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U.S.-China Coal Regions and
Energy Transition Track II Dialogue

U.S. – China Coal Communities and Economic Diversification Strategies

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For Internal Reference Only



On April 14, Beijing time, April 13, Washington, D.C. time, the Energy Foundation China, the China Coal Society, and the Jackson Hole Center for Global Affairs jointly organized the "China US Coal Regions and Energy Transition Track II Dialogue". The second session of the U.S.-China Coal Regions and Energy Transition Track II Dialogue, entitled the U.S.-China Coal Communities and Economic Diversification Strategies, was designed to focus on comparing strategies and experiences in economic diversification strategies, including federal to regional approaches, financing mechanisms, and case studies. More than 50 Chinese and American stakeholders, policy-makers, and experts attended the meeting. Experts actively discussed the current state of affairs and transition away from coal production in multiple regions across China and the U.S. The robust discussion included local and national policy impacts, large and small-scale financing options, and various examples of how former coal-producing communities have evolved in recent years.

The United States and China are the globe's largest economies, largest energy consumers, and, in addition to India, the globe's largest coal-producing nations, the most carbon-intensive fossil fuel. The carbon emissions from the U.S. and China jointly account for 40 percent of global greenhouse gas emissions. At the COP26 meeting in 2021, the two sides jointly signed U.S.-China Joint Glasgow Declaration on Enhancing Climate Action in the 2020s, pathing ways for further bilateral collaboration. Progress between the U.S. and China in reducing carbon emissions, particularly as it relates to coal, will be critical to reducing global carbon emissions, and helping to setting examples that other nations can also implement.

The overall track two dialogue has three main objectives:

- Build a common understanding of the similar challenges faced in Chinese and US coal-producing regions, based on a selection of case studies, and to present concrete situations from an on-the-ground perspective.
- Start a conversation between US and China, especially among experts and sub-national actors from coal-producing regions that produces insights and recommendations for policymakers in both countries.
- Create a foundation and link directly between U.S.-China coal regions and policymakers to strengthen information flow, policymaking, measures that can directly assist coal communities, and bilateral climate action

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Shared themes identified by U.S. and China speakers and participants throughout included the importance of effective national and regional policy during the coal transition, the realization that coal is still a critical source of energy in many places as the renewable energy transition takes time to develop, the need for diversified forms of energy production to fully implement a reliable electrical network of renewable energy, the importance of creating new jobs for former coal workers, the need to think creatively about different strategies for redeveloping coal regions in new industries, and the requisite shifting of the collective public mindset in order to accept that a transition away from coal will be coming in the near-term.

A. GENERAL TRANSITION STRATEGIES AND FINANCING

Both the U.S. and China are aware of the need to transition away from coal production for a variety of reasons including shifting global energy markets and meeting climate change and environmental quality goals. However, there is also a strong sentiment that the renewable energy sector is not yet technically ready to meet current energy demand without suffering from intermittent availability. Therefore, coal will continue to play a role in both sides' energy-producing futures for the foreseeable future. Meanwhile, significant numbers of coal-fired power plants have already shut down in both countries, and the need to plan ahead for future closures is imminent.

On the U.S. side, each coal-producing region has developed different strategies for transition. Significant increases in federal funding through the Biden administration have boosted many locally-developed projects. Regional entities work alongside the private sector and nonprofits to provide local coal-mining communities with access to grant money and expertise. In several cases, the private sector is leading the transition with renewable energy projects and specific criteria that require updated policy support from coal-producing regions. The regional lawmakers have made a large impact with recently redesigned state policies, but conflicting opinions have also led to some new laws that may hinder the energy transition and hurt consumers. Refinancing

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options, including bond securitization and capital reinvesting by utility investors, are currently being explored in several regions to promote a more just and equitable energy transition.

On the Chinese side, former coal-producing cities are in various stages of development ranging from growing, declining, leapfrog development, and renewable cities. All have different directions and supportive policies. The overriding principles include scientific resource allocation and environmental remediation with the goal to achieve ecological and social benefits. As part of the transition, coal-producing regions in China are developing modern mines with skilled workers who are then more able to transition to new industries such as green hydrogen. Other emerging industries include the coal chemical industry, converting coal-fired power to other forms like biogas, and reuse of abandoned mines for ecological purposes. Shanxi province in particular is actively promoting corporate research and development (R&D) and devoting more efforts to clean technology improvements. They are working to enhance the resource trading system through green certificate trading and renewable energy subsidies.

Hundreds of cities have been categorized into a spectrum of transitional stages including:

1. Industrial transfer,
2. Industrial diversification,
3. Industrial upgrading,
4. Green transformation,
5. Industrial chain and supply chain integration, and
6. Innovative cultural industry

Current national policies and financial support are helpful for coal-producing regions, but communities could likely benefit from more transparency and enforcement. Conferences and training sessions organized by entities such as the EFC and CCS have been beneficial in bringing together ideas and best practices from across the country.

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B.OVERALL THEMES:

On the U.S. side, the transition is aided by government policies and recently increased federal funding, but the execution varies significantly by region. The private sector has taken the lead in some areas by requiring more renewable energy which has in turn led to policy change at the state government level in places like West Virginia. However, other state legislative policies have been designed to support the fossil fuel industry through requirements to run coal plants or utilize CCS technology though it could result in raising energy rates for consumers. Innovative financial mechanisms such as securitization are being explored, and federal subsidies and tax credits still hold an extensive yet unpredictable role in promoting the transition to renewable energy.

The Chinese side reiterated that coal is still an important piece of their energy mix and is necessary for the development of other industries. The government has set plans for carbon peaking and reduction, but the scale of renewables is not currently at a high enough level to be able to achieve this. Significant efforts are being put into developing coal chemical industries and other uses for coal. The central government has some policies in place to lead the transition, but the coal-producing regions would like to have more help on the policy and fiscal levels. Several innovative examples of community transitions are currently in place including reclaiming mine lands into cultural and recreational venues that are integrated into complete urban and real estate development planning. The goal of creating new jobs for former coal workers still presents significant challenges on both the Chinese and U.S. sides.

In some regions, the public and legislative opinion is quickly changing towards understanding that a transition from coal is imminent and must be embraced rather than resisted. However, the overall goals for the coal industry and a just transition for both coal communities and general taxpayers are still not always clear or well-planned. Both sides agree that current technologies and capacity in renewables and battery storage remain in need of improvement to fully achieve lower-carbon goals on a large scale. Additionally, increased transparency and accessibility in federal policy and funding is desired for long-term planning.

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C.CASE STUDIES:

Dialogue participants presented multiple examples of how their communities have redeveloped following the transition away from coal. In Wyoming, United States, where many coal-fired power plants are set to retire in the next 10-20 years, policy-makers pursue an “all of the above” energy mix which includes coal in addition to nuclear, wind, solar, and natural gas. In Kemmerer, Wyoming, a current transition project is the next-generation advanced nuclear fuel facility (supported by \$2 billion in federal funding) that would provide a zero-carbon energy source to complement the current installment of wind and solar projects across the state (currently 2,000 MW with 3,000 MW in development). In Campbell County, Wyoming, officials are looking to create a “Carbon Valley,” similar to Silicon Valley in California, that would work alongside the University of Wyoming to develop new technologies such as carbon capture and utilization, as well as conversion of coal to other products.

In West Virginia, through a combination of policy change and private industry leadership, several major new climate-friendly businesses are emerging including low-carbon steel production, an electric bus factory, and a battery manufacturing company. The transition has been expedited by the state legislature working to pass new legislation that draws in new businesses and provides grant funding to coal communities to support their own redevelopment ideas. Furthermore, private businesses have worked with the local coal union to retrain former coal workers in new capacities for their own facilities.

On the Chinese side, numerous transitions have occurred in regions where coal plants have already shut down. While the number of coal plants has decreased from 13,000 to less than 5,000, over 85% of the country's energy needs are met by 1,200 large-scale modernized plants. With significant input from the 14th five-year plan and regional planning commissions, the transitions vary based on the coal-producing regions' states of development.

Some regions have transitioned to newer technology power

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plants or integrated supply and industrial chains. In Tangshan, the industry has now transformed to products such as chemicals, cement, oil and gas, ceramics, glass, and logistics—creating an industrial supply chain. Other areas have developed entirely new directions such as cultural tourism and creative industries. For example, in Tangshan City, Hebei province, former coal mines have transformed into the Nanhu Ecological Park and Panan Lake Ecological Wetlands Park with recreational opportunities, greenlands, and real estate developments. The site of another former mine has been redeveloped into Kailuan National Park with a mining museum and demonstration area that honors the strong cultural history of mining in the area.

NEXT STEPS

The United States and China are the globe's largest economies, largest energy consumers, and, in addition to India, the globe's largest coal-producing nations, the most carbon-intensive fossil fuel. The carbon emissions from the U.S. and China jointly account for 40 percent of global greenhouse gas emissions. Progress between the U.S. and China in reducing carbon emissions, particularly as it relates to coal, will be critical to reducing global carbon emissions, and helping to setting examples that other nations can also implement.

China and the United States share common challenges in the energy transition of the coal regions. In the future, under the guidance of the Sino-U.S. Glasgow Joint Declaration, on the basis of existing cooperation, both countries can further carry out the Track II dialogue, deepen the cooperation among experts and non-state entities (provincial and state level, Inter-enterprise). The Energy Foundation China, Jackson Hole Center for Global Affairs and the China Coal Society will continue to promote the Track II Dialogue and bilateral cooperation on the coal and energy transition and other climate issues. Based on participant feedback, the organizations are working to create a network of professionals who can further connect on their own to discuss issues pertinent to their work in advancing the transition.