

Increasingly Linked: China and U.S. Energy Markets, Aspirations

By Kenneth Barry

Introduction – It is easy to think of the energy industries, developmental policies, and environmental regulation of the United States and China as, well, a world apart. Not so, as underscored by a lunch-hour conference convened on May 13, 2013 in Washington D.C. by the Energy Bar Association's International Energy and Transactions Committee in association with the Asian Americans in Energy, the Environment, and Commerce. The two-hour dialogue, moderated by the well-known former Texas PUC commissioner (and current Washington/Texas lawyer and energy business consultant) Robert Gee, brought together experts from the Carnegie Endowment, ICF (an energy consulting firm), and the law firms of Vinson & Elkins and Jones Day (which hosted the event). What follows is a thematic overview and distillation of the most striking points emerging in the interchange (rather than a digest of individual speaker presentations).

China's growing energy dilemma – China's rapid economic growth, industrialization, and increasing urbanization have created an enormous need for more sources of energy and the means for their delivery. That much is well-publicized, of course, as is the startling statistic that the nation commissions a new coal-fired electric plant at the rate of one every week or two (whereas, in the U.S., we hear more about coal units retiring than starting up). China's air pollution, especially in the large cities, has also become legendary (which some of the speakers attested to personally, observing you can go a week without seeing the sun).

The problem is not just the electricity sector (which, according to an article in the May 12, 2013 edition of the Washington Post, generally is equipped with both the regulations and the machinery to scrub pollutants from larger emitters, but has a spotty record on equipment usage and regulatory enforcement). In addition, sharply increasing automobile emissions (made worse by Chinese oil refiners having less success than their U.S. counterparts in filtering out pollutants) contributes to fouling the air. Every day, Chinese government officials have to wake up to the stark challenge of feeding the nation's growing energy appetite while, at the same time, managing air quality with an energy mix that is much more coal-dependent than either the U.S. or the world as a whole.

Natural gas as savior? Natural gas is a lightly-used resource in China, compared to other parts of the world. It constitutes about 4.5% of total energy consumption at present, in comparison with 24% for the world and 28% (and growing) for the U.S. Ideally, by elevating its natural gas consumption, China could make inroads on the 70% share of its energy use now claimed by coal. Part of that objective is being pursued through increasing LNG imports, as well as production of conventional gas and coal-bed methane. But China does have another sizeable, indigenous, and (as yet) barely-tapped resource – shale gas – with the potential to curb its voracious rate of growth in energy imports.

It is striking that, even though China ranks second in the world in coal deposits, it is now the planet's largest coal importer, as well as importing over half of its oil

requirements. Thus, developing its domestic shale gas potential is highly attractive. However, actually doing so is fraught with challenges. The resource is widely dispersed (seven onshore basins have been identified) and situated in unfavorable (hilly) terrain. Intensive drilling operations would interfere with current land uses and would be hard put to find the quantities of water required for fracking. Moreover, assuming China can solve these problems, while it does have (as of 2010) some 24,000 miles of gas pipeline infrastructure, it must significantly expand this network if the new gas supplies are to make a major dent in its current energy mix.

Forging ahead – Nonetheless, despite the embryonic state of the shale gas industry in China (only about 60 test wells have been drilled so far, in one basin only, and without any commercial-scale development), the nation appears embarked on developing its shale gas potential. Lacking the expertise with fracking and other key technologies, Chinese entities are engaging in joint ventures on its own soil with major U.S. and global oil and gas companies to jump-start its industry. In addition, the Chinese are involved in Canada-based joint ventures (partnering with Canadian companies) to garner know-how.

Where is all this headed? There is uncertainty aplenty, but a reasonable estimate provided at the conference is that, by 2020, the Chinese economy may have boosted natural gas (as a share of total national energy consumption) from the current 4% range to 10% with the aid of domestic shale gas and increased LNG imports. (Note – The longstanding Chinese practice of maintaining price controls on energy presents yet another drag on development of unconventional gas resources, according to the speakers. Phasing this out, or at least allowing natural gas prices to rise to the level of global LNG prices, would speed up development.)

Energy imports from the U.S. – China is not planning on importing LNG from the U.S. according to the panelists, even if this country moves ahead with a gas exporting policy. However, since the LNG market is global, increasing use of LNG in China has an indirect impact on the pricing and sales potential of any LNG the U.S. may export. However, if China can succeed in developing its shale gas fields, that will tend to reduce the extent of its demand for LNG on the international market; and that, in turn, should indirectly reduce upward pressure on the price of U.S. LNG exports. In this way, our energy markets are interlinked.

Coal markets are linked as well. However, the discussion highlighted the relatively meager amounts of U.S. coal presently being imported by China, despite the wealth of American coal deposits and our own decreasing demand due to coal unit retirements, the difficulty in getting new coal-fired generation permitted, and the competition posed by low natural gas prices.

Part of the problem in boosting exports to China is simply the limited physical capability at West Coast ports. Most of the coal we do export to China therefore comes from the East Coast, requiring a long journey through the Panama Canal just to reach the Pacific. Enlargement of the canal will help somewhat; but what would help even more would be opening up additional West Coast ports for exporting U.S. coal (including

our abundant and lower-cost western state reserves). However, that prospect runs into intense environmentalist scrutiny. The West Coast states where more port facilities are needed (there is limited export capacity in Seattle) happen to be places where opposing environmental groups have maximum political clout. The Chinese are hesitant to enter into long-term deals with U.S. coal companies that could be held hostage to environmental politics. China will, of course, continue to source a lot of coal internationally, helping to firm up U.S. export prices indirectly.

Dealmaking – Chinese participation in U.S. energy ventures: China is getting additional exposure to shale oil and gas development through joint ventures, including “private equity” investment, with prominent U.S. partners (including Chesapeake Energy and Devon). In this context, noted a speaker, there are strict restraints on “technology transfer.” He also remarked on the difficulty Chinese investors experience in understanding the American concept of private ownership of mineral rights on private lands. Further, provisions under U.S. law addressing foreign ownership require obtaining government approval of these investments.

Conclusion – One of the U.S. experts with “on the ground” experience in China emphasized that energy supply remains a major, ongoing concern, and significantly reducing reliance on coal won’t happen anytime in the near future. (There is, however, more activity over there than here in developing methods for sequestering carbon dioxide emissions from coal-burning.) Given the size of the deficit between China’s demand and its domestic production capability, even major strides in shale gas development won’t “bridge the gap,” cautioned a speaker. In response to a question from the audience about reducing foreign oil dependency and urban automobile pollution by stepping up introduction of electric passenger vehicles, a panelist pointed out a hitch – many people in urban environments live in high-rise apartment buildings where overnight recharging is not practical. (He did note that natural gas-powered vehicles do have a significant presence, however.) Another question from the audience about renewable (wind and solar) electric generation and possible synergies with shale gas development brought about this polite demurral – renewable energy in China represents a sufficiently sprawling subject that deserves its own program!

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