

# CHANGES IN CHINA'S ELECTRICITY INDUSTRY GOVERNANCE: IMPLICATIONS FOR ENERGY COOPERATION IN NORTHEAST ASIA

Daojiong Zha

Assistant Professor, Graduate School of International Relations, International  
University of Japan

One of the key rationales informing discussions about the China dimension in Northeast Asian energy cooperation is the environmental contributions that come along with the importation of energy, in particular, natural gas, from Russia, for consumption in China and export to South Korea and Japan. The logic is simple. An increase of gas in China's energy consumption can help reduce China's dependence on coal, the primary source of energy and the primary cause of atmospheric pollution as well. On the other hand, for gas and other clean sources of energy to gain a larger share of China's energy consumption markets entails a conflict of interest with the power supply systems already in place. This makes it meaningful to examine China's governance of its electric power industry, since currently coal is used to generate electric power. Replacing coal with gas for household use is most certainly desirable. On the other hand, how the electric power industry is managed in China has a decisive impact on the future prospects of bringing in additional (and non-traditional, such as natural gas) fuels for consumption through international cooperation.

The purpose of this paper is two-fold. First, it provides an update<sup>1</sup> on recent policy reforms of the electricity industry governance structures. As is true in other countries, the development of the electricity sector of the energy industry does not always follow the logic of science. This is particularly true when 'sustainable development' is an implicit or explicit rationale in investigation. Instead, that development—from national planning to project approval—is heavily influenced by the industry's governance structures and practices. In a sense, understanding how China governs its energy industry is as important as understanding the supply and demand trends of the Chinese energy market.

Second, drawing on insights derived from the first part, the paper considers implications of China's changing electricity governance for bringing a vision of energy cooperation in Northeast Asia into reality. Among other things, the paper argues that considerations of developing cross-border energy cooperation in Northeast Asia can benefit from working with the local bodies of China's electricity governance apparatus in the northeastern provinces, building a web of stakeholders

in cooperative project designs.

## Governance Structure of China's Electricity Industry

From 1949 till the mid-1980s, the electricity industry in China was one of the least reformed sectors of the Chinese economy. The state was the sole owner and operator of power generation and distribution facilities. State monopoly also means that there was little foreign participation in the electric power industry. For the Chinese government, following the principles of self-reliance and the state providing electricity for both commercial and public consumption was a matter of national security, and in some ways can be seen as an instrument of ensuring central government's effective political control of the provinces (Lieberthal, 1995).

Reforms to the industry began in 1985, when the State Council allowed entities other than the national government to raise their own funds for power plant construction. Such entities included local governments, state-owned enterprises, and partnership enterprises of various forms of ownership. These reforms diversified the sources of investment in the electricity industry. At the same time, they led to complexities in governing the industry as well. This is because the Chinese bureaucracies at various levels have difficulties in coordinating their activities along industry lines. In addition, the majority of China's power plants operated autonomously. It was not until the early 1990s that construction of power distribution networks began.<sup>2</sup>

We should bear in mind, meanwhile, although the sources of investment in the power sector increased, the level of state monopoly of the industry remained unchanged. Also in 1985, the State Council allowed the diversification of electricity prices as well as the setting of electricity prices to recover investments in power generation facilities. This reform measure, however, does not mean that electricity pricing was allowed to fluctuate according to market conditions. "Diversification" simply means that different end users have to pay different prices set by the government. The government at various levels, as it is still the case today, determined the price of electricity.<sup>3</sup>

The second phase of reform in the electricity industry began in the early 1990s. These reforms attempted to push the industry into market competition

<sup>1</sup> An excellent account outlining changes in China's power management from 1979 to 1995 is Yang and Yu, 1996.

<sup>2</sup> The China National Electric Power Network Construction Corporation (Ltd) was created in 1993, together with the decision to start construction of the Three Gorges Dam project.

<sup>3</sup> Specifics for electric price setting can be viewed at the China Energy Information Net page: [http://www.energy-china.com/Zhenfu/talk\\_dl/151.htm](http://www.energy-china.com/Zhenfu/talk_dl/151.htm).

through restructuring state-owned power enterprises as stock corporations and the creation of "enterprise groups." The goal of such restructuring is to relieve the enterprises of their governing responsibilities and to take advantage of economies of scale (Chou, 1997). A key step in this direction was the promulgation of the Electricity Law of China in 1995 to be discussed below.

The third phase of reform in the electricity industry began in 1998, marked by the dissolution of the Ministry of Electric Power. The following section offers a glimpse of China's governance structure for the electricity industry today.

### National Level Governance

At the national level, under the State Council, the State Development and Planning Commission (SDPC) and the State Economic and Trade Commission (SETC) map out national development strategies, regulations, and policy directives. SETC has absorbed the role of China's energy ministries before the comprehensive revamping of ministries under the State Council in 1998. For the electricity sector, the Department of Electric Power under SETC now assumes the authorities of the former Ministry of Electric Power, which itself went through seven rounds of merging with and/or separating from other energy ministries after the creation of the Ministry of Fuel Power in 1949. The history of this bureaucratic restructuring is a long one (Dangdai, 1994). Suffice here to say that each phase of restructuring has to do with the Chinese central government's desire to better coordinate the utilization of available and accessible energy resources. The 1998 dissolution of the Ministry of Electric Power, for example, does not mean that the State Power Corporation of China (SP) has sole authority to decide on power plant construction. The Ministry of Water Resources retains its power to decide on hydro power projects and the supply of electricity for agricultural use.

The dissolution of the Ministry of Electric Power was preceded by the creation of the SP in 1997 (State Council, 1996). SP was designated to be an enterprise in and of itself. When the State Council launched the SP, it appointed the minister and vice-ministers of the Ministry of Electric Power to serve as its chief executive officers (State Council, 1996). SP thus became the super-corporation, governing seven regional power corporation groups and six independent electricity networks at the provincial level that had been under the direct control of the Ministry.<sup>4</sup> In addition, SP shares responsibility together with the Ministry of Public Security in managing Anneng Corporation, the hydro power division of the People's Armed Police Forces.

There is yet another national agency that is part of China's governance mechanisms of its power industry: the China Electricity Council (CEC). Created in 1988, the CEC was an association of enterprises in China's power industry but worked under the direct supervision

of the Ministry of Energy and its successor the Ministry of Electric Power. The CEC's main function is to provide "all power enterprises with various forms of service" and assist the now-dissolved Ministry in "power industry management" (CEC website). Behind such a vague statement of purpose is the reality that along with the reforms that began in the mid-1980s, bureaucratic control of the country's electricity industry became so complex that it was beyond a single ministry's reach to regulate all of the actors in the electric power industry.

Investors other than the national government's Ministry of Electric Power in the electricity industry assumed individual and often autonomous control of the power plants and distribution systems, leading to conflicts of interest and inefficient use of resources. CEC, then, coordinates the various investors/managers of the industry to help the central government command the electricity industry according to national rules and standards. Along with the dissolution of the Ministry of Electric Power, CEC in 1998 became a corporation registered under the Ministry of Civil Affairs. In theory this switch of ministerial affiliation changed CEC into a wholly independent entity. However, the fact is that SP's CEO concurrently serves as CEC's chairman. Moreover, the honorary chairman of CEC is the last Minister of the Ministry of Electric Power (Gao Yan). This suggests that CEC has yet to function as a truly independent body as stipulated in the principle of the separation of the governing authority from the business functions of the electricity industry.

In short, the central government has taken steps to push the electric power industry into the market, much like what it has done with the majority of the manufacturing and light industries. SP and its affiliates and associated power corporations have indeed started to function as market rather than bureaucratic operators, both domestically and in overseas fund-raising. Nonetheless, as is true of the transformation process of all sectors of the Chinese economy, bureaucratic and legal hurdles remain. The following section looks at China's governance of the electric power industry at the level of the province.

### Provincial Level Governance

The same 1996 directive of the State Council that led to the creation of SP instructed the governments of the provinces and below to abolish their administrative departments that had been managing electric power industries in ways similar to the Ministry of Electric Power at the national level. Provincial electric power bureaus were told to hand over their administrative functions to the respective provincial economic and trade commissions. The same process goes for those governments below the provincial level.

Reform at the subnational level was envisioned to be part of a three-stage strategy, including (1) separation of government administrative functions from

<sup>4</sup> The seven group power corporations are: Dongbei (Northeast), Huabei (Northern), Huazhong (Central), Huadong (East), Xibei (Northwest), Hua Neng (in Shandong Province) and Gezhouba (in Hubei Province). The six provincial networks are: Shangdong, Sichuan, Fujian, Yunnan, Guangxi, and Guizhou. Source: People's Daily, 29 April 2001, on-line.

management of power plants; (2) separation of power plants from power grid runners; and (3) the introduction of a competitive pricing system.

However, the first stage of such reforms at the provincial level did not materialize until September 2000, when Jiangsu Province abolished its power bureau and turned over the administrative functions to the provincial economic and trade commission. In contrast, by the same time twenty six provincial economic and trade commissions had emulated the State Trade and Economic Commission to create a bureau of electric power, in expectation of taking over the policymaking functions of the departments of electric power of their respective provinces (PD, 14/Sept/2000). Such developments indicate that the reform process will run into many obstacles before the industry could function as a unitary one.<sup>5</sup>

My purpose here is not to track the progress of such administrative reforms in China's provinces. Instead, the slow pace of provincial governments heeding directives from the central government and the unevenness of China's provinces in carrying out a national reform measure speaks about the complexities of the task. As is the case in reforming other state-owned industries, efforts to transform electricity generation and distribution into an efficient system based on market principles are hampered by complexities in power plant ownership, dynamics in a province's overall economic policymaking and intra-provincial differences, among other factors. In this regard, it remains to be seen if the national government's vision of establishing a unified national power grid network by the year 2020 can materialize (Xinhua, 23/Nov/2000).

### The Legal Dimension

If the administrative governance structures of China's electric power industry suffer from the lack of national standards and practices, does the Electricity Law of China (hereafter the Law), the first of its kind in contemporary China's history, offer a clearer road map?

The Law consists of 75 articles divided into ten chapters. It contains regulations on power development, network management, supply and price, as well as rural power production and consumption, and protection of power facilities. The wide scope of the law is indicative of the numerous challenges facing the industry. How the Law may function in the national government's overall strategies for overhauling the electricity industry has been analyzed elsewhere (Andrew-Speed and Dow, 2000).

What deserves attention is that by August 2000, the Law was already deemed to be insufficient for the already changed market realities, prompting SETC to announce preparations for revising the Law and to invite local input in the process.<sup>6</sup> Key issues this revision process is supposed to address include transparency in decision making for electricity transmission through the power grid networks in place. Also, it will address the setting of electricity prices and fees, as well as legal responsibilities for entities that are found to have caused problems to power supply, making the Law compatible with the World Trade Organization's rules (PD, 16/August/2000).

Since the Law is in the process of revision, it is impossible to know what the new legal provisions will be. For the purpose of understanding what implications this attempt at governing the electricity industry through law may have for foreign investment, however, we may pay attention to one of the key articles in the Law. Article Three of the existing Law stipulates that:

The electric power industry shall fit the needs of national economy and social development and develop in advance appropriately. The State encourages and guides authorized investment in the development of power sources and the establishment of power production enterprises by domestic and overseas economic organizations or individuals. Investment in the power industry shall implement the principle of "whoever invests, benefits."

A potentially useful guide for predicting likely reforms to the Law is the March 2001 revision to the Sino-Foreign Equity Joint Venture Law. The first sentence is likely to be revised to reflect a stronger role of the market over that of economic planning. Now that the Ministry of Electric Power is no longer in existence, it remains to be seen how the revision of the Law would reflect the national government's goal of encouraging competition and retaining some element of governmental guidance at the same time. After all, considerations of electricity and other sectors of the energy industry involve issues related to national security and the ideology of self-sufficiency in energy supply.<sup>7</sup> Indeed, foreign access to China's energy market in general and electricity market in particular are different in nature from that to the manufacturing industries, for which the Chinese government at various levels has relentlessly campaigned to attract more foreign funding.

Probably the most contentious issue is the current

<sup>5</sup> One of the most recent attempts by the central government of China to foster a unitary market is an April 21, 2001 circular issued by the State Council prohibiting protectionism by localities in any form.

<sup>6</sup> The fact that SETC takes the lead in proposing revisions to the Law is a good sign. For, SETC as a regulatory rather than a managerial agency is in a better position to propose measures to guide the developments of the industry in a rational direction, as opposed to an inclination to protect the vested interests in place, which was the case with the first drafting of the Law by the Ministry of Electric Power in 1995.

<sup>7</sup> A good indication of the persistence of 'self-reliance' in energy development is the policy of 'substituting oil with coal' (*yi mei dai you*), as coal is in abundant supply within Chinese territory, while China has become a net importer of oil since 1993.

stipulation of the principle of 'whoever invests, benefits.' This principle can serve as a stimulus for investment. At the same time, it can stifle market competition, as the electricity sector remains a domain of state monopoly. The problem is a complex one, involving China's struggle to sort out the ownership issue. For foreign investors in the Chinese electric power sector, a regulatory framework took shape in late 1996 (Lange and Howson, 1996). But since then the national government has done away with policy pronouncements that guaranteed profits for foreign investors in electricity projects. It also changed other aspects of China's regulatory regime for foreign direct investment (FDI) in energy development. For example, the BOT (build-operate-transfer) scheme (first applied in 1996 in the Laibin B project, Guanxi) is no longer in line with central government policy preferences (Heywood, 2000:7). As is true with Chinese policies for so many other sectors and projects involving FDI, it is just a way of life for policies to keep changing. Furthermore, better efficiency in the electricity sector in China does not necessarily mean high profits for foreign investors in China's energy sector (Leggett, 2000).

China's pending World Trade Organization (WTO) membership will be of assistance in smoothing out the legal irregularities extant in China's domestic laws. But the process can take time and may not be smooth at all. Even with the WTO principle of national treatment dutifully implemented, foreign investors in China's electric power industry will still need to compete with domestic operators in the same, imperfect market. As twenty years experience of foreign investment in China shows, market imperfection stems from, among other things, bureaucratic influence getting in the way of the enforcement of economic laws, and it is important to note that the WTO rules do not disallow a member government from practicing national economic planning.

In short, in spite of the seemingly drastic reform measures, monopoly and strong bureaucratic influence remain the key features of China's governance of the electricity industry. A case in point is China's Premier Zhu Rongji's reported criticism that the central government's decentralization design aimed at "making the province the [economic and legal] entity" of electric power generation had ended in provinces erecting protective barriers and impeding efficient operation of China's power industry. In response, Zhu instructed the SETC and other central government agencies to re-take the initiative in mapping out strategies for reforming the electricity industry (PD, 11/Dec/2000).

On the other hand, since the early 1980s, the Chinese economy would not have developed without the decentralization of economic decision-making and the transfer of authority from central government to the province level bureaucracies. Fiscal reforms in the mid-1990s that allowed the separation of national and provincial revenue collections mean that provinces have a vested interest in retaining and expanding their power in setting their own economic policies. Such policies may not always conform with central government directives or preferences. Central-local government

relations in contemporary China's history were never harmonized, resulting in cycles of centralization, decentralization and re-centralization. The result is uneven development in regions across China, in spite of the impressive statistics of nation-wide growth for the past two decades (Wang and Hu, 1999).

### **Implications for Energy Cooperation in Northeast Asia**

There are many ways to consider the China dimension when thinking through the issue of energy cooperation in Northeast Asia. Geo-economic and strategic factors certainly play an important role (Asakura, 2000). Projections about China's overall energy demand in the future and its choice of energy development priorities and projects (Lawrence, 2001) also contribute to our understanding of China's approaches to its own energy security and how the Northeast Asian region factors in. If we look at the national picture alone, then it is meaningful to ask such questions as "who will fuel China" (Drennen and Erickson, 1998) and consider what opportunities the energy industry in China offers to foreign investors (Blackman and Wu, 1999).

My previous review of changes in the governance structure of China's electricity industry is meant to bring in an additional dimension for consideration. My intended message is straightforward: dynamics in China's domestic political economy are likely to affect the prospect of energy cooperation in Northeast Asia just as much as the larger issues of international politics and economics.

For its 10<sup>th</sup> Five-Year Plan period (2001-2005), China's national priority in energy development is focused on the Western region and the role its vast energy reserves can play in economic development in the eastern and southern regions. It is reported that 37.4 % of the country's new power projects will be launched in 12 western provinces alone. These projects are in turn linked by a massive group of transmission networks connecting power generators in the west to the end users in the south (Guangdong) and the east (Shanghai and Jiangsu) (Xinhua, 27/Nov/2000). A second large-scale project to note is the gas pipeline linking Xinjiang and other provinces in the West with end-users in provinces in central China and along the coast (Shanghai), and from Inner Mongolia to Beijing (Anonymous, 2000).

China's northeastern provinces, in contrast, are not enjoying the same kind of injection of energy investment by the central government as the western provinces are. In addition, the northeastern provinces have in recent years lagged far behind the coastal provinces in developing their own industrial bases. This in turn limits their capacities to raise funds to either develop the energy resources in areas under their administrative jurisdiction for commercial purposes or meeting their own consumption needs, or both. For the northeastern provinces, though, the future is not totally bleak. Once a national electric power grid network is in place, the province's power suppliers have an opportunity to

benefit as well (through selling their electricity to the national network).

What implication do findings summarized in the previous section of the paper have for thinking about energy cooperation in Northeast Asia? The following part of the paper addresses the question by breaking the general question down to a number of related questions and proposes strategies for integrating China more fully into regional cooperation schemes.

*If the national government of China has its energy development priorities in the western and coastal parts of the country, is it too early for efforts to launch regional energy cooperation projects that involve China?* It is true that China's northeastern provinces (Heilongjiang, Jilin, Liaoning, and eastern parts of Inner Mongolia) are not priority areas in the Chinese national government's 10<sup>th</sup> Five-year Plan (2001-2005). It is also true that these provinces have a much weaker economic base in comparison with the coastal provinces. Precisely because these provinces suffer from lack of national funding, inter-national cooperative projects have a larger role to play. Of critical importance is a realization that research as well as cross-national energy project designs must come to grips with the political-economic reality in China. That reality is that the China dimension in Northeast Asian energy cooperation in many ways means dealing with the northeastern provinces, rather than the national government in Beijing. This point is particularly relevant given the fact that the central government has decentralized the responsibilities for electricity and other forms of energy development to the provinces. In terms of timing, the overall political-economic environment among Russia, China, and Japan are by most measures more conducive to launching regional cooperative projects than before. Thus, launching regional energy cooperation projects in the near future, in turn, can contribute to strengthening positive geopolitical developments in Northeast Asia.

*How would China's decentralized governance structure of the electricity industry affect the outcome of international cooperative efforts?* Ongoing changes in China's governance mechanisms for the electricity industry mean, simply put, more power to the provinces. The increase of provincial autonomy in economic decision-making is a historical trend in China. Short of a major disruption to China's governing system (for example a civil war or a cross-border military conflict), that trend is unlikely to reverse. This implies that conceptualization of regional cooperative energy projects should begin with bringing provincial economic (in particular energy) planners on board. Doing so can only be conducive to the success of such projects, especially when the international commitment (financial as well as diplomatic) can not be very large due to the commercial risks associated with launching such projects. Meanwhile, my point about putting the provinces in northeastern China at the center of international research/project design efforts is not meant to imply ignoring the central government, however. Instead, support by China's national government is important as well. Indeed, the central government does matter, both

as a possible source of finance and for providing the policy assurance when it comes to launching international projects.

*If the northeastern Chinese provinces currently suffer from a general decay in their industrial bases and hence their own energy demand may not increase very much in the short term, what is the incentive for the provincial electricity and other energy operators to participate in international cooperative energy projects?* As so many studies have repeatedly indicated, the energy industry itself can be turned into a growth industry. For the provinces, the immediate benefit of joining multi-lateral energy development projects is the capital that foreign investment projects bring in. In addition, an increase in energy supply can lead to a reduction in electricity and other forms of energy costs for industrial, agricultural, commercial, and household use. Such developments in the local energy sector can in turn contribute to overall local economic growth. Local government monopoly of the power industry can be an obstacle. Another obstacle to overcome is the tendency of provincial economic planning agencies to rely on traditional suppliers of energy fuels. This means that to help make regional cooperative energy projects possible, the training of local (provincial level and below) bureaucrats about the economic, environmental, and social benefits of regional energy cooperation projects is essential. Such training should include not only the basics of development economics but also specifics about the process of enlisting international assistance in local provincial energy development projects, a point I will illustrate below.

#### **Conclusion: considerations of strategies**

The previous discussions lead me to propose a few points in thinking about launching regional energy cooperative projects in Northeast Asia:

\*\* Begin by working with Chinese electricity and other energy operators as well as economic planners in China's northeastern provinces

\*\* After securing policy commitments from provincial authorities and power operators, assist the provinces in gaining central governmental approval by and assistance from Beijing. Given the Chinese practice of planning economic development projects in five-year cycles and allowing room for annual adjustment, regional energy cooperation project planning has to involve following up with the Chinese economic planning agencies at both the local and national levels.

\*\* Include as many multilateral institutional shareholders in regional energy cooperation projects as possible. China has twenty years of working with such international multilateral economic institutions and established a system of making Chinese economic agencies work with international institutions (ADB, 2000:25-27). In other words, the bureaucratic channels for the Chinese central government's approval of regional energy cooperative projects are readily available. Such multilateral institutional shareholders include:

UNDP\*: The UNDP is significant in that it has a healthy track record of conducting pre-investment

surveys, the findings of which assist international aid/investment agencies in deciding their loan packages. It also specializes in technical assistance. Perhaps the more significant role the UNDP can plan is that it can help bring Russian (to be specific, those provincial authorities and operators in the Far East), North Korean and perhaps Mongolian share/stake-holders together so that they are engaged in a regional energy cooperation project from the beginning.

ADB and the World Bank: UNDP assessments (usually small in the amount of funding) lead to greater credibility for enlisting project commitments from such international development agencies as the Asian Development Bank (ADB) and the World Bank. The World Bank, in particular, should be encouraged to play a role in assisting the launch of energy cooperative programs in one of the world's most strategically important regions. World Bank involvement is important to help secure project funding for Russia-related projects. Now that North Korea is applying for ADB membership, it should not take too long for ADB to be able to disburse project funds that include North Korea as a stake/share-holder.

JBIC (Japan Bank of International Cooperation) and other channels of bilateral aid (including South Korean aid agencies) should also be tapped into. JBIC should be encouraged to make loans to such projects through designating them as part of the tied loan packages to China. It goes without saying that such ties benefit Japanese energy equipment producers and possibly consumers as well. Now that Japan is changing its method of granting official development assistance (ODA) to China from multi-year to single-year cycles, close involvement with JBIC in Northeast Asian energy development projects can positively contribute to Japan's wish to more closely scrutinize its ODA to China as well.

Local governments in China's northeastern provinces should also be part of the financing. This connection is critical for the success of such projects. Without making the local government a shareholder of such projects, local government agencies have one fewer incentive to fully commit to the success of cross-border cooperative energy projects. In a similar vein, local governments in the Russian Far East, the North Korean and Mongolian governments, should also be encouraged to contribute, no matter how symbolic their financial commitments to a project turn out to be.

The Development Bank of China and international private banks should be approached as partners in co-financing schemes for regional energy cooperation development projects. Doing so would help assist a regional energy cooperation project function closer to the realities of the market. It would also be conducive to ensuring the market efficiency of such projects.

To summarize, this paper contributes to the discussion about energy cooperation in Northeast Asia by attempting to make a case for beginning with the local share/stake-holders' interests and commitments, given the changing realities of China's electricity governance structures. The process would then proceed to winning the approval of the central government. To ensure the launching and successful operations of a regional energy cooperation project, which is multilateral by nature, it is important to tie as many international institutional share/stake-holders to a project as possible. Finally, by making the mechanisms of launching a regional energy cooperation project a key theme for consideration, it is hoped that the vision of transforming the Northeast Asian region into a prosperous one will be realized a lot earlier.

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<sup>8</sup> The UNDP already has three regional projects for Northeast Asia: inter-country programs The Tumen River Area Development Program; Northeast Asian Agricultural Cooperation and Support; and Energy, Coal Combustion and Atmospheric Pollution in Northeast Asia. For descriptions of these programs, see <http://www.unchina.org/undp/regional/index.html>

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