

**NAVIGATING THE PATH
TO A JUST TRANSITION:
EMPLOYMENT IMPLICATIONS
OF CHINA'S GREEN
TRANSITION**

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EXECUTIVE SUMMARY

For the world to meet the Paris Agreement, and for China to ensure its own dual climate goals of carbon peaking by 2030 and carbon neutrality by 2060, the transformation of China's economic structure, energy mix, production methods and lifestyles towards low carbon pathways is essential. This 'green transition' will not only be vital in safeguarding the environment on which we all depend. It could also create more than 3.6 million jobs in China's clean energy sector alone y.¹

However, the industrial overhaul it requires may also disproportionately affect certain sectors, regions and groups, as not all will have equal access to new green job opportunities. Therefore, it is critical to **mitigate potential negative socio-economic impacts and risks, to ensure a just transition that includes everyone.**

While China has yet to establish a clear institutional framework for a just transition, some **key elements of this are reflected in China's policy documents and development vision.** At the Leaders' Summit on Climate in 2021, Chinese President Xi Jinping also highlighted the importance of putting people first and coordinating efforts in environmental protection, economic growth, job creation and poverty eradication.

This raises the need for evidence-based research to better inform policy-makers on how best to balance the energy transition with social and economic considerations. To this effect, this report examines the employment impacts of China's energy transition on two key industries – the coal mining and preparation industry, as well as the electricity industry. It also proposes policy tools to minimize labour shocks and maximize opportunities.

Key findings include the following:

- Based on China's current policy trajectory, 52 percent of jobs in the coal sector are projected to disappear by 2030, with this number increasing to

90-94 percent by 2050. This translates to an expected direct loss of 1.3 million jobs within the next decade and 2.35 million jobs within the next 30 years. **While significant, the scale of employment change is smaller than that experienced during China's supply-side structural reform,** which resulted in a loss of 1.4 million jobs in the coal sector between 2016 and 2021.

- The study forecasts employment under a variety of technology and policy scenarios and found that the difference in employment change between different technical scenarios is smaller than that between different policy scenarios. **This suggests that energy transition actions resulting from policy changes will play a more important role in downsizing coal jobs than technological innovations in improving labor productivity.**
- Our analysis shows that for every job lost in coal, there will be a corresponding 1.08 jobs lost in related industries. Additionally, this ratio has been decreasing since 2010, suggesting that **the negative employment effects of the coal industry's transition are expected to be mostly limited to the coal industry itself, and its significance for related jobs will continue to wane.**
- Over the next 10 and 50 years, thermal power employment is projected to decrease by 30 percent and 95 percent, respectively. **However, overall the electricity industry is expected to see an increase in employment, due to new jobs created in renewable energy.** Employment in wind and solar power generation are expected to double and quadruple respectively, within 50 years.

The study also examines the current composition of the coal industry workforce, to identify the groups of people most affected by the coal phase-down:

¹ International Energy Agency. (2021). An energy sector roadmap to carbon neutrality in China. <https://www.iea.org/reports/an-energy-sector-roadmap-to-carbon-neutrality-in-china>



Education: coal industry employees are generally less educated and lower-skilled than workers in other sectors. Moreover, the few well-educated professionals in the industry are mostly concentrated in large coal companies, resulting in a growing disparity in the human resource assets between large and small coal companies.

Gender: About 80 percent of coal industry employees are male. Therefore, it is commonly assumed that any labor shock within the industry would disproportionately affect men. However, the share of female employees in the sector has declined from 21.9 percent in 2003 to 13.3 percent in 2020, while men's share has climbed from 78.1 percent to 86.7 percent, suggesting **women are more vulnerable and at higher risk of unemployment when the sector shrinks**.

To provide concrete recommendations for protecting and including these groups in China's green transition, this study summarizes experiences from representative countries and provides case studies of best practices from Germany and the EU. The review of international best practices has identified five priority areas that are crucial to ensuring a just transition. Under each area, suggestions are proposed as follows:

- **Establish a task force to enhance inter-agency coordination and stakeholder engagement.** China could consider either establishing a new taskforce for its just transition, or expanding the scope of an existing coordination mechanism, such as the State Council's leading group on employment.
- **Support workers in need by strengthening China's existing employment policy,** including by continuously evaluating and adapting policies to ensure their effectiveness in a fast-changing context. Revising the eligibility criteria for employment stabilization subsidies and specifying the proportion of financial assistance that needs to be set aside for supporting affected workers (versus repaying company debts or other obligations) are two ways to ensure that such support reaches the companies

and workers that need it the most. Additionally, China should formulate medium- and long-term national plans for green employment, setting clear targets and establishing key priorities, to guide efforts in this area. In the meantime, it is crucial to actively provide affected workers with suitable green skills training, enabling them to benefit from the opportunities presented by the growth of green jobs.

- **Coordinate social protection and employment policies for mutual reinforcement.** To effectively assist laid-off workers, targeted measures should also be designed based on their willingness to work, age, gender and skill level. A different combination of social protection and employment policy tools could be used for different groups.
- **Diversify the economy through industrial restructuring and enhance coordination between economic transitions and job creation.** To achieve balanced progress in environmental protection, economic development and employment generation, policies must be implemented in a more synchronized manner. This proposes that any new industrial policy should be accompanied by complementary environmental and employment policies, to mitigate potential environmental or social impacts that it might cause.
- **Pool funds from diverse sources and guard against financial risks.** It is vital to leverage private along with public finance to support the energy transition. This involves promoting transition finance and incorporating social considerations in lending decisions. For example, for SDG-linked bonds, to set the number of workers retained as a key performance indicator (KPIs), with a view to incentivizing enterprises in transition to retain workers. China could draw on the experience of the EU and create transition funds that direct resources

towards vulnerable and negatively affected areas and companies.

Overall, if **groups most at risk are placed at the heart of decisions** regarding the major industrial changes needed in going green, it is possible for China and all countries to build a new green economy through a just transition, leaving no one behind.



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