY JOBS

This chapter compiles the country-driven strategies and best practices on just transition of the workforce and creation of decent work and quality jobs.

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## JTW-1. JUST TRANSITION IN THE AGRICULTURE SECTOR

### 1.1 Key characteristics

Agriculture is a significant source of the world's GHG emissions and is highly vulnerable to their impacts. The Intergovernmental Panel on Climate Change Special Report on Climate Change and Land (August 2018) confirms that to become fit for purpose in an era of climate change, agriculture must move away from intensive and industrialized approaches towards food systems based on agroecology. However, efforts to dramatically cut GHG emissions in the agriculture sector could also

bring major disruptions to peoples' lives, viz. farmers using industrial agriculture techniques may feel demonized and top-down simplistic climate policies may leave large sections of rural communities stranded, with few options for secure livelihoods.

### 1.2 Description of low GHG emission strategies or policies

Shift from industrial agriculture to agroecology and agroforestry is a strategy to become more resilient to climate impacts and reduce GHG emissions from food production. It will reduce energy used in transport and heating greenhouses and strengthen local, seasonal food and markets. It will also secure land rights for smallholder farmers, particularly women, so that they can make the investments needed to transition to agroecology. The strategy includes gender-responsive extension services to train farmers in agroecology and support a just transition in the agriculture sector.

### 1.3 Impact of identified strategy or policy

Shifting from industrial agriculture to agroecology and agroforestry provides multiple benefits to agriculture and farmers:

#### Adaptation

- Healthier soils packed with soil organic matter are spongy, retain water and are slow to dry out, thereby improving water availability to crops for longer, extending growing times and increasing yield even in times of reduced rainfall and higher temperatures. Moreover, improved soils and more trees significantly reduce the risk and impact of local flooding in times of heavy rainfall. Increased crop and seed diversity spreads risk, reducing chances of total crop failure following drought, flood, pests or disease;

#### Mitigation

- Agroecology and agroforestry significantly reduce CO<sub>2</sub> emissions by avoiding production of synthetic nitrogen fertilizers. They also avoid degradation of soil carbon to atmospheric CO<sub>2</sub> that would occur with the application of synthetic nitrogen fertilizers. The soils, trees and multiple crop layers in agroforestry act as carbon sinks;
- Agroecology and agroforestry avoid biodiversity loss, including deforestation pressure caused by aggressive expansion of plantations incentivized by industrial and mechanized agriculture, for example, soya in Latin America and palm oil in South-East Asia;

#### Economic benefits

- Farmers can retain their hard-earned income by not purchasing agribusiness inputs and are less squeezed by the corporate sector. Agroecology and agroforestry benefit smallholders, especially smallholder women farmers who may not have access to finance or deep pockets. They also provide a counter power to the concentration of land and wealth facilitated by corporate agribusiness, in which millions of smallholder farmers are forced out of farming by tight margins or aggressive land

expansions. This will allow smallholder farmers and local food systems to thrive;

- Agroecology and agroforestry strengthen local economies and services by retaining more smallholder farmers around a community. Reallocating government budgets currently spent on subsidizing synthetic fertilizers can free up millions of government budgets to provide support for adaptation, training and extension services based on agroecological approaches;
- Agroecology and agroforestry also improve local water quality, biodiversity and the environment, including from reduced fertilizer run-off. They also deliver health benefits for farmers, local communities and consumers through avoidance of pesticides and fertilizers, and more nutritious food.

### 1.4 Identified challenges, opportunities and stakeholder involvement

- *Address – don't exacerbate – inequalities:* a just transition in agriculture must be undertaken in a way that works for farmers and workers, not against them. Large-scale industrialization of crops and livestock farming may be at the core of agriculture's harmful contribution to climate change.
- *Barriers faced by women:* a gender-just transition in agriculture is needed to advance women's rights in agriculture and be used as an opportunity that needs to be seized.
- *Land tenure:* landlessness, insecure access and control over land, and lack of recognition of communal land tenure present major barriers to social justice, food security, adaptation and addressing climate change.
- *Tokenism and rushed approaches:* there is a risk that the language of "climate emergency" and "urgency" could create pressure for quick climate solutions that end up harming farmers and workers, particularly those that are already marginalized. This can undermine processes for careful planning, inclusiveness and addressing inequality. Poorly planned transitions could also backfire.

- *False solutions:* even as new technologies are often assumed to bring progress, challenging questions must always be asked about who controls the technology (and who does not), who would benefit (and who would lose out), whether impacts of new technologies are reversible and other possible unintended consequences from profound and large-scale changes in farming systems.
- *Developing comprehensive framework:* impact assessment and planning at the regional and national level, inclusive policies, training and reskilling, social protection, public procurement and inclusion in climate policies, viz. NDCs, NAPs and the Green Climate Fund, as well as ensuring inclusiveness and participation in planning processes, are necessary.
- Financing a just transition in agriculture may take significant resources to cover all the different elements of participation, planning, investment, creation of new sectors, training, reskilling and social protection.

### 1.5 Lessons learned

- Governments must work to reduce climate vulnerability and the emissions footprint of their agriculture and food systems, by bringing in policies that promote agroecology over industrial and intensive crop and livestock production. Policies enabling a just transition in agriculture can be integrated into national climate policies and proposals, including NDCs, NAPs and the Green Climate Fund.
- Policies should also include regulation of agribusiness corporations, public procurement and shifting of public finances from the subsidizing of synthetic nitrogen fertilizers towards supporting agroecological farming practices and markets.
- As plans for new production methods, markets and food systems emerge, they must be enabled and supported through planned investment, new livelihood opportunities and strategies for reskilling, training and social protection where needed. By presenting this process as an unprecedented opportunity to address the concerns, pressures and injustices faced by rural communities, a just transition in agriculture can accelerate the public demand and momentum for ambitious climate action.
- Governments must initiate inclusive and participatory dialogues with stakeholder communities, including farmers, women, workers and people up and down the supply chain, to understand the struggles they currently experience within the food system and the support that they require to effectively make the transition to better farming practices. Unions and civil society organizations have a key role to play in organizing farmers, labour and communities to work together to articulate and advocate for their needs.
- Solutions for a just transition must be based on the goal of advancing human rights, including women's rights, the right to food, land rights and workers' rights, in addition to addressing the climate crisis.
- Improved land tenure and access – particularly for women – is a key strategy for enabling transition to sustainable land management approaches.
- Solutions that increase inequality, concentrate control, wealth and power in fewer hands, threaten land rights, agricultural biodiversity and farmers' livelihoods, or greenwash 'business as usual' corporate practices, should not be promoted under a just transition.
- Regulation of corporate power will be an essential component of the just transition.
- The transformation of agriculture and food systems towards agroecological approaches that work for people and nature must be done in a way that works for farmers, farm workers, processors and marginalized communities, including low-income urban consumers. It must provide them with the support, safety nets and social protection required to make these shifts and to improve working conditions and livelihoods.

*Contributor: Action Aid*

## JTW-2. JUST TRANSITION FOR THE AGRICULTURE SECTOR IN NIGERIA

### 2.1 Key characteristics

This case gives an overview of the work on just transition in Nigeria in the agriculture sector by the Nigeria Labour Congress (NLC) and its partners.

### 2.2 Description of low GHG emission strategies or policies

The agriculture sector, responsible for 19–29 per cent of GHG emissions in Nigeria, is also vulnerable to the impacts of climate change from extreme weather events and drought to high temperatures, which is particularly true for rain-fed agriculture accounting for 96 per cent of cultivated land of sub-Saharan Africa.

Nigeria's commitments under the Paris Agreement include reducing its GHG emissions by 20 per cent and 45 per cent compared with its 'business as usual' scenario by 2030 without and with external climate finance respectively. The key priority sectors are energy, oil and gas, agriculture and land use, energy and transport. To reduce emissions, Nigeria will end gas flaring by 2030 and implement climate-smart agriculture, as well as reforestation.

While 28.1 per cent of the world's population works in agriculture, agriculture accounts for more than 50 per cent of total employment in sub-Saharan Africa with about 90 per cent of these jobs being informal with roughly equal shares of men and women working in agriculture.

Agriculture is one of the sectors most sensitive to climate change. Under a 'business as usual' scenario, agricultural productivity in Nigeria could decline by between 10 and 25 per cent by 2080. In some northern parts of Nigeria, the decline in yield in rain-fed agriculture could be as much as 50 per cent. This in turn would impact gross domestic product (GDP), reducing it by as much as 4.5 per cent by 2050, even though the share of GDP that agriculture represents will decline from 40 to just 15 per cent.

### 2.3 Impact of identified strategy or policy

- Roughly 70 per cent of Nigerians work in farming or fishing to some extent. Agriculture contributed around 21.2 per cent to Nigeria's GDP in 2018. Agriculture made up 36 per cent of total employment in 2019, down from approximately 50 per cent in 2015. Only one in 20 Nigerians working in agriculture is a wage labourer. The remainder are smallholder farmers.
- Overall, the situation for trade unionists in Nigeria is improving, although there are still systematic violations of workers' rights, particularly regarding the right to strike. According to the International Trade Union Confederation (ITUC) Global Rights Index 2020, there are reports of workers having been dismissed for joining trade unions.
- The NLC has four million members, making it one of the largest trade unions on the African continent. The NLC affiliates include the Agriculture and Allied Employees' Union of Nigeria, which is also affiliated to the global union federations International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco and Allied Workers' Associations (IUF) and Public Services International.
- Nigeria's lockdown due to the pandemic has had huge impacts on the country's informal workers, most of whom rely on daily wages. As result of the combined effects of the pandemic and the global oil price crash, Nigeria's economy is expected to shrink by 3.5 per cent in 2020 with recession likely to last through 2021, despite national stimulus package that includes microcredit and international finance. The International Monetary Fund predicts Nigeria's oil and gas exports will fall by USD 26.5 billion. Oil and gas account for 84 per cent of Nigeria's export income.
- The IUF, a global union federation whose affiliates organize workers in the agriculture and hospitality sector, has conducted an initial workshop focusing on climate, meat and dairy. It resulted in a statement recognizing the role of agricultural emissions in climate change, particularly from meat and dairy production. Participants agreed



that “negotiating for new jobs and changing methods of production is needed to secure the rights and interests of dairy workers in future” along with “collective bargaining demands for a fair transition to climate friendly jobs”.

## 2.4 Identified challenges, opportunities and stakeholder involvement

On the national level, the NLC has developed a policy on climate change with civil society actors and in 2018, the NLC agreed with Friends of the Earth Nigeria to launch a joint project on just transition in two sectors – agriculture and petroleum. The project, supported by Mondiaal FNV, Friends of the Earth Netherlands and the Just Transition Centre, has two goals: build a shared understanding and political agenda between Nigerian trade unions, civil society and communities regarding what a just transition would look like for these two key sectors in Nigeria; and develop models and best practices for other unions.

The project consists of a multisite, bottom-up study of worker and community views on climate change and just transition. For the agriculture

sector, the study looked at the potential for a just transition to agroecology and more sustainable methods of land use and production, as well as better and more skilled jobs.

Interviews with agricultural workers, farm owners and government representatives showed that workers have made detailed observations of climate change impacts, even though they do not necessarily link climate change with emissions. They understood the idea of just transition when it was explained using familiar concepts and examples but were unfamiliar with the term. They were more familiar with agroecology because of its similarities to traditional farming techniques. Finally, workers understood the need for a transition to more sustainable agriculture. However, many were frustrated because they saw few real options for and many practical barriers to this change.

The project currently includes elements for monitoring working conditions. A potential phase two for this project would entail developing policy measures to promote agroecology at the national or regional level and adding additional pilot sites. It could involve steps such as on-



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site training for workers; materials and training development; and technical support to implement agroecology practices. It could be beneficial to include monitoring indicators based on the pillars of decent work, targeting improvements in the working conditions of agricultural workers, including formalization of their current jobs.

## 2.5 Lessons learned

Work on just transition and agriculture is at a very early stage. Thus, lessons learned from this case study concern how to develop union positions, approaches and processes in a context where relatively few examples exist.

A key lesson is that global union federations play an important role in helping trade unions deliver just transition. Just transition in agriculture is a new concept with many challenges for workers, particularly those in meat and dairy. To help affiliates tackle it, the IUF brought together unions and experts to consolidate a global position and will deliver education, communication resources and collective bargaining tools.

A second lesson is about building coalitions between labour and environmental movements. In Nigeria, this process started with the NLC decision to develop a climate change policy. The federation worked with civil society organizations to achieve this. This policy in turn formed the basis for a joint project, exploring a very difficult issue – just transition in the oil and gas sector – and an issue on which the interests of labour and movements are well aligned – just transition in agriculture.

A final lesson is that activities at all levels are needed in order to achieve a just transition. In this case, the NLC combined national trade union discussions, dialogue with government representatives, local discussions with agricultural workers and farmers, alliances with social movements, technical work and work with international partners, including the Just Transition Centre. Subsequent steps could consider further resource coordination efforts.

*Contributor: International Trade Union Confederation*

## JTW-3. MULTI-YEAR RESEARCH-POLICY PROGRAMME: INCORPORATING JUST TRANSITION STRATEGIES INTO CLIMATE POLICIES FOR DEVELOPING AND LEAST DEVELOPED COUNTRIES

### 3.1 Key characteristics

As the majority of work in just transition is developed country focused, the objective of the programme is to provide evidence and insights to support the introduction of just transition strategies in developing countries. The first phase of the programme, which is culminated, was a conceptual foundation for the second phase (2020–2021) in which Climate Strategies worked within country partners in three developing countries, namely, Colombia, Ghana and Indonesia, which were selected owing to their diverse characteristics and geographies. The concept of just transition is explored and developed to different stages in each of these countries, and therefore each partner developed their own approach to stakeholder engagement which best suited the needs of their country. The third phase of the two-year initiative (launched in July 2021) would continue to work with partners in Ghana, Colombia and Indonesia to further develop their just transition strategies.

Climate Strategies has also introduced six new countries – Argentina, Bangladesh, Kenya, Lao People’s Democratic Republic, Malawi and Viet Nam – that were all selected on the basis of their political, social, economic and geographical diversity with objectives to create a network of developing countries looking to implement just transition strategies in their climate plans. Climate Strategies acts as a facilitator for South–South learning and encourages these countries to share knowledge between them, finding commonalities in their similarities and differences.

### 3.2 Description of low GHG emission strategies or policies

Recognizing that low-carbon pathways need to happen across all sectors, not just the fossil fuel

industry, the strategy is to work with country partners to identify in which sectors just transition strategies would make the most impact, which will be different in most country contexts. Climate Strategies recognizes and promotes the seven principles of just transition developed by the Stockholm Environment Institute, which includes “actively encourage decarbonization” and “avoid the creation of carbon lock-in and more ‘losers’ in these sectors” and it is then up to the partners to shape and co-create their diversification pathways; Climate Strategies then supports the translation of these broader just transition concepts and principles into the local context. One of the objectives of the first phase of this programme (with Ghana, Indonesia and Colombia) was for countries to incorporate just transition concepts into their NDC. The Dala Institute (Climate Strategies’ Indonesian partner) effectively engaged with the Government of Indonesia, and it was announced that just transition concepts are included in Indonesia’s revised NDC and its updated Long-Term Strategy for Low Carbon and Climate Resilience 2050.

### 3.3 Impact of identified strategy or policy

Each country is at a different stage of its ‘just transition journey’; therefore, it has been identified that strategies must be driven by country partners, with Climate Strategies acting as support. In the same way, the impacts of each country’s just transition strategy will be different. The impacts of phase two (nine countries), which have been developed from phase one, are as follows:

- Shifted the mindset of governments to believe that just transition is relevant to developing countries by learning how just transition can be applied to different contexts;
- Increased active dialogue between governments and societal stakeholders;
- Influenced government uptake of just transition by working with providers of capital;
- Created a network of countries implementing just transition in their climate plans.

Just transition has now been included in Indonesia’s NDC and Long-Term Strategy for Low Carbon and Climate Resilience 2050. In this case the project will continue to work to implement these strategies and identify which sectors will have maximum impact.

### 3.4 Identified challenges, opportunities and stakeholder involvement

Engagement with stakeholders in Ghana, Indonesia and Colombia was initially a challenge, mainly owing to the various different actors involved such as informal workers or indigenous communities and identifying the most effective method of engagement. To overcome this in the next phase of the programme the first activity for each country is to devise a stakeholder and communication engagement plan to identify who to engage with and the best method of engagement. Another challenge was engagement with government officials. This was for a variety of reasons such as government officials not being aware of or confident in their understanding of just transition. Or in Ghana where government officials, owing to the political system and party politics, were not as willing to cooperate with an ‘external’ project.

This programme has shown the importance of local knowledge, expertise and contacts through the in-country partners. This offers a huge opportunity to draw on the insights gained from groups that have so far not been heard on climate policymaking, let alone just transition strategies, such as informal workers in Ghana. As each country developed its own methodologies, the next stage of this programme will focus on knowledge-sharing between countries to develop their own strategies.

In Indonesia, to increase the understanding of just transition in the domestic context, stimulate discussion and improve the confidence of government officials taking the lead on the subject, a presentation was delivered by the Dala Institute to stakeholders prior to each meeting. This included the background and history of just transition, the importance of just transition in the domestic context and case studies of just transition implementation around the world.

### 3.5 Lessons learned

This programme has presented a number of lessons, which are being addressed in the second phase with the six new countries. The major finding was that there is no ‘one size fits all’ approach to just transition in developing countries; both the ‘just’ and the ‘transition’ part of strategy must be tailored to and defined by each individual country. In the second phase South–South learning is encouraged and facilitated so that country partners can learn from and develop ideas with one another. Another major learning from this programme was understanding the importance of establishing and maintaining relationships with relevant stakeholders to enable ownership of just transition in a specific national context.

Secondly, this programme has highlighted the importance of local knowledge, expertise and contacts through the in-country partners in placing people at the centre of just transition. By collaborating and co-producing climate strategies they can also address current and potential inequalities. Finally, the programme emphasized the need to extend the scope of just transition beyond developed countries and realize the global scope of the just transition concept. The study gave some indication as to which actors are interested in being involved in discussions around what just transition means in the local context and how just transition measures may be implemented.

Going forward, efforts will be made to continue disseminating the findings to increase overall awareness and understanding of just transition in developing countries. There are anticipated challenges such as working with Malawi, where the Government is expanding the coal sector, to co-create just transition strategies that will have an impact in this context.

*Contributor: Climate Strategies*

## JTW-4. JUST TRANSITION FOR THE ENERGY SECTOR IN THE PHILIPPINES

### 4.1 Key characteristics

This case study gives an overview of the work on just transition in the Philippines in the energy sector by the trade union Sentro ng mga Nagkakaisa at Progresibong Manggagawa (SENTRON).

### 4.2 Description of low GHG emission strategies or policies

Increasing renewable energy generation and energy efficiency is essential to meet the goals of the Paris Agreement. These two measures alone could provide 90 per cent of the emission reductions needed by 2050. The commitment of the Government of the Philippines under the Paris Agreement is to cut CO<sub>2</sub> emissions by 70 per cent by 2030, if climate finance and technology are made available. This reduction would come from the energy, transport, waste, forestry and industrial sectors. Part of this commitment includes increasing renewable energy capacity, which is in line with the country’s Renewable Energy Act (2008) and the National Renewable Energy Plan.

In 2015, coal-fired power provided 44 per cent of electricity production in the Philippines, although that share is almost certainly higher today. The Government’s focus so far has been on increasing private sector investment in renewable energy with tax incentives and tenders, as opposed to driving renewable energy investment through the country’s 120 electricity cooperatives. Prior to COVID-19 pandemic, the overall economy was growing and growth in the energy sector was expected to follow.

### 4.3 Impact of identified strategy or policy

According to the Philippines’ trade union report on the implementation of the Sustainable Development Goals, a low and declining rate of unionization has negative implications for decent

work. Low unionization has resulted in low collective bargaining coverage which, in turn, may drive down average wages. The absence of trade unions in some companies deprives workers of the first line of defence against abuse.

At the same time, the Government of the Philippines has committed to just transition, passed a Green Jobs Act in 2016 and was engaged in a project with the International Labour Organization (ILO) to explore implementation of the Act. The Ministry of Labour led this project and engaged unions in social dialogue.

SENTRO is a national trade union federation and an ITUC affiliate with more than 80,000 members across the public, private and informal sectors. SENTRO has well-developed positions on climate change and just transition. It is one of the signatories to a successful petition to the Philippines Commission on Human Rights on whether big polluters – 47 high-emitting companies – could be held liable for human rights violations due to climate change. SENTRO has built a coalition with civil society organizations for promotion of policy coherence on renewable energy and green jobs, called Center. The federation is an active participant in the ITUC delegations to the UNFCCC process and in Trade Unions for Energy Democracy, a global initiative that works to promote democratic control of energy and solutions on climate change and energy poverty.

While SENTRO is engaged in climate issues and sees them as inseparable from matters of public ownership of the energy sector, the energy sector in the Philippines has been privatized since 2001. SENTRO has been working to restore public ownership of the energy sector, primarily through work to expand electricity cooperatives. Electricity cooperatives are owned by consumers/cooperative members, as opposed to being owned by corporations. Currently, electricity cooperatives cover 50 per cent of the electricity distribution.

SENTRO works to promote just transition in three ways. First, it works with 23 cooperatives with 30 million household members to promote renewable energy. In a pilot project on Masbate Island that is served by an electricity cooperative, SENTRO brought in technical expertise to help the cooperative develop renewable energy generation for the island's 1 million residents.

Second, SENTRO has engaged in social dialogue with the Government to achieve policies to drive the renewable energy transition in cooperatives, as opposed to solely through the private sector. Third, SENTRO works with its affiliates to ensure that there are provisions related to just transition in collective bargaining agreements. For example, the collective bargaining agreement with Siemens Electric Power includes capacity-building for consumers and unions on just transition and climate change, and a commitment to build an industry road map for decarbonization. Similarly, collective bargaining agreements for coal sector workers include expanded severance and retirement benefits so that coal workers have better protection if their jobs are axed.

#### 4.4 Identified challenges, opportunities and stakeholder involvement

SENTRO's approach to just transition and energy democracy illustrates best practice for trade unions. The federation makes use of traditional and non-traditional tools such as social dialogue with government on policy, collective bargaining with employers, alliances with civil society, litigation, international activity and community organizing.

SENTRO has a strategic approach to building power, including building a base with communities. It works within the existing structure of public ownership, electricity cooperatives, to achieve a just energy transition and organize with communities that own cooperatives. External actors that want to support just transition and trade unionism in the Philippines should look to support this transition in cooperatives.

If the political context for SENTRO and other trade unions was bad before the pandemic, now it has worsened. Filipino trade unionists and their families face threats to their lives and denial of basic rights. It is absolutely essential that external actors, from governments, development actors and civil society organizations, support Filipino unions in their struggle for safety and rights, in addition to providing support for just transition.

## 4.5 Lessons learned

This case study provides an insight into how trade unions, with adequate expertise and support, can play a role in the advancement towards a lower-carbon society. SENTRO's cooperation with development actors, including trade union solidarity and support organizations or direct bilateral support from trade unions, has proven fruitful. There is a continuous need to bring the situation in the Philippines to the attention of international actors. Trade unions are a precondition for decent work, which in turn is an essential part of achieving the Sustainable Development Goals and poverty eradication.

*Contributor: International Trade Union Confederation*

## JTW-5. MANAGEMENT OF EXPERTISE DEVELOPMENT STRATEGY IN INDONESIA

### 5.1 Key characteristics

Indonesia's power sector is on its way to decarbonization. The decarbonization road map forces Indonesia, especially the companies in power sector, to update its expertise development strategy. Expertise required for energy transition has been identified. Accordingly, an expert pool mechanism has been developed to align with the planned decarbonization.

### 5.2 Description of low GHG emission strategies or policies

The Government of Indonesia has set an unconditional target of 29 per cent and a conditional target (with international assistance) of up to 41 per cent emission reduction compared with the 'business as usual' scenario in 2030, in its NDC. The NDC target is distributed to five sectors, including the energy sector. By 2030, the energy sector has to reduce its emissions by 314 Mt CO<sub>2</sub> (unconditional), 53 per cent of which should be attained by the power sector. The strategies of reducing emissions from the power

sector involve increasing renewable capacity, improving energy efficiency and fuel switching.

In 2020, the State-owned enterprise that manages the power sector in Indonesia launched its green transformation programme aiming to more than double the capacity of renewable energy by 2025, implementing the NDC strategy of increasing the renewable energy share to 23 per cent by 2025.

### 5.3 Impact of identified strategy or policy

In May 2021, the State-owned enterprise publicly announced its Net Zero Aspiration by 2060, requiring shifting from coal-based power generation to renewables-based power generation. Coal power plants will retire gradually and be replaced by renewable energy plants. This has many impacts, including on the workforce. The ability to plan, develop, operate and maintain new technology and renewable energy facilities is an essential role in supporting the company's decarbonization plan, which includes capacities of human resources. With the new policy, the expertise in coal power generation possessed by employees in power sector will no longer be needed. This transformation also impacts the workforce in the coal mining field.

### 5.4 Identified challenges, opportunities and stakeholder involvement

One of the technical challenges is the intermittency characteristics of variable renewable energy such as solar photovoltaic systems and wind power, which requires the company to improve both its technical and its human capital capacities. Another challenge is related to the management of the workforce. To address these challenges, the company has updated its expertise development strategy by adding new key competencies, including in smart grid technology, energy storage, climate and the environment. Moreover, an expert career path has been established, which is divided into four categories, namely, generation and renewable energy, transmission, distribution, and engineering and technology, as stipulated in the new Directive of the State-owned enterprise's Board of Directors on Expertise Career Path.

As the number of experts in those new competencies is still limited, it is crucial to build

institutional capacity and arrangements (e.g. capacity-building, creating the business process, certification, guidance and procedures), set up research and collaborate with stakeholders. Therefore, the company strengthens its internal organization and tools as well as collaborates with stakeholders, both bilateral and multilateral. For example, under various cooperation with multi-stakeholders, the employees have benefited from capacity-building on new technology, organized both in Indonesia and abroad.

## 5.5 Lessons learned

Climate change has driven energy transition, which in turn influences the way the power sector manages its expert career development. Indonesia, through its State-owned enterprise, addresses the challenges and explores opportunities of the energy transition by anticipating the expertise needed for energy transition and strengthening collaboration with multi-stakeholders.

*Contributor: Directorate General of Climate Change, Ministry of Environment and Forestry of Indonesia*

## JTW-6. JUST TRANSITION IN THE IRELAND – MIDLANDS REGION OF IRELAND

### 6.1 Key characteristics

Ireland has been responding to the need for a just transition as a result of the shift away from solid fuels as a power generation source. The Programme for Government commits to ensuring that the transition to a low-carbon, climate-resilient and environmentally sustainable economy is fair. The impact of this transition in Ireland has been primarily concentrated in the wider Midlands as a result of the closure of peat-fired power stations and the end of peat harvesting by Bord na Móna and is the first test of Ireland's just transition.

The announced closure of the two power stations in the Midlands Region has impacted regional and local employment, particularly for employees of the semi State owned peat harvesting company,

Bord na Móna, and has significantly affected the region's economy.

### 6.2 Description of low GHG emission strategies or policies

The strategies aim at supporting workers, companies and communities affected by transitioning to a low-carbon economy by achieving Ireland's climate targets of zero emissions by 2050.

Ireland has responded to a just transition in the Midlands Region through five interventions: (i) The National Just Transition Fund 2020; (ii) Establishment of the Just Transition Commissioner; (iii) Bord na Móna Enhanced Decommissioning, Rehabilitation and Restoration Scheme; (iv) National Parks and Wildland Service Peatlands Scheme; and (v) Midlands Retrofitting Programme.

### 6.3 Impact of identified strategy or policy

The National Just Transition Fund is supporting innovative and employment-generating projects in the Midlands with 44 projects. The projects are diverse and cover a range of opportunities for the region and include new enterprise hubs, support for local business development, research and exploratory studies, tourism and heritage projects, and opportunities for reskilling.

Bord na Móna's large-scale peatlands restoration project is now under way. The plan will protect the storage of 100 Mt CO<sub>2</sub> emissions, sequester 3.2 Mt carbon to 2050, enhance biodiversity, support approximately 350 jobs and contribute to Ireland's target of being carbon neutral by 2050.

The National Parks and Wildlife Peatlands Restoration Scheme will take place in 2020 and 2021. It includes peatland restoration measures on almost 1,900 ha protected raised bogs in the Midlands Region, along with the development of drainage management plans and other peatland management and conservation measures.

Under the Midlands Retrofitting Programme, local authorities are on course to retrofit 750 homes



in 2021 of selected council-owned houses in the Midlands Region to a Building Energy Rating of B2 (or to a cost-optimal level).

#### 6.4 Identified challenges, opportunities and stakeholder involvement

The Just Transition Commissioner was appointed by the Minister for the Environment, Climate and Communications in November 2019 to engage with stakeholders in the Midlands Region and recommend the essential elements of a just transition. The Commissioner has engaged extensively with stakeholders in the region and proposed a series of recommendations to support a just transition in the Midlands Region in three separate reports to the Minister. In developing

these three reports, the Commissioner has had extensive engagement with key stakeholders and those affected by the transition in the region such as the Midlands Regional Transition Team, Bord na Móna, the Electricity Supply Board, local authorities and regional assemblies. Ireland's Climate Action Plan 2021 will provide details on further actions to be taken as part of the Government's overall just transition response in the Midlands Region and addressing the recommendations of the Just Transition Commissioner.

#### 6.5 Lessons learned

Ongoing engagement with areas and workers affected by the transition is essential for the Government to create and implement targeted



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support that will benefit those affected. As part of Climate Action Plan 2021, it will detail how the National Dialogue on Climate Action will be the key mechanism for facilitating the social dialogue process as part of the just climate transition. The strong participative approach of the National Dialogue will assist all stakeholders in identifying and prioritizing the challenges of transitioning and ways to respond.

*Contributor: Slovenia and the European Commission on behalf of the European Union and its member states*

## JTW-7. JUST TRANSITION STRATEGIES IN SPAIN

### 7.1 Key characteristics

Spain is one of the countries that has made the most progress in implementing just transition measures, which have been articulated through a Just Transition Strategy approved by the Government in 2020. The strategy includes a new instrument for communities or territories affected by closures, which is extremely important: the Just Transition Agreements and a diagnosis of the ecological transition and its effects and the design of general measures for just transition in economic sectors. The purpose of the agreements is that, through participatory processes, Comprehensive Territorial Action Plans are drawn up, which must include road maps with specific actions on a schedule and with the establishment of synergies and collaboration between the administrations and agents concerned for the financing of development project activities that create new jobs.

This instrument means a notable change with respect, for example, to the coal plans that were previously approved in Spain, in which there was no dialogue and territorially agreed planning, but fundamentally protection programmes for the workforce and indiscriminate aid for infrastructures and new companies. These plans barely succeeded in generating stable alternative employment to mining in these communities, and they did not change the foundations of their economic development.

The Just Transition Agreements are signed between the Ministry for Ecological Transition and the regional and local administrations and include a very broad public participation process, with companies, unions and social organizations, in which, based on a diagnosis prepared on the area, potential investments and projects and possible sources of financing for them are identified. Finally, the Just Transition Agreement is signed between all the institutional agents involved.

The Just Transition Strategy also incorporates an important instrument, namely, the creation of an Institute for Just Transition, dependent on the Ministry for Ecological Transition, whose functions are technical, financial and legal assistance for just transition agreements, identification and optimization of opportunities for economic activity in these areas and the promotion of the coordination of industrial, training and employment policies between various ministries and with regional authorities and municipalities.

### 7.2 Description of low GHG emission strategies or policies

The processes for the Just Transition Agreements that have been launched so far are related to the closure of mining activities and almost all coal-fired power plants in Spain, which are being replaced by wind farms or photovoltaic plants.

Currently, the Institute for Just Transition is processing 14 just transition agreements in Aragon (1), Castilla y León (3), Asturias (3), Andalusia (3) and Galicia (2) for the closure of coal-fired power plants and in Garoña (Burgos and Álava) and Zorita (Guadalajara and Cuenca) for two nuclear power plants that have already been closed.

In addition, collaboration protocols have been signed with the regional administrations (autonomous communities) for the coordination of actions around the agreements.

It should be noted that there was previously a framework agreement for a fair transition of coal mining and sustainable development of mining regions in 2018, and another agreement for a fair transition of thermal power plants in 2020, signed by unions, companies and the Government, which are being referred to as an



example of an instrument of sectoral just transition on an international scale. These framework agreements are complementary to the processes of the territorial just transition agreements and fundamentally seek to protect the affected workers.

### 7.3 Impact of identified strategy or policy

None of these just transition agreements has yet been approved and therefore the specific projects and their financing for the reactivation of the zones have not yet been defined. Therefore, the effects on job creation remain to be seen in the near future.

### 7.4 Identified challenges, opportunities and stakeholder involvement

According to the information presented about the different projects, these range from projects with a business or institutional promoter with a lot of detail to very generic proposals with hardly any specificity. The selection of the projects must be made based on their viability over time, the capacity to generate stable employment, the possibility of using endogenous resources in the area, the potential for ecological and energy transition and change of production model.

The Workers' Commissions trade union has participated very actively in the processes to carry out a good diagnosis of the zones in transition and to suggest suitable projects for them, including instruments that lay the foundations for developing ecological transitions while protecting workers, but it also demands more public means to do it more quickly. In this sense, the Workers' Commissions has carried out diagnostic studies of the territories affected by the processes in transition, with the aim of making proposals.

Another point that the Workers' Commissions calls for is scrupulous management for the just transition, demanding that the necessary public mechanisms and controls be established to guarantee effective, efficient and transparent management of funds, and that both the suitability of the economic expenditure and the quality of the projects to be financed be guaranteed.

## 7.5 Lessons learned

Projects that receive public aid should prioritize the hiring of workers affected by the closure of the mining and thermal power plants. It is also very important to provide training for employment in the areas associated with the type of projects that are going to be approved.

The projects have to be focused on decarbonization and reduction of emissions, in the sense there is no room for projects based on fossil fuels or new high-capacity road infrastructure. Spain is saturated with projects that involve a transport model based on roads, leading to the abandonment of the railway for these other investments.

To a great extent, the success of the implementation of social protection and economic reactivation measures depends on anticipation and planning. The response must not be rushed, as it will lead to failure in most cases.

*Contributor: International Trade Union Confederation*

## JTW-8. JUST TRANSITION IN COAL MINING AND OIL PRODUCTION IN COLOMBIA

### 8.1 Key characteristics

Among the various energy sources available, coal is a largely prevalent and low-cost source of energy whose emissions are still rising on a global scale. Just transition requires political and economic effort, inclusion of externalities in its pricing, economic diversification and addressing the impact on affected workers and communities in order to move towards lower-carbon economies without burdening workers or perpetuating inequalities.

### 8.2 Description of low GHG emission strategies or policies

Colombia has developed a green growth strategy (CONPES 2018) that contains a national climate change policy and a waste management

policy, both approved in 2016, and its policy on sustainable construction from 2018. It has developed methods to analyse the potential of green jobs and the greening of enterprises. In late 2019, the Ministry of Labour signed an agreement with ILO on promoting green jobs and work within a just transition framework.

Colombia, in its intended nationally determined contribution, indicated that in 2010 the country produced estimated GHG emissions of 224 Mt CO<sub>2</sub> equivalent (CO<sub>2</sub> eq), with the major emitting sectors being agriculture, forestry and other land use; energy; and waste and industrial processes. It set a target of 268 Mt CO<sub>2</sub> eq by 2030. The Government has also set a target of 4 GW non-conventional renewable energy (wind and solar power) by 2030, implying a 74 per cent share of renewable energy in the power generation grid, which is currently made up primarily of hydropower and thermal generation, including diesel. Although the present ownership of hydropower and thermal generation is almost evenly split between public and private entities, since the Government plans to meet its renewables target through tenders to private companies, the share of private ownership in the sector is likely to increase.

### 8.3 Impact of identified strategy or policy

Colombian trade unions have a long-term vision for the country and its path to decarbonization. They acknowledge the threat of climate change and the need for a just transition, recognizing that demand for coal, oil and gas is likely to decline. They would like to see Ecopetrol, the State-owned oil company, remain in State hands with a mandate to develop renewable energy and become a leader in the energy transition. They would also like to see a just transition process to devise plans and proposals for workers, regions, the company and the country as a whole. Resources for this process and for the plans should come from industry. The unions are seeking international cooperation to obtain ideas and concepts they can use for their own discussions.

Before COVID-19 pandemic, trade unions from the sector had begun planning for a just transition for coal and oil workers. The reduced demand for coal, and the possibly also for oil, was putting jobs at risk. In 2019, a union-led workshop on just transition

was carried out. Unions, representatives from some coal-producing companies, and representatives from the global union federation IndustriAll, Mondiaal FNV and the Just Transition Centre discussed the potential for a just transition. The unions concluded that it would be important to prepare for a shift away from coal, for example through the diversification of mining into other minerals, strong severance and pension agreements, and retraining and reskilling of workers.

Multinational enterprises own most of Colombia's coal mining sector. IndustriAll has Global Framework Agreements with two of these, Anglo American and Glencore. IndustriAll has played a key role in supporting Colombian coal and oil unions in their efforts to ensure fair agreements with employers and, globally, in ensuring agreements on safe conditions for coal miners to return to work during the pandemic.

### 8.4 Identified challenges, opportunities and stakeholder involvement

The workers in Colombia's coal and oil sectors need a just transition. Unions from the sector have been working on this, adopting positions and, via international support, receiving technical assistance and launching discussions with employers. Social dialogue with the Government is yet to take place.

The extractive industries in Colombia encompass over 30 different products, the most significant being coal (circa 11.9 per cent of exports from Colombia in 2015), ferronickel, precious metals and construction material. The production and use of oil are significant contributors to global GHG emissions. The use of oil for transport is responsible for 23 per cent of global energy-related CO<sub>2</sub> emissions. Methane emissions from oil and gas production are also substantial, accounting for nearly 15 per cent of all energy sector GHG emissions.

From a climate perspective, Colombia stands out as the world's fourth biggest coal producer and the biggest producer of coal in Latin America. Almost all of Colombia's coal production is for export. Colombia is the third largest oil producer in Latin America through the majority State-owned company Ecopetrol. Prior to the pandemic,

discussions were in progress on the privatization of Ecopetrol.

Many jobs in traditionally secure sectors for workers – mining and oil and gas – have been outsourced. Colombian mining and oil and gas unions are affiliated to IndustriAll. The lockdown due to the pandemic in Colombia has been particularly hard on poor and working-class people, with hunger crises reported in Bogotá and among indigenous communities around the country. The crisis has also had a dramatic impact on demand for oil and coal, two of Colombia's main export sectors. The International Energy Agency projects that global energy demand will drop by 6 per cent in 2020, with electricity demand dropping by five per cent and the total share of gas and coal in the global energy sector dropping by 3 per cent to 2001 levels. Analysts expect that the global supply of coal will outstrip demand throughout 2020 and into 2021. Colombian oil production is expected to drop by 17 per cent. Investment in the sector is projected to fall by 55 per cent. This will mean job losses in coal mining, coal transport, and oil and gas exploration and production. Immediate privatization of Ecopetrol may now be less likely due to the drop in value of oil and gas assets related to the oil price crash.

## 8.5 Lessons learned

A key lesson learned is that in order to build societal resilience, it is important to guarantee the building blocks of just transition, such as social protection and the creation of decent work. At the end of 2019, Colombian coal and oil unions were ahead of employers and their Government in pushing for change. Six months later, job losses have occurred overnight. IndustriAll's relationships with multinational enterprise mine owners may be strategic when negotiating agreements for laid-off workers.

A second lesson is that transitioning Ecopetrol to renewable energy early on would have protected jobs and revenues to some extent. Renewable energy companies have done relatively well during the pandemic, at least compared with oil and gas companies. Unions in other countries, including South Africa, Norway and Denmark, are at different stages of transitioning State-owned energy companies from fossil fuels to renewables. Peer-to

peer learning and exchanges on this issue could be valuable. A sectoral dialogue could be extended, in a second phase, to include companies that are currently working in renewables in the countries in question. Moreover, when social dialogue is not possible, trade unions can and should prepare their position on and analysis of which components are needed for a given sector to ensure a just transition.

Last but not least, current discussion and cooperation on just transition via ILO can provide interesting possibilities for social partners to engage in discussion on an array of sectors. ILO has been carrying out potential entry point analysis for Colombia and is currently in dialogue with the Ministries of Labour and the Environment on steps to include just transition in the NDCs and to promote the participation of social partners.

*Contributor: International Trade Union Confederation*

## JTW-9. JUST TRANSITION FOR THE ENERGY AND MINING SECTORS IN SOUTH AFRICA

### 9.1 Key characteristics

The global energy sector is responsible for over two thirds of global CO<sub>2</sub> emissions, with coal-fired power producing 54 per cent of CO<sub>2</sub> emissions from the sector. CO<sub>2</sub> emissions from coal-fired power are the single largest source of global temperature increase. Phasing out coal-fired power, phasing in clean energy and ensuring a just transition for coal workers and communities is essential to meaningful action on climate change. Most of South Africa's emissions come from coal-fired power. South Africa needs to reduce its CO<sub>2</sub> emissions and has committed to doing so. Its NDC contains a target to limit GHG emissions to between 398 and 614 Mt CO<sub>2</sub> eq for 2025–2030. This target is equivalent to a 19–82 per cent decrease based on 1990 levels. South Africa has included just transition in its NDC. South Africa's coal-fired power fuels 90 per cent of the country's electricity via the State utility Eskom. The remainder of the electricity supply comes from nuclear, hydropower and conventional renewables.





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Eskom, and the mines tied to it, is an important source of employment. In a country with high unemployment, Eskom employs approximately 131,000 workers directly and many others on a contract basis. Eskom plays a key developmental role in supplying low-cost electricity to poor and working-class South Africans, particularly black South Africans, who were deprived of access to modern electricity by the apartheid State. Eskom's low-priced power is also crucial to the competitiveness of South Africa's export sectors, particularly minerals, mining and manufacturing.

South African unions and national tripartite structures are strong and formalized. Although trade union density is historically low at 28 per cent, it is still higher than in many other countries. Its tripartite body, the National Economic Development and Labour Council, has a constitutional mandate. Unions have been engaged and have contributed in consultation processes.

## 9.2 Description of low GHG emission strategies or policies

To reduce emissions from the power sector, the South African Government has relied so far on tenders to the private sector to develop the renewable energy supply. Regulations limit the ability of municipalities, communities and companies to build renewable energy projects for their own use.

Prior to COVID-19 pandemic, Eskom faced financial and operational difficulties. The South African Government intended to split Eskom up through what is known as unbundling. Generally, the unbundling of utilities is the first step in the privatization process and results in job losses. The Government has, however, said that no jobs will be lost and that Eskom will remain a State-owned entity.

The World Bank has concluded that unbundling and privatization do not promote a transition away from coal and are not required to achieve it. Similarly, trade union experiences from Australia and Canada show that decarbonization in the power sector is more difficult to achieve when the sector is privatized. Experiences from power sector liberalization in Eastern Europe indicate that the process does not necessarily reduce

prices for consumers. Nonetheless, governments and international financial institutions offering international finance to refinance Eskom's debt and fund local just transition plans have two conditions: an accelerated plan for coal plant closure and the unbundling and privatization of Eskom.

The South African Government has promised coal and power station workers a just transition but understands that it is going to be challenging, particularly in the light of the pandemic. Eskom is already closing its older coal-fired power stations with no social or economic plans in place as required by law. If unbundling and privatization go forward, the scenario will be challenging owing to job losses.

To date there have been multiple processes to stake out a future course for Eskom, South Africa's coal sector and the tens of thousands of workers in the sector. These range from social dialogue in the National Economic Development and Labour Council to a Presidential Task Team, a process under the National Planning Commission with strong community engagement and an agreement from the Government to form a Presidential Climate Change Commission to produce a just transition plan.

## 9.3 Impact of identified strategy or policy

South African trade unions support action on climate change and efforts to cut emissions through just transition. They were pioneers on these issues. The Congress of South African Trade Unions (COSATU) is South Africa's largest federation of trade unions and was founded in 1985. It has 1,800,000 members and is a member of South Africa's governing Tripartite Alliance. Its affiliates include the National Union of Mineworkers. It has had a long-standing commitment to addressing climate change through just transition, including a 2009 Congress resolution stating that "climate change is one of the greatest threats to our planet and our people". Similarly, in 2012 the National Union of Metalworkers of South Africa adopted a position on climate action through just transition.

However, South Africa's rapidly deteriorating economic situation means that the unions oppose any action that would cut existing jobs. South African workers now face a deep recession with

accelerating job losses, increasing costs for energy, food, imported goods and a hunger crisis during lockdown.

South African trade unions reject privatization of electricity generation, both because of the likelihood of job losses and because it is inconsistent with Eskom's developmental role in South Africa. They have also opposed privatized renewable energy tenders.

The ILO, IndustriAll, ITUC Africa and the Just Transition Centre have worked with and learned from South African trade unions on just transition issues, particularly those associated with the phase-out of coal. Activities have ranged from convening meetings, joint workshops, sharing experiences and technical information, to acting as a labour resource in discussions and processes.

In early 2020 COSATU launched its own proposal for a social compact, with a rescue plan for Eskom, just transition and expanded generation of renewable energy by Eskom and municipalities as essential elements. The social partners discussed the plan in the National Economic Development and Labour Council, where it received strong support. COSATU has pointed out that international financing should focus on job creation in renewable energy manufacturing and other areas, as opposed to privatizing Eskom.

Owing to the pandemic, discussions about the social compact have been put on hold. When they are resumed, two things will be crucial: measures for Eskom, or the power sector, should maintain and create decent work, and employment creation should be a priority.

#### 9.4 Identified challenges, opportunities and stakeholder involvement

South Africa has a good starting point for just transition in the power sector. It has strong unions with long-standing support for just transition, government commitments to reducing emissions and just transition, established social dialogue forums, a single State-owned power sector utility and a mobilized civil society.

Yet transforming the coal sector has been proven difficult. Certainly, power relations and the long-

term effects of corruption under the previous government are key factors. But the biggest practical barrier has been the lack of new jobs. This is perhaps the most important lesson learned. One consequence of the high unemployment scenario is that workers need to see real plans for new, good jobs as a 'benefit' of the sector transformation. Without that, changes are likely to be opposed, including decarbonization, because workers recognize that losing their jobs means going straight into unemployment, with few social safety nets and therefore poverty.

In line with this, workers and unions have been opposing efforts to privatize and unbundle the power sector unless they know this will not threaten jobs. Evidence from other countries shows this opposition is well-founded. Privatization and unbundling almost always result in job losses.

The Government's initial policy on decarbonization involved privatizing power generation through tenders to renewable energy developers. It produced a paradoxical result. Unions with long-standing support for just transition, action on climate change and renewable energy have opposed decarbonization in part because it was coupled with privatization and job losses. Thus, a second lesson learned is that power sector privatization could make the decarbonization path more difficult, as it introduces additional threats of job losses.

#### 9.5 Lessons learned

In this context the COSATU social compact proposal from January 2020 illustrates best practice by a social partner. The proposal was a step towards improving the possibility of power sector decarbonization. With contributions from all partners, it brought together three core elements: a financial plan for Eskom involving workers' capital; expanding renewable energy generation by public entities – Eskom, municipalities and communities; and maintaining jobs. International finance would also have a role in this proposal by funding renewable energy manufacturing in South Africa.

*Contributor: International Trade Union Confederation*



## JTW-10. INDIA'S SUSTAINABLE PARTNERSHIP FOR ROOFTOP SOLAR ACCELERATION IN BHARAT

### 10.1 Key characteristics

Coal being the cheapest way to provide energy, the supply variability of renewable energy and the cost of energy storage to manage this variability, along with limitations in the current grid infrastructure undermining its distribution, have affected the expansion of renewable energy.

Multiple strong drivers towards an accelerated energy transition and the country's vulnerability to climate change have put pressure on national and local governments to reduce fossil fuel use. In addition, installation costs of renewable energy are dropping rapidly, making it competitive even with the cheapest fossil fuels whose costs are under pressure on multiple fronts, including high transportation costs.

Declining employment in the coal sector, in contrast to growing job opportunities in the renewable energy sector, is both a symptom and a driver of energy transition. This highlights the need for conscious and proactive planning to manage the allocation of benefits and harms associated with India's energy transition.

The national Government has set ambitious renewable energy goals that include the development of 175 GW renewable energy by 2022. However, such a transition away from coal and towards renewable energy will heavily impact its coal sector, which currently provides 45 per cent of India's total primary energy demand and is the reason why coal lies at the centre of discussions about a just energy transition in India. There are several barriers to this transition.

### 10.2 Description of low GHG emission strategies or policies

The Climate Investment Funds (CIF) and its partner multilateral development banks (MDBs) have contributed to India's just transition through support for cross-sectoral and multi-stakeholder dialogues and also a technical assistance

component for capacity-building programmes for a large-scale solar park and rooftop solar projects across several States of India.

The Clean Technology Fund (CTF), the International Bank for Reconstruction and Development (IBRD) and other partners also implemented a USD 13 million technical assistance and massive capacity-building programme known as Sustainable Partnership for Rooftop Solar Acceleration in Bharat (SUPRABHA).

### 10.3 Impact of identified strategy or policy

SUPRABHA offered technical assistance to 17 States to support: (i) policy and regulatory updates; (ii) national media campaigns; (iii) improving readiness for lending; and (iv) scalable, standardized and sustainable training modules.

Under SUPRABHA, the Skill Council for Green Jobs has partnered with 14 training institutions to train bankers, entrepreneurs, distribution company officers, rooftop solar developers and maintenance staff across 17 States. A total of 1,542 participants have been trained since mid-2018. Training programmes designed for loan appraisal officers aimed to provide a thorough understanding of the structure of the grid-connected rooftop solar photovoltaic sector, business models, financing opportunities, risks and risk mitigation strategies, as well as project costing and evaluation, whereas training programmes for distribution company officers provided an in-depth understanding of streamlining processes of inspection and integration into the grid across the consumer spectrum.

The Entrepreneurs Training programme module seeks to enable entrepreneurs to understand project management approaches, business models, financing opportunities, risks and risk mitigation strategies, along with costing, thus further accelerating the growth of grid-connected rooftop solar energy systems across the consumer spectrum.

#### 10.4 Identified challenges, opportunities and stakeholder involvement

The focus on skills development within just transition discussions and initiatives is often limited to reskilling coal miners to help them find alternative employment. However, just transitions, more broadly, are going to require significant decarbonization across the entire economy, and this, in turn, will open up a wide range of new employment and livelihood opportunities. For example, development of rooftop solar energy is not only a technical and financial process, but also a social and institutional learning and capacity development process.

Balancing tension is called for between local-level consultation and responsiveness to community priorities on the one hand and a more coherent and strategic approach to local community development on the other.

Solar park and rooftop solar power projects address distributional impacts associated both with vulnerability to climate risk and potentially the provision of cheaper, more sustainable transport systems. Additionally, supporting the use of existing rooftops, rather than forests or agricultural land, with concessional finance contributes to an innovative solution to land pressures.

#### 10.5 Lessons learned

The SUPRABHA programme demonstrates that skills will be required across the entire economy, and particularly across the emerging renewable energy sector, including the upskilling of investment analysts, policymakers, distribution utilities officers, developers, installers and maintenance staff. As areas such as new energy-efficient building standards, industrial decarbonization, the rehabilitation of coal mining areas and the repurposing of coal-fired power stations develop, so too will new opportunities arise, and new skills be needed. This suggests that a key component of just transition will be to anticipate new skills requirements across entire sectors and put in place the institutions and curricula needed to support the development of existing and emerging skills needs.

*Contributor: Climate Investment Funds*

## JTW-11. WOMEN'S SOLAR COOPERATIVES OF UNION OF WOMEN COOPERATIVES FOR ARGAN OIL OF MOROCCO FOR A SUSTAINABLE LOCAL ECONOMY

### 11.1 Key characteristics

The project contributes to the energy transition and the local economy through a community-based and gender-responsive approach. Capacity-building, empowerment and training are key cooperative principles, as they are linked to joint ownership and democratic control. There are two women's energy cooperatives in development, providing capacity-building for women to master solar technologies and creating quality job opportunities.

### 11.2 Description of low GHG emission strategies or policies

A value chain of productive solar technologies for agricultural food processing is emerging, based on an inclusive cooperative model. This simple affordable technical solution makes solar energy accessible to women and local populations. The installation and dissemination of solar cookers among populations of Southern Morocco, which is semi-arid territory, is a means of preventing deforestation of argan trees, reducing CO<sub>2</sub> emissions and avoiding toxic wood fire fumes.

### 11.3 Impact of identified strategy or policy

The project contributes to fighting deforestation, reducing CO<sub>2</sub> emissions (5–10 kg wood saved per day and per cooker);

- The project creates jobs that strengthen women's economic and political empowerment. Six hundred rural women actively participate in the climate mitigation policy of their region;
- Women's workload is significantly reduced as they spend fewer hours on firewood collection and cooking;



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- The use of safe and clean solar technology has a direct impact on women's education, health and empowerment.

The national office for the development of cooperatives and local academic institutions are supporting the activities.

#### 11.4 Identified challenges, opportunities and stakeholder involvement

The identified challenges include (a) patriarchal norms/gender stereotypes; (b) monopolistic/male-dominated industry; (c) lack of investment in rural areas, enabling legal framework and organizational support; and (d) limited access to renewable energy.

One opportunity identified is that energy cooperatives can play an important role in supporting national governments in achieving their climate/energy objectives of a fossil fuel free and socially sound transformation. This contributes to public acceptance of the energy transition, enhances energy security and provides opportunities for local economic growth.

Cooperative structures encourage strong commitment and reduce mistrust in authorities.

#### 11.5 Lessons learned

A cooperative is a form of business ownership run by and for their members with the core principles of democracy, equality, equity and solidarity, which allows increased control over energy generation, keeping investments local, sending a political key message for a sustainable, just and democratic way of business.

Gender-just energy cooperatives are a way to guarantee women and men an equal voice in the development of renewable energy production. With newly acquired skills, women working in productive cooperatives get empowered through the control over the entire value chain.

*Contributor: Women Engage for a Common Future*

## JTW-12. YOUNG WOMEN CONTRIBUTION TO THE ENERGY TRANSITION OF REMOTE ISLANDS AS TRAINED TECHNICIANS THROUGH ISLANDECO INITIATIVE IN THE MARSHALL ISLANDS

### 12.1 Key characteristics

This transformative and gender-sensitive project, Island Eco, addresses the interrelated challenges of climate and gender stereotypes in science, technology, engineering and mathematics, considering the geographical location of the Marshall Islands, through training young women technicians, which is key to achieving holistic and durable climate impact. This simultaneously increases young women's economic independence and political participation and creates activities that have a ripple effect on the local population. Results and best practices are incorporated in national policies, further increasing the project's systemic impact.

### 12.2 Description of low GHG emission strategies or policies

Island Eco trains young women technicians to assemble, install, operate and maintain solar-powered lights, refrigerators and freezers on different islands, thus securing decent work conditions. The project ensures a contextual approach by replacing polluting diesel generators on remote atolls where access to fossil fuels is expensive and scarce with sustainable solar equipment. The lessons learned from this project help to increase the ambitions of national climate and energy plans.

### 12.3 Impact of identified strategy or policy

- The project contributes to the training and development of women's skills;
- Installation of solar panels by women technicians increases economic independence and political participation through a spillover effect;

- The project also benefited community members by enabling the sale of refrigerated goods;
- The incorporation of results in the Marshall Islands' national climate plans and electricity road map raises climate ambitions while guaranteeing inclusive, just and long-lasting energy policies (100 per cent of renewable energy by 2050 with at least 20 per cent women among trained electricians by 2030).

### 12.4 Identified challenges, opportunities and stakeholder involvement

The identified challenges include (a) structural barriers, gender stereotypes in science, technology, engineering and mathematics; (b) geographical isolation of the Marshall Islands; (c) insufficient organizational support for innovation; and (d) lack of funding for the creation of enterprises and start-ups.

The opportunities arising from the project are (a) women technicians can help the Government achieve the target of 100 per cent renewable energy production by 2050; and (b) capitalization and scale-up of the gender-responsive climate solution, whose results inspired the National Electricity Roadmap and contributed to the National Action Plan on Climate Change.

### 12.5 Lessons learned

Transformative and sustainable impacts achieved through training of women technicians ensure decent work and increased ambition in national policies and the road towards a just transition. A context-based approach adapted to a country's specific needs ensures acceptability.

The integration of best practices into policies enables the scaling up of solar technologies while ensuring their inclusive use and the resilience of climate plans.

Governments should not only focus on training, but also increase their efforts across the entire spectrum of actions (from the ground to the political arena), including support for innovation and increasing overall funding for climate action.

*Contributor: Women Engage for a Common Future*

## JTW-13. NEW ZEALAND'S JUST TRANSITION UNIT

### 13.1 Key characteristics

New Zealand's Just Transition Unit (JTU) was conceptualized to focus on how to manage trade and broker relations in the affected regions, following the announcement that no other offshore oil and gas exploration permits will be issued as a result of New Zealand commitments to move towards a green economy, encouraging transformation towards a "just, equitable and inclusive" economy.<sup>2</sup> This unit is working to build relationships in communities that are undergoing major change.

### 13.2 Description of low GHG emission strategies or policies

The transition to a lower-emission economy will be the focus of transformational work to promote change towards a just, equitable and inclusive economy.

### 13.3 Impact of identified strategy or policy

The Taranaki just transition unit became a key priority, owing to its recent policies on oil and gas<sup>3</sup>, and is working to build relationships in communities that are undergoing major transition<sup>4</sup>. The unit has actively started to develop partnerships between central government, Maori, councils, communities, workers and business to support successful transition for the region to a clean energy and low-emission future<sup>5</sup>. This highlights that partnerships are critical for a

successful transition plan, as the effective and enduring relationships with stakeholders can co-create transition paths.<sup>6</sup> The four main goals of the JTU are to (i) build an understanding of possible ways to integrate low-emission measures into the economy; (ii) identify, build and support new opportunities, new jobs, new skills and new investments that will emerge from the transition; (iii) better understand of how change can affect different communities, regions or sectors; and (iv) make decisions about how to deal with these impacts in a fair and inclusive manner.

### 13.4 Identified challenges, opportunities and stakeholder involvement

The challenge identified was that transition impacts some regions more than others. The Taranaki region, where the energy sector represents 28 per cent<sup>7</sup> of regional economic production, has been a major point of focus of the unit's cooperation; the strategy now needs to be replicated in other areas. For example, the need for just transition strategies in the primary sector is still lacking, and the Government could consider the primary sector in its next transition policy.<sup>8</sup> This will require in-depth research into areas and investment in local regions through focused partnerships.

There are many opportunities that can be pursued in partnership with the JTU. No one area is more prominent than another and, to identify these future transformation partnerships, the Government must consider whether special circumstances exist in other jurisdictions that can support a collaborative/targeted collaborative approach to manage these transitions. A more integrated approach can bring better results to these regions by intensified efforts by the Government to support the regions through

2 Dalziel, P. C. a. C. M. S., 2020. "Wellbeing and Economic Policy: Lessons from New Zealand".

3 Krawchenko, T. A. a. M. G., 2021. "How Do We Manage a Just Transition? A Comparative Review of National and Regional Just Transition Initiatives." *Sustainability* 13, no. 11 6070).

4 Douglas, J. a. P. M., 2021. "Towards an understanding of New Zealand Union responses to climate change." *Labour & Industry: a journal of the social and economic relations of work* 31, no. 1 : 28-46

5 Hill, R., 2010. *Maori and the State: Crown-Maori Relations in New Zealand/Aotearoa, 1950-2000*. Victoria University Press.

6 Douglas, J. a. P. M., 2021. "Towards an understanding of New Zealand Union responses to climate change." *Labour & Industry: a journal of the social and economic relations of work* 31, no. 1 : 28-46.

7 Krawchenko, T. A. a. M. G., 2021. "How Do We Manage a Just Transition? A Comparative Review of National and Regional Just Transition Initiatives." *Sustainability* 13, no. 11 6070).

8 Patrinos, H. A. a. D. L. A., 1997. *Decentralization of education: demand-side financing*. Vol. 292. World Bank Publications.

the transformation process and enhancing their ability to participate in the upcoming economic development work.

### 13.5 Lessons learned

The collaborative approach introduced by the JTU is highly valued by stakeholders, but is resource intensive and requires a variety of mechanisms to operate in traditional government space.<sup>9</sup> Hence the transformation process will require commitment and coordination in various areas of policy, education, skills development, the labour market and social support institutions that will be critical to transforming and creating new opportunities.

There is a need for further policies and funding in the areas of regional development, green investment, science and innovation. Support from business can help revitalize and open up those opportunities, alongside working arrangements with the Ministry for the Environment in the process of transformation and long-term planning that is needed to meet the climate change goals.

*Contributor: India Water Foundation*

## JTW-14. JUST TRANSITION CASE STUDY OF TARANAKI, NEW ZEALAND

### 14.1 Key characteristics

In April 2018 the Government announced an end to future permits for offshore oil and gas. Taranaki is a region in New Zealand whose prosperity has relied on oil and gas for many generations and the energy sector, directly and indirectly, employs thousands of workers in well-paid jobs. Following the announcement, the region has come together to plan its future through to 2050 and is currently rolling out action plans to achieve its shared vision.

### 14.2 Description of low GHG emission strategies or policies

The Government's policy decision in April 2018 would see an end to the granting of new government permits for offshore oil exploration in New Zealand. Onshore permit offers would continue in Taranaki for the next three years and be reviewed thereafter. All existing offshore permits (57 exploration and mining permits as at April 2018) would remain unaffected, the decision relating only to new offshore permits.

### 14.3 Impact of identified strategy or policy

From February to April 2019 the people of the region created the content of the Taranaki 2050 Roadmap through a co-design process. Over 700 people took part in 23 workshops around the region on defined transition topics, as well as 5 community workshops, high school workshops and an online survey. The draft Roadmap was launched at the Prime Minister's Just Transition Summit in May 2019. After further consultation and feedback, the Roadmap and Report were finalized in July 2019. Since then, a series of 11 transition pathway action plans have designed specific initiatives to meet the vision the region has established, including a focus on economic sectors (such as energy, food and fibre, tourism) and on other social outcomes (Maori futures, well-being, skills).

In all of these processes, trade unions in the region are advocating for decent work to be at the core of planning for new jobs. In the People and Talent pathway action plan, for example, unions have secured a proposed focus on support and empowerment for workers during transition, including job clustering analysis of retraining opportunities and skills audits of the workforce. E tū union is further developing concrete proposals on interventions that Taranaki workers could seek to enable their transition into jobs in a lower-carbon environment, and what expectations are reasonable from both government and employers, in addition to workers' own investment, and is

9 Douglas, J. a. P. M., 2021. "Towards an understanding of New Zealand Union responses to climate change." Labour & Industry: a journal of the social and economic relations of work 31, no. 1 : 28-46



engaging with employers and workers locally to consider the feasibility of a multi-employer redeployment scheme, initially focused on control room panel operators.

#### 14.4 Identified challenges, opportunities and stakeholder involvement

The just transition process in Taranaki sought to be more inclusive than previous planning processes. It is overseen by seven constituencies, each of which are on the local governance entity for the transition planning: iwi and hapū (indigenous peoples), workers and their unions, business, local government, central government, civil society and education/training.

A particular challenge has been the time frames set external to the region and this time pressure has been taxing for workers and indigenous peoples in particular.

A key opportunity for the region lies in the future replacement of fossil fuels by renewable energy, and one of the transition pathway action plans discussed above focuses on this. At the moment, the focus is on low-emission energy until a concrete plan/pathway to renewables is established.

#### 14.5 Lessons learned

Five key lessons stand out for trade unions involved in the Taranaki just transition:

- Change is alarming because for the past century or more, economic change has meant workers, whānau (families), and community being harmed. Change disparately affects those that are already the most vulnerable. To change this and avoid resistance, getting those who would normally be harmed to design and lead the change is critical. This builds ownership and centres the historically disadvantaged;
- Once all the stakeholders are brought together, asking them the right questions to focus on values and the future for generations allows people to come to a far greater degree of consensus and start ‘singing from the same song sheet’;
- Consensus is critical for investment next steps, as is leadership from iwi and hapū, and workers;
- Investment and funding are critical to enable rapid engagement, but even with funding, iwi and workers must have sufficient time to meaningfully engage;
- Future thinking at scale is key to unlock significant investment, including large funds such as NZ Super Fund, but given that scale initiatives take time, funding for short-term opportunities is critical, as are social safety nets.

*Contributor: International Trade Union Confederation*

### JTW-15. PRESERVATION OF THE KILUM IJIM FOREST BY CAMEROON GENDER AND ENVIRONMENT WATCH AND INDIGENOUS WOMEN, TRANSFORMING LIVES AND LOCAL ECONOMY

#### 15.1 Key characteristics

Women’s and youth economic empowerment through entrepreneurial alternatives based on agroforestry principles allows the investment in the project to be sustainable over time. The project opens up new sources of financial autonomy and livelihood preservation, having the potential to be upscaled and replicated. Training for internally displaced girls on personal development, gender-based violence mitigation, women’s rights and entrepreneurship gives them the opportunity to flourish as agents of change in equal rights.

#### 15.2 Description of low GHG emission strategies or policies.

Cameroon Gender and Environment Watch fosters a unique scheme of social entrepreneurship focused on tree nursery, beekeeping and transformed by-products, which rely on raising women’s technical knowledge and self-confidence.





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This model fosters women's socioeconomic empowerment and boosts the local economy, while engaging ethnic women in reforestation and organic farming, preventing soil erosion and bushfires, as well as integrating counselling services for young victims of domestic violence.

### 15.3 Impact of identified strategy or policy

- Gender parity in the seven forest institutions' executive boards transform patriarchal relations in the local communities;
- Five honey cooperatives were founded, as well as 100 micro, small and medium-sized enterprises that produce beeswax, honey juice, soap and candles. Women have control over the entire value chain, while strengthening their communities' resilience;
- The project has counselled 800 victims of domestic violence and sexual abuse on their social rights, and empowered them with business skills;
- The project has 50,000 beneficiaries of forest conservation education.

### 15.4 Identified challenges, opportunities and stakeholder involvement

The identified challenges include (a) armed conflicts and political crises in the area of implementation; (b) lack of funding and organizational skills for market creation; (c) patriarchal norms and gender stereotypes still prevailing; and (d) exclusion from decision-making spaces.

The opportunities arising from the project are (a) ToT schemes with the assistance of local experts can help enhance continuous learning and sustainability of this model; (b) training and funding for marketing sustainable forest products support the increase of local incomes; (c) it helps to identify key opportunities for changing practices and policies.

### 15.5 Lessons learned

Grass-roots women, including indigenous and ethnic women, particularly in the rural economy, are already playing an important role as workers and entrepreneurs. This scheme of social entrepreneurship promotes strong cooperation and knowledge-sharing between local communities and public authorities, research institutes and foundations, ensuring continuous learning for sustainable forest and biodiversity protection. Through awareness-raising, capacity-building, moral and financial support, women contribute to building peaceful livelihoods for their families and their communities.

*Contributor: Women Engage for a Common Future*

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## JTW-16. JUST TRANSITION FOR THE TEXTILE SECTOR IN BANGLADESH

### 16.1 Key characteristics

The garment sector is responsible for around 5 per cent of total global CO<sub>2</sub> emissions and it should be included in the plans to reduce emissions in order to reach the goals of the Paris Agreement. Less than 1 per cent of material used to produce clothing is recycled within the clothing industry, and 13 per cent is recycled for use in other areas.

Prior to COVID-19 pandemic, there was growing consumer and civil society pressure in some countries for a shift away from fast fashion towards more circular business models. Studies on or activities analysing the impact of this potential shift on workers throughout the supply chain and how to achieve a just transition remain to be undertaken.

It seems likely, however, that any move away from the current model of fast fashion will have major impacts on jobs and on the families that depend on income from the sector.

## 16.2 Description of low GHG emission strategies or policies

In its NDC, Bangladesh commits to reducing its emissions by 5 per cent below the 'business as usual' level by 2030, using only domestic resources. The country agreed to cut up to 15 per cent of its emissions, conditional on the availability of additional funding. Key emitting sectors are energy, transport and industry. Under a 'business as usual' scenario, GHG emissions in Bangladesh from these sectors are projected to represent 69 per cent of total emissions by 2030 (excluding land use, land-use change and forestry), an increase of 264 per cent by 2030.

Its industrial sector plan includes textiles and leather, as they contribute 24 per cent of GHG emissions from manufacturing subsectors. Examples of mitigation include cogeneration, waste heat recovery, efficiency measures, etc., while barriers to mitigation may be a lack of expertise in implementing energy-saving measures and competing priorities for investments. That said, it still remains of greater interest to expand production than to improve energy efficiency.

## 16.3 Impact of identified strategy or policy

The ready-made garment sector is an important provider of formal employment in the country, in particular low-skilled, entry-level jobs for young women and men, with or without education. Bangladesh, together with China, the European Union and Viet Nam, is among the top garment apparel-producing countries. Together they account for 73.3 per cent of the global market share. Clothing remains a dynamic product among all manufactured goods, with an increase of 3.3 per cent in relation to 2018. When it comes to importers, the European Union, the United States and Japan remain the world's top buyers.

Before the pandemic, the sector directly employed 4.2 million people in Bangladesh, of whom approximately 60 per cent were women. It indirectly supported as many as 40 million Bangladeshis, or about 25 per cent of the population. Some 83 per cent of the revenue that Bangladesh generated through exports was linked to the garment industry.

In 2020, Bangladesh was ranked by the ITUC among the top 10 worst countries for workers. Unions face significant obstacles to union registration and exercise of other core labour rights. Estimates of trade union density in the garment sector range from 5 to 10 per cent. Several trade unions in factories and industries in this sector are affiliates of IndustriAll, while several retail sector trade unions are affiliates of UNI Global Union.

The Rana Plaza industrial disaster of 2013 killed at least 1,132 people and injured more than 2,500 when a garment factory in Dhaka collapsed. In the aftermath of the disaster, Bangladeshi unions, global union federations IndustriAll and UNI Global Union, and civil society organizations were able to negotiate a legally binding agreement on worker safety with different companies, to be overseen by ILO. Nonetheless, wages in the sector remain low and social protection inadequate.

The second generation NDC to be submitted may provide an opportunity to include just transition and is being further supported through initiatives such as the ILO Climate Action for Jobs Initiative.

## 16.4 Identified challenges, opportunities and stakeholder involvement

Before the pandemic, major changes in the garment sector and its supply chain seemed possible. Now, change in the form of brutal job losses has come in a matter of weeks. It is not clear if and when the garment industry will return to former levels of production and sales. Workers in Bangladesh have been struggling with impacts and consequences of the pandemic.

The Bangladeshi textile sector has suffered immensely from the impact of pandemic-related lockdowns. Worldwide retail garment stores closed as part of national lockdowns. Fashion companies cancelled orders and the production of garments stopped. This has led to large-scale dismissals of workers, often without legally mandated severance or furlough pay. Many suppliers in Bangladesh have suspended work without paying workers, even for work already completed. Workers in these supply chains are among the most vulnerable and most affected by the crisis, being without savings or access to any form of social protection.

Some brands and retailers have committed to pay in full for all apparel orders already in production or completed, greatly reducing harm to suppliers and workers. Others have not made this commitment and are either cancelling all orders or imposing cancellations or rebates on a supplier-by-supplier basis. The Bangladeshi Government has announced a USD 588 million stimulus package for the sector to pay wages. The sum, if divided by the number of workers, cover wages for one month only.

Many garment factories have reopened despite the pandemic not being under control. It is now estimated that about 200,000 garment workers are back at work and most factories do not have adequate safety measures.

Workers' conditions in the garment sectors were already deplorable. The COVID-19 crisis reinforced the extreme challenges faced when establishing fundamental rights and safeguarding working conditions. Urgent efforts are needed to ensure that this vulnerable group of workers and employees has appropriate access to decent housing, with space for quarantine and social distancing while sleeping and eating, potable water and proper sanitation facilities at work and at home, free health care, safe transport, safe work practices and income protection.

Before the crisis, Bangladeshi unions were focused on ensuring higher wages for garment workers and social protection. The potential for major changes to the sector based on emission reductions was an emerging but not immediate issue. Bangladeshi unions, IndustriAll, UNI, ITUC Asia Pacific and the Just Transition Centre were considering starting a study of just transition in the sector.

The pandemic brought disastrous change overnight. As jobs vanished as a result of cancelled orders and contracts, trade unions have called on the Government to ensure urgent action to develop a just national economic and social recovery plan. This must ensure better industrial relations at the national and sector level through a functioning national tripartite consultation platform and a possible national agreement between government, employers and trade unions during the pandemic period. From the trade union perspective, a response to the pandemic should include access to health care, safety and hygiene, minimum living wage, social protection and basic human rights.

## 16.5 Lessons learned

Two key lessons learned are that social protection is critical when managing all transitions, whether related to climate change or not; and companies must ensure that workers in supply chains are paid a living wage and have access to social protection. Once the pandemic has been brought under control, it will be important to connect the realities of Bangladeshi workers to the need for a just transition that ensures that jobs and sectors are resilient to climate change, along with a shift towards low-emission production. Key components of a just transition such as social protection, economic diversification and decent jobs will be more important than ever.

Working within a just transition framework could be a means of achieving a sustainable garment industry. Just transition could help ensure the involvement of workers and their representatives in social dialogue in order to define the need for investment, skills and reskilling, decent wages and a social protection programme. The work of Bangladeshi unions with IndustriAll and UNI on the Rana Plaza Agreement could serve as a model. That process brought brands, suppliers, governments and labour to the table and resulted in a legally binding agreement that improved working conditions, including health and safety.

Ensuring effective social dialogue at the national level may be challenging, but it is essential. Components to ensure a just transition in this sector in Bangladesh need to address economic diversification through industrial strategy, collective bargaining agreements for garment workers with strong redundancy packages, including pension provisions, and government or employer-paid retraining and reskilling for garment workers.

*Contributor: International Trade Union Confederation*

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## JTW-17. SUSTAINABLE URBAN MODEL OF SOLIDARITY ECONOMY BY ENDA COLOMBIA IN BOGOTÁ SUBURBS

### 17.1 Key characteristics

Training on natural resource management, gender inequalities, masculinities, local public policies and citizen’s initiatives led the beneficiaries of this project to be empowered, exercise their democratic rights, and protect their environment and cultural heritage. This project paves the way for a sustainable and gender-responsive city through economic empowerment of women recyclers and guarantees for decent work. Funding access strengthens advocacy, entrepreneurship and overall management capacities.

### 17.2 Description of low GHG emission strategies or policies

Enda has initiated women’s civic participation through training of community leaders and developing neighbourhood committees that ensure decent work in the recycling sector. Enda has contributed to destigmatizing the population in this sector and to recognize their right to life without violence. It involves community

organizations developing a holistic urban concept, including participatory territorial planning, urban gardening, cultural activities and the creation of Bankomunal, a community savings and credit initiative for women lacking access to formal banking.

### 17.3 Impact of identified strategy or policy

- Women recyclers have become environmental agents and providers of a public service with equal pay. They are recognized in their role as leaders for the transformation of urban practices leading to social, cultural and climate benefits;
- 30 t paper and 12 t plastic are recycled annually, saving 120,000 kWh electricity, avoiding the deforestation of 600 trees and the accumulation of 4,000 kg rubbish in landfill;
- Spokeswomen participate in municipal decision-making processes on environmental, gender and local budget topics.

### 17.4 Identified challenges, opportunities and stakeholder involvement

The identified challenges include (a) sexism, physical, sexual and psychological aggression, and

domestic violence; (b) women suffering double discrimination, that is, as women and as waste pickers; and (c) lack of funding, appropriate laws and frameworks, and organizational support.

One opportunity arising from the project is that the project becomes a gender-resilient model that contributes to the NAP, circular economy policy road map and recovery efforts after COVID-19 pandemic. Another is that the integration of women recyclers and residents into urban planning bodies institutionalizes the recognition of their environmental and social roles.

### 17.5 Lessons learned

The solidarity economy model contributes to the creation of sustainable and gender-responsive cities and can be a unique urban approach, based on local knowledge and resources, practised by girls, boys, adolescents and adults, ensuring intergenerational ownership.

The ToT concept, whereby women are taking on leadership roles, increases their understanding and control over production and income generation alternatives. This brings a positive change in gender roles, enabling women to lead the replication of the solidarity economy model, thus gaining more recognition within their communities.

*Contributor: Women Engage for a Common Future*

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## JTW-18. JUST TRANSITION IN RECYCLING AND WASTE PICKING IN INDIA

### 18.1 Key characteristics

The production and disposal of solid waste is an important global climate and environmental issue. In 2016, solid waste management contributed at least 5 per cent to global CO<sub>2</sub> emissions. Although the world produces more than 2 billion t solid waste every year, only a third of this is managed in an environmentally sustainable way.

### 18.2 Description of low GHG emission strategies or policies

In its intended nationally determined contribution, India has committed to reducing the country's emissions intensity by 33 to 35 per cent by 2030 in relation to the 2005 level. This is a whole-of-economy commitment without commitments for particular sectors, with two exceptions. First, India will increase the share of renewable energy in its installed power-generating capacity to about 40 per cent by 2030, with the help of technology transfer and international finance. India will also develop carbon sinks through forest and tree coverage.

### 18.3 Impact of identified strategy or policy

The Self Employed Women's Association (SEWA) organizes informal workers, including waste pickers, and has 1.8 million members, which include 30,000 of Ahmedabad's 40,000 waste pickers. In 2004, the women waste picker's cooperative, organized by SEWA, negotiated a contract with the Ahmedabad Municipal Council (AMC) for collecting waste from 46,000 households. This resulted in decent livelihoods for 366 waste pickers and a door-to-dump solution for the recycling and reuse of solid waste. Subsequently, the AMC decided to put door-to-dump waste collection out to tender, as well as to build two incinerators. The AMC structured the tender so that workers' cooperatives were unable to compete for contracts. In 2017, SEWA mounted a legal challenge to the tender process and won a partial victory for its workers. The court ordered the AMC to require private contractors to hire and contract waste pickers for sorting waste at collection and transit stations before private contractors transported the waste to the dump.

SEWA's initial success in Ahmedabad arose from its successful organizing. It achieved a high density of unionized workers and attracted effective negotiators who struck good agreements with the municipal government. After privatization, SEWA was partially effective in a 2017 court challenge regarding the AMC privatization of waste management. Despite these victories, SEWA and its workers were unable to fight off privatization entirely. They secured waste picking permits for a



smaller group of workers post privatization, but the AMC barred them from reclaiming their position as providers of the full range of waste management services. SEWA's waste pickers are now engaged in a struggle on two fronts: with the AMC and private waste management companies, and with other, non-organized workers who are working illegally at the dumps to pick waste.

#### 18.4 Identified challenges, opportunities and stakeholder involvement

India's rapidly growing cities and towns produce 62 Mt municipal solid waste each year. This is expected to increase by 5 per cent annually as India's urban population grows and household incomes rise. Only 43 Mt municipal solid waste is collected, most of which ends up in dumps, posing hazards to health as well as generating emissions, as opposed to being treated or recycled.

Indian informal workers and their associations play a central role in the management of solid waste in India and are responsible for the recovery and recycling of 15–20 per cent of solid waste. Globally, between 15 million and 20 million workers earn their livelihoods as waste pickers and recyclers, of which a significant number are women.

National laws often prohibit the registration of trade unions for informal and self-employed workers such as waste pickers. Nonetheless, waste pickers in many countries have organized themselves in informal associations and cooperatives and many are affiliated to global union federations and global networks, such as Women in Informal Employment: Globalizing and Organizing and its Global Alliance of Waste Pickers.

The economic impacts of the lockdown have been severe. India's economy may have shrunk by 15 per cent in April, while the International Monetary Fund reduced expectations for GDP growth to 1.9 per cent from 5.8 per cent. Informal workers have been particularly affected by the lockdown, as movement restrictions prevented them from leaving their homes to collect waste. Those who are still collecting waste do not have personal protective equipment.

Initially, waste pickers and their organizations achieved success in some Indian municipalities

through unionization and negotiating formal contracts for waste picking with improved wages and conditions. A more formal status for waste pickers also reduced harassment by the police and other government officials.

However, municipalities are now moving towards the privatization of solid waste management and incineration. Tenders for solid waste management either explicitly exclude or discourage associations of waste pickers from bidding, while incineration eradicates the need for labour to sort and recycle waste. This displaces waste pickers and deprives them of their livelihoods, while providing uncertain or no benefits in terms of emission reductions and materials reuse.

#### 18.5 Lessons learned

In SEWA's view, higher-level political and legislative action is necessary to secure lasting benefits for waste pickers. They advocate for a high-level national commission to develop a national policy and plan for solid waste management, focused on waste pickers. The policy and plan should aim to maintain the livelihoods of waste pickers across India, improve their working conditions and direct cities and municipalities to incorporate waste pickers and their organizations into urban waste management systems. Certain areas, such as door-to-door collection, should be reserved by law for traditional waste pickers.

This indicates that a key lesson for securing just transition is that although trade unions can secure just transition measures via collective bargaining or other forms of social dialogue, these victories are often partial and not necessarily permanent. Therefore, safeguarding a just transition measure may require political and legislative action. Moreover, efforts to formalize informal work should be included when working within a just transition framework for this sector.

*Contributor: International Trade Union Confederation*



## JTW-19. JUST TRANSITIONS IN SOUTH AFRICA: A CASE STUDY BY THE CLIMATE INVESTMENT FUNDS

### 19.1 Key characteristics

South Africa is one of the top 15 CO<sub>2</sub> emitters and the most unequal country in the world. Its continued dependence on coal for more than 80 per cent of its electricity has significant environmental, social and economic costs. The cost of coal to Eskom, South Africa's State-owned electricity provider, has risen by 300 per cent over the past two decades. Several episodes of rotational national power outages revealed inadequacies in the maintenance of ageing coal-fired power stations, technical issues and management challenges. South Africa's continuous reliance on coal intensifies its water shortage and vulnerability to droughts that have been exacerbated by climate change. Although renewables offer numerous benefits, many stakeholder groups stand to lose substantially in the country's shift away from coal. They include public and private sector institutions, as well as vulnerable communities highly dependent on the mining sector for their livelihoods and municipal services. The rising costs and inefficiencies of coal use, an ageing fleet of coal-fired power stations and mitigation measures such as those outlined in the country's NDCs mean that a growing number of coal-fired power plants will be decommissioned. Implementation of the transition from coal to renewables is complex and can be fraught with tension as it is driving a concomitant decline in employment across the sector, which can lead to labour protests. Successful transition to an environmentally sustainable, socially inclusive and economically beneficial energy regime requires conscious and proactive planning, and delivery of critical strategies and investments to manage the allocation of benefits and harms due to transition.

### 19.2 Description of low GHG emission strategies or policies

The USD 8 billion CIF was created in 2008 to help finance accelerated transitions to low-carbon and climate-resilient development in low- and middle-income countries. CIF has operated as a laboratory for developing, implementing and evaluating

new approaches to climate investments, as well as learning from them. CIF programmes finance clean technology, energy access, climate resilience and sustainable forestry initiatives. CIF operates in 72 developing countries through six MDBs as its implementing agencies. Although this support was not originally designed with a just transition focus, it offers helpful examples of various aspects of just transition and can serve as a basis for reflection and learning. The framework highlights the importance of considering both the distributional impacts of climate action, which include the fair allocation of benefits and harms, and the procedural elements that include the recognition of marginalized groups by including them in decision-making processes.

The two case studies covered here, which are the Sere Wind Farm project and the Xina Solar One power plant, explore key elements of just transition in South Africa, draw lessons on how CIF investments have interacted with just transition efforts and uses an iteration of the emerging framework developed under the Just Transition Initiative – a partnership between CIF and the Center for Strategic and International Studies – to explore the diverse perspectives and approaches of key actors involved in South Africa's just transition.

The Sere Wind Farm project aimed to facilitate accelerated development of large-scale renewable energy capacity in support of South Africa's long-term carbon mitigation strategy. The lack of wind power's proven performance on a large scale in South Africa created the perception of risk among potential private investors.

The Xina Solar One power plant features innovative renewable energy technology in the form of an integrated storage system that enables the plant to continue distributing power for 5.5 hours after sunset. Although expensive, this storage makes it possible to dispatch energy into the grid during the evening demand peak and also helps in meeting the country's energy demands, resulting in reduced harmful emissions.

### 19.3 Impact of identified strategy or policy

*Sere Wind Farm project:* the project sought to address this barrier by catalysing private sector investment through decreasing risk and increasing

transmission capacity by connecting independent power producers to the national grid. Concessional finance proved to be the key to unlocking investment and completing the early wind farm development at scale in South Africa. Eskom's final project proposal of USD 243 million for the wind farm was approved by CIF with the support of IBRD and the African Development Bank in 2010 and the project was fully financed with public funds from CIF, IBRD, the African Development Bank and Eskom, which now owns and operates the Sere Wind Farm.

*Xina Solar One power plant:* the project has supported black ownership with dividends flowing to a community trust. The project has created local jobs and used local suppliers for over 40 per cent of the project materials. CIF contributed USD 41.5 million in concessional finance to support mobilization of over USD 908 million through the African Development Bank, the Development Bank of Southern Africa, the Industrial Development Corporation of South Africa Limited, the International Finance Corporation and South African commercial banks. Project shareholders are Abengoa Solar SA (40 per cent); the Industrial Development Corporation of South Africa Limited (20 per cent); the Government Employees Pension Fund represented by the Public Investment Corporation (20 per cent); and the local community trust (20 per cent).

#### 19.4 Identified challenges, opportunities and stakeholder involvement

- Participatory development of key plans leads to positive outcomes related to social inclusion, participation and governance. Overall recognition and procedural justice elements can be strengthened by extending participation and representation more broadly and deeply;
- Diverse perspectives on the depth of transformation, vital for just transition with regard to both distributional impact and systems change, require careful attention, dialogue and potentially compromise;
- Expansive scope when considering distributional impacts can lead to a broad range of benefits through value chains and beyond immediate areas where development is situated;
- Transparent and participatory socioeconomic modelling that provides foresight into long-term inclusive and sustainable development plays an important role in better informed policy and finance decisions;
- Focus on cross-sectoral dialogues, along with social inclusion and participation, is vital at the local, national and international level of planning;
- Concessional finance is critical at early stages of innovation for de-risking initial investments and demonstrating at scale the viability of emerging technologies that can help accelerate just energy transition;
- Skills development is central to supporting a just transition, both in terms of reskilling existing workers and proactively developing the skills needed for innovative, and in some instances untried, sustainable technologies and processes;
- By adopting a regional focus that supports repurposing and rehabilitating coal mines, economic diversification and investments in built and ecological infrastructure, there is potential to create a flagship example of a just transition;
- Just transition requires a sensitivity to context and the acknowledgement of, in some circumstances, the need for restorative justice to address past and current inequalities;
- In countries with high levels of entrenched inequality, unemployment and poverty, there is a need to better align broader transformational change, at scale and at a systemic level, with climate change responses and sectoral transitions.

#### 19.5 Lessons learned

Although these support interventions were not developed within a just transition framework per se, they provide several lessons for supporting just transition in South Africa, as follows:

*Informed national planning for the long term:* a vital part of initiating just transition involves the use of socioeconomic and climate modelling to develop long-term national plans that are inclusive and transformational. In South Africa, long-term mitigation scenarios informed the first Integrated Resources Plan on energy. Ongoing modelling is needed to inform the development and implementation of the Integrated Resources Plan and other climate-related transition policies and plans;

*Inclusive cross-sectoral dialogues at all levels:* given the breadth and depth of just transition, it is vital to ensure fair and inclusive representation of all interests and perspectives through cross-sectoral dialogues taking place at the local, regional and national level. The Presidential Climate Change Coordinating Commission represents a significant opportunity for providing such a platform that can sustain cross-sectoral dialogues with social inclusivity and distributional impact as key guiding principles;

*Enabling role of concessional financing:* the provision of concessional financing by climate finance institutions, as CIF has done in South Africa, plays a pivotal role in demonstrating the feasibility of renewable energy projects by de-risking and incentivizing both public and private sector investments in renewable energy. Concessional finance, combined with other insights and opportunities listed here, has significant potential to de-risk and support South Africa's energy transition and COVID-19 pandemic recovery efforts that could accelerate the country's transition to an inclusive green economy;

*Anticipatory skills development at the national level:* to ensure that South Africa equips its people with skills to support the country's shift towards a low-carbon, resource-efficient and inclusive economy, anticipatory skills development is required. This necessitates a labour market intelligence system that can identify emerging skills and occupations in order to proactively plan for the development of these skills;

*Adopting a broad perspective:* the shift to renewable energy and other sustainable development

transitions will create net employment and development benefits. However, workers and communities in particular areas will lose jobs and livelihood opportunities during such a transition. With vulnerable mining communities concentrated in specific areas, research and planning efforts should create alternative employment and livelihood options in these areas;

*Built-in non-financial procurement criteria to ensure just transitions:* the incorporation of non-financial criteria in competitive bidding processes can ensure that investments in new low-carbon, climate-resilient infrastructure are more closely aligned with the socioeconomic and environmental needs of local communities and national development.

*Contributor: Climate Investment Funds*

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## JTW-20. SPAIN'S NATIONAL STRATEGY FOR JUST TRANSITION OF COAL-DEPENDENT COMMUNITIES

### 20.1 Key characteristics

European Union climate and energy legislation pushed Spain to adopt decarbonization strategies that led to emission reduction in the country. Spain has increased its levels of emissions not covered by the European Union Emissions Trading System<sup>10</sup> and has worked towards energy transition by promoting renewable energy from solar and wind power along with other measures like ecosystem restoration, afforestation and forest fire prevention. The clean energy strategies have increased the share of renewable energy in Spain, and the initiatives have substantially reduced the GHG emission rates from the energy industries by 56.8 per cent between 2005 and 2019<sup>11</sup>, making Spain one of the leaders in solar and wind power. Apart from the energy sector, Spain also has led significant efforts in transport, buildings, agriculture and waste. Some of Spain's future strategies for more green energy include renewable hydrogen as a crucial element and has recently

10 De Cara, S. a. P.-A. J., 2011. "Marginal abatement costs of greenhouse gas emissions from European agriculture, cost effectiveness, and the EU non-ETS burden sharing agreement." *Ecological Economics* 70, no. 9: 1680-1690.

11 Mahringer, P., 2021. "An analysis of the EU Emissions Trading System-insights from the European Union Transaction Log/eingereicht von Philipp Mahringer." PhD diss., Universität Linz.

approved a hydrogen road map for the same. Spain, following the European Union legislation, decided to terminate financial support to coal mines, which led to the shutdown of coal mines in the country as the share of the coal industry fell from 40 per cent in 1990 to 5 per cent in 2019,<sup>12</sup> resulting in increased unemployment from the coal mining sector. The national Just Transition Strategy with a social angle in climate policy and energy transition was also adopted by the European Commission in the European Green Deal with its Just Transition Mechanism launched in January 2020.

## 20.2 Description of low GHG emission strategies or policies

Spain's national strategy for just transition focuses on the promotion of decarbonization programmes, while also supporting just transition by participatory strategies to assist former coal miners in their early retirement, promoting clean energy initiatives, retraining the workforce for green jobs and environmental restoration<sup>13</sup>. To cope with the effects of the transitioning sectors, the Government introduced the country's Just Transition Strategy, which included just transition agreements between the government departments, labour unions and businesses investors in all regions that are affected by climate transition policies<sup>14</sup>. These agreements support large-scale integrated strategies to offset the negative impacts and finance green projects. The first transition deal was set in 2018 for mining communities impacted by the closure of 10 coal pits and the loss of more than 1,000 jobs, under which the Government agreed to invest € 250 million in mining communities by 2023<sup>15</sup>.

## 20.3 Impact of identified strategy or policy

Spain's Integrated National Energy and Climate Plan 2021–2030 predicts that employment will increase

in the green sector by 1.7 per cent by 2030, adding 253,000 to 348,000 jobs per year.<sup>16</sup>

## 20.4 Identified challenges, opportunities and stakeholder involvement

In 2017 employment in the Spanish coal industry had reached almost 3 per cent of that of the 1990s<sup>17</sup>. In affected areas, economic recovery has been under way for more than two decades with mixed results. A major challenge is to rebuild or divide coal communities, especially in the context of a decade of economic misery exacerbated by the effects of COVID-19 pandemic. It is important to ensure a positive change for Spain's coal workers and the affected community. Given the limited social grants and high levels of unemployment and economic hardship in the country (mainly due to the effects of the pandemic), it is important to address trade and ensure that government funding for economic activities and labour development is distributed equitably.

The Spain's strategy, on the other hand, also presents some opportunities:

- Involvement and integration of various spheres of governmental and non-governmental organizations, including unions and the general public, in the formulation of the Justice Transformation Strategy and similar previous agreements.
- Long-term commitment to positive change. For decades, the Spanish Government has taken seriously the need for a cohesive, cooperative approach to managing the coal industry and its workers, including the signing of trade union agreements since 1997, and reducing the time left to respond to workers' needs.
- A more conducive environment (except coal-dependent communities), including

12 Rentier, G. H. L. a. G. J. K., 2019. "Varieties of coal-fired power phase-out across Europe." *Energy Policy* 132 : 620-632.

13 Galgóczi, B., 2019. *Phasing Out Coal: A Just Transition Approach*. European Trade Union Institute, ETUI.

14 Bandrés, E. L. G. V. S. a. Y. S., 2020. "Spain and the European Recovery Plan." *Funcas SEFO* 9, no. 4 : 6-14.

15 Bouyé, M. A. T. a. D. G., 2019. "Growing Momentum for Just Transition: 5 Success Stories and New Commitments to Tackle Inequality Through Climate Action."

16 Banker, M., 2020. "Collective Self-Consumption in the European Union." Master's thesis, Universitat Politècnica de Catalunya.

17 Escavy, J. I. M. J. H. L. T. a. E. S.-P., 2020. "Demographic vs economic variables in the modelling and forecasting of the demand of aggregates: The case of the Spanish market (1995–2016)." *Resources Policy* 65 : 101537.

public support with the European Union that supports the transformation of energy and vital domestic renewable energy.

- A transparent, time-bound process and a transparent process of developing strategies for just transition.

## 20.5 Lessons learned

While the focus of the strategy is coal mines, coal-fired thermal power plants will also be impacted by green policies, with more than 2,000 workers affected. Hence, there is a need for more initiatives and investment in new business opportunities in the region where the communities were initially located, and national and international grants or initiatives from private firms, to be used, together with economic incentives, for training, re-employment and rehabilitation of previous workers.

*Contributor: India Water Foundation*

## JTW-21. UNITED STATES FEDERAL PROGRAMMES ON JUST TRANSITIONS

### 21.1 Key characteristics

The Clean Power Plan (CPP), launched on 3 August 2015, aimed to limit emissions of power generation plants and created a long-term plan for the United States economic divide. It aims to assist coal communities in the face of coal shortages, making State resources available (in 2015, the budget was USD 28–38 million) to support communities and districts.<sup>18</sup> It was designed as a joint effort between a number of government agencies with the aim of coordinating, empowering and identifying economic and human

resource development programmes and resources to assist communities affected by change in the coal and energy industry and intended to (a) diversify the economy; (b) create jobs in new or existing industries; (c) attract new investment sources that create jobs; and (d) provide a variety of personnel services and skills training, including job-based learning opportunities, leading to industry-recognized assurance of high-quality, much-needed jobs.

### 21.2 Description of low GHG emission strategies or policies

The CPP stressed that investment in energy efficiency and renewable energy should be an important means of addressing the economic impacts of coal conversion. To make this easier, the United States Environmental Protection Agency established the Clean Energy Incentive Program alongside CPP.<sup>19</sup> Particular attention is given to the need to build carbon-based incentives in the land sector, such as carbon-based incentives for farmers, ranchers and forestry owners.

### 21.3 Impact of identified strategy or policy

The Clean Energy Incentive Program provides incentives for provinces to reward early investment in wind and solar power schemes, in addition to the required energy efficiency programmes, which are used in low-income communities.<sup>20</sup> In this regard, the CPP recognized the need to provide transitional support to certain segments of the population.

### 21.4 Identified challenges, opportunities and stakeholder involvement

The challenges arisen from the programmes include:

18 Davis, C. L. A. B. a. G. P. D., 2016. "The state of the states: data-driven analysis of the US clean power plan." *Renewable and Sustainable Energy Reviews* 60: 631-652.

19 Mullet, M. A., 2016. "The Clean Energy Incentive Program: A (Stayed) Invitation to Technological Innovation and Market Transformation in the Electric Energy Industry." *Val. UL Rev.* 51: 405.

20 Robinson, J. M. B. P. B. D. C. A. M. B. S. a. W. S., 2006. "Climate change and sustainable development: Realizing the opportunity." *AMBIO: A Journal of the Human Environment* 35, no. 1 2-8.



- Young workers may not have the time to build the necessary skills to transfer to other industries, and new employees can be trained in disappearing roles.
- Companies will have less time to fund pensions and repairs and try other business methods while remaining profitable.
- Opportunities to address existing gender and race inequalities in the energy sector will be missed. United States clean-up operations appear to be following discriminatory patterns – particularly the representation of black and African American workers.<sup>21</sup>

The programme, on the other hand, present the following opportunities:

- Business development projects support access to finance, business installations, business space development, business technical assistance, business education and export development.
- Education and workforce development projects support adult education, vocational and technical education, academic achievement and acquisition, teacher training and staff training.
- Property development projects support the arts, culture and tourism and sector-based strategies.
- Community development projects support community facilities, community infrastructure, rehabilitation and transportation.
- Civic entrepreneurship projects support community and organizational strengths.
- Health projects support access to care and promote health as well as disease prevention.

### 21.5 Lessons learned

These plans are based heavily on the assumption that there would be a relative growth in renewable

energy that will compensate for any future job losses; however, these new jobs have few lucrative low-skilled jobs alternative to mining jobs<sup>22</sup> and they lack job security, as well as the cultural and regional aspects of traditional livelihoods. Furthermore, green energy jobs have been on the rise in particular areas in the United States. This contributes towards spatial inequality in economic opportunity in the United States.

*Contributor: India Water Foundation*

## JTW-22. PROGRAMME FOR ENERGY EFFICIENCY IN BUILDINGS COOL IN MULTIPLE COUNTRIES

### 22.1 Key characteristics

The programme was designed by the French Development Agency in partnership with the German Agency for International Cooperation and the Environment and Energy Management Agency, aiming to transform the construction sector by advancing energy-efficient and resilient building design, construction and operation in eligible countries. A version of this programme, PEEB Cool, emphasizes better designs for cool buildings. PEEB Cool will be launched in 2022 to run at least until 2030. It supports low-carbon development strategies in the 18 participating countries outside France that have hot and Mediterranean climates, without excluding countries with colder climates, in Africa (Djibouti, Ethiopia, Mali, Morocco, Nigeria, Senegal, South Africa, Tunisia), South-East Asia (Indonesia, Sri Lanka, Viet Nam), South America (Argentina, Costa Rica, Ecuador, Mexico, Peru) and Eastern Europe (Albania, North Macedonia).

### 22.2 Description of low GHG emission strategies or policies

PEEB Cool comprises two instruments: (i) an Enabling Facility to transform the building sector towards an enabling environment for improving

<sup>21</sup> Chesterman, S., 2005. *You, the people: the United Nations, transitional administration, and state-building*. Oxford University Press on Demand.

<sup>22</sup> Popa, A. A. D. M. B. W. J. R. Y. H. Y. C. L. C. M. B. B. a. W. Y. K. Y., 2016. Popa, Adriana, Ajith Das Menon, Bartłomiej Walentyński, John Rudolph Young, Hing Yee Ching, Lia Cairone, Miguel Barros Brito, and Wilson Ying Kit Yung.



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buildings' energy efficiency and resilience, wherein partners receive advice on public policies that expand and create markets for private sector actors and capacity development activities supporting implementation and enforcement of public policies such as building codes, standards and certification; (ii) an Investment Facility open to public and private actors that offers technical assistance and financing to projects incorporating bioclimatic design principles and energy efficiency targets, with a green stimulus encouraging project owners to achieve more ambitious climate standards and targets in the most vulnerable economies.

### 22.3 Impact of identified strategy or policy

Development impact: the total number of direct beneficiaries of PEEB Cool in terms of thermal comfort, energy cost savings and improved community services was estimated at 30.3 million people over 18 countries. The number of indirect beneficiaries is 113.8 million (both numbers include 50 per cent females). It is expected that the programme will create upwards of 25,000 future-proof local jobs (direct and indirect), primarily in construction activities, hence supporting just transition within the construction sector.

### 22.4 Identified challenges, opportunities and stakeholder involvement

In the context of the recovery from COVID-19 pandemic, there is a risk that climate change mitigation and adaptation are sidelined as economic recovery and employment considerations are prioritized.

To address the risk of bad implementation, strong technical assistance and capacity reinforcement components, including support in the identification and design phases, will aim to achieve the set targets on (i) adaptation: addresses with specific solutions the vulnerabilities of buildings to a rapidly warming climate, compared with the baseline for new construction or with the existing situation for renovation; (ii) mitigation for renovation: aims at a 40 per cent GHG emission reduction or 40 per cent energy consumption savings compared with the existing situation before renovation; and (iii) mitigation for new construction: aims at 20 per

cent GHG emission reduction compared with the baseline and/or 20 per cent energy consumption savings compared with the baseline and/or 20 per cent water consumption savings compared with the baseline (a minimum of two out of three criteria).

Technical assistance in the construction and operation phase will ensure that energy efficiency measures agreed on between PEEB Cool and a project are effectively implemented in the construction phase. PEEB Cool can provide technical assistance to support the actual implementation of projects, such as (i) project management assistance for the implementation of measures to improve the energy and environmental performance of a project, including specific technical expertise; (ii) support for verifications/certifications; and (iii) capacity reinforcement to project stakeholders such as project owners and contractors if needed.

Construction firms involved in a project could benefit from training in the implementation of construction methods that are adapted to the local climate context and materials. This contributes to the upscaling of local actors' skills and the development of local energy efficiency related services. Capacity-building on gender-related topics will be provided in each project to identified staff from the project owner according to the programme's gender action plan.

Thus, promoting cool buildings brings a triple win: providing a powerful tool to stimulate investment and local jobs creation in the green economy, achieving massive long-term savings of cost and GHG emissions, and improving the resilience of the most vulnerable populations as buildings are better adapted to climate change. Energy efficiency in buildings and construction can contribute to a green recovery by promoting and supporting local employment and skills, passive construction approaches based on traditional constructive methods and usage of local and low-carbon materials.

### 22.5 Lessons learned

PEEB Cool investment should improve the socioeconomic resilience of all social strata in the communities in which they take place, but particularly of low- and middle-income groups, as a result of the construction of improved low- and middle-income housing as well as public buildings



providing essential services to the community, such as education and health.

The facilities have been designed to each address key barriers that are preventing the construction industry in the targeted countries from shifting from current unsustainable practices to a low-carbon, climate-resilient development path. The programme, thus, contributes to a paradigm shift in the sector, leading to the scaling up of the use of bioclimatic measures, efficient cooling systems and low-carbon construction materials. Further lessons should be learned after the effective launch of the programme in 2022.

*Contributor: Slovenia and the European Commission on behalf of the European Union and its member states*

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## JTW-23. MAPRIMERÉNOV' (MY RENOVATION ALLOWANCE) OF FRANCE

### 23.1 Key characteristics

MAPRIMERÉNOV' is mainly funded by the French recovery plan ("Plan France Relance"), launched in September 2020 in response to the COVID-19 crisis by merging two previous programmes viz. the energy transition tax credit and the programme Habiter Mieux Agilité, is a simpler and more efficient grant which homeowners can use towards energy-efficient improvements to their home.

### 23.2 Description of low GHG emission strategies or policies

MAPRIMERÉNOV' accelerates energy-efficient building renovations, which reduces energy consumption and GHG emissions and contributes towards France's NDC and long-term strategy.

### 23.3 Impact of identified strategy or policy

Energy-efficient building renovations support the construction industry and create local quality jobs. The programme also has a social dimension as

energy-efficient renovation of housing helps in reducing low-income families' heating bills and improving the quality of their home. This helps to improve their life chances, including the ability to pursue increased professional qualifications and apply for better jobs.

### 23.4 Identified challenges, opportunities and stakeholder involvement

The programme involves many conditions (household income, type of housing, planned works and/or expenses, expected ecological gain) which may be difficult to understand for some households.

### 23.5 Lessons learned

Previous programmes were designed for tenants or people housed for free, whereas MAPRIMERÉNOV' is targeting all property owners and co-owners, that is, the most relevant households to be targeted in order to accelerate energy-efficient renovations. Regarding the complexity of the programme, a cross-ministry working group is currently looking at ways to make the overall system more efficient and easier to grasp for households, through simplification and improved coordination with other energy efficiency schemes.

*Contributor: Slovenia and the European Commission on behalf of the European Union and its member states*

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## JTW-24. HYBRIT – FOSSIL-FUEL-FREE STEEL PRODUCTION IN SWEDEN

### 24.1 Key characteristics

Hybrit is a joint effort between mining company LKAB, energy company Vattenfall and steel company SSAB aiming at producing fossil fuel free steel without the use of coking coal and thereby transforming an emissions-intensive industry to a low CO<sub>2</sub> emission or CO<sub>2</sub> emission free production. The Government of Sweden will support the project

by ensuring streamlining of the European Union Emissions Trading System's permit processes (the steel sector is one of the industries covered by European Union mandatory emissions trading), rail infrastructure and grid interconnections. The full-scale emission-free process for steel production should be completed by 2035.

## 24.2 Description of low GHG emission strategies or policies

Hybrit aims to reduce the steel industry's CO<sub>2</sub> emissions (it can reduce CO<sub>2</sub> emissions in Sweden by 10 per cent and in Finland by 7 per cent with full-scale implementation) by replacing coking coal (which has traditionally been used in steelmaking to convert iron ore to iron) with hydrogen produced via electrolysis using renewable electricity (mainly in the form of wind and hydropower) and water. A process called direct reduction is intended to replace the blast furnace process used today. Instead of emitting CO<sub>2</sub>, the residual product is water, which in turn can be reused for production of hydrogen.

## 24.3 Impact of identified strategy or policy

A pilot plant in Gällivare is expected to generate 1,500 jobs, complemented by new production methods for iron ore generating 2,000 jobs. The initiative is also expected to contribute to enhanced regional cooperation. The Swedish Government has appointed a special coordinator to facilitate the regional cooperation in northern Sweden because of this industrial investment as well as other recently announced major investments. The scope is to identify and accelerate the public service and infrastructure as well as the skills needed and pass the information on to the Government. It is expected that 100,000 people will be moving to northern Sweden in the coming decades.

## 24.4 Identified challenges, opportunities and stakeholder involvement

There is an opportunity to decrease emissions and develop sustainable practices for future steel and building materials, as well as transforming jobs in an emissions-intensive industry.

Stakeholder involvement has been conducted as per licensing procedures. Hybrit and the three companies involved are also aware of the importance of involving inhabitants in the regions concerned to avoid unnecessary conflicts.

The municipalities involved have welcomed the investment with open arms and facilitated the process as much as possible within their mandate. This considerable industry expansion on these scarcely populated regions will of course also mean efforts on the part of the inhabitants.

## 24.5 Lessons learned

The Hybrit collaborative project shows that a 1,000-year-old production method can be transformed to face challenges that climate change poses through cooperation between companies in different sectors and with public support.

*Contributor: Slovenia and the European Commission on behalf of the European Union and its member states*

## JTW-25. PHILIPPINE GREEN JOBS ACT OF 2016

### 25.1 Key characteristics

Green jobs as defined by law refer to employment in the agriculture, industry or services sector that contributes to preserving or restoring the quality of the environment and specifically but not exclusively includes jobs that help to protect ecosystems and biodiversity, reduce energy, materials and water consumption through high-efficiency strategies, decarbonize the economy and minimize or altogether avoid the generation of all forms of waste and pollution. The law has nine salient features, as follows: (i) affirms labour as a primary social economic force in promoting sustainable development; (ii) affirms the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature; (iii) affirms State objectives for protection of labour; (iv) provides for an official definition of



green jobs; (v) provides for greening incentives for the business enterprises or labour demand side; (vi) requires human resources development planning from the supply side; (vii) mandates the establishment of a green product or technology certification system; (viii) adopts the just transition approach by recognizing various needs of stakeholders; and (ix) adopts a whole-of-government approach.

## 25.2 Description of low GHG emission strategies or policies

Green Jobs Content Accounting provides for three mechanisms that business can choose from to demonstrate that they are a green business enterprise: industry approach, product/service approach and process approach. The industry approach includes firms that by the nature of their core business directly and substantially contribute to greener economy transition beyond 'business as usual' (e.g. renewable energy firms). The product/service approach includes products/services that meet green standards (e.g. energy star, LEED, Green Choice). The process approach is based on activities that generate environmental benefits such as environmental impact management (e.g. rehabilitation of quarry sites). The law declares that the State must identify needed skills, develop training programmes, and train and certify workers for jobs in a range of industries that produce goods and render services for the benefit of the environment, conserve natural resources for the future generation, and ensure the sustainable development of the country and its transition into a green economy.

## 25.3 Impact of identified strategy or policy

The Climate Change Commission, in consultation with agencies concerned, such as the Department of Environment and Natural Resources, the Department of Trade and Industry, the Department of Labour and Employment, the Department of Agriculture, the Department of Energy, the Department of the Interior and Local Government, and the Department of Science and Technology, is mandated to develop and administer appropriate standards for the assessment and certification of green goods and services, and green technologies.

## 25.4 Identified challenges, opportunities and stakeholder involvement

Green jobs are viewed as a social protection measure in the NDC to ensure safeguarding of good working conditions for the human resources at the enterprises, including micro, small and medium-sized enterprises.

Business enterprises that generate and sustain green jobs as certified by the Climate Change Commission are entitled to the incentives such as (a) a special deduction from the taxable income equivalent to 50 per cent of the total expenses for skills training and research development expenses which is over and above the allowable ordinary and necessary business deductions for said expenses; and (b) the tax and duty-free importation of capital equipment, provided that the capital equipment is actually, directly and exclusively used in promoting, generating and sustaining green jobs in a qualified business enterprise.

## 25.5 Lessons learned

Green jobs are decent jobs that are productive, respect the rights of workers, deliver a fair income, provide security in the workplace and social protection for families, and promote social dialogue.

*Contributor: Embassy of the Philippines in Berlin*

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## JTW-26. JUST TRANSITIONS IN EXTRACTIVES SECTOR

### 26.1 Key characteristics

The climate emergency requires energy systems transformation, from fossil fuels to renewables, as currently both fossil fuels and renewables are heavily dependent on extractive industries. Major efforts are therefore needed to protect the rights of people at risk of losing out from climate transitions. The needs of workers and women in coal mining communities – who may lose their livelihoods – as well as those who may be affected by the expansion of metals and mineral extraction

for the production of renewable energy, must be carefully considered. As a priority, renewable technologies must reduce their reliance on mining for new metals and minerals by using less material in their products and dramatically scaling up the systems to recycle metals and minerals, presenting potential opportunities for increased employment. However, improved systems for mineral and metal recycling must also be very carefully governed by strong labour and environmental standards to protect workers' health and environment. A just transition in energy and extractives also should use renewables to improve energy access and end energy poverty.

## 26.2 Description of low GHG emission strategies or policies

The strategy involves the improvement of the efficiency and recycling of materials used in the production of renewable energy. It includes understanding the needs of miner communities, improving access to energy, addressing exploitation in metal and mineral extractive industries, as well as evolving and ensuring stringent mandatory social and environmental requirements for responsible sourcing of minerals.

## 26.3 Impact of identified strategy or policy

Locally based renewables offer the opportunity for communities to generate their own electricity through small-scale solar and wind power technologies, without having to wait for the electricity grid which may never arrive. Energy access significantly improves opportunities for women and girls, as it can save time and labour and free up more time for education, livelihoods and ensuring food security.

## 26.4 Identified challenges, opportunities and stakeholder involvement

For workers reliant on the fossil fuel industry for employment, the shift towards renewable energy can present huge concerns that they and their communities could be left behind, stranded with few livelihood opportunities. Just transition from fossil fuels to renewables must deliver positive

solutions for workers and local communities, which address the inequalities and challenges they face. A just transition process must support workers and community members – including women – to identify their needs and challenges.

The shift in the energy sector away from fossil fuels has important implications for communities involved in or affected by the extraction and use of metals and minerals used in renewable energy. Those in affected mining communities may be based far away, often in different countries, from where key decisions about energy use are made. Cobalt, lithium, copper, gold, nickel, cadmium, manganese, rare earth metals and many others are used in the production of photovoltaic cells, wind turbines and batteries. The mining of these resources tends to be dogged by deep socioeconomic and environmental injustices (similar to those experienced by coal mining communities) which are particularly felt by local communities.

Improving and scaling up recycling systems for metals and minerals could potentially create significant new job opportunities, and this could even be linked with just transition for workers moving out of the fossil fuel sector.

## 26.5 Lessons learned

Climate policies must recognize that vulnerable mining and farming communities may already face precarious livelihoods and may not be able to bear the burden or cost of climate transitions unless they are given support and positive incentives to do so.

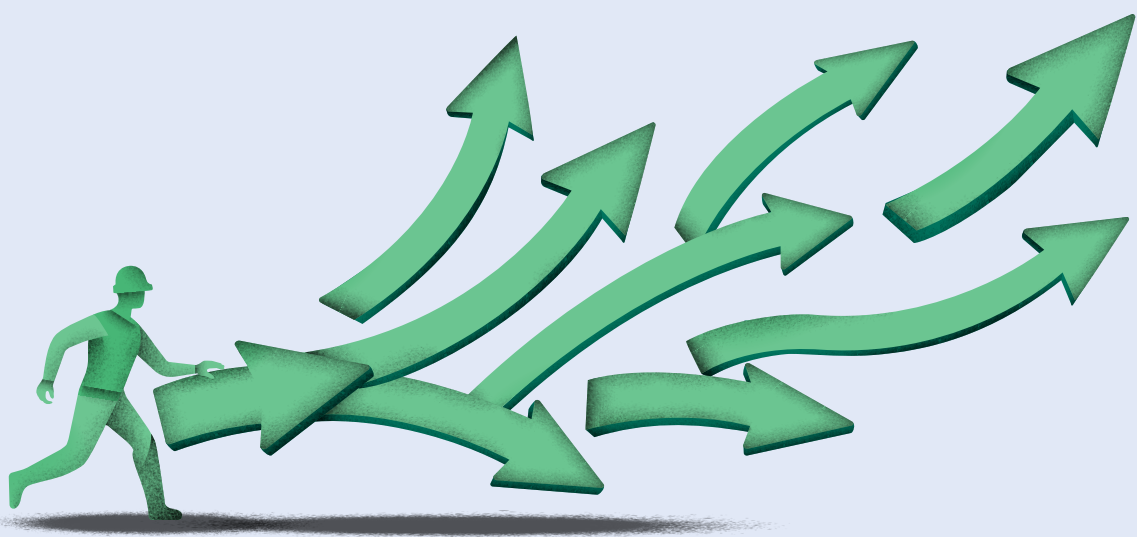
When shifting away from fossil fuels towards renewable energy, the transformation of energy systems must take into account the potentially harmful impacts of renewable energy's increased demand on metal and mineral extraction, and must not simply shift exploitation and land grabs to new areas. In bringing about the shift from fossil fuels to renewable energy, the renewables industry must reduce its need for new raw materials by increasing its materials efficiency (i.e. reducing the amount of resources needed) and designing its products to be more easily recycled.

Significant and active efforts are needed to improve and scale up the sector for recycling metals and

minerals, and this must be regulated by very strong labour and environmental standards. The renewables industry must take great care to ensure the responsible sourcing of metals and minerals, including by requiring (a) that this is governed by strong labour and environmental standards, where new mining is required; (b) inclusiveness and participation with transition plans developed through inclusive participation of workers, farmers, women, communities and stakeholders, especially those that are marginalized; and (c) taking into

account the perspectives of communities and sectors that will be involved in or affected by the transition. National climate policies and plans, including NDCs and NAPs, should incorporate just transition processes for energy and extractives into their strategies to accelerate shifts to renewable energy, in ways that are fair to all workers and communities and by putting social justice at the core of climate action.

*Contributor: Action Aid*



# COUNTRY-DRIVEN STRATEGIES AND BEST PRACTICES ON ECONOMIC DIVERSIFICATION AND TRANSFORMATION

This chapter compiles the country-driven strategies and best practices on economic diversification and transformation.

## EDT-1. CONTRAT DE TRANSITION ÉCOLOGIQUE – ECOLOGICAL TRANSITION CONTRACT/ PARTNERSHIP, A PARTNERSHIP WITH LOCAL COMMUNITIES IN FRANCE

### 1.1 Key characteristics

Contrat de Transition Écologique (CTE), initiated in 2018, is a partnership programme between the State and local communities to help develop local projects that diversify the local economy, for sustainability and environmentally responsible development; each contract lasts three to four years.

### 1.2 Description of low GHG emission strategies or policies

This innovative approach to work with local authorities towards sustainability, that is, the CTE programme, is built on co-construction principles between the State, local authorities and local socioeconomic actors. It aims at working with local communities to develop concrete projects addressing environmental issues while contributing to economic diversity and socioeconomic development. The partnership is built together with socioeconomic actors in the area (public and private actors, such as elected officials, businesses and citizens) to make the most of environmental challenges in order to create economic activities and social opportunities. State services and local authorities act as facilitators in CTE.

### 1.3 Impact of identified strategy or policy

Territories apply on a voluntary basis to work on a CTE. The process started in 2018, experimenting with 18 territories and later expanding to 107 territories. The projects address inhabitants' daily

lives and help promote the local development of various sectors, such as, for example, renewable energies, energy efficiency, mobility, agriculture, circular economy, urban planning and biodiversity conservation.

#### 1.4 Identified challenges, opportunities and stakeholder involvement

Cooperation between local stakeholders, as well as the State's and local authorities' involvement in the process, are essential to CTE, to enable the emergence of co-built projects with experience-sharing.

The core of CTE is a cross-disciplinary approach wherein projects tackle very diverse topics, from environmental issues to socioeconomic challenges. This enables the emergence of projects addressing several environmental or socioeconomic challenges.

#### 1.5 Lessons learned

To date, projects that are part of CTE are still being implemented and are assessed in view of their ambitions and expected results: GHG emission reduction, waste reduction, job creation, etc. In order to be included in a CTE, each project has to be approved beforehand based on its goals and expected impacts. A new programme drawing on the positive experience and lessons learned from CTE is being implemented as part of the French COVID-19 pandemic recovery plan, namely, the Recovery and Ecological Transition Contracts/ Partnership. This programme will be carried out with approximately 800 territories to support their local efforts towards sustainable and economic development.

*Contributor: Slovenia and the European Commission on behalf of the European Union and its member states*

## EDT-2. RWANDA ECONOMIC TRANSFORMATIONS BY EXPORT DIVERSIFICATION

### 2.1 Key characteristics

Rwanda has implemented several policies to shape its economic transformation programme and these policies continue to evolve depending on changing economic needs. Rwanda's development agenda is enshrined in its Vision 2020, which is to build a knowledge-based economy and become an independent private sector led economy by 2020. The Economic Development and Poverty Reduction Strategy is a framework to shape the Government's long-term development agenda based on three pillars designed to accelerate economic growth and promote development:<sup>23</sup>

- Sustainable growth for jobs and exports – investing in improving the climate for business investment for achieving private sector growth. In the shorter term, the priority is reinforcing productive and export potential of the agriculture sector, but in the longer term, the goal is to diversify the economy by promoting the non-farm sector;
- Vision 2020 is a pro-poor rural development and social protection programme aiming to eliminate extreme poverty by 2020 by releasing the productive capacity of very poor. It includes public works, credit packages and direct support implemented at the village level using participatory methods;
- Good economic governance is seen as a precondition for poverty reduction and development by creating comparative advantage in 'soft infrastructure' (good governance and institutional arrangements important for private investors), thus compensating for Rwanda's relatively poorly developed hard infrastructure and disadvantaged geographical location.

23 Malunda, D. a. M. S., 2012. "Rwanda case study on economic transformation."



## 2.2 Description of low GHG emission strategies or policies

Economic transformation refers to the process involving an increase in productivity, technological capability, economic diversification and international competitiveness that supports rapid, sustained and shared growth in employment and incomes of the population over time. Rwanda is taking the path of State development with a key focus on sustainable economic growth and social development. The main objective of the Economic Development and Poverty Reduction Strategy was to address key growth factors identified by climate analysis by systematically reducing business operating costs, investing in the private sector development sector and expanding and strengthening the public sector. Government policies have promoted private sector investment through good governance, legal framework, promotion of savings and the banking sector, and investment in infrastructure, health and education, including skills training. The aim is to create new job opportunities in modern farming practices for new entrants to the labour market and the existing workers, to facilitate technology transfer, skills transfer to the Rwandan people, increased production of goods and services for export, and generally to promote economic growth.

## 2.3 Impact of identified strategy or policy

Rwanda has made significant progress in splitting its exports over time. In the 1980s, Rwanda became one of the most internationally focused hubs in sub-Saharan Africa with significant successes, including the revitalization and gradual redesign of the tea industry and the current division of agricultural products. Rwanda's efforts to prioritize international segregation seem fruitful.

The Economic Development and Poverty Reduction Strategy not only assisted in creating an environment conducive to business but also in expanding the economy to the point where it is closer to full reliance on agriculture to the extent that it is developing services and growing sectors.

Export markets, on the other hand, add another dimension of export diversification.<sup>24</sup>

## 2.4 Identified challenges, opportunities and stakeholder involvement

Despite the country's achievements in the last quarter of a century and continued economic growth, poverty remains widespread in Rwanda; the Government's major challenge remains to create more jobs for people to eradicate the high levels of poverty. Rwanda is one of the world's most populous countries with a small land area and most of the population density is in rural areas engaged mostly in agriculture. The rural density and low levels of land available per agricultural worker limit the ability of land-based activities to provide job and income opportunities for a growing population.

Local entrepreneurs are still challenged when it comes to making big money and growing their business ideas into profitable businesses that will create more jobs and grow the economy. Although Rwanda is making significant progress in reducing import and export control costs, non-tariff barriers to trade-related processes and procedures remain difficult.

There is still a large gap and low-hanging fruits for regional trade between Rwanda and neighbouring countries to expand regional exports, as Rwanda still needs to generate and venture into products catering to the demands of local nations. There is a need for identifying products that cater to global demands for sustainable markets that help develop its global exports, which can be construction materials, specialized textiles, processed agricultural products and other miscellaneous products. As Rwanda has resources to cater to its needs, the Government needs to promote product knowledge and focus on exporting at the regional level.

The special economic zones have the potential to jointly and cost-effectively address the critical identified constraints. They provide access to industrial land, which would otherwise be costly and time-intensive to acquire, and assist Rwanda in product generation.

<sup>24</sup> Malunda, D. a. M. S., 2012. "Rwanda case study on economic transformation."

## 2.5 Lessons learned

Rwanda has launched a vigorous effort during its reconstruction over past two decades with the Government working hard to maintain that growth and expand economic opportunities for all Rwandans. This strategy emphasizes the importance of building a multidisciplinary production and export corridor that will include a service development, which will begin to transform Rwanda from a subsistence economy to a modern economy.

Through careful consideration of the challenges it faces, if Rwanda continues to maintain political and social stability and continues to prioritize investing in infrastructure and regional and international integration, it can not only sustain but also accelerate its growth and continue to be a role model for the development of countries in their region and beyond.

*Contributor: India Water Foundation*

## EDT-3. SOUTH KOREA'S NEW SOUTHERN POLICY

### 3.1 Key characteristics

The Korea International Development Cooperation Agency has been helping countries in the Mekong region to build momentum in the agriculture sector. South Korea also plays a role in infrastructure development in the region, as the Mekong countries wish to strengthen ties between them.<sup>25</sup> In addition, South Korea supports sustainable development in the Mekong region, which protects the Mekong River from climate change and natural disasters and promotes natural resources for green growth. South Korea is committed to working with the Mekong countries in conserving biodiversity, forestry and water management in the region.

### 3.2 Description of low GHG emission strategies or policies

In the wake of North Korea's nuclear activity, United States–China political competition in Asia, and rising security and uncertainty in the country's economy, in 2017 President Moon Jae-in unveiled the New Southern Policy (NSP) for the Association of Southeast Asian Nations (ASEAN).<sup>26</sup> The NSP has two goals, one to alleviate South Korea's economic woes in a difficult political scenario and the other is to build solidarity between central Asian powers as a means of addressing United States–China geopolitical competition.<sup>27</sup>

### 3.3 Impact of identified strategy or policy

The NSP represents a forward-looking partnership with ASEAN and directs its focus on areas that include investment in the Fourth Industrial Revolution, sustainable development, and peace and security. Demonstrating its dual goals, the NSP "Three Ps", i.e. focuses on people, prosperity and peace.<sup>28</sup> This extends the focus of Korean–ASEAN relations from business to technological, cultural and humanitarian cooperation, and enabled South Korea to adopt a broader approach to integrating economic and social and cultural connections into a peaceful society. Going forward, the NSP plans to rely on institutional structures to ensure that South Korea's cooperation with ASEAN can support progress.

### 3.4 Identified challenges, opportunities and stakeholder involvement

One of the key challenges for the NSP is to clearly identify the policy goal and the role the Government of South Korea should play when targeting the regional level. Analysing the actual outcome of the NSP, however, is challenging. The strength of the NSP is also its weakness. Pursuing perfection

25 Jaehyon, L., 2019. "Korea's new Southern Policy: Motivations of 'peace cooperation' and implications for the Korean Peninsula.". *The Asian Institute for Policy Studies Issue Brief*, pp. 1-19.

26 Oh, Y. A., 2020. "Korea's New Southern Policy: progress, problems, and prospects."

27 Jaehyon, L., 2019. "Korea's new Southern Policy: Motivations of 'peace cooperation' and implications for the Korean Peninsula.". *The Asian Institute for Policy Studies Issue Brief*, pp. 1-19.

28 Jaehyon, L., 2019. "Korea's new Southern Policy: Motivations of 'peace cooperation' and implications for the Korean Peninsula.". *The Asian Institute for Policy Studies Issue Brief*, pp. 1-19.

and inclusiveness make it difficult to prioritize or decide on trade between cooperatives. Lack of clear priorities or a framework leads to a lack of strategic planning and implementation. This poses a risk of reimplementing of existing programmes. Assessing the implications of the NSP policy may require an assessment of two factors. The first is whether the outcome would not have happened in the absence of the NSP. The second and more important factor is whether the outcome could not have been achieved without the Government.

Since its announcement in 2017, the NSP has produced moderate results, especially in the form of expanded consultation. President Moon visited all 10 countries in Southeast Asia in less than two years, which had never been done by any of his predecessors. The ASEAN-Korea Memorial Summit and the Mekong-Korea Summit held in Busan in 2019 provided an opportunity to continue the cooperation that was agreed upon at the two summits. One of the most important outcomes is the expansion of South Korea's resources in Southeast Asia and India.

### 3.5 Lessons learned

The NSP should be followed as a strategy in the long run and can help to achieve a period of peace on the Korean Peninsula. This will require the establishment of a system that can support progress in this regard. A particular framework must be designed and constructed with a clear commitment and established system. The Government has taken only a temporary interest in a few regions, unlike Korean companies that have continued to advance in the ASEAN region with the aim of integrating with ASEAN growth, and government performance has failed to meet expectations while the private sector in the region has achieved good results. Performance indicators should be prepared to monitor the long-term progress of the NSP strategy. Only then can the NSP and the New Northern Policy take on such an important role as South Korea's new growth strategies and the New Korean Peninsula Economic Map.

*Contributor: India Water Foundation*

## EDT-4. THE CLIMATE LEAP INITIATIVE FOR LOCAL AND REGIONAL CLIMATE PROJECTS IN SWEDEN

### 4.1 Key characteristics

The Climate Leap is a Swedish Government programme that began in 2015 and was introduced to support regional and local initiatives to reduce GHG emissions, including methane. The Swedish Environmental Protection Agency, other government agencies and county administrative boards work together in the programme.

### 4.2 Description of low GHG emission strategies or policies

The Climate Leap strengthens local and regional climate efforts, for instance in a town, municipality, company, school or county. The identified emission reduction corresponds to about 4 per cent of Sweden's total emissions. The three categories of measures that provided the largest emission reductions up until May 2021 are waste (376,993 Mt CO<sub>2</sub> eq per year), biogas production to replace fossil fuels (328,368 Mt CO<sub>2</sub> eq per year) and transport (489,713 Mt CO<sub>2</sub> eq per year).

### 4.3 Impact of identified strategy or policy

The Climate Leap supports the measures that provide the cost-effective emission reductions, which have already diversified and transformed the implementing regions. Examples include charging stations for electric cars, biogas plants, and railway maintenance and energy efficiency projects. Positive impacts include increased battery and plastic recycling and taking care of waste heat.

### 4.4 Identified challenges, opportunities and stakeholder involvement

The total direct employment from 2015 to 2020 indicates that women make up only about 10 per

cent of those employed through the initiative, which may be because construction and civil engineering work employs more men. Following Sweden's work on gender mainstreaming, Climate Leap will be analysed during 2022 to find out how the programme can also promote gender equality.

#### 4.5 Lessons learned

Transformative change needs close cooperation between private and public actors, according to economic research. This is confirmed by Sweden's large-scale projects with green lithium batteries and fossil fuel free steel production. The Swedish Environmental Protection Agency has identified a few areas where development and efficiency can increase the social economic benefits of the investments: (i) cooperation for streamlining policy instruments; (ii) refine when needed (e.g. support for vehicles); (iii) develop application for better spreading of technologies and innovation and avoiding other market failures; (iv) spillover effects to increase gains; and (v) authorization frameworks to increase additionality.

An evaluation of the initiative found that 80 per cent of the emission reductions are additional and that a majority of the measures would not have been implemented without the Climate Leap programme and that emission reductions and employment opportunities go hand in hand.

*Contributor: Slovenia and the European Commission on behalf of the European Union and its member states*

## EDT-5. ACCELERATED ENERGY TRANSITION OF INDIA: A CIF INDIA STUDY

### 5.1 Key characteristics

India is one of the fastest-growing economies in the world, with an average GDP growth rate of over 6.2 per cent since 1990. Central to many of India's development plans is the accessibility to energy and its reliability. Although India's per capita CO<sub>2</sub> emissions are well below global averages,

it is currently the third largest emitter of CO<sub>2</sub> in the world, with sizeable population segments extremely vulnerable to climate change.

After a review of the early success of phase one of the National Solar Mission Phase, the Government of India launched its ambitious Scheme for Development of Solar Parks and Ultra Mega Solar Power Projects with a key objective of accelerating the development of the solar capacity to reach the initial target of 20 GW, which was later revised upward to 100 GW by 2022, of which 40 GW will come from rooftop solar energy.

Until recently, coal was the cheapest way to provide energy. The supply variability of renewable energy and the cost of energy storage to manage this variability, along with limitations in the current grid infrastructure undermining its distribution, has affected the expansion of renewable energy.

A particularly relevant aspect of India's energy transition is its geographic distribution of the energy transition, with the States having high solar radiation, and thus significant solar power generation capacity, being located in western India, while coal-rich States are predominantly in central and eastern India.

### 5.2 Description of low GHG emission strategies or policies

CIF and its partner MDBs have contributed to India's energy transition through support for cross-sectoral and multi-stakeholder dialogues that have informed energy policies and plans and through financing of renewable energy and electricity transmission projects. CIF collaborated with the Asian Development Bank, IBRD and key national stakeholders to develop India's CTF Country Investment Plan with support to India's National Solar Mission as its key component – an initiative to increase India's solar capacity from 17.82 MW in 2010 to 20 GW by 2022. In 2015, the Government of India increased this goal to 100 GW by 2022, with 60 GW to be sourced from solar parks and 40 GW from rooftop solar energy systems. CTF and MDBs provided technical assistance for capacity-building programmes, and concessional project finance to develop solar parks, energy transmission infrastructure, and facilitating rooftop solar power projects.



CTF and partner MDBs also unlocked significant financial support for rooftop solar energy through line of credit through the selected national bank as implementing agencies so as to help them offer concessional loans (with a reduced rate of 8.5–9.5 per cent as against the prevailing rate of 10–14 per cent), depending on the credit rating of the borrower (developers, customers, aggregators and intermediaries who qualified in terms of technical capacity, relevant experience and creditworthiness as per the respective bank's loan scheme documents) and the risks associated with the project to enable the large-scale deployment of rooftop solar energy using different business models.

CIF initiatives to support the Country Investment Plan, along with partner MDBs, contributed to bringing utility-scale solar tariffs to grid parity and decreased financing costs for borrowers for solar projects across India.

### 5.3 Impact of identified strategy or policy

Bhadla Solar Park, the world's largest solar park with capacity of 2,245 MW spread across more than 14,000 acres in a remote desert landscape, achieved a levelized tariff (over 25 years) of USD 0.36 per kWh, a record low tariff. CIF co-financed the Asian Development Bank's support to the Rajasthan Renewable Energy Corporation Limited to design and plan the solar park's infrastructure. In addition, the Asian Development Bank worked with a national transmission utility under a separate CTF project to evacuate the power from the solar parks in Bhadla to the national grid.

Bhadla Solar Park contributed to improved employment opportunities; about 40 per cent of the local workforce of 1,000 come from nearby villages and are employed in low-skilled jobs such as security and solar panel cleaning. Additionally, some landowners were able to procure more productive land with the compensation received, thus potentially creating employment opportunities for labourers in surrounding areas.

Bhadla Solar Park also contributed to the creation of income-generating activities and alternate livelihoods specifically for women: 150 women were provided with vocational training on embroidery work and handicrafts; 75 women were

trained in basic accounting, finance management and negotiation skills; and 415 women benefited from micro enterprise development training on animal husbandry (goat rearing).

### 5.4 Identified challenges, opportunities and stakeholder involvement

One challenge identified from the activity related to land acquisition and recognition of marginalized communities. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act focuses on private land, but does not address a situation where government-held land or land classified as wasteland is used for informal economic activities by marginalized communities. In outright purchases and rental agreements with owners for land acquisition, workers on the land and others who may use the land are not recognized or compensated in these agreements.

Although a range of alternative models, including lease agreements, community ownership models, benefit sharing (e.g. a small percentage of total revenue being paid back to the community), local economic development and diversification, could be considered from a distributional impact perspective, in many of these models, non-landowners will still lose opportunities to benefit from the land and will thus require attention in the transition processes.

Poor credit rating of borrowers, especially in the targeted commercial and industrial micro, small and medium-sized enterprises sector, as well as lack of experience with regard to the financing, installation and management of the rooftop sector, resulted in slower growth than envisaged in rooftop solar power plant installation in India.

Planning documentation for the Bhadla Solar Park required efforts by the implementing utility and the developers to integrate the approach towards inclusive growth, including social and economic development of the communities/stakeholders within the area of operation. Investments were benchmarked at 1 per cent of the detailed project reporting costs and contributed to the creation of income-generating activities and alternative livelihoods specifically for women by providing them with training; the promotion of improved

maternal/child health and safe motherhood; improved access to water and electricity; and employment opportunities.

## 5.5 Lessons learned

Clear State and national policies are needed to address the interests and concerns of landowners, investors, developers and other stakeholders who will be affected by various land lease models for promoting solar parks. Although landowners were recognized and compensated, various studies suggest that from an economic and social perspective, getting annual land rentals is preferable over an upfront payment of compensation as a regular source of income.

There is a need for international-, national- and State-level stakeholders to formalize and monitor a consolidated local area development strategy that is informed by inclusive and transparent community participation to harness the vast solar park opportunity.

Several implications and associated opportunities for CIF, MDBs and other stakeholders identified by the case study, to contribute to ensuring that the energy transition in India is just, are as follows:

- Modelling: support complex system modelling on barriers to and drivers of energy transition to better understand and predict distributional impacts. This modelling will provide a shared and informed basis for inclusive dialogues and planning while simultaneously mitigating the influence of narrow vested interests;
- Social inclusion: recognize and empower marginalized stakeholders by establishing local-level platforms to formally engage them and build their capacity to influence transition outcomes. The marginalization of informal labour and exclusion of land users in coal regions and renewable energy projects highlight the need to proactively support social inclusion processes;
- Partnerships: establish working relations and capacity-building processes within and across national and State government departments for just transition. A programmatic approach, promoting cross-sectoral dialogues and governmental collaboration, creates opportunities for relevant energy projects to support just transition at multiple scales;
- Regional planning: priority geographical areas need to be identified and plans developed,



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based on the relative impact of barriers and drivers related to coal transitions. The disproportionate impact of transition on 5 or 6 coal-dependent States highlights the value of and need for focused vulnerability assessments and development planning, especially for regions at immediate risk;

- **Economic diversification:** develop detailed economic transition plans that include priority activities, timelines and budgets through collaborative, informed and empowered stakeholder engagement. Transition plans need to include anticipatory skills planning, the repurposing of mines and power plants and the rehabilitation of mines and local environments, along with planning economic diversification in previous coal-dominated areas;
- **Finance:** develop budgets, including funding requirements, for transition. This needs to target not only clean energy projects, but also support for regions that will be affected by the phase-out of coal;
- **Safeguards:** establish the institutional frameworks, along with the environmental and social safeguards, needed to support implementation, monitoring and learning related to just transitions. Current social and environmental safeguards provide *project-level mechanisms for managing risk. Additional institutions and frameworks will need to be developed to build the capacity required for supporting just transition outcomes at the State and national level;*
- **Scale:** identify and mobilize State, national and international institutions to support and scale just transitions and broader transformational change. CIF and partner MDBs, as well as broader climate finance institutions, are well-positioned to support and learn from transition processes globally. They could, in turn, mobilize this learning to support just transition through country engagements and project finance.

*Contributor: Climate Investment Funds*

## EDT-6. TRANSFORMATION OF THE INDONESIAN POWER SECTOR

### 6.1 Key characteristics

The energy sector is currently the second-largest contributor to GHG emissions in Indonesia, after the forestry sector. However, in the next decade, emissions from the energy sector are projected to overshoot those from the forestry sector. Indonesia, as a developing country, still depends on coal for power energy and the Government is yet to ensure that all people have access to the electricity. Indonesia's ambition is to reduce its GHG emissions following the peaking of emissions of all mitigation sectors in 2030 and to explore opportunities from international support, especially in finance and technology transfer, to rapidly progress towards net zero emissions by 2060 or sooner. The national electricity company supports this target by endeavouring to increase renewable energy capacity through its green transformation programme and carbon neutrality aspiration.

### 6.2 Description of low GHG emission strategies or policies

As part of the Power Development Plan (RUPTL 2019–2028), the utility aims to achieve the 23 per cent renewables mix by 2025, while the updated Power Development Plan (Draft RUPTL 2021–2030) integrates a higher proportion of renewable energy than that stipulated (48 per cent as against the original plan of 30 per cent). Indonesia plans to achieve the target by increasing renewable power plants and retiring some diesel power plants. The utilization of biofuel in diesel power plants and biomass in coal power plants will also be executed as short-term policies. As for the medium-term policy, the lower-carbon technologies such as supercritical boilers for upcoming coal power plants will be established. Indonesia, through its State-owned enterprise, will start retiring coal power plants in 2026 while continuing to scale up the renewable energy plants.

### 6.3 Impact of identified strategy or policy

As a step towards achieving carbon neutrality by 2060, 24 small-scale renewable energy plants began operating commercially in 2020, with a total capacity of 154.37 MW. The operation of those renewable power plants reduces GHG emissions by around 730,500 Mt CO<sub>2</sub> eq per year. Meanwhile, the Government of Indonesia needs to develop a strategy on how to keep the electricity rate affordable for all people.

Climate change has driven market-based instruments which help in the achievement of the climate mitigation goal. The electricity company utilized carbon pricing as a measure to mitigate climate change. Until 2020, it obtained 8.2 Mt CO<sub>2</sub> eq GHG emission reduction certificates from the clean development mechanism and the Verified Carbon Standard programme. The GHG emission reduction from three projects of the Verified Carbon Standard programme (Musih, Renun and Sipansihaporas hydropower plants) is more than 1 Mt CO<sub>2</sub> eq per year, which means Indonesia still needs financial support and technology transfer to adjust the progress.

### 6.4 Identified challenges, opportunities and stakeholder involvement

The Government of Indonesia must ensure the safety and reliability of the power supply in its transition to low-carbon electricity while keeping electricity at an affordable price. This is a major challenge since the least-cost yet emissions-intensive coal power plants are still the backbone of Indonesia's electricity system. Therefore, the capital cost of renewable energy and other low-carbon technologies as well as the intermittent characteristics of variable renewable energy, which entails additional storage technologies, results in a dilemma where the company has to sell the electricity at an affordable price of an average of USD 0.08/kWh. The decarbonization plan requires support from multi-stakeholders, for example, through State investment, the adjustment of the electricity tariff based on customers' economic level, as well as the subsidy and compensation that takes into account the future allowed cost. The electricity company needs to continue its efforts to buy renewable-powered electricity at

competitive prices by increasing the competence of its procurement through collaboration with international financial institutions to ensure the most economical renewable energy cost structure.

A new market mechanism to be agreed under the UNFCCC might provide broader opportunities for Indonesia to add financing for renewable energy. Furthermore, global companies have pledged carbon neutrality, which requires carbon credits for offsetting their carbon footprint. Meanwhile, the domestic market is also emerging. The national emissions trading system released in March 2021 has created a domestic carbon market. Therefore, Indonesia can extend a carbon offset service to broader markets, including domestic markets.

### 6.5 Lessons learned

Concerning the complexity of the power sector challenges, the Government of Indonesia needs to encourage the participation of the private sector and investors, both national and international, as well as collaborating with various parties in developing environmentally friendly technology in the power sector. Irrefutably, Indonesia, especially in the power sector, faces some challenges in achieving the GHG emission reduction target. Indonesia needs support from multi-stakeholders to overcome those challenges and to address the three pillars of the energy trilemma: affordability, security and environmental sustainability.

*Contributor: Directorate General of Climate Change, Ministry of Environment and Forestry of Indonesia*

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## EDT-7. JUST TRANSITION CASE STUDY – SMART METERS IN THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

### 7.1 Key characteristics

The Government of the United Kingdom of Great Britain and Northern Ireland sees that carbon emissions from homes and businesses are continuing to rise and there will be a squeeze on



generational capacity as coal-fired power stations are taken out of service. The Government identified in a survey that the average customer does not know which devices require the most energy nor do they know on a day-to-day basis how much they are using. Every home and business has a meter to measure the power and gas consumption, but these are either outside the property or hidden away in some cupboard or high up on a wall.

The suppliers already increase the cost of energy when it is in high demand and reduce it when demand is lower. They were hoping that peak demand would be reduced; however, very little has been done domestically, other than the development of electrical storage central heating that switches on at night and off during the day. Customers who use a lot of energy are offered an agreement where they can receive energy that is cheaper than normal per unit, as long as they are willing to have their supply cut when national demand for power is high.

Nonetheless the Government can see a time in the not-too-distant future when there could be a series of disruptions to the supply as demand outstrips capacity. With the need to move away from petrol and diesel to electrified transport solutions, the demand for electricity will increase dramatically too.

With the advent of mobile digital technology, it has become possible to collect data remotely from these devices and provide use feedback to customers. The Government has informed energy industry providers that they need to supply and fit smart meters throughout every business and private property in the country in the hope that this will cause customers to change their energy use habits. A big advertising campaign has started to encourage customers to switch to smart meters.

## 7.2 Description of low GHG emission strategies or policies

The Government consulted on the prospect of rolling out smart meters in 2015, and in January 2016 the regulator proposed the rollout of smart meters. The Government set a deadline for all the meters to be replaced by December 2020. The trade unions engaged with the energy retail companies and the regulator to find a solution for the energy

meter readers losing their jobs when smart meters were installed. The proposal was to retrain them as smart meter installers.

The actors in the discussions were the big six energy retail companies (British Gas, EDF Energy, E.ON UK, npower (now owned by E.ON), Scottish Power and SSE), the Government regulator Ofgem, several agencies that provided meter readers such as Workforce, Morrisons, Blue Arrow and the four main trade unions GMB, Prospect, Unison and Unite. The four trade unions presented jointly their just transition demands, as agreed by the energy workers.

## 7.3 Impact of identified strategy or policy

As the gas and electricity supply meters are not currently capable of reporting back to the supplier, the device needs to be checked manually by someone visiting the property and reading back the amounts used. As a result, there is a large team that needs to visit properties and collect this information before reporting it back to base. This is not a very skills-intensive role and hence does not attract a large salary.

Fitting gas and electricity meters requires engineers to obtain and maintain their manual skills qualifications and be aware of electrical and gas safety measures. Engineers need to undertake a short apprenticeship to learn how to weld pipes together to form a seal and how to wire an electrical meter so there are no cross-polarity issues, especially on a three-phase supply. Membership of the European Union required the wiring codes to change from the United Kingdom's red, black and green colour coding standards on a domestic supply to brown, blue and green/yellow for live, neutral and earthed safety and to other coding dependant on the supply type. As a result, the installer also needed to know and memorize the various colour coding differences and know what each meant.

It takes around 90 minutes to safely fit and connect the smart meters to the supplies and connect them electronically via a cellular phone network to the head office to link the readings to the customer's account. Therefore, at most, assuming everything goes to plan and the driving distance between customers is not extensive, it is just possible to fit four meters a day. With 29 million homes and 6

million businesses, some with more than one office or commercial space, with this number growing rapidly, the size of the engineering team would need to be very large if they were to replace all the meters in a short period of time.

The United Kingdom unions met with employers and negotiated that the smart meter readers (who on occasion were not working for the energy supply companies but an outsourced provider) could be transferred in as the need for meter readers diminished. The readers would then undergo an intense in-house course to learn how to work safely with electrical supplies and fit electrical meters before progressing on to the skills needed to fit a gas meter, including bending and welding of pipes to form a gas-tight seal. This training included how to identify asbestos and other hazards and what the company policy was with respect to dealing with these issues. Once the new apprentice was allowed out of the classroom, they were then mentored by an experienced engineer who checked and guided them through at least six months of on-the-job one-to-one training, where they would continue to perfect their skills.

Some engineers were also provided with the safety equipment and training with respect to the safe removal of asbestos while other companies simply told engineers to walk away if they discovered a sheet of asbestos or other technical problem with the supply or property wiring until a suitably qualified engineering specialist could be brought in.

#### 7.4 Identified challenges, opportunities and stakeholder involvement

The existing meters were often installed when the buildings were built or were eventually wired for power. The workforce to install or maintain meters is very limited and not large enough to swap out the existing meters to measure the gas and electricity supply. Some older meters are mounted on asbestos backing plates, hence any attempts to remove them will cause a major health and safety issue.

Some industrial properties have not had their wiring checked for safety standards in decades. Changing the meters may require the building to be rewired. This rewiring can include the installation of a switch between the main supply and the meter

in the property so that the property can be isolated from the supply when the meter is being replaced.

#### 7.5 Lessons learned

The United Kingdom power network has been privatized so the Government cannot simply settle on one design and employ government contractors to move systematically from house to house, business to business and street to street to have meters installed as each property may have a separately agreed contract with its supplier company. As the United Kingdom Government believes that businesses can find their own commercial contracts with suppliers of smart meters and that it should not interfere with these commercial arrangements it decided to leave the technical side to the supply companies.

Through customer complaints, it was found out that each individual supplier has addressed the issue in its own way. This means that every time a customer swapped the billing company to obtain a more competitive price for the fuel supply, the new supplier would need to change the smart meter again so that it could provide the new supplier with the data in a format which was compatible with the new supplier's computer system. The Government then passed legislation to standardize the format of the data produced, so that it could be accessed by any provider in the future. This often meant replacing meters that had already been fitted.

Furthermore, it was discovered that a number of the meters were not up to standard, and therefore gave inaccurate readings, as the energy companies had used a supplier who could provide them at the lowest cost with very wide-ranging levels of accuracy.

Eventually the demand for such a large team of engineers will diminish once the majority of property meters are replaced. At this time, it is hoped, the engineers will be retrained to replace natural gas central heating with electrical or solutions that can burn hydrogen, or to work on the need to update the electrical supply network so that it can meet the demands of future and current customers to recharge electrical vehicles and power replacement heating systems.

*Contributor: International Trade Union Confederation*

## EDT-8. COMMUNITY-OWNED AND GENDER-JUST AGROECOLOGICAL SYSTEM IN ZAMBIA

### 8.1 Key characteristics

Sustainable agriculture practices, adoption of solar home systems and tree planting are the main interventions promoted by the Green Living Movement to reduce the vulnerability of rural women farmers to the negative impacts of droughts and floods. These strategies enhance food and nutrition security, help to reduce GHG emissions and reduce women's workload related to gathering wood. The project approach emphasizes working with community structures to ensure community mobilization and sustainability of the interventions, with guidance from the traditional leaders to ensure that practices are adhered to in their culture.

### 8.2 Description of low GHG emission strategies or policies

A climate-resilient model was promoted in rural areas by implementing gender-responsive agroecological systems and solar technologies and, based on their success, the Green Living Movement is advocating for the integration of agroecological strategies in Zambia's national agricultural and climate adaptation policy. With new strategic partnerships of the Government and the private sector for the adoption of solar stoves, the Green Living Movement has helped to prevent deforestation and reduce women's domestic work burden.

### 8.3 Impact of identified strategy or policy

The project empowers women by involving them in decision-making processes on access and



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management of natural resources and thereby safeguarding their right to food, rural employment, a safe environment and climate justice. Twenty-five women leaders have been elected as treasurers in development committees, positions traditionally occupied by men, and 50 households have adopted solar stoves for cooking, lighting their homes and charging small appliances. The project is working with 5,000 rural community members that are within the project areas.

#### 8.4 Identified challenges, opportunities and stakeholder involvement

The identified challenges from this model are the lack of inclusive land rights that prioritize rural women and youth instead of corporate land grabbing, and the policies that do not support agroecology principles.

Opportunities arise from agroecology providing an alternative approach to climate change mitigation and adaptation and supporting the achievement of Zambia's Vision 2030, as well as supporting Zambia in becoming a prosperous middle-income country through greener development pathways in accordance with the 7th National Development Plan.

#### 8.5 Lessons learned

Agroecology and the use of solar technologies provide an alternative approach to climate change mitigation and adaptation. Furthermore, integrating gender and a community approach at all stages of the planning and implementation process is key. This includes (i) increasing women's participation in project committees to ensure decision-making, implementation, monitoring and evaluation; and (ii) ensuring that mitigation/adaptation measures build on the strengths of women and men in a way that their skills, knowledge and capacities are used adequately. In addition, diversified livelihoods and farming activities make rural women less vulnerable to potential disasters and strengthen their food security.

*Contributor: Women Engage for a Common Future*

## EDT-9. ECONOMIC TRANSFORMATION THROUGH WOMEN'S EMPOWERMENT THROUGH SKILL DEVELOPMENT IN INDONESIA

### 9.1 Key characteristics

The YAKKUM (or Christian Foundation for Public Health) Emergency Unit project provides a model of climate-resilience, gender-responsive, community-based action. The project empowers women's groups to identify and implement adaptation strategies, namely aquaponic systems, within their communities. This opens up a range of new economic activities for women, contributing to the diversification of their activities and thus to greater resilience. Women's groups increasingly contribute to local and national policies (disaster risk management and water and food supply). Aquaponics models also improve communities' food sovereignty, climate resilience and resilience against COVID-19.

### 9.2 Description of low GHG emission strategies or policies

The project is a context-based adaptation project that tackles the threats of landslide, droughts and groundwater scarcity caused by massive deforestation. It includes the development of more efficient and sustainable water management systems that reduce the risk of climate-related disasters; rehabilitation of traditional knowledge to ensure the drinking water supply and restore mountain agriculture; replanting of young trees to prevent landslides; and improvement of waste recycling and reduction of waste produced.

### 9.3 Impact of identified strategy or policy

The project empowers women through their participation in the establishment and operation of aquaponics systems, thereby strengthening their involvement in water management and decision-making processes at the local and national level. Sale of both aquaponic and waste recycling

products guarantees gender-just income-generating activities, thus improving women's livelihoods and economic independence. Aquaponics farming benefits local communities by increasing food security with a wider nutritional scope.

#### 9.4 Identified challenges, opportunities and stakeholder involvement

The identified challenges from this model are the lack of recognition of women's skills and leadership and the lack of funding and organizational skills for market creation.

One of the opportunities arising from the project involves aquaponics farming helping the population to adapt to climate change. Furthermore, economic empowerment leads to a rise in female political engagement on a variety of topics, including the fight against gender-based violence or the national response to COVID-19 pandemic. The project also strengthens women's advocacy on local and national policies on climate disasters (e.g. establishment of gender-responsive emergency preparedness programme).

The project has 100 leaders acting as trainers and multipliers of the tested resilience practices, ensuring their durability. The project also results in women's involvement in decision-making on water management technology.

#### 9.5 Lessons learned

- Aquaponics farming provides an opportunity to adapt to climate change, ensures gender-just economic and political participation and increases local food sovereignty.
- Economic and political empowerment of women increases their participation in climate and gender advocacy, leading to improved national laws.
- The participatory approach (identification of community capacities and vulnerability, functioning of aquaponics systems and distribution of the harvest) increases the acceptability and relevance of the strategies developed.

- Trainers ensure the replicability of the associative structure.

*Contributor: Women Engage for a Common Future*

## EDT-10. THE OFFSHORE WIND EVOLUTION OF THE CITY OF ESBJERG IN DENMARK

### 10.1 Key characteristics

Esbjerg Municipality in southern Denmark on the west coast of Jutland, historically an import-export and fishing port, underwent a fundamental transformation during the 1970s with the emergence of the Danish oil and gas sector in the North Sea, playing an instrumental role in servicing the sector over the past three decades. However, with the decrease in revenues from this sector over the years, culminating with the political decision to end Danish oil and gas production by 2050, Esbjerg has been transformed into one of Europe's leading hubs for offshore wind and a vital economic lifeline for the entire municipality.

### 10.2 Description of low GHG emission strategies or policies

The Danish Climate Act of 2019 states that Denmark must reduce its GHG emissions by 70 per cent by 2030 compared with the 1990 level and achieve a climate-neutral society by 2050. Furthermore, in 2020 the Danish Government and a majority of political parties signed the North Sea Agreement, which states that the extraction and production of oil and gas must end by 2050. This Agreement is an important step towards reaching the 70 per cent GHG emission reduction goal by 2030 and climate neutrality by 2050. In 2019, Denmark covered around half of its electrical power consumption with green energy from wind and sun. Denmark has numerous offshore wind farms (with a capacity of 1,699 MW), as well as many offshore wind farm projects in the pipeline, including the world's first energy islands. The energy islands will warrant that Denmark in future can ensure that all Danish households' and companies' power consumption is covered



by green energy, and can also be exported to neighbouring countries contributing to the green transition in Europe. The closure of Danish oil and gas production in 2050 supports Denmark's NDC and long-term strategy, as it will lead to a 9–15 per cent decrease in emissions towards 2050 and the subsequent burning of oil and gas is avoided. In 2020, the government agreed on a sector-specific climate agreement concerning the energy and heavy industry sector.

### 10.3 Impact of identified strategy or policy

Offshore wind today accounts for about 25 per cent of revenue in the Port of Esbjerg, involving more than 250 companies. In addition to having one of the most advanced local supply chains for offshore wind, Esbjerg has a substantial service and hospitality sector (restaurants, hotels, etc.), which indirectly benefits from and offers support to the offshore wind sector.

### 10.4 Identified challenges, opportunities and stakeholder involvement

The current impacts from offshore wind in Esbjerg cannot be attributed to the installation and/or service of a single offshore wind project alone. Rather, it is the result of continuous efforts made by the Port of Esbjerg and the local ecosystem of offshore wind suppliers over the past two decades. The Port of Esbjerg's first encounter with the offshore wind sector came with the first large-scale Danish offshore wind farm, Horns Rev 1, in 2001, followed by Horns Rev 2 and 3, all of which were installed out of the Port of Esbjerg, which also serves as the current operations and maintenance port for all three farms. Encouraged by the first Danish offshore wind commitments and the promise of more to come, the Port of Esbjerg initiated a year-long port expansion project during the installation of Horns Rev 1 in 2001 – a transformation process which took several years. The experience gained from some of the world's first offshore wind farms became instrumental in launching the second fundamental transformation of the Port of Esbjerg into a leading installation and service hub for offshore wind farms in Europe. Between 2001 and 2018, the Port of Esbjerg successfully converted its experience from the first

Danish offshore wind farms into capturing more than 55 per cent of accumulated offshore wind capacity in Europe.

Furthermore, as part of political decision to end oil and gas production by 2050, it was agreed to procure recommendations on how best to invest in the local workforce in order to ensure growth and employment in the offshore wind sector for the whole region. The recommendations were published in May 2021 and, among others, emphasize the need for focusing on the development of green technologies with linkages to different sectors, such as renewable energy and Power-to-X, or PtX, which can absorb workers from the oil and gas industry following their re-education, re-training and/or upskilling. In line with the recommendations, the Government of Denmark is supporting the Port of Esbjerg in its development and its adaptability in becoming a green hub for offshore wind.

### 10.5 Lessons learned

Esbjerg's transformation is an example of the successful adaptability of an oil and gas industry transforming into a green energy metropolis. The transformation also shows the importance of re-education and upskilling current employees in a green and just transition to avoid large numbers of unemployment and economic stagnation. The adaptability of Esbjerg in its transformation can serve as an example to other countries and regions in the world, where green transition entails new requirements for the workforce.

*Contributor: Slovenia and the European Commission on behalf of the European Union and its member states*

## EDT-11. ODENSE PORT OF DENMARK – FROM SHIPYARD TO PIONEERING GREEN INDUSTRIAL PARK

### 11.1 Key characteristics

Odense Steel Shipyard was a Danish shipyard company located in Odense/Lindø, best known for building container ships for its parent group, A.P. Møller–Maersk Group, including Maersk E-class in 2006, which at the time were the biggest container ships in world. The global financial crisis led to Maersk announcing its closure in 2009 with the last new ship delivery in January 2012. After its closure in 2012 (later sold to Odense Municipality), the shipyard has been transformed into an industrial park housing around 100 different companies within the energy, maritime and offshore wind sector (e.g. Fayard, Siemens, Vestas and Bladt Industries). Most companies work with the production, storage, testing and discharge of large components for offshore and heavy industries. The area of more than 1,000,000 m<sup>2</sup>, of which 166,000 m<sup>2</sup> is under cover, combined with the gantry crane and the harbour area, makes it ideal for handling heavy industry associated with the renewable energy sector.

### 11.2 Description of low GHG emission strategies or policies

Following the Danish Climate Act in 2019, which set the goals of a 70 per cent reduction in GHG emissions by 2030 compared with the 1990 level and a climate-neutral society by 2050, Danish Ports, an organization representing Denmark's commercial ports, created a strategy for a green transition for Danish ports. The strategy's vision is linked to the 17 Sustainable Development Goals, with the primary focus on Sustainable Development Goals 7, 9, 12 and 14, as they represent the areas of action where the ports can contribute the most and where they can make an additional effort. In addition, Danish ports are the first in Europe to have committed themselves as an industry to work with concrete goals for a green transition in ports, which include becoming emissions-free by 2030, ensuring a circular economy (the aim is to reuse 90 per cent of waste produced in

Danish ports by 2030) and having a 'green dialogue' with clients to ensure green behaviour.

### 11.3 Impact of identified strategy or policy

Some 3,000 workers were laid off with the shipyard's closure in 2009–2012. However, the retraining of workers was supported by the European Globalisation Adjustment Fund for Displaced Workers. In addition, in the immediate aftermath of the decision to close the shipyard, in 2009 a public–private partnership, Lindø Offshore Renewables Center, was established as a non-profit organization to transform the large industrial site into a test centre and industrial park, housing a number of companies working within that sphere, for the wind and renewable energy industry. Today, the objective of the Lindø Offshore Renewables Center is to promote innovation in the offshore renewable energy sector, contribute to the lowering of the levelized cost of energy and make renewable energy viable offshore. Around 2,500 people are employed across the 100 companies operating on the Lindø site, with an additional 3,000 employed in local industry and hospitality servicing the site.

### 11.4 Identified challenges, opportunities and stakeholder involvement

It was a devastating blow for the community in Odense/Lindø when the closure of the shipyard was decided. Many said that the closure of the shipyard was the end of heavy industry in Denmark and thousands of workers would lose their jobs. However, the Lindø Offshore Renewables Center opened up opportunities for employment for the retrained workforce in the wind and renewable energy industry.

In 2014, the shipyard was sold to Odense Port (owned by Odense Municipality), which continued the development of the shipyard. Finding a buyer who had the same visions and interests as the company was important for A.P. Møller–Mærsk in order to create life in the area and employment. According to A.P. Møller–Maersk Chief Executive Officer Lars-Erik Brenøe, the transformation of Odense Port became a success because many different stakeholders came together.

## 11.5 Lessons learned

Lindø industry park/Odense Port is an example of successful transformation from an international shipyard to a thriving hub in the energy, offshore wind and maritime sectors. The transformation of Odense Port in just seven years shows the importance of public–private partnerships as well as re-education and upskilling of workers in a green and just transition to avoid a community losing its livelihood and ensure that it becomes a part of the green transition.

*Contributor: Slovenia and the European Commission on behalf of the European Union and its member states*

## EDT-12. NORTHVOLT GREEN BATTERY FACTORY IN SWEDEN

### 12.1 Key characteristics

Around the Northvolt green battery factory in the small northern town of Skellefteå, competence and infrastructure relating to battery cells, sustainability and modern industrialization are emerging. Northvolt's presence in Skellefteå is also attracting its subcontractors to move some of their business there. A long-term result will be 10,000 new jobs, including subcontractors, and the development of its technology industry. Skellefteå was found to have the best preconditions in Sweden for sustainable and cheap energy production as well as a functioning infrastructure with a harbour and railway. The town also had the capacity to increase its building of houses, schools and other infrastructure.

### 12.2 Description of low GHG emission strategies or policies

Northvolt's mission is to build the greenest battery in the world with a minimal carbon footprint and the highest ambitions for recycling to enable the European transition to renewable energy. Manufacturing with clean energy, the mission is to deliver batteries with an 80 per cent lower carbon footprint compared with those made using coal energy. Northvolt has ambitious plans for building

green lithium-ion batteries to enable the European transition to a clean, carbon-neutral energy future. The batteries will be used in different vehicles and in applications to store energy.

### 12.3 Impact of identified strategy or policy

Northvolt intends to set a new benchmark for sustainable manufacturing, not only of batteries but also for manufacturing at large.

### 12.4 Identified challenges, opportunities and stakeholder involvement

There are opportunities with respect to the 10,000 new jobs and the new methods involved in building green lithium-ion batteries.

Unemployment in Skellefteå is low, hence attracting people from other towns, regions and even countries is important given the competences needed.

A number of educational initiatives are being created to support the establishment of the battery production and competence provisions; for example, adult education in the locality and initiatives under the RISE Research Institutes of Sweden, European Institute of Innovation and Technology and Luleå University of Technology.

### 12.5 Lessons learned

Northvolt is a great example of how the transition towards a fossil fuel free society can simultaneously create economic growth and job opportunities. The rapid development of new industries such as Northvolt reshapes the Swedish pattern of energy usage. There will therefore need to be a regulatory framework and infrastructure in place, as well as the engagement of relevant actors to enable this development.

*Contributor: Slovenia and the European Commission on behalf of the European Union and its member states*

## EDT-13. SUSTAINABLE LOW EMISSIONS ISLAND MOBILITY PROJECT OF ANTIGUA AND BARBUDA

### 13.1 Key characteristics

The project promotes green transport through promotion of electric mobility, capacity-building through recycling training, emergency response training, an enabling framework for the transition to low-emission development through an electric vehicles pilot and a funding window (electric taxis).

### 13.2 Description of low GHG emission strategies or policies

The low GHG emission strategy is part of the NDC of Antigua and Barbuda, with its goal of 100 per cent renewable energy by 2030 and 100 per cent electric vehicles by 2040.

### 13.3 Impact of identified strategy or policy

The project is still in its infancy and is awaiting results.

### 13.4 Identified challenges, opportunities and stakeholder involvement

The identified challenges from the project include the following: (i) there is presently only one car dealership supplying electric vehicles; (ii) banks and insurance companies charge higher rates for electric vehicles; and (iii) there is a limited availability of charging stations.

The project created the opportunity for dealerships to train staff on maintenance services for electric vehicles and to be part of the transition by beginning to lease electric vehicles. It has also created business opportunities for the West Indies Oil Company, supermarkets, plazas, bars and workplaces to establish charging stations.

Bus and taxi associations have been engaged since the beginning of project development,





with continued stakeholder engagement, and are directly involved in the project to test electric taxis and buses. Car dealerships are also involved in the project and are expected to be included in future consultations with a view to their eventually supplying electric vehicles. Students are being trained at technical schools on the mechanics of electric vehicles.

### 13.5 Lessons learned

- Insurance companies must be included in project development plans.
- The project scope needs to be expanded from taxi and buses to rental car companies because opportunities exist there as well.

*Contributor: The Government of Antigua and Barbuda*

## EDT-14. ACCELERATED EXAMINATION PROGRAMMES FOR PATENTS AVAILABLE IN MULTIPLE COUNTRIES

### 14.1 Key characteristics

Accelerated examination programmes (AEPs) for green technology patent applications seek to expedite the processing of such applications. They are used by various patent offices worldwide as the sense of urgency to address climate change impacts and environment-related problems increases, and in the publication and dissemination of green technology knowledge worldwide. The accelerated process incentivizes investment in such technology because patent applications and approvals are often essential criteria to secure investment and approval for technology-related projects within larger organizations (e.g. larger companies and/or government-related entities), as well as in funding for start-ups and other small and





medium-sized enterprises. AEPs help to support a just and equitable distribution of economic opportunities as patents foster growth and commercial opportunities for small and medium-sized enterprises to compete with larger companies and organizations. A clear connection is evident between new technologies and the creation and expansion of job opportunities in new markets for new products, services and energy sources.

#### 14.2 Description of low GHG emission strategies or policies

AEPs and other related green patent programmes considered by the Standing Committee on Intellectual Property and Green Technologies (SCGT) include those identified in various countries/ jurisdictions, namely, Australia, Brazil, Canada, China, India, Israel, Japan, the Republic of Korea, Taiwan Province of China, the United Kingdom and the United States. Additionally, as part of the Cooperative Patent Classification, European Union countries have access to the European Patent Office, which has introduced a new patent search class that covers selected technologies that control, reduce or prevent anthropogenic GHG emissions and technologies that enable adaptation to the adverse effects of climate change.

Although most national patent office AEPs apply to a broader description of green technology and/or inventions that enhance environmental sustainability or mitigate environmental degradation, a number of national AEPs specifically mention the reduction of GHG or carbon emissions among the criteria that qualify inventions as green and thus able to benefit from the programme. Similarly, qualifying criteria under most countries' AEPs do not limit qualifying inventions to those directly related to climate change impacts or the goal to lower GHG emissions (e.g. wastewater treatment technology and other solutions addressing forms of pollution), and a substantial number of green technology inventions qualifying for AEP status either directly lower GHG emissions or provide alternative sources of energy or other inputs or measures to achieve such a strategy.

#### 14.3 Impact of identified strategy or policy

AEPs and similar green technology policy instruments have the ability to distribute economic opportunities to small and medium-sized enterprises and can also be adapted to target other types of economic diversification. As many of the negative consequences of climate change and other environmental degradation are disproportionately borne by lower income groups and geographic areas, this inequitable distribution of climate change impacts (e.g. flooding in low-income areas) can be mitigated and in some cases reversed by an appropriate allocation of resources to developing and deploying green technology solutions. There is a potential for returns on investment in technology and related intellectual property (for private and public entities alike) as a key stimulant to the social and economic benefits. Companies and investors rely on patents and intellectual property to protect their innovations against unwanted misappropriation, thus protecting returns on investment and therefore their incentives to develop new technologies. The resulting economic activity has positive impacts on job creation.

The tendency for new patented technologies is to enable the creation of new markets, and therefore jobs, that did not exist prior to the new products and services related to such technology. Innovation (and often related intellectual property) can be essential to securing investment in such economic diversification. Moreover, innovation is clearly an essential step in the value chain for such new products, services and markets – including markets for related jobs.

#### 14.4 Identified challenges, opportunities and stakeholder involvement

The SCGT feels that a near-term, or acute, multi-pronged approach – such as that used in COVID-19 pandemic context – can inform current and future efforts to address the present and long-term urgency of the climate crisis. Similar accelerated research and development efforts have been rapidly implemented in numerous countries in the light of the immediate-term consequences of the pandemic. For example, in some countries (e.g. the United States)

accelerated patent examination policies that had already applied to green technology were quickly modified to afford inventors of technologies addressing the problems of the pandemic access to more streamlined patent examinations and approvals while waiving certain filing and related fees that would otherwise apply.

Technology innovation that reduces dependency on carbon-emitting technologies is necessary to protect human health and the environment. Both AEPs for key patents in this area and a variety of other measures to address climate change are necessary. In order to streamline the development of these activities, many jurisdictions have given considerable thought and attention to definitions of green technology, not only in the context of AEPs or patent policy, but also with regard to other economic, environmental, financial and social policies more generally. However, this has led to several and varied definitions of what is meant by, or what should fall within the definition of, green technologies.

The SCGT encourages any single jurisdiction to identify an approach and take steps to deal with urgent environmental issues that occur within its jurisdiction. However, coordination and awareness among multiple countries are encouraged to reduce the risk that programmes of one jurisdiction limit or reduce the effectiveness of programmes in other jurisdictions and thus to prevent having regional and global problems effectively unaddressed. The SCGT proposes developing the following preliminary definition of green technology for future use in multiple jurisdictions:

Green technologies (also known as green tech and cleantech) are technologies that provide or are intended to provide an environmental benefit, including without limitation by:

- Contributing to restoration or maintenance of the environment, preventing, reducing or repairing damage caused by pollution, including damage impacting food security;
- Contributing to the development of renewable or more efficient energy resources;
- Reducing or mitigating GHG emissions and/or climate change.

Another issue to be addressed is the likelihood that the future development of smart grids, artificial intelligence, big data, 5G and other new technologies, will be instrumental in helping to develop relevant green technologies – and vice versa.

Technology transfer in green technology could be affected by ongoing and more general developments in global licensing, standard setting (wherein licences to some patents can be declared essential to users wishing to apply the standard, referred to as standard essential patents) and the continued growth of patent pooling.

Green technology may eventually be seen as similar to information and communications technology and related products (e.g. smartphones), wherein standard essential patents, pooling and global licensing practices may need to be developed because of the large markets involved and the relevant technological issues concerned, such as interoperability and compatibility among components of the smart electrical grids and services, or smart transportation systems.

Additionally, the SCGT has identified several other complementary approaches that may be used in combination with AEPs to enhance green technology innovation, such as AEPs' use of fee reductions, as well as potential rebates for other fees incurred as additional incentives when patenting green technology, as well as complementarity between AEPs and other targeted incentive programmes for green start-ups, such as tax credits and grants.

#### 14.5 Lessons learned

While some countries' AEPs have shown promise on a stand-alone basis, greater international consistency between AEPs and other green technology related policies is potentially needed to facilitate easier guidance, documentation and compliance for patent filers who use other green policy instruments. There is a need to observe and better understand wider interactions between intellectual property related policies like AEPs and other relevant policy areas, such as those that may not directly relate to investments in green intellectual property and technology development, so as to enhance the potential success of such instruments, and not only promote the patenting

of green inventions. Notable among other such policy areas would be those focused on:

- Downstream environmental regulations that can increase demand for use of green technology and intellectual property;
- Tax- and fee-related incentives for developers of early-stage technology and intellectual property generally;
- Policies that promote or require greener manufacturing and production processes, as well as energy and product consumption habits, for firms and individuals respectively.

A multi-pronged approach is prudent public policy, given that benefits of each promising policy instrument (e.g. AEPs, research and development tax incentives) may be indirect and less clearly measurable in the light of the multitude of factors at play. Merits of incentivizing green patents and innovation are compelling and increasing in importance, given the growth and frequency of climate change related impacts in order to combat climate change and mitigate the public health risks and social costs it imposes.

*Contributor: AIPPI Standing Committee on IP and Green Technologies*

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## **EDT-15. GILBERT AGRICULTURAL AND RURAL DEVELOPMENT CENTER – GRID-INTERACTIVE SOLAR PHOTOVOLTAIC SYSTEMS FOR SCHOOLS AND CLINICS IN ANTIGUA AND BARBUDA**

### **15.1 Key characteristics**

The project involves photovoltaic systems installation training, entrepreneurship, reducing CO<sub>2</sub> emissions and electricity usage and increasing awareness of environmental management and renewable energy.

### **15.2 Description of low GHG emission strategies or policies**

The low GHG emission strategy is part of the NDC of Antigua and Barbuda.

### **15.3 Impact of identified strategy or policy**

The project has allowed 18 men and 2 women to develop entrepreneurship skills to enter private practice and transfer knowledge to increase capacity. It has also provided individuals with training and skills in photovoltaic systems installation.

### **15.4 Identified challenges, opportunities and stakeholder involvement**

The challenge faced by the project involved the restrictions during COVID-19 pandemic, which meant that face-to-face training sessions were not allowed. This resulted in the suspension of courses.

The project provides opportunities to learn a new skill that can be transferred into the workforce.

The Gilbert Agricultural and Rural Development Center has a strong focus on youth and women being provided with opportunities to learn skills. An annual exhibition is also organized to showcase the work of students.

### **15.5 Lessons learned**

The project increases awareness of environmental management and renewable energy.

*Contributor: The Government of Antigua and Barbuda*

## CONCLUSIONS

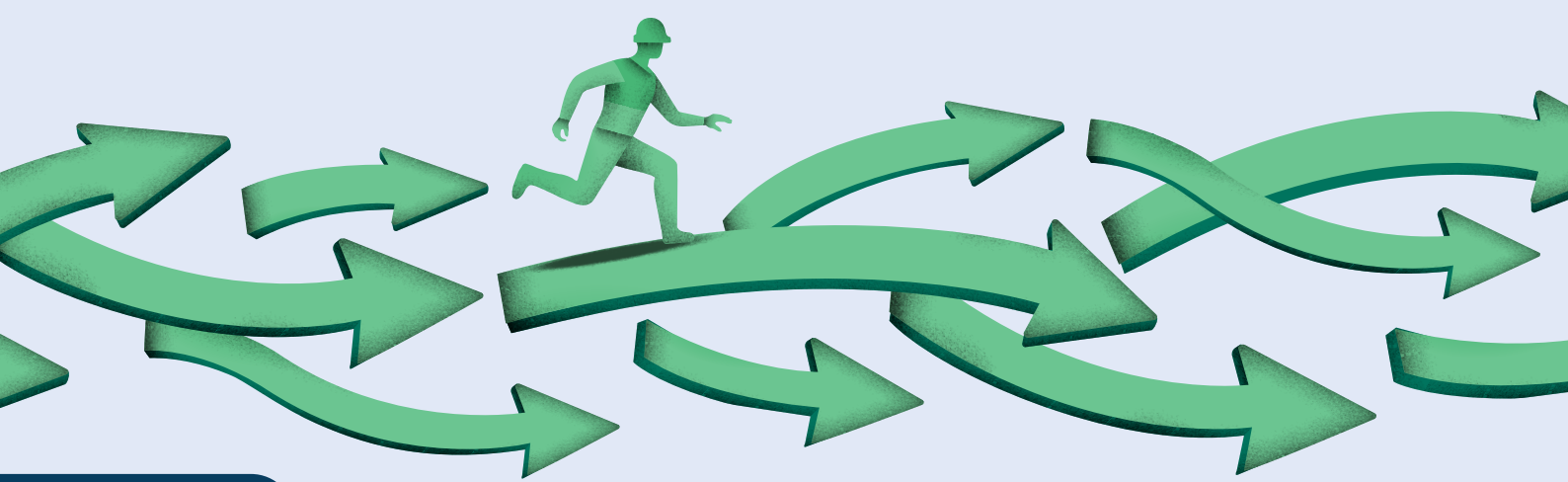
This compilation of concrete examples presented a range of measures, programmes and projects which were implemented with the aim of reducing GHG emissions or managing the impacts of climate change. Most of the examples relate to mitigation in the energy sector and adaptation in the agriculture sector. The compilation also summarizes the opportunities and challenges in the implementation of these policies that have been highlighted in the examples provided.

The compiled concrete examples for both strategies, that is, just transition, and economic diversification and transformation, resulted in new economic activities for specific communities or women's empowerment.

Based on this compilation, the following conclusions can be made:

- The examples emphasize the importance of just transition policies that are comprehensive, inclusive and based on social dialogue and stakeholder engagement with emphasis on institutional coordination, capacity-building to enhance expertise and skills of relevant stakeholders involved in the development and implementation of both just transition of the workforce and economic diversification and transformation measures;
- Different countries take different just transition and economic diversification paths, and these pathways should be tailored to the national and/or local context. As countries develop, multiple diversification paths become available.





## 6

# REFERENCES

In response to the call from the KCI, various experts, practitioners, organizations and Parties submitted input on country-driven strategies and best practices on just transition of the workforce and creation of decent work and quality jobs and on economic diversification and transformation,

focusing on challenges and opportunities in relation to the implementation of low GHG emission policies and strategies towards the achievement of sustainable development. The submissions are available on the UNFCCC website.<sup>29</sup>

<sup>29</sup> [https://unfccc.int/event/KCI5\\_2](https://unfccc.int/event/KCI5_2).





## United Nations Climate Change Katowice Committee on Impacts

**Katowice Committee of Experts on the Impacts of the Implementation of Response Measures** is a constituted body which was established in Katowice December 2018 to support the work programme of the forum on the impact of the implementation of response measures.

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