



SAIS CHINA STUDIES

Student Working Paper Series

FALL/2009

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China's Energy Sector: Challenges to Reform

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Energy is a sector that naturally requires significant non-market intervention to reach its socially optimal form. Governments routinely create state energy monopolies, engage in national-level long term planning, and regulate numerous aspects of the energy markets. It is surprising to find then that China, a country often praised for the management of its economy, has struggled for decades to create the institutions necessary to effectively manage its energy policy.

With the rapid growth of its economy, China faces enormous challenges in efficiently providing sufficient energy resources to sustain its development. Throughout the reform period, China has failed to accurately anticipate looming energy challenges, from the rise of its oil consumption in the 1990's to the energy shortages of the 2000's. A coherent, long-term energy strategy combined with effective policy tools is important for China's economic well-being, but the energy policy making structure has been allowed to fracture across many agencies, paralyzing the ability to enact policy. Several efforts have been made by the Chinese leadership to reorganize the numerous institutions with influence over energy policy, but no reform has been able to rise above the bureaucratic bargaining of the existing interests.

Outside observers assert that China is in need of a strong energy institution, like a new Ministry of Energy, capable of unifying regulatory powers, but despite several government reshuffles in the past 10 years, this outcome has not come about. To understand the political environment that has created the current energy policy structure, section II will examine the development of the current system from its origins in the beginning of the reform era. Section III will discuss the problems inherent in the current system, while section IV will suggest potential pathways forward from the present state. Section V concludes.

ENERGY STRUCTURE 1979 – PRESENT

In order to understand the current Chinese energy policy making structure, it is necessary to understand the institutional origins of the current set of organizations that exist in the energy sphere. Looking at the predecessors of any given organization can elucidate the resources, influence and political goals of the current iteration. In many cases, organizations have managed to preserve their status and power in the government because of the requisite connections forged by their leaders in former administrative structures, while at the same time, new organizations designed to consolidate regulatory power in a new structure have floundered because of the lack of significant institutional resources and influence.

The evolution of China's energy institutions has been a complex process of division and combinations, transitioning the sector from the planned economy to the market economy and separating production and regulatory functions. This process has occurred alongside China's larger government reorganizations, with major changes occurring every 3-5 years since the beginning of reforms in 1979. The latest round of reforms germane to the energy sector occurred in March of 2008.

Figure 1¹ illustrates the evolution of China's energy institutions since 1979. It is organized with vertical swim-lanes denoting the year in which an organization was created. The arrows flowing

¹ Regarding Figure 1:

horizontally across years denote the flow of institutional resources into newly created organizations that grow out of or replace their predecessors. With a focus on the origins of the current players, this flow can be understood by following the grouping of organizations by industry: administration, coal, oil, electricity and nuclear (oriented roughly top to bottom in the chart).

Administration

At the highest regulatory levels, there have been a variety of institutions with an influence on energy policy, but only a few that have had persistent influence throughout the reform period. The State Council is the top administrative unit of the government, with virtually all of the regulators and state-owned enterprises (SOE's) under its purview. It has naturally had a significant role in the definition of large scale energy strategies and has taken direct action on energy through the formation of subordinate offices, such as the State Energy Commission, the Energy Efficiency Office and the State Energy Office² Through the 90's, the State Council operated mostly through the economic units beneath it, but it returned strongly to the energy sphere in 2005, when it spawned the Energy Leading Group headed by Premier Wen Jiabao as a discussion platform for the latest rounds of reforms. This body was then formalized into the National Energy Commission in March 2008, reportedly pulling in "agencies responsible for oil, gas, coal, nuclear power and other renewable energy sources,"³ but at the same time "lack[ing] jurisdiction over the three state oil and gas monopolies and other government-controlled energy and electricity conglomerates."⁴ It seems certain that this organization, hindered by bureaucratic negotiation, cannot be effective when it has limits on its ability to administer the overwhelming majority of China's energy production.

The State Development Planning Commission (previously the State Planning Commission) and the State Economic and Trade Commission were the primary economic actors under the State Council through the 1980's and 1990's. They split between them the long-run planning and immediate regulatory tasks of the energy sector with limited effectiveness given that it was but one part of their larger missions. These two organizations were combined and renamed in 2003 to form the National Development and Reform Commission (NDRC). Again, energy has been one small department in this larger organization. The Energy Bureau under the NDRC was initially crippled by competition for administrative power within the NDRC and with other preexisting organizations.⁵ Even after the Energy Bureau was upgraded to vice-ministerial rank and renamed the National Energy Administration in the 2008 reforms, it has still struggled to

Note that some organizations deemed to be relevant to energy policy, but with primary missions and origins outside of the energy sphere appear as simply a box under their creation date. Also note that this flow omits most sub-unit organizations and subsidiaries for the sake of simplicity.

² Levine, Mark, Feng Liu and Jonathan Sinton. "China's Energy System: Historical Evolution, Current Issues, and Prospects." *Annual Review of Energy and Environment*. (1992) 17:405-435. Pp 431.

³ "NPC: National Energy Commission formed as ministerial level regulatory body" *China Briefing*. 11/30/2009 <http://www.china-briefing.com/news/2008/03/11/npc-national-energy-commission-formed-as-ministerial-level-regulatory-body.html>

⁴ Tu, Jianjun. "China's New National Energy Commission and Energy Policy." *China Brief*. (2008) Vol:8:7. Available:[http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews\[tt_news\]=4820&tx_ttnews\[backPid\]=168&no_cache=1](http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews[tt_news]=4820&tx_ttnews[backPid]=168&no_cache=1)

⁵ Xinzheng, Lan. "Who'll Turn on the Lights?" *Beijing Review*. No. 48 Nov 29, 2007. 11/30/2009 http://www.bjreview.com.cn/Energy/txt/2007-11/30/content_87726.htm

overcome the challenges it had in bureau form because of the consensus building limitations placed on its power.

There are a number of other specialized ministries that have an influence on energy policy given the scope of their primary mandate. These include the Ministry of Finance (investment and income), Ministry of Foreign Affairs (overseas energy), the Ministry of Agriculture (biomass, renewable, rural energy), Ministry of Land and Resources (resource utilization), Ministry of Science and Technology (R&D, nuclear), Ministry of Commerce and the Ministry of Environmental Protection. Depending on the precise action of any energy actor, coordination and approval is required from departments within these ministries. Because these ministries except for Environmental Protection have been created from Ministries that predate the reform era, they have been significant players in the system and continue to be well able to protect their regulatory power from new organizations.

Coal

At the beginning of the reform era, the Ministry of Coal Industry stood as the single organization in charge of coal production and management. With the market oriented reforms enacted in the mid 80's, the ministry's production side was split into three firms: China National Coal Corporation, Northeast Inner Mongolia United Coal Industry Corporation, and the China National Local Coal Mine Development Corporation. The administrative side of the ministry persisted briefly until it was lumped into the Ministry of Energy (MOE) in 1988 to much protest.

Ministry of Coal officials within the Ministry of Energy fought to undermine the new organization, finally succeeding in getting the Ministry of Coal reconstituted as a separate ministry after the dissolution of the MOE in 1993. By 1998, however, it was downgraded to the administration level under the SETC after its production assets were shifted to provincial and local authorities.⁶ The administrative responsibilities shifted to the new organizations that arose out of the 1998 set of reforms: the State Administration of Mine Safety, the Ministry of Land and Resources and the expanded State Economic and Trade Commission.⁷

The three national coal enterprises mentioned above were transformed by the rapid marketization of the coal sector. Of all of China's energy sectors, coal moved most strongly toward the market and is characterized by a large number of township and village mines, though the amount of coal produced by SOE's continues to be very large.⁸ The central government encouraged the development of small rural mines to improve the penetration of energy in remote areas during the first decade of reform in order to satisfy growing demands.⁹ Once supply was sufficient, price liberalization followed, turning the coal sector into a relatively free market.¹⁰

⁶ Wu, Yanrui. "Deregulation and Growth in China's Energy Sector: A Review of Recent Development." *Energy Policy*. 31 (2003): 1417-1425. Pg. 1418

⁷ Wu, Yanrui. Pg. 1418.

⁸ "Country Analysis Brief – China." *Energy Information Administration*, Department of Energy. 11/30/2009. <http://www.eia.doe.gov/emeu/cabs/China/Background.html>.

⁹ Levine et al. Pp 412.Pp 410.

¹⁰ Wu, Yanrui. Pg. 1419

Safety concerns have led to the difficult closing of a large number of smaller mines in recent years¹¹, while corporate acquisitions and splits have left the remaining SOE's with significant output.¹² Given the size of China's coal economy, these organizations continue to hold a vast amount of institutional resources with a very large economic footprint.

Oil

At the beginning of the reform period, China's oil demand was not an overly large energy sector, and the Ministry of Petroleum Industry, like the Ministry of Coal Industry, was broken up during the market reforms of the 1980's. The resulting national oil companies (NOC's), however, have not had to face anything like the market liberalizations of the coal industry. Instead, the government has actively consolidated oil and gas operations into the China National Petroleum Company, Sinopec and CNOOC. The market for oil continues to be tightly controlled as it rapidly expands, with prices still set by the NDRC.¹³ Also unlike coal, the oil companies themselves retained their government regulatory functions until the March 1998 restructuring when these functions were finally placed into the State Administration of Petroleum and Chemical Industries under the SETC.¹⁴ Even after this separation of regulatory power, NOC executives have continued to have ministerial or vice-ministerial rank as well as political connections vastly superior to their regulators, with little pressure to restructure them into pure commercial enterprises. This sheltered development has made the NOC's very influential and protected from most serious regulation, with the understanding that their leaders are part of the top party structure.

Electricity

The electricity generation and transmission sector was initially controlled by the Ministry of Electric Power similar to the aforementioned Ministry of Coal and Ministry of Petroleum. This ministry, however, was combined with the Ministry of Water Resources in the early 80's only to be split apart again later on in the decade when electric power responsibility was given to the Ministry of Energy.¹⁵ When the MOE was disbanded in 1993, the Ministry of Electric Power returned, but was transformed into the State Power Corporation in 1998. This organization was later broken up into smaller grid and power companies in the hopes of fostering greater competition.

The regulatory component was not fully stripped out of these enterprises until the formation of the independent State Electric Regulatory Commission in 2003. This organization has struggled to operate effectively because many of its regulatory powers, such as price regulation reside within other agencies like the NDRC.

¹¹ Wright, Tim. "State Capacity in Contemporary China: Closing the Pits and Reducing Coal Production" *Journal of Contemporary China*, 16:51, 173 - 194

¹² "Guowuyuan guanyu Chexiao Zhongguo Dongbei Nei Menggu Meitan Jutuan Gongsi de Tongzhi" *Findlaw.cn*. 11/30/2009 <http://china.findlaw.cn/fagui/gj/22/16601.html>

¹³ "Country Analysis Brief – China." Pp. 3

¹⁴ Chen, Yongwu. "China's Petroleum Industry after Reshuffle: The Advent of A New Era." *Remarks at the Sino-American Petroleum Conference*. 11/30/2009 http://www.uschinaogf.org/Forum2/2Chen_Yongwu_eng.pdf

¹⁵ "About MWR – MWR History" *Ministry of Water Resources of the PRC*. 11/30/2009 <http://www.mwr.gov.cn/dlzz/2009english/aboutmwr.aspx>

Nuclear

Given that China's first nuclear reactor was not approved until 1982, the Ministry of Nuclear Industry's shift to a market form occurred mostly in name when it was turned into the China National Nuclear Corporation (CNNC)¹⁶, retaining its regulatory and commercial capacity. It was not until 1998 that a range of new organizations were created to separate out the commercial and regulatory responsibilities.

The CNNC was initially supplemented by two new nuclear groups, the China Nuclear Industrial Group and the China Nuclear Engineering Construction Group. Other enterprises have since arisen.

On the regulatory side, the China Atomic Energy Authority (CAEA) was spun off from CNNC into COSTIND, while other regulatory powers were taken up by Ministry of Science and Technology's National Nuclear Safety Administration¹⁷ and the SETC. The CAEA has since moved to the Ministry of Industry and Information Technology, while other regulatory powers have shifted through the NDRC to the NEA.

CURRENT REGULATORY STRUCTURE – ONGOING ISSUES

The previous section sought to demonstrate how the process of reform in China has resulted in a constant branching of institutions from a few initial super-ministries. Figure 2 provides a rough outline of what this evolution has produced today, aligning the regulatory side against the commercial side. No attempt has been made to draw the lines of authority between the regulators and the commercial enterprises because the regulatory powers are too fractured to make a diagram that would be useful. Instead, this figure is meant to demonstrate the sheer number of vested entities that have come out of the evolution shown in Figure 1; many government agencies vying to wield regulatory authority, arrayed against a number of large SOE's asserting strong endogenous political power on their regulators. An aggregated, simplified diagram is provided in Figure 3, showing the rough links between the categories of organizations. The current configuration, like those that have preceded it, represents a policy structure with numerous shortcomings, particularly the inability to create an implementable, long-term energy strategy, the high degree of conflicting interests in the regulatory structure and the excessive bureaucratic competition between the numerous institutions.

No Long-Term Solutions

Although the regulatory powers have seemingly been unified in the NEA and NEC, the staffing and rank of these organizations prevent them from truly coordinating and leading the fray of other institutions. Given that a coherent energy policy would require an implementation network that had a complete vertical *tiao* reaching the local level governments where policy gets implemented, one cannot reasonably expect the 100-200 staff assigned to these regulatory

¹⁶ "CNNC at a glance." *CNNC*. 11/30/2009 <http://www.cnncc.com.cn/english/about/brief.htm>

¹⁷ "Guojia He Anquan Ju Jianjie." *Ministry of Environmental Protection of the PRC*. 11/30/2009 http://www.zhb.gov.cn/safe/haqjjj/200905/t20090525_151927.htm

organizations to have any chance of managing the enormous number of local level organizations in China. It would be different if they had the vertical staff of the NDRC, but this is not the case. Instead, the system continues to have an ad-hoc nature to it, where the uppermost leadership can only bring about coherent policy to address pressing short-term issues by using its own political will, while leaving the details of implementation to drift on the willingness of local officials.

This system has been quite successful in responding to the short-term demands of the top leaders, such as dealing with coal shortages in the 80's and the desire for more market reforms in the 90's. But the long-term repercussions of these actions have often caught them off-guard, requiring reversals in direction such as the closure of small-scale coal mines and the lack of sufficient regulatory institutions to replace cadres lost to commercial enterprises.¹⁸

Action on energy policy often has often only occurred when the top most leadership demands it, making it subject to political whims and what information is presented to the leadership. With Chinese domestic scholarship focused more on energy security and the problems existing ministries are interested in addressing, it is of little surprise that these are the issues that get addressed.¹⁹ An example of the fickle nature of energy policy is the Xinjiang West-East gas pipeline described by Speed et al. that swung between approval and disapproval for several years until finally being approved in 2006.²⁰ Similarly, the constant creation, recombination and reincarnation of institutions demonstrates a readjustment process trying to address institutional issues and short-term political problems while still failing to put together the institutional framework to create long-term policy.

Interests Not Aligned

The fact that long-term energy policy is not being actively managed by any organization at the national level has created many inefficiencies in China's energy system, because the government has neglected to align the conflicting interests of the many parts under its control. It is a given fact of Chinese politics that the local level has interests divergent from the center. Efforts to strengthen central control of these vertical relationships have only ended up strengthening the sub-national units.²¹ Economic priorities on which provincial and local leaders are judged have resulted in energy problems like the excessive construction of inefficient small scale coal plants.²² One 2007 estimate estimated there to be 120,000 MW of electric capacity in the process of installation that had not been approved by the central government.²³ While low-level officials are concerned with attaining their economic metrics, the socially optimal path is being sacrificed so officials may climb the Party's career ladder.

¹⁸ Zhao, Jimin. Pg 32

¹⁹ Cheng, Joseph Y.S. "A Chinese View of China's Energy Security." *Journal of Contemporary China*. (2008) 17:55 Pp. 297-317.

²⁰ Speed, Philip Andrews, Xuanli Liao and Roland Dannreuther. *The Strategic Implications of China's Energy Needs*. New York: Oxford University Press, 2002. Print. Pp. 53-61

²¹ Mertha, Andrew C. "China's Soft Centralization: Shifting the tiao/kuai Authority Relations." *The China Quarterly*. (2005) Pp. 791-810

²² Zhao, Jimin. Pg. 7

²³ Cunningham, Edward. "China's Energy Governance: Perception and Reality." *MIT Center for International Studies Audit of the Conventional Wisdom*. (2003) 07-04.

Extending beyond government agencies, the current regulatory structure has also failed to address the problem of the conflicting interests of NOC executives. Their full and vice-ministerial ranking provide them with influence in the Central Committee and Politburo that allows them to circumvent and overcome their regulators.²⁴ It is assumed that they will abide by the state's energy security goals while pursuing their commercial interests, but there are no institutional guarantees to this arrangement.²⁵ While one may say the CCP exerts control over the energy companies through control of their future positions,²⁶ the fact that these executives are considered for ministerial level positions like provincial governorships when leaving NOC's also shows that there are very few people above them in the party that can actually affect their decisions. The extent of their influence and resources pose a serious risk of pushing the state to satisfy the companies' commercial interest rather than the other way around. There is evidence of such action, with energy SOE's reportedly reducing output in order to pressure the government to raise prices and NOC's ignoring NDRC guidance on overseas investments.²⁷ The latest round of reforms have clearly done nothing to address this issue, as NEA officials still have no ability to go against the strong SOE's when even the NDRC is incapable of getting compliance.

Bureaucratic Infighting

With such a large number of institutions involved in energy regulation, a large amount of bureaucratic infighting is built in. This structure has been referred to as the fragmented authoritarianism model which asserts "that authority below the very peak of the Chinese political system is fragmented and disjointed...it is often necessary to achieve agreement among an array of bodies, where no single body has authority over the others"²⁸ and thus is continuously "hamstrung by a complex bargaining process and the need to build a consensus."²⁹ There are significant explanations for how this form of politics arose and persists in China,³⁰ but for this discussion it is only important to note that the NDRC's new energy administration continues to be at a disadvantage in these bargaining battles because of its low rank as a vice-ministerial organization and the weak influence stemming from its institutional origins.³¹ This same lack of institutional power plagued the defunct Ministry of Energy,³² but now that the NEA is in the more powerful and expansive NDRC, one would expect the institution to have more authority. Unfortunately, the NEA suffers from infighting between the different departments of the NDRC and reluctance of other ministries to see the NDRC grow further. As Erica Downs of Brookings

²⁴ Downs, Erica S. Pg. 42.

²⁵ Speed et al. Pp. 51-53

²⁶ Brookings Energy Security Series Pp. 23-24

²⁷ Downs, Erica S. "Testimony to the USCC - China's Energy Policies and Their Environmental Impacts." *Brookings*. 11/30/2009 http://www.brookings.edu/testimony/2008/0813_china_downs.aspx

²⁸ Lieberthal, Kenneth. "The Fragmented Authoritarianism Model and its Limitations." in Kenneth Lieberthal and David M. Lampton, eds., *Bureaucracy, Politics, and Decision Making in Post-Mao China* (Berkeley: University of California Press, 1992) Pg. 8

²⁹ Lampton, David M. "A Plum for a Peach: Bargaining, Interest and Bureaucratic Politics in China." in Kenneth Lieberthal and David M. Lampton, eds., *Bureaucracy, Politics, and Decision Making in Post-Mao China* (Berkeley: University of California Press, 1992), pp. 1-58.

³⁰ Lampton, David. "Chinese Politics: The Bargaining Treadmill," *Issues and Studies*, Vol. 23, No. 3 (March 1987), pp. 11-41.

³¹ Xinzhen, Lan. Pg. 2

³² Zhao, Jimin. Pg 8

succinctly described, the “NEA will struggle to fulfill its mandate because it lacks the authority, autonomy, manpower and tools to deal with the country’s energy challenges.”³³

PATHWAYS FOWARD

Faced with clear institutional shortcomings and difficult political realities, the options available to the senior Chinese leadership in their next reshuffle are limited. It is clear, however, that the Chinese government has made energy security one of its key strategic goals via the statements of its leaders and its actions in international markets.³⁴ Any potentially successful round of reforms would have to actually challenge some of the existing institutions and leave some current bureaucrats unhappy. It would need to unify the policy making authority and establish a clear path of implementation over the existing interests.

Ministry of Energy 2

Chinese leaders could entertain the proposals to resurrect the Ministry of Energy that were floated by NPC member Wang Weicheng during the drafting of the law that led to the 2008 round of institutional restructuring. There was much media speculation about the resurrection of the Ministry of Energy as a serious possibility.³⁵ Officials in some ministries were quoted during the lead up to the 2008 reform citing the benefits of having a central energy policymaking body to overcome the issues of coordinating such a large number of sub-ministerial departments.³⁶ But in analyzing likely outcomes in 2006, Kong Bo suggested this outcome to be highly unlikely given the opposition that would arise from the existing ministries as well as the enormous potential power of a fully staffed ministry with a hand in all energy policies.³⁷

Furthermore, even if such a ministry could be forced through with sufficient regulatory constraints to limit its power, it is unclear how well it would even be able to function. New and weak ministries would inevitably suffer from an acute case of the “matrix muddle” problem described by Lieberthal, where sub-national governments exert authority over the local ministerial branches.³⁸ Another recently created ministry, the Ministry of Environmental Protection, suffers from this problem and is said to have “little influence over staffing, programs and funding decisions,” with its branches.³⁹ A new Ministry of Energy could suffer a similar organizational fate and ultimately become a paralyzed entity, unable to effectively execute its goals.

³³ Downs, Erica S. “China’s New Energy Administration.” *China Business Review*. (2008) Nov-Dec. Pp. 42- 45. Pg 43.

³⁴ Zhao, Suisheng. “China’s Global Search for Energy Security: Cooperation and Competition in Asia-Pacific.” *Journal of Contemporary China*. (2008) 17:55, Pp. 207-227.

³⁵ Graham-Harrison, Emma. “China may Revive Energy Ministry in Draft Law.” *Reuters*. 11/30/2009 <http://www.reuters.com/article/latestCrisis/idUSPEK278956>

³⁶ Xinzhen, Lan. Pg 2.

³⁷ Bo, Kong. “Institutional Insecurity.” *China Security*. Summer 2006. Pp. 64-88. Pp. 81-82.

³⁸ Lieberthal, Kenneth. *Governing China*. New York: Norton & Company, 2004. Pp. 186-188

³⁹ *USCC 2008 Annual Report 2008*. US-China Economic and Security Review Commission. Washington: US Government Printing Office, 2008. Available: http://www.uscc.gov/annual_report/2008/08_annual_report.php

Even though the nominal consolidation of responsibilities in the NEA may seem like a step on the path to creating a new Ministry of Energy, the stiff opposition from existing entities and the many difficulties of creating a true ministry or commission make this an unlikely path.

Incremental Steps

It was recommended in 2006 that China formalize and empower the Energy Leading Group as a policy making tool and using existing structures in the State Energy Office and NDRC for implementation.⁴⁰ The current structure has actually seen the Energy Leading Group become a formal institution in the NEC, but it is unlikely to have the capability and resources to function as a driver of policy. Hypothetically, the right people occupying its offices could provide bureaucratic authority, but would need to be paired with an expanded implementation structure in the NEA or NDRC. Moving in the direction proposed by Bo is possible, and the past set of reforms may even be an incremental step in this direction. Future steps would need to continue moving the institutions down this path, building bureaucratic consensus over time.

Potential issues in utilizing the NEC arise from its seats being filled with representatives of other agencies and politically powerful SOE executives. Such a mix may just move paralysis from interagency to interagency where the agenda is rarely advanced. This proposal is a reasonable option for moving forward with institutional reform, but still seems unlikely given the current weakness of the NEA and NEC.

Separate Regulatory Commissions

Another possible route may be that of the electricity sector combined with the above steps to utilize the NEC. The electricity sector already has an independent regulator directly under the State Council called the State Electricity Regulatory Commission. Though it has suffered from difficulty in getting the necessary policy powers away from the NDRC (it can only “propose tariffs and adjustments to the government pricing authority,”⁴¹) sufficient political driving from the center could get such a regulator what it needs to be effective in implementing policy.

A plan to create regulatory commissions that report directly to the State Council or the NEC could bring the benefits of having a central policy authority with an implementation structure that could affect ministerial level agencies. Such a structure could be rolled out one industry at a time, limiting the scope of the political battles that need to be fought in any given step of reform. By beginning with the smallest sector, nuclear, and moving up the chain, momentum could be built around such a regulatory structure that could help dampen political opposition in later stages.

Such a method is likely to face the same opposition and difficulties as any other change to the status-quo that involves giving new organizations control over old organizations, and would also require a multi-stage commitment to an institutional reform plan. The many reversals of energy policy decisions suggests that such a plan is also not likely.

⁴⁰ Bo, Kong. Pp. 81-82.

⁴¹ SERC 11/30/2009 <http://www.serc.gov.cn/english/index.htm>

Ignore the Problem

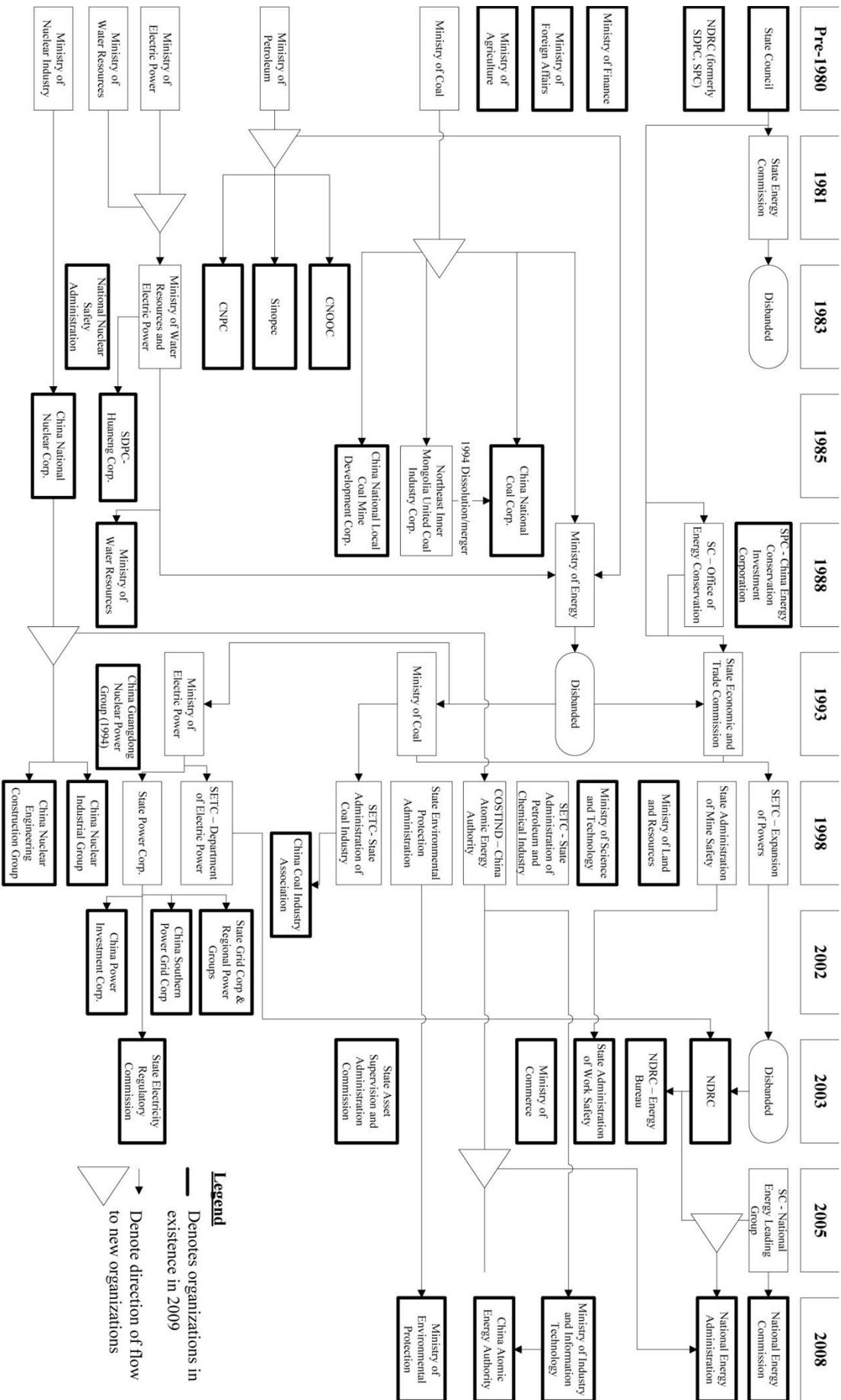
Realistically, no action on the problem is likely the best choice for the Chinese leadership given their political realities. Though there are many potential ways to improve China's energy institutions, it simply does not command significant attention. Even when faced with the energy issues of recent years like electricity shortages⁴², coal infrastructure gridlock⁴³ and skyrocketing energy demand, the Chinese government was still only able to push through a nominal reshuffling of energy's bureaucratic deck. The problems of Chinese energy institutions are certainly significant and surely impede the efficient functioning of the Chinese system. However, these institutional inefficiencies are not so large as to prevent the system from functioning outright. China has come very far with inefficiencies in many spheres, and given the leadership's history of focusing on the most pressing development problems, it is highly unlikely that a significant restructuring of China's energy institutions will occur in the foreseeable future. Instead, the Chinese leadership will likely opt to address the issue with more nominal changes to the institutional structure that can be brought about with little political cost, while using their political capital on more pressing issues.

CONCLUSION

China's energy bureaucracy is a complex web of responsibilities that reflects many rounds of government restructuring. It has reshaped powerful ministries into powerful enterprises, while attempting to build up a modern regulatory structure around them. The system has been able to enact the pressing needs of the leadership, but is often caught up in bureaucratic bargaining and turf wars. Unfortunately, the fact that this kind of behavior is endemic to the system means that though there are many potential solutions for this institutional system, they are all too costly for Chinese leaders to reasonably enact.

⁴² "China Plagued by Power Shortages." *Voice of America News*. 11/30/2009
<http://www1.voanews.com/english/news/a-13-2008-01-23-voa9-66788747.html>

⁴³ Buckley, Chris. "China Warns Heavy Snow May Sweep East." *Reuters UK*.
<http://uk.reuters.com/article/idUKPEK4763620080125>



¹ Compiled with guidance from:
 Bo, Kong. "Institutional Insecurity." *China Security*. Summer 2006. Pp. 64-88. Pp. 81-82.
 Downs, Erica S. "China's New Energy Administration." *China Business Review*. (2008) Nov-Dec. Pp. 42-45.
 "China Government Structure Report." *China Business Council*. 11/30/2009 http://www.uschina.org/info/china-bpr/brg-book/#government_structure.
 Zhao, Jinxi. "Reform of China's Energy Institutions and Policies: Historical Evolution and Current Challenges." *BCSA Discussion Paper 2001-20*. *Energy Technology Innovation Project*.
 Kennedy School of Government, Harvard University.
 "China WMD Database." *NITL*. 11/30/2009 <http://www.nitl.org/db/china/index.htm>

Figure 2: Outline of China's Current Energy Institutions

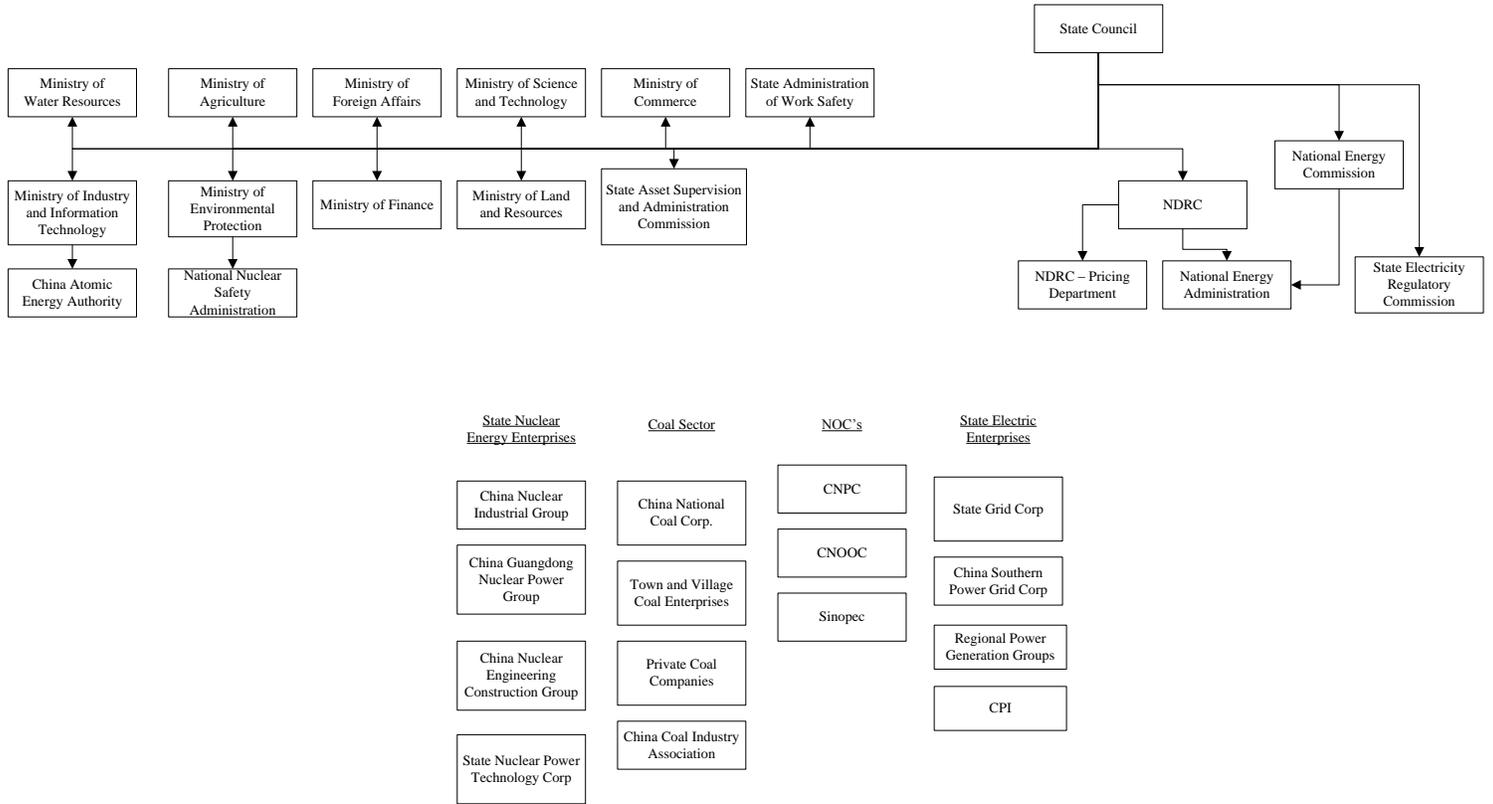
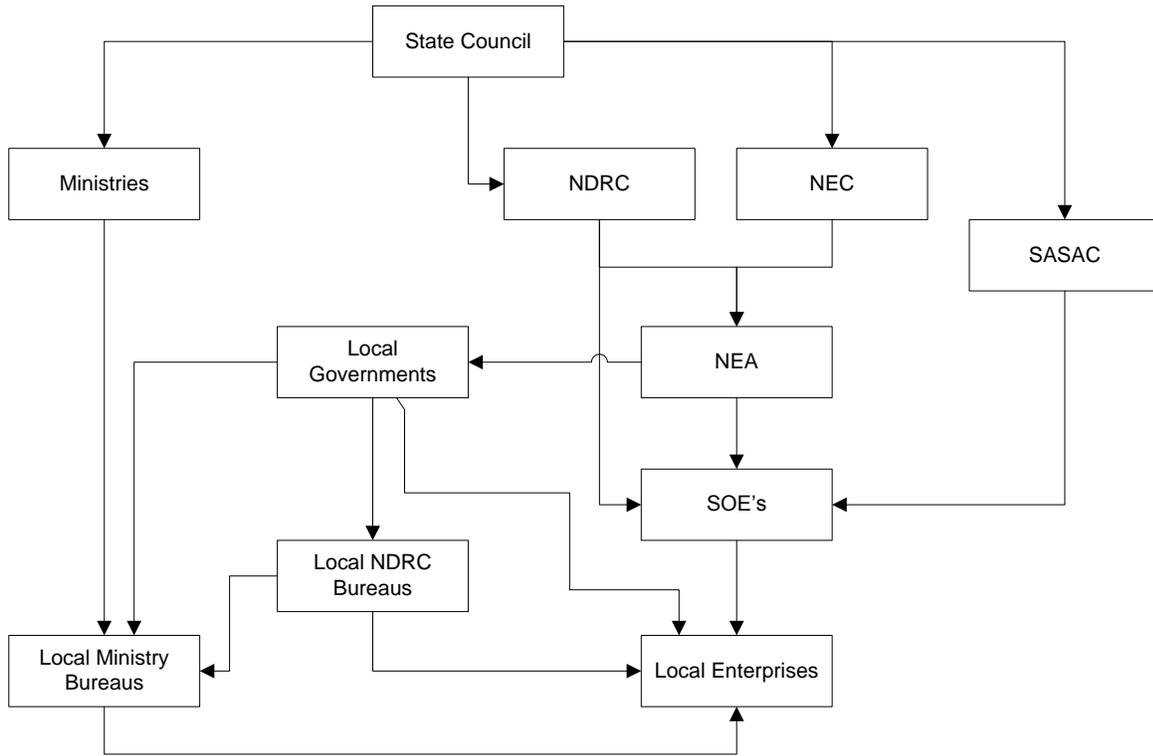


Figure 3: Command Structure of China's Energy Sector¹



¹This chart is an update of Chart 2 that appears in:
Bo, Kong. "Institutional Insecurity." *China Security*. Summer 2006. Pp. 64-88. on Pg. 77