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Just Transition

A Report for the OECD



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Foreword

The Imperative of a Just Transition

Sharan Burrow, General Secretary, ITUC

”Taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities” Paris Agreement (2015)

Ambitious action on climate that keeps the warming of the planet as far below 2 degrees as possible is an imperative if we are to ensure a future for humanity.

There can be no doubt that a zero-carbon world is possible, but we have choices about how we manage the transition. A just transition ensures environmental sustainability as well as decent work, social inclusion and poverty eradication. Indeed, this is what the Paris Agreement requires: National plans on climate change that include just transition measures with a centrality of decent work and quality jobs.

The sectoral and economic transformation we face is on a scale and within a time frame faster than any in human history. There is a real potential for stranded workers and stranded communities. Transparent planning that includes just transition measures will prevent fear, opposition and inter-community and generational conflict. People need to see a future that allows them to understand that, notwithstanding the threats, there is both security and opportunity.

There are reasons for optimism. In the EU, renewable energy is on track to be 50% of energy supply by 2030. Globally, the renewable energy sector employed 8.1 million workers in 2015, with an additional 1.3 million workers employed in large hydropower.

Heavy industry typically has had few good technological solutions for cutting emissions. Now, Dalmia, an Indian cement company, is producing a new blended cement with 50% less emissions than the global industry average.

Nonetheless, the just transition will not happen by itself. It requires plans and policies. Workers and communities dependent on fossil fuels will not find an alternative sources of income and revenue overnight. This is why transformation is not only about phasing out polluting sectors, it is also about new jobs, new industries, new skills, new investment and the opportunity to create a more equal and resilient economy.

Social dialogue is the key. With social dialogue, government, business, trade unions and civil society groups can collaborate in the national, industry and community planning and policies that are necessary for a just transition to zero emissions.

Social dialogue will bring the policy coherence we need to ensure that climate action also means job creation and community renewal. It allows us to bring together industrial strategy, innovation, deployment of clean technologies and investment in green infrastructure, along with the measures we need to smooth out the transition: Social protection, skills training, redeployment, labor market policies and community development and renewal.

At its heart just transition requires us to leave no one behind.

For coal and oil communities, community renewal with investment in new energy, new industries and new jobs is vital.

For cities, investment in low and zero emissions transport, clean energy and circular economy are the way forward.

For industry, switching to renewable energy must be supplemented with clean industrial processes.

For workers, collective bargaining ensures that essential support is there for reskilling and redeployment.

And, for governments and their leaders, just transition offers the opportunity to solve three key challenges at once: Climate change, growing inequality and social inclusion.

Just Transition

Key Concepts and Principles

“A just transition for all towards an environmentally sustainable economy ... needs to be well managed and contribute to the goals of decent work for all, social inclusion and the eradication of poverty.” *Guidelines for a just transition towards environmentally sustainable economies and societies for all* International Labor Organization (2015)

A Short History of Just Transition. In the 1990s, North American unions began developing the concept of just transition. Initially, trade unionists understood just transition as a program of support for workers who lost their jobs due to environmental protection policies. This is still how many outside the union movement see just transition – as focused only on softening job losses in sectors such as coal.

“Job losses are not an automatic consequence of climate policies, but the consequence of a lack of investment, social policies and anticipation.” Rosenberg (2010)

Over time, however, just transition came to mean something much broader for unions and their partners: A deliberate effort to plan for and invest in a transition to environmentally and socially sustainable jobs, sectors and economies. As understanding of the climate crisis grew, unions began to tie just transition specifically to action on climate change. They also began campaigning to insert just transition into international regimes, including UNFCCC negotiations.

“The ITUC supports the moral imperative to both preserve an inhabitable planet and to profit from the jobs that climate action can deliver. We demand a commitment to a ‘just transition’ based on social dialogue from the workplace to the national level, with green skills and social protection guaranteed. To that end we will work to see an ILO standard to guide government and employer action. Equally, we will work to ensure that our own workers’ capital is increasingly invested in the real economy, including in both industrial transformation and new green jobs.” International Trade Union Confederation (2014)

In 2015, the UN agreed Sustainable Development Goals that collectively represent the agenda of just transition, particularly the goals of decent work for all (Goal 8), clean energy for all (Goal 7), climate protection (Goal 13) and poverty eradication (Goal 1). Again, unions had campaigned for these goals, in particular Goal 8.

Thereafter in 2015, the UN’s International Labor

Organization produced a definitive model for just transition: *Guidelines for a just transition towards environmentally sustainable economies and societies for all*. The Guidelines are the result of a tripartite multilateral negotiation between unions, employers’ organizations and governments.

In the negotiations leading up to the Paris Agreement, the global climate deal negotiated in 2015, unions and their allies worked hard to get strong text on just transition in the Agreement. In the end the Parties agreed to include the text in the Agreement’s preamble:

“Taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities ...” [Paris Agreement \(2015\)](#).

“The only sustainable Energy Transition is a just transition. Global trade unions have successfully campaigned to have a commitment to a just transition inserted into the preamble of the Paris Accord. What happens next at the national level will determine if this term has any meaning.” Tony Maher, President, CFMEU Mining and Energy Union, Australia.

Key Concepts and Principles. For most in the trade union movement, business and government, the ILO Guidelines provide the accepted definition of a just transition.

The ILO’s vision of just transition is broad and primarily positive. It is a bridge from where we are today to a future where all jobs are green and decent, poverty is eradicated, and communities are thriving and resilient. More precisely, it is a systemic and whole of economy approach to sustainability. It includes both measures to reduce the impact of job losses and industry phase-out on workers and communities, and measures to produce new, green and decent jobs, sectors and

healthy communities. It aims to address environmental, social and economic issues together.

The process, its participants and its goals are key. Workers, employers and government are active and collaborative partners in developing plans for transition and transformation that simultaneously consider environment, social justice and poverty alleviation. Other actors, such as community organizations, investors and civil society, may participate, but they are not always partners in the formal process.

“Managed well, transitions to environmentally and socially sustainable economies can become a strong driver of job creation, job upgrading, social justice and poverty eradication. Greening all enterprises and jobs by introducing more energy and resource efficient practices, avoiding pollution and managing natural resources sustainably leads to innovation, enhances resilience and generates savings which drive new investment and employment.” International Labor Organization (2015)

The ILO Guidelines rest on a set of concepts known as the decent work agenda: Rights at work, social dialogue, social protection and employment. Decent work “involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men.”

Rights at work include the right to freedom of association and the effective recognition of the right to collective bargaining. These are essential for social

dialogue and just transition. Without the ability to form unions or workers’ associations, it is virtually impossible for workers to participate as individuals in developing plans for transition.

Social dialogue is the core of just transition and is either a bipartite process between unions and employers, or a tripartite process that includes governments. It exists in all countries where unions exist and at all scales, from the workplace to international negotiations. It includes formal processes of negotiation, consultation and information exchange and covers both economic and social policies and agreements.

Social protection “involves access to health care and income security, particularly in cases of old age, unemployment, sickness, invalidity, work injury, maternity or loss of a main income earner.” It is particularly important for just transition, as it allows workers and their families to meet basic needs during periods of unemployment, training or education – all features of industrial transition. The more elaborated and strong the social protection system is, the more workers will feel empowered to move into new jobs and sectors.

ITUC Demands for a just transition.

A just transition will:

- * respect the contribution that workers in fossil fuel industries have made to today’s prosperity and provide income support, retraining, redeployment and secure pensions for older workers;
- * recognise that investing in community renewal is critical to gain the hope and trust of affected regions and townships whether energy transition, industrial transformation or disaster;
- * support innovation and shared technology to enable energy and manufacturing companies to make the transition with 2020 and 2030 targets for emission reductions and for jobs;
- * involve workers in the sectoral plans for the development of clean mega cities
- * formalise the jobs in rescue, rebuilding and resilience associated with climate disasters;
- * ensure investment in the jobs and decent work vital to both adaptation and mitigation;
- * guarantee essential social protection and human rights ;
- * be backed up by a just transition fund in every nation, and

* be based on social dialogue with all relevant parties, collective bargaining with workers and their unions and the monitoring of agreements which are public and legally enforceable.

“Just transition plans are a first step to generate the confidence that people need for backing structural change. These plans need to be constructed through social dialogue with relevant stakeholders at the national level, at municipal level and with workers and their unions at the industry and enterprise level.” Sharan Burrow, General Secretary ITUC (2013)

Stakeholders and Roles in the Just Transition

Examples

“Sustainable development is only possible with the active engagement of the world of work. Governments, employers and workers are not passive bystanders, but rather agents of change, who are able to develop new ways of working that safeguard the environment for present and future generations, eradi-

cate poverty and promote social justice by fostering sustainable enterprises and creating decent work for all.” International Labor Organization (2015)

The Roles of Social Partners – Unions and Employers.

Workers and employers (the “social partners”) are the core partners in social dialogue for just transition. Unions, union federations or workers’ organizations represent workers and their interests at different levels, while businesses represent themselves in work-

workplace negotiations and are represented by employers' organizations in regional, sectoral, national or multilateral social dialogue.

The role of the social partners in just transition is different depending on the scale and level:

- For enterprises, to agree concrete, time-bound and enterprise-wide plans for emissions cuts while creating decent jobs, reskilling and retaining workers, ensuring a social floor for workers who are retrenched and investing in communities.
- For sectors, to promote strong climate, labor and just transition targets, policies and supportive lobbying positions and to invest in pre-competitive sectoral collaboration on development, commercialization and dissemination of green technology and know how
- At regional and national levels, to play an active role in the formulation and implementation of strong climate, just transition, labor market and social protection policies, and the public investments in green and decent jobs, training and education, sustainable infrastructure and community renewal to back them up.

EXAMPLE – Just transition at the enterprise level

The just transition for Enel's coal-fired power stations in Italy

Enel is an Italian multinational in the electricity sector, operating in more than 30 countries and employing nearly 62 500 people. It is publicly traded, with roughly 25% ownership by the Italian state.

The Enel group is deeply committed to the renewable energies sector and to researching and developing new environmentally friendly technologies. In 2015, approximately half of the electricity the Enel Group produced was free of carbon dioxide emissions, making it one of the world's major producers of clean energy. Further, Enel has committed to decarbonize its energy mix by 2050. (Enel 2016).

As part of its decarbonization plan, Enel will close 13 GW of thermal power stations in Italy, along with expanding renewable energy, demand management and other measures. It has entered into social di-

alogue and a framework just transition agreement with its Italian union partners. The framework covers retention, redeployment, reskilling and early retirement for elderly workers. It is a good example of a just transition agreement for this sector, including provisions for:

- A recruitment plan using apprenticeship to ensure the knowledge transfer of competences elderly-young workers;
- Encouraging mobility and training for the optimization of internal resources;
- Dedicated training to ensure qualification and employability of resources both during the "recruitment phase" and in "professional mobility" as well as for the creation of new skills for the development of new business." (Enel, 2016).

The Role of Government. Governments participate in just transition processes as convenors of social dialogue; regulators who decide the rules of industrial, climate, energy and labor market policy; investors; owners of state enterprises and infrastructure; and employers of public sector workers.

Because governments have a whole of economy perspective, as well as many of the tools of just transition including fiscal measures, education, R&D, infrastructure and social protection, they are critical participants in just transition processes. They have dual roles of driving climate action and ensuring decent work, social protection and social inclusion.

EXAMPLE: Just transition at the national level

Canada's commitment to phaseout coal-fired power and ensure a successful transition for workers

In 2016, the government of Canada announced plans to phase out the use of coal-fired electricity by 2030. 90% of Canada's electricity will be non-emitting by that time. Coal-fired power emits 8% of Canada's total emissions and almost three-quarters of the emissions from its power sector.

To support the transition, the government intends to use an additional 21.9 BN CAD over 11 years for green infrastructure and commercially viable clean energy, including funds flowing through the Canadian Infrastructure Bank.

The government also committed to working with provincial governments and organized labor to “ensure workers affected by the accelerated phase-out of traditional coal power are involved in a successful transition to the low-carbon economy of the future.” (Government of Canada, 2016). In other words, it has agreed to convene a just transition process.

Canadian labor organizations had advocated for the government commitment to just transition, which will include establishing a Just Transition Task Force with participation by labor:

”Canadian unions have won a commitment from the Government of Canada to establish a Just Transition Task Force as part of Canada's national strategy on climate change, in order to ensure that workers and their communities are protected during the phase-out of coal-fired power plants. We expect that the process of designing and implementing a Just Transition program for coal will provide a template for guaranteeing that all workers affected by climate change have access to income protection, training and re-employment opportunities, and regional economic development initiatives to secure a future for hard-hit communities.” Hassan Yousef, President, Canadian Labour Congress (2017).

The Role of Communities. In just transition discussions, communities and community organizations have emerged as critical participants in social dialogue. Communities depend on workers and employers for

tax revenue and economic activity; workers and their families live in communities, benefit from public services, and build their lives there; and companies benefit from their location in communities, their access to labor there, their use of infrastructure, and often the extraction of community resources.

In just transition discussions, communities and community organizations have emerged as critical participants in social dialogue. Communities depend on workers and employers for tax revenue and economic activity; workers and their families live in communities, benefit from public services, and build their lives there; and companies benefit from their location in communities, their access to labor there, their use of infrastructure, and often the extraction of community resources.

An increased focus on the role of communities in just transition is critical, for two reasons. First, from previous industrial transitions we know that workers and their families need new jobs where they live, not new jobs in a different part of the country that they cannot access. Social ties, home ownership, aging parents, or poverty can make it impossible for people to move when the local employer shuts down. Second, deindustrialization can tear apart the economic and social fabric of communities, starting a vicious spiral where a declining tax and revenue base means less funding for public services, more employers and workers moving away, and fewer and fewer jobs left.

Reversing this cycle and revitalizing communities takes plans and sustained effort. It also takes investment in infrastructure, public services, schools and training facilities and hospitals – in short, all of the things that draw employers and families back to the region. Industrial and research clusters are good ways to support regional economic diversity; others include seed grants, municipal bonds, and revolving loan funds for entrepreneurs.

EXAMPLE – Just transition at the community level

Schweinfurt – perspectives for social and ecological industrial policy in a car-producing region

In Schweinfurt, Germany the Bavarian metalworkers' union (IG Metall) and Friends of the Earth in Bavaria (BUND) organised a project on how to create a social and ecological industrial policy in the area around Schweinfurt. Schweinfurt has 50,000 inhabitants and a strong automotive industry which means that structural changes as a consequence of decarbonisation will have an effect on the lives and working conditions in Schweinfurt and the region around it.

Considering the consequences of climate change, “peak oil” and demographic trends on employment as well as private lives, the project wants to identify the necessary activities for a social and ecological industrial transition in Bavaria and Schweinfurt. In other words: How to achieve a just transition for Schweinfurt?

During the project, the project partners will deal with challenges like increasing energy efficiency and reparability of products, as well as the energy and resource efficiency of in-plant processes. A strong focus is the development of new regional mobility concepts and the production of climate-friendly mobility options. At the same time, the goal of improved life quality and environment is held equally important. The organisers want to give concrete answers to questions like: How does the regional industry have to develop concerning products, processes and qualification of employees? How can new jobs be created at the same time? How can the interests of employees and the environment be brought in line? How to organise a regional mobility concept for workers and employees that grants fast and uncomplicated access for all people in the region? How to put the interests of the people first during this process?

However, it is obvious that many answers do not exist: “We do not have a master plan yet. But based on the needs and interests of the people in Schweinfurt, we want to develop new concepts and ideas which we will implement afterwards.” Jürgen Wechsler from IG Metall Bavaria.

In 2016, IG Metall organised the “mobility days” in Schweinfurt with the local utility company, the works council of local automotive companies as well as the management side of the companies. The goal of the mobility days is to introduce and encourage employees to the possibilities of public transport and to develop together the possibilities of improved public transport. The first mobility day was organised on the premises of Schaeffler Technologies AG & Co. KG, a local automotive producer. On the premises of Schaeffler, around 800 employees are working on flexible hours, which requires suitable mobility solutions.

The Role of Investors

“The greening of economies in the context of sustainable development and poverty eradication will require a country-specific mix of macroeconomic, industrial, sectoral and labour policies that create an enabling environment for sustainable enterprises to prosper and create decent work opportunities by mobilizing and directing public and private investment towards environmentally sustainable activities.” (International Labor Organization, 2015)

The role of investors and investment in fighting climate change is increasingly well understood, with new initiatives focusing on disclosure of company climate plans and risks, portfolio decarbonization, divestment and to a lesser extent clean investment and innovation. Switching investments to sustainable, low and zero emissions infrastructure is particularly critical.

Just transition however is missing from climate investment discussions. As yet, there is no approach that measures investments both against emissions and the generation of new, decent jobs and economic diversification for vulnerable communities. When investors demand that companies have a plan for their emissions to be compatible with a well below 2C world, they should also demand that this plan include the just transition for the company's workforce and communities where the company operates.

Existing standards in the OECD and G20 do not cover this gap. Taken together, the OECD/G20 Principles on Long Term Investment, the OECD Corporate Governance Principles, the OECD Guidelines for Multinational Enterprises, and the G20 Financial Stability Board's Recommendations of the Task Force on Climate-Related Disclosures, provide a robust framework for corporate and investment governance and disclosure, but do not address the need for

companies and investors to engage in social dialogue or make concrete plans for the social aspects of a low carbon transition.

Developing a just transition standard for investment would be straightforward. According to the ILO, green investment should “generate decent jobs all along the supply chain, in dynamic, high value added sectors which stimulate the upgrading of jobs and skills as well as job creation and improved productivity in more labour-intensive industries that offer employment opportunities on a wide scale.” (International Labor Organization, 2015). Public investment in particular should both “develop infrastructure with the lowest possible adverse environmental impact, to rehabilitate and conserve natural resources and ... prioritize resilience in order to reduce the risk of displacement of people and enterprises.” (International Labor Organization, 2015).

Unions, via the Committee on Workers’ Capital, have developed Shareholder Resolution Principles that require company plans for cutting emissions consistent with the Paris Agreement along with a commitment to social dialogue:

EXAMPLE – Integrating just transition in investor decision-making

Shareholder Resolution Principles

“ESG is an established commitment for both corporate responsibility and sustainability. To date too few corporations respect human rights and workers’ rights or accept and implement the mandate of ‘due diligence’ prescribed by the UN Guiding Principles on Business and Human Rights.

With the decisions of global leaders in 2015 to support the Sustainable Development Goals (Agenda 2030) and the Paris Climate agreement the ESG principles must be seen as a bottom line for investment futures.

The imperative to shift to renewable energy is an enormous challenge. The most secure transition for jobs and for stable economies is that our large fuel and energy companies plan for diversification in the energy mix. This should enable them to chart a sustainable pathway and in the process to use their resources and invest in skills and redeployment of workers into renewable energy and related supply chains. This, in turn, would secure the confidence of both workers and their pension funds.

Following discussion with a variety of unions regarding the responsibilities of pension funds concerning jobs, human rights and workers’ rights, environmental imperatives and security of investment (ESG) we recommend the following principles for parties structuring shareholder resolutions.

As asset owners, workers want to see the following principles respected by both pension funds and corporations invested in;

- A commitment to disclose where pension fund money is invested.
- Corporate plans for the consequences of climate change consistent with the Paris Climate agreement along with company commitments to social dialogue to ensure a just transition
- Transparent corporate procedures for due diligence and human rights
- Corporate responsibility for environmental risks to communities

Depending on the commercial activities of the corporation and its supply chains some or all of these principles will be relevant.” Committee on Workers’ Capital, Shareholder Resolution Principles (2015).

“Climate policies can achieve Energy Transition with or without Justice. That may suit people who are solely focused on the emissions outcome. It may also suit some business leaders who like to remind us of the terrible consequences of stranded assets and investment uncertainty. It certainly doesn’t suit the thousands of workers and their communities who face certain unemployment, the destruction of communities and generations of social crisis. The real problem will be stranded workers and stranded communities.” Tony Maher, President, CFMEU Mining and Energy Union, Australia.

Case Studies and Conclusions

Action on climate change presents a paradox: Although solutions exist and their deployment is increasing exponentially, there are few sectors and economies that have completed a transition to low emissions. Equally, there are few examples of just transition in the context of climate action. There are many smaller scale efforts by unions, employers and governments to develop just transition plans, but relatively few transitions that are complete. This makes it difficult to measure long-term and systemic impacts on employment, company performance, and the economies and social fabric of vulnerable communities.

With this data gap in mind, we decided to use case studies as the basis for analysis. One criterion for choosing case studies was their ability to illustrate key policy issues for decision-makers.

In assessing the case studies, we balanced quantitative criteria, such as financial commitments to the transition, job creation, poverty eradication, and compliance with the key components of the ILO Guidelines for a Just Transition, with a more qualitative approach focused on stakeholder satisfaction and inclusion. After all, one outcome of just transition is social acceptance and stakeholder empowerment.

The Importance of Social Dialogue.

CASE STUDY: Plant closure, social dialogue and the just transition - the closure plan for the Diablo Canyon nuclear power facility.

“I do not believe there can ever be a sustainable energy economy that is based on a disposable workforce. That’s why we fought so hard to protect our members. Together with the long transition and the very strong retention package, we will be able to keep our members on the job

for as long as possible. This is a victory in our ongoing struggle to make sure middle class jobs are a central part of the emerging clean energy economy.” Tom Dalzell, Business Manager, IBEW 1245.

“This is an historic agreement. It sets a date for the certain end of nuclear power in California and assures replacement with clean, safe, cost-competitive, renewable energy, energy efficiency and energy storage. We are pleased that the parties considered the impact of this agreement on the plant employees and the nearby community. The agreement provides funding necessary to ease the transition to a clean energy economy.” Erich Pica, CEO, Friends of the Earth USA.

Background:

Diablo Canyon is a commercial nuclear power plant in the state of California. Environmental groups targeted Diablo Canyon from its construction onwards, primarily from concerns about its safety in an area with high seismic activity. It has been the site of multiple protests and subject to legal challenges. Diablo Canyon produces about 18,000 GWh of electricity each year, or 8.6% of California’s power consumption.

Pacific Gas and Electric (PG&E), one of California’s three investor-owned utilities and the largest utility in the US, owns and operates the facility. As of 2011 there were 1200 workers employed by PG&E at Diablo Canyon, along with 200 workers employed by subcontractors.

In 2016 the plant faced uncertainty about whether its lease and permits would be renewed. If the state had not extended the lease, the plant would have had to close down as early as 2018. IBEW Local 1245 worked hard to ensure that the plant would stay open and keep employing the local’s 600 members who work there.

At the same time environmental groups, particularly Friends of the Earth US, were campaigning for the plant to phase out and for PG&E to invest instead in renewable energy, energy efficiency and energy storage.

“As we were working, PG&E informed us that they were attempting to build a coalition to reach a deal to stave off an abrupt shutdown of the plant, and in order to achieve this goal, the company would not be seeking re-licensing of Diablo Canyon after the current licenses expire in 2024-2025. PG&E cited market conditions ... as the primary reason they would not be seeking re-licensing. They argued that our state’s energy policy simply does not favor base load plants such as Diablo Canyon.

“Once we knew of the company’s intentions, we immediately went to work on retention, and focused on finding ways to keep our members on the job for as long as possible.

“In mid-June, the deal came together to keep Diablo Canyon open for the next eight to nine years. As part of this deal, the union negotiated a generous retention package for IBEW members at DCP, which includes a 25% annual bonus, followed by a severance allowance. Given the conditions that we faced, I believe this is a positive outcome.” (IBEW, 2016).

As part of the deal, PG&E agreed to replace the generating capacity at Diablo Canyon with a portfolio of energy efficiency, renewable energy and energy storage. The agreement also contains provisions for the community, as the Diablo Canyon facility is “one of the largest employers, taxpayers and charitable contributors” in the area. Under the agreement, PG&E will compensate the community for its loss of property tax revenues with USD 85 M, and will reserve up to USD 62.5 M for plant decommissioning over time.

Assessment:

Both unions and civil society describe the Diablo Canyon closure plan as a good example of a just transition process. It was based on effective social dialogue involving strong unions and a large and well-funded employer who recognises and supports rights at work. For workers, the relatively long lead-time to closure (eight years), good retraining and redeployment provisions and generous retrenchment packages were key. PG&E’s ability to offer a Just Transition Fund,

compensate the community for lost tax revenues and create new jobs in renewable energy and energy efficiency were also important.

While unions and civil society organizations were satisfied with the process leading to the closure plan, it is too early to say whether the plan will achieve its intended results. It will take several years to see how many workers at the plant are able to retrain and re-deploy within the company. Similarly, the surrounding community now needs to try to diversify its economy and attract a broader tax base. The real results of the agreement may not be apparent for a decade, once the plant has closed.

The plan might be difficult to replicate elsewhere in the US. Among US states, California has uniquely ambitious climate and energy targets, and strong political support for achieving them. PG&E’s size and deep pockets were also helpful.

CASE STUDY: Unions, social dialogue and the just transition – Denmark’s wind sector

“The economy and environment are in crisis. Fortunately solving both challenges goes hand in hand. To ensure a good life for future generations, we have to transform society so that we reduce pollution and global warming. That means that we have to transform our energy production as quickly as possible from burning fossil fuels such as coal and oil to renewable sources such as wind, biomass, solar and wave power. We will transform our transport sector, so that people to the greatest extent possible use public transport or cycle, and any cars that we have don’t burn fossil fuels.

A transition to a more environmentally sustainable society requires education, investment, renovation, building and factories – in short, jobs and workers. Everyone is responsible – citizens, enterprises, organizations, regional governments and Parliament. The future will come no matter what we do. A sustainable society takes effort.” Steen Andersen, Deputy General Secretary, 3F (Fagligt Fælles Forbund, 3F, 2013).

Background:

Starting in the 1970s, Danish social dialogue produced strong industrial and climate policy aimed first at energy independence and later at transitioning the power sector from coal to wind. Over time, Denmark became a net energy exporter, decreased coal use by

50%, and increased the share of wind in its power sector to 40-50%. It also produced a globally competitive wind industry that includes publicly traded Vestas, the world's second largest wind turbine manufacturer, and Dong Energy, which is majority state owned and develops and operates wind and other energy projects. In 2015 Denmark's wind industry employed 31,251 people and wind power delivered 42% of Denmark's electricity.

Danish unions played a key role in this transition. This is not surprising - more than two-thirds of Denmark's workers are union members, and every third person in Denmark is a union member. Further, employees at Danish companies with more than 35 employees are entitled to elect worker representatives to the company's board. In most large companies, employee representatives comprise a third of the board. Unions are thus critical to the formation of Danish public opinion, policy and social consensus, as well as being powerful business and political actors.

Danish unions are also pro-wind and pro-climate policy, seeing green jobs as the country's biggest potential motor for new job creation. They have established a Green Think Tank, regularly call for more ambition on climate and energy targets, and propose, promote and comment on new climate policy initiatives and their implications for creation of decent jobs.

In addition, the Danish pension fund system has become a source of global capital for renewable energy. Danish pension funds have made profitable investments of billions of EUR in renewables, primarily offshore wind. These are mostly, but not only, direct equity investments in wind projects. Denmark's pension funds see these deals as a relatively low-risk, higher return alternative to government bonds.

Denmark's industrial policy for the wind sector has created a virtuous cycle of jobs in wind, wind power production, and investments in wind. These are well suited to a world where renewable energy is rapidly increasing market share.

Assessment:

Most discussions of just transition focus on phasing out a sector, closing a plant or restructuring. But climate policies can also contribute to a just transition by generating new jobs and creating new sectors, as they have in Denmark. The experience of Danish wor-

kers with green policies has been positive and so they are enthusiastic supporters of climate action.

Many factors contributed to Denmark's successful climate transition, but undoubtedly social dialogue was the most important. Generally, Denmark has had strong, cross-party support for its energy and climate plans and the industrial strategies that accompany them. As mentioned above, unions are powerful political actors and also help to form public opinion.

Another positive lesson is the alignment between Denmark's industrial policy and investments by its pension funds. When Danish pension funds invest in wind, they are investing directly in domestic companies and jobs and/or in a sector where domestic companies are strong competitors. They have known partners and plenty of domestic capacity to help select and manage their investments. And they have confidence in the sector because they have seen it succeed.

CASE STUDY: Community development, social dialogue and just transition - Port Augusta, Australia

Background:

Port Augusta is a test case for how Australia will handle the transition.

With two coal-fired power stations closing, the lifeblood of this desert community is threatened. A solar thermal plant in Port Augusta is the best fit for providing both jobs and clean energy. It only needs political will to work.

After five years of campaigning, the local community is asking what is the problem?

"We were hoping to have new things built before the closure so we could have an increase in jobs, not a big gap." Gary Rowbottom, power station worker

This is the story of a community, its power station workers and their union taking their plan for jobs and solar thermal power to state and federal government, and to global energy giants in France and the United States, demanding a just transition for the people of Port Augusta, demanding a zero-carbon future for people everywhere.

Port Augusta, a country town of 14,000 people in

in South Australia, could have been a perfect example of just transition. For 68 years, coal-fired power stations and the local mines generated jobs for 400 workers and provided power for South Australia.

The coal-fired power station was on borrowed time. Worried about air quality and environmental health, the community looked for alternative plans for energy, industry and jobs.

Five years of work – during which all options were considered – resulted in a decision that a solar thermal plant was the best fit for both a clean energy base and for skills transfer for existing energy workers.

A feasibility study and now three companies interested in constructing this renewable alternative have added further cause for optimism.

Even the political support appeared to line up, a promise of funding support before a national election, state government support, and a local mayor backing in his community and workers and their unions with environmental activists singing in tune.

For a moment, Port Augusta held its breath. The plan was in place. A source of energy that would allow workers to transfer from the defunct coal-fired power station. A company willing to build, the community behind it, the workers having hope for a future.

So why are they still waiting?

The missing ingredient is a shared sense of urgency from state and federal governments even as the power station owner, Alinta, deserted its workers and the community in a shocking decision to close years ahead of public commitments. More than 250 workers are potentially stranded.

The fight for the environment and the fight for jobs and sustainable communities go hand in hand.

But all is not lost. The elements are in place and with political will, construction jobs could be in place within a few months, a power source with skilled jobs within two years and an optimism for a community wanting to attract new industry to their town.

Planning and partnership equals the possibility of just transition. Respect and concern for a viable

community should drive the political will. Working together a prime minister and a premier could show the world a just transition is possible.

Assessment:

Port Augusta is an unusual example of social dialogue for just transition because it started with a bottom up process driven forward by community members, workers and their union, rather than a top down process driven by government or employers. Working together, Port Augusta citizens developed a just transition plan for moving from coal-fired power to solar thermal; engaged local, state and national government; and got three potential employers interested in the plan.

However, the absence of clear federal government targets, policies and funding for clean energy are a major barrier. This is what is needed to bring new industrial development to Port Augusta. Without that, there is only so much the community and union can do.

Just Transition Plans – Key Considerations.

CASE STUDY: Social inclusion, poverty alleviation and just transition – renewable energy and SEWA's salt farmers

“We work and live in this desert from October to May, and produce 600 tons of salt. We have to take loans from salt traders to buy diesel, and for our fuel, food and drinking water. The trader buys the salt, takes back his loan and then pays us. Last year we earned Rs 22,000 for eight months. This year, we started using SEWA's solar pump. With this pump, we don't need to take loans from traders. Our income this year will be at least Rs 50,000. I can now send my child to school, and invest in a sewing machine.”
Devuben Rathod, SEWA member.

Background:

India is the third largest producer of salt in the world, and in the Little Runn of Kutch (LRK) in Gujarat, salt farmers produce 76% of India's salt.

Currently, there are 43,000 salt farmers – called Agariyas – in LRK, out of which 17,000 are members of SEWA, a member-based organisation of poor, self-employed women workers in the unorganised sector economy. These workers do not have a safety net of a regular income, health/life/accident insurance

or pension and largely live on a day-to-day income.

An average Agariya borrows money from the salt trader to buy diesel and meet her costs of living; diesel is used to pump brine out of ground water, which is spread over the salt pans specially prepared to enable evaporation of water, and lead to formation of salt crystals.

SEWA launched the Hariyali campaign to deliver to its poor members access to modern energy, in an affordable way, improve productivity to increase incomes and empower its women members.

Like her parents, Devuben Rathod is a salt farmer (Agariya) and is a member of SEWA since 2002.

Since she has been a member of SEWA, in 2013 she agreed to use a pilot solar pump on her salt pan. In the next season, she was surprised that her diesel consumption was reduced by 50% since she ran the solar pump during the day (and continued to run her diesel pump in the night). Further, the higher efficiencies of the solar pump and longer production time increased her production by 140 tons. At the end of season, when she calculated her costs and revenues with SEWA, she could not believe that even with a reduced market price in that year, she was able to save more.

Assessment:

SEWA's members are part of the informal economy, self employed, and have neither rights at work nor social protection. A just transition for these workers would require formalisation of work and improved social conditions.

At the same time, SEWA's solar pump campaign for its members has made a measurable improvement in the material conditions of salt farmers. In the case of Devuben Rathod, her work is more productive and profitable. Her increased financial security means that she can afford to educate her child and eliminate her family's dependence on loans from traders. In short, SEWA's campaign to provide solar pump is helping to alleviate poverty and increase social inclusion – two other goals of just transition.

CASE STUDY: Indigenous rights and a just transition – education unions and the Māori in New Zealand.

“Indigenous peoples have contributed the least to climate change and they are facing the most severe threats due to their direct relationship with natural systems and historic and ongoing discrimination.” Alejandro Argumedo, Quechuan – Peru

Background:

Ki te kahore he whakakitenga ka ngaro te iwi. (Without foresight or vision the people will be lost.)

Within Aotearoa/New Zealand any just transition policy and practice must acknowledge Te Tiriti o Waitangi, made between the British Crown and the indigenous peoples of Aotearoa/New Zealand, the Māori and the knowledge and customs of Māori in relation to protecting the environment and the jobs and practices of Māori people. This was the challenge for the New Zealand Confederation of Trade Unions in determining its policy and supporting affiliates in their own policy and practices.

For the transition must not be only economically and socially just; there must be an understanding and incorporation of the special relationship between Māori and the environment. In doing this there needs to be recognition of the kaitiakitanga of Māori. Kaitiakitanga is guardianship and protection bound by trust.

In developing its climate change policy and practices, the New Zealand Educational Institute Te Riu Roa, the union representing teachers and support staff in Aotearoa/New Zealand, was required to determine what kaitiakitanga meant for members, their whanau, their communities, their schools, their kura, their early childhood centres, their kōhanga reo and the tamariki involved. A kaitiaki is a guardian that can be a person or group given the role by the iwi (tribe) that cares for an area such as a lake or forest. The kaitiaki could also be an animal or a plant, real or symbolic ie our whanau kaitiaki, a ruru/our family guardian, an owl. This close connection to the land and nature, Kaitiakitanga, was the base for developing the process of exploration used by the membership.

Climate change has a disproportionate impact on Māori. Apart from confronting their kaitiakitanga role, Māori work in many of the industries now being directly impacted by climate change – fisheries, agricultural production and manufacturing, forestry, mining and manufacturing.

The NZEI process began with a series of steps that each group took to reach a central theme around climate change. Through discussion, cooperation and collaboration they recorded their work in giant posters. Many of the posters used traditions, symbols and practises to illustrate a point and called on others to heed the words of indigenous peoples. The economic world must listen to the world view of indigenous peoples and adopt the values and tikanga to awahi and tiaki Papatuanuku (care and support Mother Earth).

Strong themes were self-sustainability through maara kai, harvest only what you need, harvest on the sunny side of the ngahere, return the first fish, fish and plant according to te maramataka/Māori calendar, follow the traditions of the elders, use restrictions and bans as a practise of conservation, reduce, re-use, recycle as a real part of responsibilities. Ma te iwi, ma te hapu, hei whakaorangia a tatou katoa/As a tribal group we are all responsible for the health and well-being of each other.

These illustrated the way forward for NZEI and its members. The union is encouraging participation in enviro-schools that support students to plan, design and implement sustainability actions important to them and their communities. Sustainability will be promoted in the NZ early childhood and school curricula. Schools and early childhood centres will be encouraged to form links with local iwi, recognising and supporting their kaitiakitanga for example over the degradation of traditional fisheries, fracking and water quality. The union is ensuring its own practices reduce its carbon footprint consistent with its obligations as a Tiriti partner. It also joins local and national campaigns to ensure a just transition especially in rural communities where many Māori face job losses and community breakdown.

The role of kaitiakitanga extends to NZ's Pacific neighbours whose homelands are under immediate threat from climate change.

Assessment:

Just transition in New Zealand requires consideration of the indigenous and Treaty rights, knowledge and customs of the Māori. Social dialogue, therefore, must include the Māori as rights-holders and explicitly incorporate their perspectives. It must also include respect for traditional Māori rights over natural resources, such as fisheries and water.

The social dialogue process the New Zealand Education Institute has produced a just transition plan for the union, its members and the sector. The plan centers both sustainability and the rights and concerns of the Māori. It is a good example of social dialogue and just transition in a context involving indigenous peoples and holders of Treaty rights.

CASE STUDY: Innovation, heavy industry and the just transition - Dalmia Cement's low emissions blended cement

“Being one of the greenest cement companies in the world, we are committed to decarbonising our operations in a way that makes business sense. Our presence as the first cement company in RE100 and EP100 illustrates our commitment on this issue. We are scaling up our ambition to double our energy productivity and make a long term transition to 100 percent renewable power, achieving a fourfold increase in the percentage of renewable energy in our electricity consumption by 2030.” Mahendra Singhi, CEO, Dalmia Group (2016).

Dalmia Bharat Cement produces and sells cement in 18 of India's states. With a strong focus on sustainability and lowering emissions, the company's growth year on year has beaten the industry average and it has consistently increased its market share. In FY 16, Dalmia grew 19.6% YOY, while the industry as a whole grew only 5.3%.

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The company also produces what may be the lowest emissions cement in the world. The blended cement from its Bharat Eastern Operations has emissions of 330 kg of CO₂ per ton of cementitious material. The average across the enterprise is 493 kg per ton, while the global industry average is 612 kg CO₂ per ton. Its low emissions are due to the use of blended materials, using industrial waste fuel as part of the fuel mix, and a dry process.

Dalmia also has an extensive CSR program for the communities where it operates. It has built 115 schools

and four Community Sanitation Blocks, 504 low cost toilets and helped 120 schools on sanitation and hygiene. It created a more than one million cubic meter water harvesting capacity for local communities near its plants. And it provided 4,238 fuel-efficient cook stoves, 135 biogas plants, 11,741 solar home lighting solutions to local communities under our ongoing Energy Conservation and Climate Change Mitigation Programme of Dalmia Bharat Group Foundation (DBGF).

Assessment:

Dalmia's development of low emission cement products illustrates a key aspect of just transition. To cut emissions as required by science, appropriate technology must exist for key sectors, such as cement or steel. Without commercially viable technology or alternatives for core materials, transition is difficult if not impossible.

Dalmia's ability to cut emissions to nearly half the industry average, while growing its business, shows one of the roles that industry can play in the just transition – delivering innovation.

Just Transition and Reskilling, Upskilling and Skills Development.

CASE STUDY: Upskilling and skills development and just transition – the construction sector in Belgium

Stronger energy efficiency standards in the EU and Belgium have driven an increase in jobs retrofitting buildings as well as building new structures to a higher standard of energy efficiency. These standards, along with technological innovation in the building sector, have developed so quickly that it is challenging for workers to keep up to date.

To address this issue, the three main trade unions in Belgium and sector employers have collaborated on developing courses for construction workers linked to green buildings and energy efficiency measures. Workers and employers assess the need for skills training together and develop proposals, which lead to very concrete training programs executed by the government organisations.

CASE STUDY – Informal workers and just transition – BRT in Bogota, Colombia

Background:

Transmilenio is the bus rapid transit (BRT) system of Bogotá, Colombia. It is the most used BRT system in the world, with 1.6 million passengers a day, and the most extensive, with 88km of exclusive road and an integrated feeder system. It is currently in its third phase of expansion.

Before BRT, informal workers driving minibuses provided the bulk of Bogotá's transport. Their work involved long days, leading to back and kidney problems, and insecure conditions. They had little ability to organize given Colombia's dangerous political environment for trade unionists.

BRT has been praised as a sustainable transport solution, reducing pollution and congestion and providing good quality urban transport at a lesser cost than constructing a metro or rail network. In theory, the advent of BRT should also be good for workers, replacing insecure informal jobs with formal work with better conditions.

However, the transition to BRT and the creation of formal transport jobs has had significant negative labour impacts. It has been estimated that each newly created formal job in BRT replaces seven jobs driving minibuses. Despite this, there has been no effort by the government, the donors or the bus company to assess the impact of this restructuring on the existing workforce and to ensure that affected workers are supported to gain employment in the new system, to retrain in order to find alternative work, or to take early retirement. (Julie Porter, 2010).

Considerations and Recommendations for Policy Makers

The examples and case studies in this report present a variety of processes, approaches and issues related to implementing a Just Transition. Most of the examples are at an early stage. Nonetheless, a few important considerations for policy-makers emerge.

First, unions, employers, communities and governments are starting to take action on just transition, in some cases joined by civil society organizations. While a few of these initiatives are driven from the top down, motivated by regulatory or voluntary targets, others are bottom up.

Second, there are many gaps. The absence of appropriate government policies, funds and structures for just transition makes it difficult for workers, employers and communities to move forward on their own. In particular the need for targeted investment in infrastructure; regional redevelopment; and better, more comprehensive social protection requires the broader scope and mandate that governments bring. Without more assertive and coherent action from governments, we risk seeing many more examples of transition that do not deliver justice, resulting in stranded workers and communities as well as stranded assets.

Finally, climate science tells us that decarbonization needs to happen rapidly. To ensure this, and to ensure that the transition reduces inequality, poverty and social exclusion, requires greater resources and policy focus than we currently see. Just transition plans need to be targeted much more towards achieving the requirements of the Paris Agreement and the Sustainable Development Goals, including poverty alleviation and decent work for all.

Recommendation 1: Commit to social dialogue at all levels as an integral part of plans to reduce emissions and adapt to the impacts of climate change.

To implement the Paris Agreement, governments must ensure that employment-related aspects of climate policies are part of their decarbonisation and economic diversification pathways.

This requires the establishment of formal social dialogue mechanisms so that just transition strategies can be designed at all levels – community, region, company and sector, and country. These formal mechanisms should build on and learn from existing local, regional and sectoral initiatives.

Recommendation 2: Establish plans, strategies and funds for just transition supported by just transition funds.

Governments should establish plans and strategies for just transition based on the ILO's Guidelines for a Just Transition; consistent with the Paris Agreement's upper limit for global temperature increases of 1.5C or well below 2 C; and consistent with the goals of social protection, social inclusion and decent work for all. Rights, including labor, gender, indigenous and Treaty rights, should be part of the planning process and respected.

As part of just transition plans, governments should establish national just transition funds. These should support activities to address climate action and related employment risks through the implementation of just transition plans for workers and vulnerable communities, regions and industry sectors.

Just transition Funds should cover investment in vocational education and training (VET), reskilling and retraining; extended or expanded social protections for workers and their families; and grant, loan and seed capital programs for diversifying community and regional economies.

Recommendation 3: As part of just transition, provide public and employer support for retraining, reskilling and formalization of work for vulnerable workers.

Governments and employers should invest in and ensure access to programs, institutions and measures to ensure that vulnerable workers have the skills and training necessary for a successful transition to a zero emissions economy.

This includes work-based learning and cooperative initiatives offered by social partners, as well as formal education.

It also includes measures to ensure that vulnerable informal workers are trained and recruited for formal jobs in their industries.

Recommendation 4: Invest in low emissions infrastructure that creates decent jobs, particularly in vulnerable communities, regions and sectors.

Governments should design and deliver public and blended investment in low emissions infrastructure with the aim of creating decent, high value work throughout the value chain and with a focus on vulnerable communities and regions.

Investment in public transport, renewable energy and appropriate grid and storage infrastructure, zero emissions buildings, and infrastructure for electric vehicles should be prioritised.

Recommendation 5: Ensure that climate-related disclosures by companies also include disclosure of employment risks and just transition plans to address them.

The G20 Financial Stability Board's Recommendations of the Task Force on Climate-Related Disclosures should be expanded to include disclosure of just transition plans for vulnerable workers and communities, consistent with disclosure of company plans for decarbonization and management of climate risk.

Consistent with the above, governments and multilateral bodies should establish or include just transition principles, guidelines or standards to facilitate climate-related investments and decisions to divest from high carbon producing companies and industries.

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