Promoting a just and inclusive green transition

Joint ILO-OECD background paper prepared for the German G7 Presidency, November 2022
1. Introduction

Climate change is having increasingly larger negative and unequal consequences on people’s health, jobs, income and productivity. Therefore, it is imperative to take measures to mitigate and adapt to climate change. However, these measures can have both intended and unintended consequences for people, and it is essential that they are carefully designed to ensure a just and inclusive transition. This includes ensuring that those negatively affected receive appropriate support and the costs of mitigation policies are shared fairly. People at risk of being disproportionately affected by climate change, environmental degradation and mitigation measures include: workers at risk of unemployment in communities and industries affected by climate change, resource degradation or economic transformation; workers who will have to adapt to changing jobs and occupations; workers and people who may be displaced; and low-income households who spend a high share of their income on energy.

The purpose of this paper is to highlight the key issues for designing climate mitigation policies such that they achieve the dual objective of facilitating the greening of the economy and contributing to a just and inclusive transition. The paper begins by tracing out the unequal distributional impact of climate change itself, which is highly embedded in pre-existing inequalities affecting exposure and vulnerability to climate change. It then discusses the distributive impact of climate mitigation policies and the key implications for economic, social and environmental policies to avoid exacerbating pre-existing inequalities, in terms of employment and labour market, social protection, skills and environmental justice, meaning equal access to a clean and safe environment. Lastly, it proposes a set of policy directions to promote the dual goal of greening the economy and achieving a just and inclusive transition for all.

2. Unequal impact of climate change

The impacts of climate change and the damage caused depend on each country’s and individual’s climate vulnerability. Climate vulnerability, in turn, is a function of geographic exposure, source of income, economic structure, occupational and labour market composition, and adaptive capacity - related to the physical and social infrastructure, financial resources and political institutions (IPCC, 2021[1]) (IPCC, 2022).

Importantly for employment, low-income households tend to be more dependent on the primary sector than higher-income households for their income and employment, especially in emerging economies. While the primary sector provides for significant income and employment from farming, fishing, forestry, natural resources and tourism, it relies on a stable climate and the provision of environmental services which are increasingly disrupted by climate and environmental change.

Some 1.2 billion people, or some 40% of the global labour force in mostly developing countries but increasingly also in G7 countries, are directly dependent on natural resources and a stable environment for their income and living. It is those low-income households most impacted by sudden changes in rainfall patterns and extreme climatic events such as droughts, hurricanes and flooding as the reduction in yields have a direct and negative impact on income and labour productivity. (ILO, 2018) (Masson-Delmotte, et al., 2021) (IPCC, 2022) (Reid, et al., 2005). And although G7 countries’ total employment in the primary sector is relatively low, the indirect impact through higher food prices are most felt by low-income households within high-income countries.

Increasing temperatures, heat waves and heat stress further affects labour productivity and leads to negative occupational health effects and workplace injuries, especially in low-skilled labour-intensive outdoor sectors. This is disproportionately impacting low-income households with a higher share of workers in outdoor sectors – such as in agriculture and construction. Workers must spend more working hours
slowing down, resting and cooling to keep core body temperatures below 38°C to avoid injury and heat stroke, causing labour productivity to decline (ILO, 2019).

Projections based on a global temperature rise of 1.5°C, and also on labour force trends, suggest that, in 2030, 2.2 per cent of total working hours worldwide will be lost to high temperatures —equivalent to 80 million full-time jobs. G7 countries in the European subregions and Northern America are expected to experience a smaller impact, with their productivity losses projected to be around 0.1 per cent. A 1.5°C scenario, however, is increasingly unlikely and the effects on the health of workers and economic losses in G7 countries may be substantial during unusually intense heatwaves disproportionally impacting lower income households (ILO, 2019). The Rockefeller Foundation Resilience Center estimates the economic loss in the US from heat stress to be at least $100 billion annually which could quintuple by 2050 (OSHA, 2021) The disproportionate impact of climate change on low-income households and jobs calls for targeted assistance and social transfer mechanisms to address inequality concerns within and across countries.

Importantly, more stringent occupational safety, health and local air pollution reduction measures are warranted, particularly for outdoor workers and jobs in high pollution environments. In 2021, the US Department of Labor expanded measures to protect workers from hazards of extreme heat, indoors and out. The Occupational Safety and Health Administration’s measures aim to protect workers better in hot environments and reduce the dangers of exposure to ambient heat of work activities on days when the heat index exceeds 80°F.

3. Distributive impact of climate mitigation policies

Climate mitigation policies are necessary to limit greenhouse gas emissions and rising global temperatures. As vulnerable households are most exposed and vulnerable to climate change, cutting greenhouse gas emissions will benefit them most. At the same time, they are also most likely to experience a disproportionate part of the costs of climate mitigation policies. Therefore, climate mitigation policies need to take into account their distributive impact in order to avoid the risk of increasing inequalities of income, skills and gender, and worsening environmental justice. These policies should be designed in consultation with the key stakeholders involved.

*Climate mitigation policies and income inequality*

A common set of policies to cutting greenhouse gas emissions are market-based environmental policies, which generally take the form of carbon taxes, charges, subsidies and incentives for low carbon investments, and tradable permits. These policies are cost-effective, meaning that they maximise pollution reduction for a given level of expenditure (Shapiro, 2021). As such, they are often favoured over more traditional, prescriptive and inflexible policies, such as standards and command-and-control instruments. However, market-based environmental policies can amplify income inequality, through two main channels:

- First, poor households tend to spend a higher share of their income on energy compared to richer households. While this varies by type of energy consumption (e.g. for domestic use as opposed to transport), if not offset, some forms of energy taxes can be regressive, and especially in the current context of high inflationary pressures and rapidly increasing energy costs, can amplify energy poverty.

- Second, poor households often face barriers to credit, making them less able to make the necessary initial investments to greening their consumption. They are less frequently home-owners, which together with barriers to access credit may mean they benefit less from subsidies for low-carbon investments and residential energy programmes. As such, home-owner households reap most of the benefits of subsidies and incentives for low carbon investments.
Carbon pricing policies should thus be designed with fairness considerations, by introducing elements that both account for the different consumption basket of low-income households and address their barriers to access credit.

*Climate mitigation policies, employment and skills inequalities*

Climate mitigation policies, which support a green transition, will lead to job substitution, transformation and to reallocation as jobs decline in brown activities and new ones emerge in green activities. There may be substantial employment losses in carbon intensive sectors, such as fossil fuel extraction, power generation, and certain energy intensive industries. But the majority of existing jobs are likely to be either transformed and redefined or substituted for similar but green jobs. The extent to which workers and households will suffer from this transition, will depend on several factors:

- Job losses as a result of the green transition may be geographically concentrated, and affected workers may have a hard time finding new jobs if they are not geographically mobile and they may face lower wages in these jobs (OECD, 2021). The extent to which workers will be able to benefit from the job creation of the green transition will partly depend on opportunities for economic diversification and the location of new green industries which may not be the same as those with declining brown activities.
- Green technologies tend to favour higher skilled technical and engineering skills (Marin & Vona, 2019). ILO research on Skills for the Green Future points to a significant skills gap for green jobs as they often require a different set of more technical and cognitive skills, IT skills, management and social skills (ILO, 2019).
- In the absence of adequate skills to transition towards green jobs, lower skilled workers may become unemployed, be stuck in polluting industries, or find employment in low-productivity, unregulated, low-skilled services.

Whether the green transition will exacerbate skills inequalities will depend on whether low-skilled workers can relocate geographically to take up green jobs in new industries, and on their acquisition of the necessary skills to transition from high carbon jobs to green jobs or to adapt to transformed and redefined jobs. Without public policies and measures by enterprises that strengthen the resilience of workers to these labour market shifts, the transition to a greener economy could worsen labour market inequalities.

More generally, further evidence is required to guide policy on the distributive impact of the green transition on the job reallocation process.

*Climate mitigation policies and environmental justice*

Depending on where communities exposed and vulnerable to climate change live, they may experience negative spillovers from climate mitigation policies. For instance, road pricing and curbside parking may relocate traffic across different city areas. Tradable permits, such as the Emissions Trading Scheme (ETS) in the European Union, relocate high-intensity carbon production across firms and thus geographical areas. If vulnerable communities live in areas not regulated by vehicle or road pricing policies, or close to high abatement costs firms, not only they benefit less from these policies, but they could see their exposure to pollution and poor air quality increase.

Ensuring an equitable financing of climate mitigation policies is also needed. This should take into account the unequal distribution of contributions to greenhouse gas emissions. It has been estimated that globally the richest 10 per cent of households were responsible for almost half of global emissions while the poorest 50 per cent of households account for just under 12 per cent (Chancel, 2022). In this context, as argued by Chancel (2022), “carbon taxes have been found to place a disproportionate burden on low-income and low-emitter groups … while the carbon price signal for high and wealthy emitters may be too low to force
changes in consumption (or investment) patterns among wealthy individuals”. This could be remedied by some form of progressivity in carbon taxes such as cash transfers for low-income households or higher effective carbon tax rates as a function of emission levels.

4. Policies to promote a just and inclusive green transition

In order to promote a just and inclusive green transition, environmental policies need to be designed with equity considerations at their core and accompanied by broader policy efforts to promote training in skills for green jobs to support labour market mobility, and to provide income support for those negatively impacted. These efforts hinge on strong governance that ensures that the needs from a just and inclusive green transition are anticipated and that there is an early intervention mechanism in place to support vulnerable groups. Social dialogue and consultations with the people affected by the policy measures play a central role in that regard. Policies need to take a whole-of-government approach, ensuring a cohesive vision across policy areas, stakeholders, and over electoral cycles.

Mitigating the unequal effects of climate mitigation policies

To ensure an inclusive and just green transition, climate mitigation policies need to provide strong incentives to shift to greener consumption behaviour and production techniques, while taking into account any regressive distributional impacts.

To mitigate the regressive impact of carbon pricing for vulnerable households, governments can use the tax revenues from carbon pricing to offset the unequal costs of carbon pricing. This can take the form of direct cash transfers or lump-sum redistribution, like in Switzerland, where two-thirds of the revenues of the CO2 levy is redistributed to low-income households and business (Shang, 2021). Lump sum transfers to low income households are well suited to increase the acceptability of climate mitigation policies, but do not provide additional incentives to reduce emissions and change the structure of the economy towards greener productions (Vona, 2021).

The introduction of carbon pricing can also be used to implement Environmental Tax Reforms (ETRs). ETRs are based on the principle of budget neutrality: the revenues from environmental taxes are used to support cuts in income tax and social security contributions, notably for low-income workers, so as to incentivise employment creation among the most impacted. This can generate a win-win outcome in terms of improved environmental quality, job creation and reduced labour market inequalities between insiders and outsiders (Vona, 2021). Moreover, the negative impacts that pollution has on labour productivity and workers’ health will require households to spend more out of their pocket on health. Reductions in health insurance costs for low-income households funded by a pollution tax could address this. The criticality of ETRs for supporting a just green transition is whether job creation is concentrated among low-skilled, low-income households. ETRs can thus focus on reducing labour taxes (or social security contributions) for low-skilled workers, becoming a progressive measure that allows achieving the triple dividend of equity, efficiency and climate change mitigation. A potential issue of ETRs is that on their own they can result in lower environmental improvements compared to compensation policies that directly finance the green economy.

To provide additional incentives to further reduce emissions, the revenues from carbon pricing can also be used to finance other green development objectives. This is the principle of Green Deal plans, where a series of large-scale, complementary investments in infrastructure, knowledge and training facilities can accelerate the decarbonisation of several sectors and help mitigating the regressive effect of environmental policies (Vona, 2021). These policies increase direct spending on knowledge, by promoting R&D in green technologies and retraining workers. They also increase direct green spending, by investing in green infrastructures. Green Deal plans have high political acceptability, particularly so when they are combined with specific labour market interventions aimed at weathering the unequal effects of the green transition.
Retraining measures are a crucial element to ensure a just and equal impact of Green Deal plans, as these plans tend to benefit most the areas with a higher share of green skills, and which are wealthier, high-tech and already on a better growth path. Despite this, retraining measures represent only 2% of the all the green measures under discussion across 45 OECD countries (OECD dataset on Green Fiscal Policies).

**Fostering access to, and the creation of, productive employment in the green economy**

Efforts to mitigate the root causes of climate change will open new employment opportunities across economic sectors. Fiscal policies, which internalise the social cost of pollution, incentivises investment in green technology and shift demand towards environmental goods and services, have been shown to benefit employment, albeit the more the longer the time horizon and not symmetrically across sectors and places. These benefits might be lower, for example, where fossil-fuel industries play a more important role in the energy mix of a country. The US Inflation Reduction Act, for example, incentivises electric vehicle manufacturing, renewable energy production as well as demand for battery powered cars (ILO, 2021; 2021 (Lewney, Van Hummelen, Kiss-Dobrony, & Barbieri, 2021); Wiebe et al. 2021a, b (Wiebe, 2021)). Such green fiscal policies have a higher employment multiplier effect than conventional ones as green investment is more labour-intensive and has a higher domestic content (Garrett-Peltier, 2017); (Batini, 2021)). Importantly, employment outcomes are highest when carbon tax revenues are used to subsidise green initiatives. Output and employment levels decrease in high carbon-intensive sectors and increase in low-carbon activities with a positive balance on employment creation.

Facilitating access to employment opportunities for those who will be relocated as a result of the greening of the economy is also a key part of promoting a just and inclusive transition. But this will not be sufficient if the new jobs involve low pay or poorer working conditions relative to those that are lost. Therefore, two other key elements for the creation of good jobs in the green economy are required, which are skills development and an enabling environment for sustainable, productive enterprises.

Active labour market policies (ALMPs) can play a key role in helping crucial workers affected by shifts to environmentally-sustainable industries and processes through a mix of training, job search assistance and career advice, job/wage subsidy schemes and entrepreneurship incentives. Social dialogue is important for the design of ALMPs that, in turn, should be supported by a systemic approach covering all policy areas, from social protection to enterprise development. Financing of ALMPs remains a crucial issue: governments should, in consultation with social partners and taking into account the economic and fiscal capacities available, articulate long-term financing needs and establish sustainable funding mechanisms for supporting ALMPs. This should be accompanied by a strong culture of evaluation to ensure they are effective.

Retraining workers and upgrading skills is central in facilitating a smooth and just transition to a low-carbon, green economy. However, participation in training remains low particularly among low skilled workers and those most at risk of jobs loss in the face of global structural changes associated with both digitalisation and decarbonisation. Governments need to focus on breaking this link, by raising awareness on adult learning policies and increasing the returns for participation through a closer match of training with employer skill needs. Short and tailor-made courses directly linked to specific occupations and entrepreneurship opportunities in the green economy have been found to be the most useful approach to retraining workers and upgrading skills in the context of restructuring measures. Special incentives for work experience and apprenticeships that target younger workers and women or new entrants into the labour market can reduce skills mismatches, tackle gender discrimination and ensure that green sectors find workers equipped with the new skills in demand. The European Green Deal plan specifically includes a “Just Transition Mechanism” that is focused on mitigating inequalities from the green transition, among others, by facilitating employment opportunities in new sectors and those in transition and offering re-skilling opportunities.
Five key actions on skills development are important to consider: (i) comprehensive and coordinated policy approaches to skills for green jobs, (ii) institutional arrangements and active participation of social partners, (iii) monitoring and evaluation to address countries' lacking information systems on gaps and shortages in skills for green jobs, (iv) design and implementation of integrated technical vocational and education training programs on reskilling and upskilling, notably within existing and low-skill occupations, and (v) a focus on female employment in the green transition so as not to perpetuate the existing inequalities in the male dominated fossil fuel based energy sector and the inclusion of disadvantaged and vulnerable groups in skills development programmes, enabling a green transition that is just and inclusive.

Taking a longer-term perspective, human capital investments to support a just green transition should start early, focus on equipping young people with the right set of skills, already in education. Education curricula and career counselling services should raise awareness about the green transition and provide up-to-date, wide-ranging information on emerging career opportunities, industries and green jobs (OECD, 2021). Focusing on obtaining a higher enrolment, particularly of women, in Science, Technology, Engineering and Mathematics (STEM) higher education is also needed for an inclusive participation in green sectors.

An enabling environment for the creation and growth of sustainable enterprises is essential to ensure the creation of quality employment that will support a just green transition. In addition to investments in human capital and employment conditions in micro and small enterprises (MSMEs), including the self-employed, key to revive business dynamism requires: low regulatory barriers for new entrants, reduced compliance costs on business and simplified administration procedures, notably tax reform to incentivize formalization and green investment, judicial efficiency and bankruptcy regulations, good access to finance, including e-finance to facilitate MSME lending for green technology, and innovation support (ILO, 2020) (OECD, 2021).

**Preventing exclusion**

Preventing exclusion relies on robust social protection systems that enable a just green transition. Adequate social protection should provide income support for people who are negatively impacted by climate change or by the green transition. Social protection should thus be shock-responsive, protecting people against the health effects of climate change and providing income support in case of job loss. It also enables displaced workers to obtain good job matches, including through training. Social protection, therefore, also plays a key role in fostering strong public support for environmental policies. Where applicable, the use of employment guarantee schemes and public works that also enhance resilience to climate change, rehabilitate natural resources and create new productive and sustainable assets should be considered. This may be achieved by integrating adequate social protection measures into national responses to climate change, as an essential part of climate change adaptation and mitigation policies (ILO Just Transition Guidelines 2015). Wage insurance schemes are also part of this arsenal and may encourage workers displaced from higher wage jobs such as coal mining to accept lower paid jobs in greener activities. They are preferable to early-retirement schemes encourage permanent exit from the labour market.

It is also important to ensure that everyone can benefit equally from the opportunities created by environmental policies. Environmental policies may not benefit equally all groups of society if they impose initial investments that are not affordable for households with limited liquidity and credit constraints. Addressing credit constraints is therefore a key element for preventing the exclusion of some groups from environmental policies.

**Addressing geographical inequalities and fostering green structural change**

Carbon-intensive industries are highly spatially concentrated, making it important to account for regional differences and to achieve cohesive vision that is shared by regional stakeholders. Therefore, economic diversification and transformation of regions are also key considerations for a just and inclusive green transition. The European Just Transition Fund provides for structural investments of traditionally heavy
industry and coal producing regions across Europe. The US Inflation Reduction Act (IRA) provides specific funds for coal dependent States, notably along the Appalachia Mountains. The objective of such regional funds is to foster a structural economic transformation of fossil fuel based regions towards green industries and services. Germany’s ‘Coal Commission’ (Commission for Structural Transition and Job Creation) was set up as a broad Social Dialogue platform to plan the phase out of coal by 2038, with the long-term objective of addressing geographical inequalities.

More generally, governments can foster geographic mobility of workers and their families by improving access to low-cost housing, streamlining administrative procedures for building permits, and lowering the transaction costs of buying and selling real estates (e.g. stamp duties, acquisition taxes). In addition, providing assistance and advice for critical services (e.g. education, health) will be important to facilitate the relocation for workers and families (OECD, 2021).

*Changing behavioural preferences towards sustainability*

Governments can provide funding for relatively inexpensive and potentially high-impact behavioural programmes as part of their broader support for energy innovation. These programmes aim at nudging green consumption, which could have a higher relative impact on low-income households, as their willingness to pay for environmental quality is usually lower than for higher income households (Vona, 2021). Examples of such policies include:

- Sending home energy report letters comparing electricity use to that of neighbours is as effective as a short-run electricity price increase of 11-20% (Allcott, 2011).
- Providing independent information disclosure, such as vehicle and appliance energy-efficiency ratings, to help catalyse private sector innovation (Allcott & Mullainathan, 2010).

More generally, addressing effectiveness and inequality concerns of people towards climate mitigation policies by explaining how policies work and who can benefit from them is a low-cost effective approach to gaining buy in by the public (Dechezleprêtre, et al., 2022).

*Strengthening governance for a just and inclusive green transition*

Strong governance is crucial to ensure an inclusive and just and inclusive green transition, which relies on social dialogue, long-term strategy planning, timely and targeted intervention, and broader supportive policies.

- Long-term planning, through for example low greenhouse gas emission development strategies (LT-LEDS), allows smoothing the green transition and preventing misalignments between policy areas and beyond electoral cycles. So far, 13 countries have already submitted their LT-LEDS to the UNFCCC, including France, Germany, and the United Kingdom (OECD, 2021). France and the United Kingdom have additionally set up carbon budgets from now until 2050, ensuring that their LT-LEDS are enforced at the risk of facing a judiciary review in Parliament. A key part of better long-term planning is also better consultation with the key stakeholders on the necessary policies and measures needed to support workers and their families affected by the green transition.
- Formulating and implementing just transition strategies and policies enable comprehensive and well-coordinated policies and institutional mechanisms for a just transition. So far, nearly 50 countries, including most G7 countries, have made a formal commitment to formulate such just transition policies under the Climate Action for Jobs Initiative of the UN Secretary-General, and spearheaded by the ILO. In addition, several countries have included just transition related objectives in their nationally-determined contributions under the Paris Agreement on climate change.
• Intervention needs to be timely and targeted, for example, providing support to potentially displaced workers before they have lost their jobs. A good country example concerning displaced workers more generally is Sweden where tripartite Job Security Councils – managed by the social partners -- intervene early to provide job-counselling and training services even before dismissals take place. Australia provides another example of carrying out skills audits to assess the skills that workers facing mass redundancies possess and then orientating them to suitable training programmes.

• There is a need for a whole-of-government approach to provide comprehensive support for workers and communities affected by job loss, which goes beyond immediate employment and training support and includes local economic development and better framework policies for promoting mobility. These policies can include revitalising communities affected by the green transition through alternative employment opportunities, including expanding the tourist industry, investing in renewable energy, and rehabilitating and reclaiming areas affected by coal mining. Examples here are the various German initiatives that are accompanying the phase out of coal mining. Another example comes from Australia concerning the closing down of its traditional car-manufacturing sector. Its Automotive Transformation Scheme provided support not only support for helping the directly affected workers to find jobs elsewhere but also support to business through the supply chain to diversify and innovate.

References


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