Consensus of the Inaugural U.S.-China Track II Dialogue on Energy

THE NEW AMERICAN ENERGY OUTLOOK: IMPLICATIONS FOR U.S.-CHINA RELATIONS

The National Committee on U.S.-China Relations and the China Energy Fund Committee convened a new Track II Dialogue to explore the American energy boom, potential development of shale oil and gas in China, and its effects on the U.S.-China relationship. With generous support from the Starr Foundation and the China Energy Fund Committee, the dialogue brought together 18 Chinese and American experts from academia, think tanks and industry.

The dramatic energy boom in North America represents both a technological revolution and a geopolitical turning point with implications for governments, economies, security assumptions, the environment and climate change prospects worldwide. These changes – unimaginable just a few years ago – are being driven by a burst of new American shale oil and natural gas production and by simultaneous declines in U.S. energy consumption. Adjusting to both challenges and benefits of this revolution will require innovative, collaborative thinking from the two most important energy and climate change actors, China and the United States.

With regard to energy, China and the United States are moving in opposite directions: China is overtaking America’s long-time roles as the world’s largest energy consumer and CO₂ emitter, with a rising share of its energy imported (57 percent of its crude oil and 60 percent of gas in 2012). The United States is projected to become the world’s largest oil producer by 2020, a net oil exporter by 2030, a net exporter of liquid natural gas by 2016 and a net natural gas exporter by 2020. Such transformations will stimulate U.S. GDP and employment, boost industries (chemical production and transportation, to name just two), and reduce America’s trade deficit. While China is estimated to have the world’s largest shale gas resources, it is not yet clear whether or when China will be able to develop these resources. The unconventional oil and gas revolution has the potential to significantly reduce global coal consumption and related CO₂ emissions, however policies are needed to manage trade-offs and help avoid controversy. For example, environmental regulations are needed to minimize methane leakage from shale oil and gas production and to ensure that freshwater resources are sustainably managed. There are security implications, as well: as the boom drives down energy prices, falling revenues in energy exporting states increase the risk of political instability, especially in the Middle East.

The Shale Revolution and China

The shale revolution is real, immediate, transformative and is expected to be long-lasting. As the startling early predictions of North America’s energy production growth are achieved and surpassed, Chinese policymakers seek to develop their own shale oil/gas resources but, for ‘above ground’ and ‘below ground’ reasons, will not be able to replicate the American experience. China’s interest in developing shale oil/gas is driven by startling statistics: the People’s Republic now consumes 50 percent of the world’s coal. Electricity generation (and consumption) rose more than 50 percent since 2005 and could triple by 2035. China is about to become the largest oil importer, raising concerns about energy dependence – imported energy is predicted to rise from 6 to 20 percent by 2030 with oil imports from the Middle East rising 54 percent by 2035. Further pressure comes from rising public demands for action on air pollution. The predicted global ripple effects in energy markets, currencies, trade, employment and disrupted industries, will pose both threats and opportunities for the bilateral relationship.

- Success and Timing of China’s Shale Oil/Gas Development: China has strong incentives to develop its extensive shale oil and gas resources, but that development may start slowly and ramp up over many years. The
ambitious goals for the 12th Five Year Plan appear unachievable. China has the world’s largest shale oil/gas resources (with the largest single concentration in Sichuan Province), but the geological specifics of these resources are not fully known. Large-scale, commercially-viable extraction faces many hurdles, both below ground (technical and geological) and above ground (political and economic). To achieve its ambitions, China will need to challenge its energy oligopoly, rethink energy pricing, develop energy services and expertise, and partner with non-Chinese parties to solve technical problems that differ from those in North America (including the depth of the resources, lack of water, and seismic concerns).

- **Coal Consumption – Declining or Rising?** Dialogue participants discussed – but did not reach consensus on – whether China’s coal consumption will peak in 2020 due to 4 factors: public pressure and just-announced plans to slash air pollution; a structural slowdown in the economy and in energy intensity; impressive growth in alternative renewable energy production capacity in China; and increasing efficiency in energy production and use (this view is detailed in “The Unimaginable: Peak Coal in China,” Citigroup Research, 4 September, 2013). A decline in China’s coal consumption, if it occurs, would have significant impact on global coal and energy prices. Those who see China’s peak coal consumption coming much later argued that China’s economic growth (even if at lower rates than in the past decade) and resulting energy consumption remain enormous, especially with massive urbanization and residential housing expansion plans, along with the rise of the consumer auto and other societal changes.

- **Atmosphere of Distrust:** Within the Dialogue group there is consensus that the unconventional oil revolution is real, immediate and transformative. This is not currently the unified view among elites in China, however, where some may view the predicted economic and strategic upsides for the United States as too good to be true. The divergent views about the “shale oil revolution” fall into three categories:
  1) Agreement that these rapid changes in energy production and consumption in North America are real and expected to be long-lasting;
  2) Belief that there has been extraordinary change, but that it is an unsustainable bubble;
  3) Suspicion that the shale revolution is fake and is essentially a strategy to disguise American decline.

Experts, officials and industry representatives from both countries should seek out opportunities – bilateral visits, sharing of data, conferences and collaborative projects – to demonstrate to the most skeptical segment in China that the shale oil/gas revolution is real and lasting, and that there are benefits for China.

- **Need for an International Energy Body that Includes China:** It is crucial that China be made a member of an international body or mechanism to promote stability in global energy markets. There was no consensus view on which body should play this role. The International Energy Agency (IEA), G20, International Energy Forum (IEF), APEC or some new IEA-like grouping were raised as candidates. Chinese participants stated that China cannot overcome the steep hurdles required for IEA membership (China would have to become an OECD member first, and is not willing/able to meet all of those standards; which include transparency of its strategic oil reserves). The Chinese government may prefer to create a new organization – China often works on regional and global levels simultaneously – perhaps an Asian regional energy club would be helpful.

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**Economic Implications and Recommendations**

Participants urge both countries to move beyond the politicized debate over whether the United States should export energy to China. This is not a relevant discussion at this point, since China is not expecting American gas exports, and the United States may decide not to sell. What is much more significant is that the shale revolution has produced important side benefits by opening up new sources of energy, presenting new opportunities for investment in both economies, and dramatically shifting trade flows of oil and gas. The new technologies and the many ripple effects have presented fresh areas for bilateral cooperation, transformed the economics of energy, and are currently generating helpful pressures for domestic reform and new policy thinking in both countries.

- **Domination of China’s Majors:** The shale oil/gas revolution in North America has been driven by small operators and wildcatters, not by the major oil companies. Participants agree that this aspect of the American experience is unlikely to be replicated by China. This highlights four major challenges to the rapid adoption of American lessons for development of shale oil resources in China: 1) Energy prices are too low to incentivize investment in unconventional oil; 2) China has no oil services market or experts outside of the three major
companies, CNPC, Sinopec and CNOOC; 3) The mineral rights to nearly 100 percent of likely shale fields are already held by the three majors, leaving no room for entrepreneurial, higher risk and alternative approaches; 4) Geological data is held by the three majors, rather than by the state, crowding out any other actors.

- **Four changes would speed China's shale oil/gas development:**
  1. The Chinese government should move to allow market-driven energy prices that will generate economic incentives to develop unconventional oil;
  2. China should create an oil services market by opening up the current oligopoly to new domestic and international actors;
  3. The state should find a way to reallocate or otherwise provide access to the most promising resource blocks to those willing to develop them;
  4. Geological data should be made open and transparent (perhaps with some mechanism to compensate companies for their past geological research).

- **Tech Transfer and Intellectual Property:** Both the United States and China should prioritize and encourage the transfer of the technology and intellectual property on shale oil and gas, because of the considerable environmental, economic and other benefits to China and to the world. It is in the global interest for China to reduce coal consumption and increase use of cleaner energy, use the most up-to-date technologies and follow best practices to reduce methane emissions and environmental damage.

- **Bilateral Energy Investment:** The United States should welcome Chinese investment in America in hydraulic fracturing and other extractive and green technologies. Likewise, American energy investment in China should be encouraged by both sides. Since the June 2013 summit between Presidents Xi and Obama at Sunnylands, California, bilateral cooperation has accelerated on economic issues, including proposals for a Bilateral Investment Treaty (BIT). This same focus should be brought to bilateral energy cooperation. The BIT should allow Chinese and U.S. energy companies to enjoy national treatment in each others’ energy sectors.

- **U.S. Gas Exports:** American government approvals of permits for four liquid natural gas (LNG) export terminals will enable exports that would likely lower the global price of LNG, even if the gas does not go to China. Where gas goes should be a commercial decision, not a political decision.

- **Currencies and Trade Deficit:** The shale oil revolution will decrease the American trade deficit and likely increase the value of the USD. China’s increasing energy imports will decrease China’s trade surplus and may influence the value of the RMB. China’s energy imports will be denominated in RMB and will likely increase the internationalization of the RMB.

- **Beneficial International Pressure for Domestic Change:** Increased participation by China in international energy groups would also promote a much-needed “energy data revolution” for the Chinese energy market. Dialogue participants believe that increased energy data transparency is beneficial in numerous ways. Chinese government leaders have in the past skillfully used the requirements of international organizations (such as for accession to the WTO) to overcome opposition and leverage change. Becoming a member of the IEA or similar international energy organization that required change and reform would similarly spur domestic reforms.

**Environment and Climate Change:**

- **Shale Oil/Gas Environmental Trade-offs?** Dialogue participants agree that cheap gas comes at the price of all other energy sources for electric power generation. In particular, expanded supply of shale gas directly reduces demand for coal and nuclear power. With low natural gas prices, there is also a lower commercial incentive to invest in renewables and energy efficiency, however current policies have generally preserved the market for these clean energy sectors in the United States (although the production tax credit for wind is set to expire at the end of 2013). Reduced coal use will improve health and air quality, but intense new pressure on coal and nuclear industries may also have other unanticipated consequences, and has the potential to bring economic, employment,
Security and Geopolitical Ramifications:

- **Implications for Climate Change**: A boom in natural gas is a net positive for the global environment, and from a carbon perspective, particularly to the extent that policies are in place to ensure that abundant natural gas displaces higher-carbon energy sources, such as coal. Furthermore, to ensure that a natural gas production boom yields substantial benefits for the climate, meaningful climate change policies are needed, including regulations to minimize the leakage of methane, a potent greenhouse gas.

- **Lack of Carbon Pricing Method**: U.S. and Chinese governments should lead global efforts to experiment with and establish effective carbon pricing mechanisms. Until there is a workable, widely-accepted methodology for putting a price on carbon emissions, the true costs of unconventional oil and gas production will not be reflected in market prices, making rational energy allocation decisions impossible (from a climate change perspective).

- **Actively Engage in International Climate Dialogues**: The U.S. and Chinese governments should welcome new climate change approaches, such as the California-China initiative announced in September. These efforts – alongside the current United Nations-led global Copenhagen track – increase opportunities for progress on climate change.

- **Prospects for Air Pollution Reduction in China**: Dialogue participants believe that China will achieve significant progress in its ambitious goals to reduce air pollution, announced by the State Council in September 2013. To succeed, Chinese industry must “turn on the scrubbers,” requiring a government push to increase power tariff rates through utilization of the existing coal/power price linkage mechanism, and to employ technology and enforce regulations to reduce NOx and SOx and PM2.5 particles. The second key to success will be the shift away from coal to the greatest extent possible into other energy sources, from unconventional oil, to nuclear and renewables.

**Security and Geopolitical Ramifications:**

- **U.S. Energy Independence?** There is agreement that the widely-used term “North American energy independence” is misleading and should be avoided, since it implies three very unlikely future scenarios:
  1. that the United States would no longer purchase any oil in international markets;
  2. that the United States would be completely insulated from global oil prices; or
  3. that the United States will inevitably decouple from oil/energy-related global security and stability interests.

- **U.S. Middle East Disengagement?** The Americans in the Dialogue group stress that U.S. force posture and engagement in the Middle East will not be transformed by lower reliance on imported oil from the region – a position restated this year by the Obama Administration. (See the speech by Thomas Donilon, National Security Advisor to President Obama, at Columbia University, April 24, 2013). This is not currently the view of the PRC government. American officials and experts should underscore this position and the key points that underlie it:
  o The United States is no longer concerned that its energy supply will be cut off (as it was in 1973…), rather today’s priority is keeping global energy prices stable;
  o Despite popular speculation, the United States will not stop importing oil altogether, and will continue to have strong, non-oil-related interests in maintaining stability in the Middle East.

- **Opportunity for Further Military-Military Cooperation**: It was proposed (although there was no consensus) that, as China’s strategic interests in stability in the Middle East rise, and an increasing share of its oil imports come from the region, China and the United States should expand security cooperation, including keeping sea lanes open in the Middle East and maintaining general regional stability. The significant improvement in military-military relations since the Sunnylands summit in June suggests potential in this area.
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