

Climate Change Actions and Just Transition

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This paper elaborates the progress of the studies and negotiations on a just transition of the workforce and the creation of decent and quality jobs, in the context of implementing response measures under the United Nations Framework Convention on Climate Change (UNFCCC). Just transition in essence deals with the employment issues, thus the impact of climate change policies on employment should be understood in the first place. Low-carbon development refers to a development path to low-carbon economic growth by phasing out fossil fuels, with the objective of achieving sustainable development while fighting climate change. Adjustments in the industry structure and energy structure will not only have an impact on the employment scale and structure but also generate new demand for job skills. In order to achieve just transition in implementing climate policies, China should promote targeted research, create more low-carbon jobs by increasing green investment, and pay special attention to people who lose their jobs due to the implementation of climate policies and keep them from falling into poverty.

Keywords: Climate change; just transition; job creation; mitigation policies; adaption policies.

1. Introduction

In recent years, the social and economic impacts of climate change response measures under the United Nations Framework Convention on Climate Change (UNFCCC) have attracted increasing attention within the international community. In the context of a structural transformation of the energy sector, a just transition of the workforce and the creation of decent work and quality jobs have become one of the most important topics of international climate negotiations. This paper introduces the research progress on employment issues and just transition under the UNFCCC, provides an overview of the impacts of climate change on employment, and the opportunities and challenges faced by just transition in the implementation of climate policies. At the end of the paper, it provides recommendations for policy makers on how China should actively promote just transition.

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2. Definition and Evolution of Just Transition

The concept “just transition” was developed in the trade union movement in North America at the end of the 20th century. The term has been adopted by non-governmental organizations (NGOs), UN agencies, and government agencies to refer to justice and equity in relation to employment opportunities in any transition process. Nowadays, it is generally accepted that just transition means a framework that needs to be established to ensure the work and livelihoods of workers are not seriously affected when an economy is transitioning toward a more sustainable model — including actions taken to fight climate change and protect biodiversity. As just transition mainly concerns employment and labor rights in a transition process, the International Labor Organization (ILO) and trade unions across the world are major forces advocating the concept.

Just transition is now receiving increasing attention. As China transits toward a clean and sustainable economy, the economic restructuring is inevitable. Although the restructuring can open up new opportunities in many industries and create a large number of jobs, it will also lead to a decline of many industries, whose workers may face a decline in their standard of living and a high risk of losing their jobs. History has shown us time and again that economic transition can hurt the interests of some workers and increase unemployment and poverty rates in some sectors. The affected families and regions also need to adapt to changes in production patterns and living standards. In 2010, the International Trade Union Confederation (ITUC) emphasized that just transition is a tool applied by the trade union movement and the international community alike to address social issues arising from the transition of a society toward a more sustainable model and to ensure green economies can provide decent work and quality jobs for all (ITUC, 2010).

When it was created, the concept “just transition” was widely used to refer to principles and practices needed to counter the impact on workers when an economy is shifting toward a sustainable, environmental-friendly development path. However, in recent years, this concept has been increasingly used by some institutions in the field of climate change. They link just transition to climate actions and consider it as an important social mechanism to support actions on climate change.

In 2010, the ILO mentioned for the first time in an internal research report the need for a just transition of the workforce in the implementation of climate actions and policies (ILO, 2010). The report points out that climate change response measures have a significant impact on employment and workforce in many sectors, but the current international climate change governance system does not attach sufficient importance to this impact or take targeted actions to address it within the framework of climate policy in a systematic manner. Climate change mitigation policies will encourage the development of the renewable energy sector and create new employment opportunities, but emission reduction policies will have a negative impact on many labor-intensive, high-energy-consuming sectors, reducing jobs in such areas.

Thanks to the unremitting efforts of international trade unions and labor organizations, just transition has gradually been accepted by other institutions committed to fighting

climate change and promoting global sustainable development, and it has been incorporated into global climate negotiations under the UNFCCC. The focus of just transition under the UNFCCC is primarily on the impact of a global transition to clean and low-carbon energy on the traditional energy sector and the policy framework needed to counter such impact.

At the 17th session of the Conference of the Parties (COP17) to the UNFCCC held in South Africa at the end of 2011, the Parties agreed to conduct research on economic and social impacts of climate change response measures and identified eight key areas, in which just transition was included. In 2013, the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI) jointly organized a workshop on just transition. In the workshop, the Parties expressed their views on just transition. Some Parties believed there are impacts on workforces as a result of some climate actions such as the provision of subsidies and the imposition of standards and tariffs, but the effects of these actions differ significantly. The Parties also expressed the view that, in order to achieve a just transition toward a low-carbon economy and ensure that workers do not unduly suffer in this process, there is a need to invest in fields such as education and job training, which was noted as a supporting action with co-benefits, helping the affected workers adapt to the transition and find decent jobs again.

Just transition of the workforce is one of the two key areas in the work program adopted at the forum on the impact of the response measures during the 21th session of the Conference of the Parties (COP21) to the UNFCCC held in 2015. To advance just transition of the workforce in the context of climate change, at the 44th session of the SBSTA and SBI, the Subsidiary Bodies agreed to implement a three-year work program, requesting that the UNFCCC Secretariat prepare a technical paper on just transition, and encouraging Parties and observers to provide views, experiences, and case studies on just transition. The Paris Agreement, an important outcome of the COP21, also included just transition, and it clearly states: “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.”¹ In 2016, the UNFCCC Secretariat issued a report entitled “Just Transition of the Workforce, and the Creation of Decent Work and Quality Jobs”, which provides an overview of the research and work done under the Convention on employment issues (UNFCCC, 2016). This is the first special technical paper by the UNFCCC Secretariat on employment issues.

In view of the importance of employment issues, more and more international mechanisms and platforms have begun to put just transition at the top of their agendas. The Climate Action Network (CAN) stated in an issue brief prepared for the G20 summit in Argentina to be held at the end of 2018 that “Embracing a fair and fast transition can contribute to achieving several of the Sustainable Development Goals (SDGs),” (CAN, 2018) suggesting that just transition be discussed as a key issue at the G20 summit.

¹ https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf.

3. Effects of Climate Policies on Employment

Just transition in essence deals with the employment issues. Therefore, to achieve just transition, we must first understand the impact of climate change policies on employment. Climate policies broadly fall into two categories: mitigation and adaptation. Emission reduction policies and low-carbon technologies are important ways to achieve low-carbon development. Most of these two categories of climate policies have a direct impact on employment. Low-carbon development refers to a development path to low-carbon economic growth by phasing out fossil fuels, with the objective of achieving sustainable development and fighting climate change. Different policy objectives and implementation paths have different impacts on related industries. Climate policies will lead to changes in the structure of an economy and the energy sector, shutdown of outdated production facilities, and development of new technologies and new energy, which will in turn affect the employment structure across different industries and regions. Changes brought about by the implementation of climate policies will not only have an impact on the number of jobs and employment structure but also generate new demand for job skills.

To fight climate change, it is necessary to adjust the energy mix, improve energy efficiency, and move from an energy system based on fossil fuels to one based on clean and renewable sources. Greenhouse gas (GHG) reduction measures also entail changes in the economic structure and will also have impacts on the industrial structures in some regions. The transition to a sustainable, low-carbon economy can have positive or negative impacts on employment in some sectors. Overall, output and employment in low-carbon and service sectors will increase, while energy-intensive and resource-intensive sectors will see slower growth or gradually decline or be phased out altogether.

The impacts of climate policies on employment and the duration of such impacts differ significantly from sector to sector and from region to region. To make things more complicated, the impacts of climate policies on employment in a sector also change over time. In addition to technical feasibility and economic costs, policy makers must scientifically assess the impact of relevant policies on employment when setting emission reduction targets. This kind of assessment should include two dimensions: (i) quantitative assessment of the scale of employment changes in affected sectors by country or region; and (ii) assessment of changes in job quality in affected sectors.

Climate policies, such as the development and utilization of new energy sources, increase of carbon sequestration through afforestation, and development of specialized energy-saving services, will bring new investment and add new jobs to some sectors. Such investment will not only create a large number of direct employment opportunities but also generate many indirect ones in other industries, such as related equipment manufacturing, forest tourism and finance. In the meantime, however, coal, oil and natural gas industries, and the thermal power, steel, cement, and other industries that heavily depend on coal will see job reductions. But from a global perspective, most quantitative studies on the employment effects of climate policies have found that the implementation of climate policies as a whole will lead to a net increase in total employment of a society. The ILO and the International Institute for Labour Studies (IILS) (2012) compare 30 quantitative studies on

employment effects of climate policies, covering different countries or regions, and find that the implementation of climate policies as a whole will or is likely to have positive employment effects. Most studies indicate implementation of policies designed to achieve established climate control targets will lead to net gains in employment by 0.5–2%, which would translate into 15–60 million additional jobs. Some country-specific studies (including studies on the United States, Australia, and Germany) have reached a similar conclusion. The overall employment effects of climate policies are positive, and the more ambitious an emission reduction target is, the larger the net increase in employment it would bring (ILO and ILS, 2012).

Besides the overall effects of climate policies, policy-makers should also pay attention to changes in the quality of jobs due to the implementation of climate policies. Jobs generated by the shift to a low-carbon economy driven by the implementation of climate policies should provide not only reasonable income but also safe work environment and conditions. In other words, these emerging jobs should be decent. Studies have shown that the shift to a low-carbon society can significantly reduce occupational hazards in the traditional energy sector and energy-intensive sectors (Poschen, 2015; UNEP, ILO, IOE and ITUC, 2008). For example, as the energy mix shifts toward clean, low-carbon sources, health hazards faced by the traditional coal mining sector will also decrease along with the employment scale.

In addition to the effects of climate policies, climate change itself also has an impact on the economic development and employment in many countries. An ILO report (ILO, 2015) reveals that if global climate change continues uncontrollably, it will lead to weak economic growth in developing countries which are vulnerable to climate change, and increase the difficulty of achieving poverty reduction goals. Agriculture, which is directly affected by climate change, is one of the most important sectors of employment in many low-income countries. The risk of climate-related disasters, magnified by climate change, will lead to an increase in employment vulnerability in the agriculture sector, where people engaged in formal employment and informal economic activities will be affected.

4. Just Transition: Major Opportunities and Challenges

The implementation of climate policies will push economies and societies toward environmental sustainability. With appropriate policies that promote the full participation of all stakeholders, including workers and companies, in the decision-making process, the transition can contribute to net gains in overall employment, improvement of the quality of jobs and social justice, and the eradication of poverty. However, climate policies will also lead to changes in the economic structure, the energy mix, and corporate practices, therefore inevitably posing some problems and challenges.

4.1. Opportunities generated by just transition

As far as just transition is concerned, many countries will benefit a lot from the transition toward sustainability. The implementation of climate policies will bring the following opportunities to countries around the world.

4.1.1. *Opportunities to achieve net gains in employment*

In order to get global warming under control, countries must continue to cut GHG emissions or control the growth rate of GHG emissions, which requires changes in their economic structures, industrial structures and energy mixes. Such changes will further affect all aspects of economies and societies, including consumption patterns, energy production and utilization, development of energy technologies, industrial layout, commodity production and distribution, and the effects of such changes vary from sector to sector. But overall, large investments for low-carbon transition and development will flood into the natural resource management sector as well as sectors marked by more environmentally sustainable production and consumption patterns, and create considerable numbers of decent and quality jobs, making up for the decline in jobs in the traditional manufacturing and industry sectors and leading to net gains in overall employment.

4.1.2. *Opportunities to improve the quality of jobs and increase income levels*

In addition to properly handling job creation and job losses across sectors in the process of transition and offsetting the impacts of the transition on workers, a just transition framework should also be able to improve the overall quality of jobs and increase income levels of the society. To achieve emission reduction targets, it is necessary to increase the efficiency of production methods and encourage key sectors such as agriculture, construction, waste treatment and recycling, and tourism to provide more green products and services to economies and societies, which will translate into more jobs. Compared with disappearing traditional employment opportunities, these new jobs often come with better working conditions and environment. In other words, compared with before the transition, the overall quality of jobs will improve significantly and income levels will also increase accordingly.

4.1.3. *Opportunities to shift the basic supply of energy toward clean, low-carbon sources*

A clean and low-carbon energy structure designed to make environmentally sustainable energy sources affordable for more people is central to low-carbon transition. A just transition framework also must ensure the costs of environmental- and climate-friendly services are reasonable so that low-income groups can afford cleaner energy. Such just transition programs can improve social inclusion and will be especially valuable for poor countries and regions.

4.2. *Challenges to just transition*

However, there are also many challenges to achieving a just transition for all. Below are some examples.

4.2.1. *Job reduction and disappearance in some sectors*

Low-carbon transition entails economic restructuring. There will be a decline in jobs in some traditional sectors. The fossil fuel sector and sectors using fossil fuels as raw

materials will be under tremendous pressure to transform. Looking ahead, reducing reliance on coal-fired power plants is expected to be a priority for climate change mitigation and energy transition. According to the *Emission Gap Report 2017* released by UNEP (2017), if climate targets are to be reached, between 80% and 90% of coal reserves worldwide will need to remain in the ground, and avoiding building new coal-fired power plants and phasing out existing ones is crucial to closing the emissions gap. This arduous transition means a decline in jobs in the coal mining and coal-fired power sectors.

4.2.2. Job placement pressure on affected companies and regions

Low-carbon transition will place some sectors and regions under tremendous pressure. Coal, oil and natural gas industries, chemicals industries using coal, oil and natural gas as raw materials, and thermal power, steel, cement and other industries that heavily depend on coal will inevitably see job reductions. These industries tend to exhibit distinct regional agglomeration patterns. Job reductions in these industries therefore have a direct adverse impact on regions boasting abundant fossil fuels. Affected regions and companies are expected to face sustained pressure to transform. Therefore, they must take action to adapt to the long-term effects of the implementation of climate policies, properly handle the job placement pressure they will face, and avoid involuntary large-scale migration, loss of assets, or a decline in the standard of living of affected groups as a result of implementation of climate policies.

4.2.3. Impacts of rising energy and commodity prices on vulnerable groups

In order to achieve climate change mitigation targets, it is necessary to gradually increase the proportion of clean energy in the energy mix. However, currently, energy from clean and renewable sources has no obvious cost advantage over conventional energy from fossil fuels. This kind of change in the energy mix may cause energy and commodity prices to rise, especially in some low-income developing countries, imposing an additional financial burden on poor families. Therefore, targeted policies, such as subsidies, must be adopted to minimize this adverse effect.

5. Guideline Principles and Basic Framework for Just Transition

A just transition program must provide decent jobs for all and help improve social inclusion and eradicate poverty when the world is on track for climate goals. Some studies have revealed that the transition to a low-carbon economy can help a society achieve some social development goals. It can create new momentum for developed and developing economies, generate a large number of decent green jobs, and thus greatly contribute to poverty eradication and promotion of social inclusion. The transition to a green economy will enable the use of natural resources in a more sustainable way and help improve energy efficiency, reduce waste, sort out social inequality and increase economic vitality. The greening of jobs and the creation of green jobs can foster a competitive, low-carbon, environmentally sustainable economy, promote sustainable production and consumption patterns, and contribute to the fight against climate change.

A well-managed just transition can greatly contribute to job creation, improvement of job quality, social justice and poverty eradication. The greening of enterprises and jobs by reducing pollution and producing in a more sustainable way can lead to innovation, increase economic vitality and drive new investments.

5.1. Guiding principles for just transition

A just transition framework should consist of specific solutions to address the impacts of transition on workers and affected regions, including impacts on employment, risk of job loss, risk of regional economic recession, and other negative impacts. The UNFCCC has proposed the following three principles to guide a just transition linked to climate change: (i) developed countries must acknowledge their historical responsibility for climate change and comply with the principle of “common but differentiated responsibilities”; (ii) measures taken to combat climate change should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade; and (iii) actions to fight climate change should be appropriately integrated with national development programs, and the specific needs and special circumstances of developing countries, especially those that are particularly vulnerable to the adverse effects of climate change, should be given full consideration. A just transition for workers as a society responds to climate change should be guided by the above three principles.

5.2. Basic framework for just transition

In order to achieve a just transition, it is necessary to establish a sound and reasonable policy framework consisting of economic, environmental, social, education/training, and other related policies to create an enabling environment for enterprises, workers, investors and consumers, and ensure the participation of all stakeholders in the just transition toward an environmentally sustainable and inclusive society. A just transition framework should clarify how to promote the creation of more decent jobs, including anticipating the progress and extent of the impacts of transition on employment, necessary social protection for job losses and displacement, skills development and effective protection of workers' rights.

Due to the wide differences in specific conditions of countries, there is no “one-size-fits-all” framework. Policies should be designed in line with the specific conditions of countries, including their stage of development, economic sectors, and types and sizes of enterprises. Each country should develop a package of macroeconomic, industry, sectoral, and labor policies in line with its own specific conditions to encourage enterprises to embark on sustainable transition. More decent jobs should be created by mobilizing and directing public and private investments toward environmentally sustainable activities. The goal is to create more decent jobs throughout the supply chain, simulate the upgrading of jobs and skills in dynamic, high-value-added sectors, and increase labor productivity in labor-intensive industries. In the meantime, international cooperation mechanisms should be established to promote the sharing of experiences.

Many international institutions have been promoting country-specific decent work programs, the sharing of knowledge and best practices on macroeconomic and sectoral policies, the discussion and analysis of the results of employment and socio-economic assessments, and international cooperation. At the national level, macroeconomic policies should be designed to advance just transition across all sectors; at the industrial and sectoral level, measures should be adopted to promote the creation of decent jobs and project the needs of new skills, based on which reasonable and continuous training mechanisms should be designed; at the local level, local governments, employers, trade unions, and research and training institutions should work effectively together to integrate just transition measures into the framework for sustainable economic development.

6. Policy Recommendations for Just Transition in China

In the long run, new jobs and demands created by industrial and energy restructuring will ultimately compensate for job losses caused by the implementation of climate change policies. However, in the short term, as far as China is concerned, relevant industrial restructuring measures put in place to reduce GHG emissions will have huge impacts on some traditional industrial sectors, including coal mining, steel, cement, and electricity. The shutdown of outdated production facilities will cause a large number of jobs to disappear. Taking the coal industry for example, during 2003–2013, known as the “Golden Decade” of the coal industry, the number of workers in the coal sector in urban areas increased from 3.77 million to 5.3 million, an increase of 1.53 million. However, since 2014, the number of workers in the coal industry has dropped from 5.3 million to 3.96 million in just three years, as a result of the combined effects of climate, environmental protection, energy transition, and capacity cut policies. The coal industry involves a large-scale employment, thus the climate policies closely affect the interests of related enterprises, the livelihood of workers, and the social stability. Since job creation and job loss due to climate change actions and policies are unevenly distributed in space and time, in-depth research is urgently needed to accurately assess these effects. Targeted policies should be developed based on research results to stimulate the development of industries on which climate policies have job creation effects, while helping negatively affected industries and regions tackle job losses and other challenges.

Many Parties to the UNFCCC, with a better understanding of just transition, have conducted studies on just transition and are working to establish a well-functioning framework and promote best practices. Although China has made many institutional arrangements for just transition, a lack of systematic thinking is a common problem in these arrangements. Seeking to build an ecological civilization, China should fully consider the impacts of relevant policies on employment in some sectors and properly handle them. Sectors that are most seriously affected should set targets in a progressive manner and adopt targeted measures, put in place an appropriate job placement program to help affected workers, and avoid severe unemployment problems at local and enterprise levels. In order to achieve a just transition and coordinate climate policies with employment and social security policies, the following actions should be taken.

First of all, China should strengthen the basic research on just transition to understand the concept better. Studies should be carried out to assess the employment and social effects of climate policies and other policies designed to advance the transition toward sustainability, project the affected sectors and regions, and establish policy frameworks. For example, in the context of supply-side restructuring in China, some sectors, especially coal mining, will see job losses due to capacity cuts and the implementation of other reform programs. Studies should be conducted to identify most affected regions and policy-making needs, and help regions and industries suffering from job reductions achieve just transition.

Secondly, China should promote the creation of green jobs by increasing green investment. Current contributions to employment vary widely from sector to sector, and the direct and indirect effects of industrial development on employment also differ from sector to sector. Experience of other countries has proved that the indirect effects of green investment on employment are far greater than the direct effects. Energy conservation and emission reduction policies and the development of clean energy such as solar energy, biofuels, wind power and hydropower in China will create a large number of jobs and thus help China achieve just transition.

Last but not least, the placement of workers negatively affected by the implementation of climate policies should be considered. The combined effects of capacity cuts and energy conservation and emission reduction policies will lead to a sharp decline of jobs in some traditional sectors. In response to job reductions, the central and local governments should introduce targeted policies and measures to provide job placement services and help workers cope with job loss in a well-rounded manner. It should be noted that, due to the large differences in the regional distribution of coal mining, resource exhausted cities dominated by a single industry and standalone mining areas have to bear the brunt of job losses. Therefore, special policies and measures such as job placement funding, job skills training, social security transfer payments, unemployment insurance, and inter-regional job placement services should be adopted to support and help affected workers in these cities and areas. Job placement services should be offered to workers laid off as a result of the implementation of climate policies to prevent them from falling prey to poverty.

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