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BELT AND ROAD INITIATIVE GREEN DEVELOPMENT CONFERENCE

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PREFACE

The Belt and Road Initiative (BRI) is an enormous infrastructure initiative first announced by Chinese President Xi Jinping in 2013. The Chinese government has emphasized "green development" as an important feature of the BRI. Plans and policies with respect to BRI energy infrastructure—including coal plants, pipelines and renewable energy projects—are receiving growing attention.

To improve understanding of these topics, the Center on Global Energy and Policy|SIPA at Columbia University and the Center for International Energy and Environment Strategy Studies at Renmin University convened a conference on the Belt and Road Initiative Green Development on November 19–21, 2017, on the Columbia University campus in New York City. Participants included policymakers, business executives and scholars from China, the United States, and other countries. The conference included an opening dinner and private workshop, where dialogue was conducted under the Chatham House Rule (except for three keynote speeches), as well as a public event. This report summarizes key points from the conference.


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EXIT

BELT AND ROAD INITIATIVE—BACKGROUND

The Belt and Road Initiative is the largest infrastructure initiative ever. It has been compared to the Marshall Plan, under which the US government provided funding to help rebuild Europe after World War II, but the scale and funding involved (in real terms) are larger. Under the Belt and Road Initiative, the Chinese government will provide hundreds of billions of dollars for thousands of projects in dozens of countries. Funding will be provided for roads, railways and ports, as well as energy infrastructure including coal plants, pipelines, transmission lines and renewable energy projects.

Funding for the Belt and Road Initiative will come through many channels. Those include Chinese policy banks, such as the China Development Bank and Chinese Export-Import Bank; multilateral development banks in which China plays a leading role, including the Asian Infrastructure Investment Bank and New Development Bank; and Chinese state-owned enterprises.

The Belt and Road Initiative is a major diplomatic priority for Chinese President Xi Jinping, who convened a Belt and Road Summit in Beijing in May 2017. Several dozen heads of state attended.

The Belt and Road Initiative is sometimes referred to by its full name—the Silk Road Economic Belt and a 21st Century Maritime Silk Road.

Participants at the Columbia-Renmin conference offered their assessment of the Chinese government's principal goals with respect to the Belt and Road Initiative:

- Several participants stated that the Chinese government is seeking to export its successful development model to other countries, promoting economic growth and human well-being around the world.
- Others said the Chinese government is seeking to promote closer relationships among participating countries, highlighting the Belt and Road Initiative's "five connectivities"—policy coordination, connectivity of infrastructure and facilities, unimpeded trade, financial integration, and close people-to-people ties. They said that a principal goal of BRI is to help spur large-scale regional cooperative development.
- Others participants discussed economic goals, noting that the Belt and Road Initiative helps create markets for Chinese companies and address the problem of overcapacity in many Chinese industries.
- Several participants saw the Belt and Road Initiative as a means for the Chinese government to extend its soft power abroad. They noted significant concerns in this regard from some US government officials, who are concerned BRI could exacerbate tensions in some regions, including South Asia and the South China Sea.

Participants discussed the role of the Chinese government in Belt and Road projects. Several participants said that BRI promotes collaborative projects among Chinese entities and recipient countries, emphasizing that the Chinese government will respect local laws and

practices. Other participants said that the Belt and Road Initiative is Chinese led and will inevitably reflect Chinese priorities.

GREEN DEVELOPMENT UNDER THE BELT AND ROAD INITIATIVE

The Chinese government has emphasized "green development" under the Belt and Road Initiative. Its *Guidance on Promoting Green Belt and Road* (May 2017), issued jointly by the National Development and Reform Commission (NDRC), Ministry of Foreign Affairs, Ministry of Commerce, and Ministry of Environmental Protection,[1] says that "ecological civilization," "eco-environmental protection" and "green development" will be core features of BRI.

The *Guidance on Promoting Green Belt and Road* calls on entities participating in BRI to, among other things,

- formulate environmental protection standards and codes for infrastructure construction;
- increase environment protection service and support for major infrastructure construction projects along the route; and
- popularize energy conservation and environmental protection standards and practice in such sectors as green transport, green buildings and clean energy.

The *Guidance* says:

- "We will prioritize infrastructure and capability building projects for energy conservation, emission reduction, and eco-environment protection." (III.iii.1)
- "We will enhance green guidance for corporate behavior and encourage businesses to adopt voluntary measures." (III.iii.2)
- "We will make use of unique advantages of policy-based financial institutions in guiding and channeling the funds of various parties to jointly support the development of green Belt and Road Initiative." (IV.ii)

The *Guidance on Promoting Green Belt and Road* does not provide specifics with respect to implementation or accountability mechanisms. Data with respect to energy use, efficiencies and emissions at BRI projects are sparse.

Several participants expressed concern that without implementation and accountability mechanisms for the *Guidance*, the Belt and Road Initiative could have significant negative impacts on air and water quality in some recipient countries, as well as on global carbon emissions. They recommended the development of publicly available metrics to measure the performance of Belt and Road projects. These metrics would assist project developers and financiers and track BRI's progress in meeting the goals of the *Guidance*.

Several participants noted the priority the Chinese government attached to green development as host of the G20 Summit in 2016. One participant said the Chinese government hopes the G20 and United Nations can assist in establishing green goals and guidelines under the Belt and Road Initiative.

RENEWABLE ENERGY UNDER THE BELT AND ROAD INITIATIVE

The cost of solar and wind power has dropped dramatically in the past decade. In some regions, new renewable power capacity is now cheaper than traditional fossil fuel alternatives. (In April 2016, for example, former Indian power minister Piyush Goyal said that in his country "a new coal plant would give you costlier power than a solar plant."[2]) Although integration of renewable power into electric grids can create challenges, leading forecasts project solar and wind power to grow significantly in the years ahead.[3]

Participants saw considerable opportunities for renewable power development under the Belt and Road Initiative. One participant noted that the Nationally Determined Contributions (NDCs) submitted by Belt and Road countries to the UN Framework Convention on Climate Change show strong, widespread commitment to renewable power. Another projected that hundreds of billions of dollars would be invested in solar and wind power in Belt and Road countries in the decade ahead, producing hundreds of gigawatts of new renewable power capacity.

Several participants emphasized the importance of renewable energy to low carbon development and meeting the goals of the Paris Agreement. Others discussed China's dominant position in global renewable energy markets, noting that in recent years China has both manufactured and deployed more solar panels than any other nation.

Participants discussed a number of challenges facing renewable energy development under the Belt and Road Initiative. Financing challenges received the most attention. Credit risks in many BRI countries were identified as a barrier. Participants also noted that very few Belt and Road countries have mechanisms for monetizing the carbon reduction benefits of renewable energy (such as a carbon tax or emissions trading program). Participants identified other barriers to renewable energy development under BRI, including lack of electricity interconnection to bring renewable power to market, varying regulations and standards, tariffs, investment restrictions and other trade barriers.

Several participants said more data are needed to understand the extent of renewable energy investment to date and in the pipeline as part of the Belt and Road Initiative. Some participants said that cooperation between the United States and China could help promote renewable energy development in Belt and Road countries, noting in particular the strength of US universities and other research organizations in technological innovation.

FOSSIL FUELS UNDER THE BELT AND ROAD INITIATIVE

Many Belt and Road countries have considerable fossil fuel resources, including coal, oil and gas. Government officials in many of those countries are seeking assistance in developing these fossil fuel resources.

Chinese policy banks and state-owned companies play an important role in fossil fuel development in many Belt and Road countries. Both China Development Bank and the Chinese Export-Import Bank have provided significant capital for coal-fired power plants in a number of countries. Chinese state-owned oil companies play important roles in upstream oil and gas development and pipeline construction across parts of Asia and Africa.

The *Guidance on Promoting a Green Belt and Road* does not specifically address fossil fuel development. It says that "we will leverage the geographic advantages of different regions" (III.iv.1)—a phrase many read to include fossil fuel resources. It also says,

- "We will…improve green and low-carbon construction and operation." (III.i.3)
- "We will encourage enterprises to prioritize low-carbon, energy-saving, environment-friendly and green materials and technical processes." (III.iii.2)
- "We will quicken the pace to formulate and execute policies and measures to prevent eco risks of investment and financing projects, tighten environment management for overseas investment, [and] drive enterprises to voluntarily bear environmental and social responsibilities." (III.i.5)
- "We will encourage relevant industry associations to formulate and issue industrial eco-environment protection standards, codes and guides that are in line with international standards." (III.ii.2)

Participants at the conference had sharply different views with respect to fossil fuel development.

- Some saw fossil fuel development as essential for poverty alleviation in many Belt and Road countries. They said fossil fuels have played an important role in poverty alleviation in the past and often continue to do so.
- Others said that fossil fuel development may contribute to development in some places today but emphasized that a transition to cleaner fuels is underway. They recommended that new fossil fuel projects be carefully evaluated to determine whether those projects in fact deliver social benefits and how adverse impacts can be minimized.
- Other participants said that fossil fuel projects—in particular coal-fired power plants—are inconsistent with green development in all cases. They said new fossil fuel infrastructure makes meeting the goals of the Paris Agreement difficult or impossible.

China's role in promoting advanced coal technology under the Belt and Road Initiative was

discussed. One participant said China is promoting ultra-supercritical coal-fired plants whose emissions are no greater than natural gas plants. Another participant said that historically most Chinese funding for coal plants abroad has been for subcritical technologies, although this may now be changing. Several participants said more and better data are needed on the nature and impact of fossil fuel investments under the BRI.

Participants discussed international environmental and social standards with respect to fossil fuel development. Several participants said the Chinese government encourages companies to consider and comply with such standards as part of the Belt and Road Initiative. Participants identified several international standard-setting programs, including the Extractive Industries Transparency Initiative, that could provide useful guidance for Chinese companies doing business under BRI. Several participants noted that it could be politically challenging for Chinese banks and state- owned enterprises to include conditionality that requires more expensive, environmentally-friendly technologies in BRI projects.

CAPITAL MARKET IMPLICATIONS

Hundreds of billions of dollars are expected to be deployed under the Belt and Road Initiative. Some experts project totals could reach into the trillions of dollars. Core financing will come from Chinese government entities, including policy banks (such as China Development Bank and the Export-Import Bank of China), special funds (such as the Silk Road Fund and South-South Cooperation Assistance Fund), and state-owned enterprises (such as China State Grid and China National Petroleum Corporation). These entities will draw on the roughly $3 trillion of foreign exchange currently held within China.

Private capital markets will play a central role in financing many BRI projects. Leading Western banks are mobilizing to capture opportunities related to the Belt and Road Initiative. Coinvestment by different capital providers will be essential in many projects. Trillions of dollars in global equity and debt markets could be tapped if investors are convinced of the financial viability of projects.

Several participants said that Belt and Road projects are intended to be commercially viable, not foreign aid. Recipient countries are expected to provide returns on capital invested and repay amounts borrowed. Several participants expressed concern about the financial viability of some Belt and Road projects, focusing in particular on some rail and road projects that seem unlikely to yield significant financial returns. Other participants said that, in their view, most Belt and Road projects would deliver expected financial returns.

“Green financing” has been a priority for the Chinese government in several contexts:

- As host of the G20 Summit in 2016, the Chinese government highlighted green finance in summit documents.
- Seven Chinese ministries have released *Guidelines for Establishing the Green Financial System*, which calls for the development of financial tools to promote clean and low carbon development.

- China leads the world in the issuance of green bonds.

Several participants said the Belt and Road Initiative would help to spread green financing, with China exporting its work on green finance to Belt and Road countries. Other participants were skeptical that green finance would play an important role in the Belt and Road Initiative, noting the reluctance of some recipient countries and lack of uniform standards in this area.

Participants discussed tools needed to facilitate investment in green projects under the Belt and Road Initiative. Several participants highlighted the need for de-risking mechanisms and importance of reducing the fossil fuel subsidies still prevalent in many countries. Several participants highlighted the importance of promoting transparency and cracking down on corruption, as an element of green financing and also more broadly. Participants agreed that "green metrics" and other tools for measuring and evaluating projects could play an important role in achieving the goals set forth in the *Guidance to Promoting a Green Belt and Road*.

KEYNOTE SPEECHES

Fu Chengyu

United Nations Global Compact

In his keynote speech, Mr. Fu explained President Xi Jinping's vision for the Belt and Road Initiative. He said President Xi's goal is to promote peace and prosperity while connecting different civilizations. Mr. Fu said the Belt and Road Initiative would be a powerful force for economic growth, in particular in developing countries. He emphasized the scale of the Belt and Road Initiative, saying it "involves 69 countries with 76 percent of the world's total population, which is about 4.6 billion people and one third of the world's GDP, which is roughly $23 trillion."

Mr. Fu identified factors that helped shape the original announcement of the Belt and Road Initiative, including the legacy of the 2008 financial crisis, China's economic growth slowing to a "new normal," and the rise of trade protectionism and antiglobalization. He emphasized that global economic growth requires new driving forces and that future development needs to be more inclusive than in the past.

Mr. Fu said that key principles behind the Belt and Road Initiative include broad consultation, joint contribution and shared benefits. He said: "China is not requiring any country to do anything, but asking each country to seek its own strategy on how it can benefit from this initiative." He highlighted the Belt and Road Initiative's "five connectivities," which are policy connectivity, infrastructure connectivity, capital connectivity, trade connectivity and people-to-people connectivity. Mr. Fu said that China is not leading the Belt and Road Initiative, but trying to let other countries benefit from working with China.

Mr. Fu said green development is a priority under the Belt and Road Initiative. "We are not just

building projects or investing in infrastructures," he said. "Making development sustainable in Belt and Road countries is key." Mr. Fu said that environmental protection, resource conservation, and the low carbon development are fundamental national policies in China. Those policies and standards would not only apply to China but also apply to investments made by the Chinese government and businesses. Mr. Fu concluded by saying that research and policy recommendations from institutions such as Columbia University and Renmin University are important to help the Belt and Road Initiative contribute to sustainable growth.

Paul Simons

International Energy Agency

Mr. Simons presented highlights from the IEA's "World Energy Outlook 2017" (WEO 2017), including in particular its sections on China. He said WEO 2017 identifies four large-scale shifts taking place in the global energy system:

- Rapid deployment and falling costs of renewable energy, including, in particular, solar power
- Electrification of energy
- China's shift to clean energy and push to "make the skies blue again"
- US becoming the global leader in oil and gas production

Mr. Simons reported that solar PV costs have fallen 70 percent since 2010. He said solar PV is on track to be the cheapest source of new generation in many countries, including China and India. IEA projects that more than half of global solar and wind power deployment to 2040 will be in China and India.

Electricity generation across the world is expected to rise to meet growing demand. By 2040, China will add the equivalent of today's United States to its electricity generation. India, Southeast Asia, Middle East and Africa will also grow significantly (more than double). Deployment of electric vehicles will be one source of electricity demand growth.

Mr. Simons said that China is by far the largest market in the world for solar PV, wind power and hydropower. It is also deploying more electric vehicles than any other nation. These trends reflect the strategic priority given to the "new energy" industry in China as part of its shift to higher value-added manufacturing and an innovation-driven economy. The energy efficiency of the Chinese economy is also improving steadily. IEA projects that by 2040, China will have a less energy-intensive economic system but remain the world's largest energy consumer.

Mr. Simons said the United States is in the middle of an oil and gas output rise that matches or exceeds all historical records. Such a dramatic turnaround has major implications across the energy world, reshaping energy markets and trade flows. The IEA projects that the United States will become a major natural gas exporter in the years ahead.

According to Mr. Simons, IEA projects that "by 2040, energy demand will be almost 30 percent higher than today." Oil demand will continue to grow to 2040, although at a steadily decreasing pace. Natural gas demand will continue to rise.

Mr. Simons reported that, for the first time, this year's World Energy Outlook includes a Sustainable Development Scenario that outlines an integrated scenario for achieving the UN's Sustainable Development Goals on climate change, cleaner air and universal energy access. IEA finds that much stronger policies than those currently in place will be needed to achieve these goals.

Jeffrey Sachs

Columbia University

Mr. Sachs opened his speech by discussing reasons that China will play a central role in the world's future. He said China will playa central role not only because of the size of its economy and population but also because of the Chinese government's capacity for long-term planning and its integrated strategy for reaching certain targets by 2050.

Mr. Sachs emphasized the significance and scale of the Belt and Road Initiative. He said BRI will benefit the world economically as well as help China build closer ties to many countries with communications, transport, low carbon energy, and cultural infrastructure.

Mr. Sachs discussed political instability in the United States and the inability of the United States and other developed countries to build large-scale infrastructure. In contrast, he said China has demonstrated capacity to build large-scale infrastructure at a high speed. With the Belt and Road Initiative, this has the potential to be a huge service not only to China but also to the world.

Mr. Sachs discussed the urgency of mitigating climate change. In 2017, global CO2 emissions increased almost 2 percent. This is the first increase after a three-year pause. However the climate math is simple: we must stop the growth in emissions and start rapidly reducing. Mr. Sachs emphasized that, in his view, "there is no room left for developing fossil fuels." China, as the largest and fastest-growing economy in the world and largest emitter, should do the "carbon arithmetic" and be clear of the risks. China should rethink its strategy in order to meet the Paris climate goals.

Mr. Sachs said that "the BRI is incredibly important. Please do it right—and understand the consequences." He urged the Chinese government not to wait and to promote low carbon development as soon as possible.

Mr. Sachs closed his speech by reemphasizing that China's vision under the Belt and Road Initiative is very exciting. He said that the rest of the world would like to work with China to help realize its vision

AUTHORS

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NOTES

1. See https://eng.yidaiyilu.gov.cn/zchj/qwfb/12479.htm
2. Peter Dockrill, "The cost of solar power is now cheaper than coal in this country," Business Insider (April 20, 2016) -- http://www.businessinsider.com/the-cost-of-solar-power-is-now-cheaper-than-coal-in-this-country-2016-4?r=UK&IR=T
3. See IEA, World Energy Outlook 2017 -- https://www.iea.org/weo2017/

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The Center for International Energy and Environment Strategy Studies (CIEESS), Renmin University of China, was founded in 2003 and is dedicated to the research of global energy problems, international energy relations, energy diplomacy, and the energy strategy of China with the approaches of international political economy and quantitative analysis. The center provides research products to governments and society, and it promotes and contributes to the making of energy policies and international energy cooperation of China. In 2014 the center became one of the first research consultancies of the National Energy Administration of China. The center is also the standing member of the Petroleum Economics Committee of the Chinese Petroleum Society and the China Energy Research Society.

SCHOOL OF INTERNATIONAL STUDIES (SIS)

The School of International Studies (SIS), Renmin University of China, is one of the earliest institutes engaging in the teaching and researching of political science and international affairs. The school has built strong academic traditions and accumulated invaluable historical experiences and thus made itself a leading and influential teaching and research base in the fields of political science and international studies in China. In 2017 the discipline of political science in the school was granted as one of the first-class disciplines with the national scientific initiative "Double-First Class" (Shuang Yi Liu, 双一流!) by Chinese authorities. Professor Yang Guangbin is the dean of the school.

NATIONAL ACADEMY OF DEVELOPMENT AND STRATEGY (NADS)

The National Academy of Development and Strategy (NADS) is an independent nonprofit research entity integrating quality think tank research resources of Renmin University of China through mechanism and system innovations, with the strategic blueprint of "Four Comprehensives" as the research framework and "modernized national governance" as special research areas. NADS is one of China's first batch of 25 pilot units for national high-end think tank construction. NADS sticks to the goal of "national strategy, global vision, decision-making consultation, public opinion guidance;" focuses on knowledge innovation and the global future; strives to become a new Chinese think tank with international influence; and serves for national development strategy and social progress. Jin Nuo, the chairwoman of the Council of RUC, is the chairwoman of the Council of NADS. Liu Wei, the president of RUC, and Liu Yuanchun, the vice president of RUC, are the dean and executive dean of NADS, respectively.

RENMIN UNIVERSITY OF CHINA (RUC)

Renmin University of China (RUC) is the first comprehensive research university established by the People's Republic of China. Its predecessor was Shanbei Public School, founded in 1937. RUC is a comprehensive research-oriented university focusing on humanities and social sciences, with 14 disciplines, such as political science and economics, granted as the first-class disciplines. It also offers a range of courses in the natural sciences, information technology, and environmental sciences. The university's overriding tasks have consistently been the pursuit of truth and progress, cultural transmission, and educating the country's future elites. RUC is an important base for training high-caliber professionals in the social sciences and humanities and houses a number of influential research centers and think tanks.

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