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THE FUTURE OF ENERGY SECURITY AND ENERGY POLICY IN
NORTHEAST ASIA: COOPERATION AMONG CHINA, JAPAN, AND
THE UNITED STATES

CONFERENCE REPORT

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Introductionⁱ

What is the potential for successful cooperation among China, Japan, and the United States in securing long-term stable supplies of oil and fuels to support growth in the world's three largest economies?

To fully answer this question would require an understanding of a wide array of domestic political, economic, and social factors in these three countries, as well as the historical and contemporary international governmental, corporate, and social interactions of their populations. This study is a preliminary attempt to develop this broader explanation by examining three salient factors for understanding the potential for China's cooperation:

- How might the changing attitudes, knowledge, and influence of the Chinese people affect the capacity for cooperation on energy and environmental issues with Japan and the United States?
- How might the changing relations between China's government, regulatory, and state-owned institutions and its state-owned oil and gas companies affect the ability of these actors to cooperate with Japanese and American governments and corporations?
- How might the Chinese, Japanese, and American governments, state-owned oil and gas companies, and multinationals construct multilateral institutions to coordinate energy policy?

China's gradual integration into the global economy began in the Post-Mao reform era of the 1970s and was accelerated by reformist leader Deng Xiaoping in the 1980s and 1990s. New Communist Party General Secretary Hu Jintao and Premier Wen Jiabao have continued this integration at full speed in a post-World Trade Organization (WTO) accession era. This

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progress has not only generated a thirst for oil and fuel imports, but also a flurry of academic reports projecting skyrocketing demand, and broad public discussion throughout China on energy pricing and energy security policies.

However, domestic supply of oil and fuels is unlikely to keep pace with domestic demand. China's domestic oil production is widely estimated currently to be around 3.5 million barrels a day (b/d), with demand between 5.5 and 6 million b/d, based on 2003 figures. Many projections place domestic production at similar levels in 2010, but with demand at more than 7 million b/d. Throughout much of the next decade of development, China is expected to require between 3 and 4 million b/d of petroleum imports¹

Tables 1 and 2 show the general decline in production levels of China's major oil fields and the relative production abilities of its three major national oil companies (NOCs): China National Petroleum Corporation (CNPC, parent company of PetroChina), China National Petroleum Corp. (Sinopec), and China National Offshore Oil Corporation (CNOOC).

1. Jaffe and Lewis, "Beijing's Oil Diplomacy"; Jaffe and Medlock, "Energy Trade in China" (forthcoming); Kanekiyo, "Energy Cooperation and Technology"; Wu, "Chinas Energy Demand, Supply."

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**Table 1: CNPC and Sinopec Domestic Crude Oil Production, By Major Field, 1997-2003
(in thousand b/d)**

Field	Company	Region	1997	1998	1999	2000	2001	2002	2003	2003/1997
Daqing	CNPC	Northeast	1120.1	114.0	1090.0	1060.0	1030.0	1002.6	968.0	86.4%
Liaohe	CNPC	Northeast	300.8	290.4	286.0	280.2	277.0	270.2	264.4	87.8%
Xinjiang	CNPC	Northwest	174.0	174.2	179.8	184.0	193.6	201.0	212.0	121.8%
Changqing	CNPC	Northwest	66.0	80.0	86.0	92.8	104.0	122.0	140.3	212.5%
Tarim	CNPC	Northwest	84.0	77.0	85.2	87.0	94.6	100.4	105.0	125.0%
Huabei	CNPC	North	93.6	94.6	93.6	91.2	90.2	87.6	87.0	92.9%
Dagang	CNPC	North	88.0	86.0	82.0	80.0	79.0	78.7	84.2	95.6%
Jilin	CNPC	Northeast	80.0	79.4	68.8	66.8	71.6	88.8	95.0	118.7%
Tuha	CNPC	Northwest	60.0	59.0	58.0	55.6	49.8	50.2	47.0	78.3%
Qinghai	CNPC	Northwest	32.0	35.22	38.0	40.0	41.2	42.8	44.0	137.5%
Sichuan	CNPC	Northwest	4.6	4.3	4.0	3.4	2.8	2.7	2.7	58.6%
Yanzhang	CNPC	Northwest	21.4	32.5	42.38	49.2	63.2	63.6	110.5	516.3%
Guidong	CNPC	Northwest	12.2	12.7	12.6	12.4	12.5	13.0	14.9	122.1%
Shengli	Sinopec	North	560.2	546.2	533.0	535.2	533.6	534.3	533.1	95.1%
China Star	Sinopec	West	12.4	12.4	19.6	48.0	58.8	58.5	N.A.	N.A
Zhongyuan	Sinopec	North	80.4	80.0	75.0	75.4	76.0	76.0	72.3	89.9%
Henan	Sinopec	Central	37.0	37.2	36.6	37.0	37.2	37.6	37.2	100.0%
Jiangsu	Sinopec	East	23.4	26.7	29.0	31.0	31.4	31.4	31.6	135.0%
Jiangnan	Sinopec	East	16.4	15.1	16.82	17.4	19.0	19.3	19.0	115.8%

Source: Adapted from data from CNPC, China Petroleum and Petrochemical Association data, in *Guoji shiyou jingji (International Petroleum Economics)*, February 2004, pg. 60.

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**Table 2: CNPC, Sinopec and CNOOC Domestic Crude Oil Production, 1997-2003
(in thousand b/d)**

	1997	1998	1999	2000	2001	2002	2003	%1998	%2003
CNPC	2864.4	2149.2	2141.3	2121.0	2130.5	2148.3	2190.8	67	64.6
Sinopec	n.a.	706.3	691.3	744.8	756.7	757.8	760.9	22.0	22.4
CNOOC	325.64	326.3	323.4	351.4	364.4	419.7	437.1	10.1	12.8
TOTAL	3208.8	3205.1	3175.7	3217.2	3263.4	3377.3	3388.8	100	100

Source: Adapted from data from CNPC, China Petroleum and Petrochemical Association data, in *Guoji shiyou jingji (International Petroleum Economics)*, February 2004, pg. 60.; percentages do not add up to 100 owing to rounding.

Clearly, China has a strong incentive to find new ways to cooperate with both oil consumers and oil producers. This report argues that there is indeed significant potential for successful cooperation among the oil-consuming nations of China, Japan, and the United States in order to secure long-term stable supplies of oil and support growth in the world's three largest economies. But research presented at workshops organized by the Baker Institute and its co-sponsors in Beijing, Tokyo, and Houston in the spring and summer of 2004, and additional original research by this author, suggest that such cooperation is more problematic and complex than most outside observers may realize. This paper briefly presents arguments and evidence to show the importance of these factors and offers prescriptions for academic, governmental, and corporate policymakers in these three countries who are interested in promoting successful cooperation on energy policy and energy security.

The Views of the Chinese People

How might the changing attitudes, knowledge, and influence of the Chinese people affect the capacity for cooperation with Japan and the United States? To answer this question, this study first considers the results of economic survey research examining how Chinese city dwellers, who are the primary consumers of energy in China, view energy security and environmental issues. The study next considers how these Chinese view the participation of Japanese, Americans, and other foreigners in their quest to achieve energy security and a cleaner living environment. Finally, the study considers the changing influence of the media and organizational ties—including academic discourse and public policy think tank recommendations—between the one-party state and the Chinese people.

Pioneering comparative economic survey research in May 2004 by Horizon Survey Research, one of China's largest private survey research firms, reveals that China's city dwellers have varying and complex preferences for energy security and environmental quality.² Overall, however, polling indicates that most Chinese view energy and environmental issues as local and personal, and they believe that these are practical or pragmatic problems that should be solved collectively for the public good. Overall they seem to prefer international forums for cooperation—including foreign governments, corporations, and such NGOs as the United Nations and the WTO—to solve energy security and environmental problems.

Chinese city dwellers seem more concerned with environmental and conservation issues than they are with energy security issues, especially as the former concern their local environment

2. See, respectively, Yuan, "Chinese Residents' Perceptions" (2004 A); Yuan, "Chinese Residents' Perceptions" (2004 B).

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and impact their consumption habits. More than 80% of respondents practice electricity and water conservation. In recent years, environmental issues have ranked highly as those policy issues that most concern Chinese city dwellers, and which would also include such other issues as unemployment, welfare, and housing reform.

When asked to identify which problems concern them most, Chinese city dwellers focused on urban pollution (82.8%) and industrial pollution (75.1%), with many fewer looking at securing international energy resources (16.0%). Those who do not own a car and who live near sources of industrial pollution are most interested in environmental and pollution control issues. Those who own a car and who have higher levels of income and education—most likely correlated—are more concerned with pursuing energy security and international cooperation issues.

Some 70% of urban residents think China has a severe energy shortage. General awareness of this varies by income and gender, but not significantly by region.³ Generally speaking, younger men with higher levels of education and income are more aware of energy security issues, while older women with lower levels of income and education are not as aware.

When asked to consider whom they think should be responsible for developing various energy development projects—from nuclear power plants to new coal fields and domestic and international oil and gas pipelines—urban Chinese revealed a fairly accurate awareness of the problems in coordinating and providing the various resources necessary for their development, as well as a general trust of both central and local governments. For example,

3. See note 2 above.

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they viewed the central government as primarily responsible for developing nuclear energy, local governments as responsible for developing coal resources, and multinational companies as responsible for developing international sources of oil and gas via pipelines.

China's state-owned oil and gas companies were seen as major sources for developing domestic energy resources. But somewhat surprisingly, they were not viewed as the main developers of international resources, perhaps reflecting the perception that China's oil and gas companies were not capable of competing with multinational companies in the international environment. These perceptions may have been formed by recent, deadly accidents that caused leadership changes and much public criticism of the state-owned enterprises (SOEs) and their safety records. They may also reflect a general distrust of privatization and private industry, as Chinese who were polled ranked private enterprises, along with multinationals, very low on the list of developers of domestic energy resources. Multinationals were the only players seen as significant in the development of international resources.

This general trust in the abilities of the central and local governments to handle energy problems is offset by a desire for increased information exchange and participation in decision making. When asked to consider the role that public hearings might play in establishing energy prices, Chinese city dwellers preferred them over government targets and market actors, especially for fuels used at home. When asked to choose the purpose of such public hearings, some 41% saw them as opportunities for citizens to let public officials hear their opinions, 29% as opportunities to share information, and 23% as opportunities to express dissatisfaction with the current pricing mechanism.

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Perhaps related to the history of housing as collectives in most Chinese cities—with most housing provided at very low expense through the government or enterprise *danwei*, or “work unit”—this preference for public hearings as opportunities to provide feedback and exchange information may be a characteristic rooted in the era of the complete planned economy. As such, urban Chinese may view solutions to energy and environmental problems in a more local and collective sense than the more globally-oriented and individual city dwellers of advanced industrial societies.

The fact that the survey reveals that younger people with higher-level incomes and education are more aware of the international aspects of energy security may reflect that these views and preferences for collective information and solutions are in transition. China’s youngest generations, especially the college-educated and professional middle class, are increasingly exposed as individuals to the fluctuations and competitive pressures of the global marketplace.

Aside from the collective identification with the socialist work unit or *danwei* that may come from employment or housing, Chinese city dwellers may also focus on local, collective solutions to environmental problems. Comparative research on environmental enforcement in China’s localities shows there is variation according to local economic and political conditions.⁴

Analysis of the factors influencing enforcement of cleaner production (CP) rules by municipal agencies—Environmental Protection Bureaus and Economic and Trade

4. He Oliver & Ortolano, “Promoting Cleaner Production.”

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Commissions—suggests that “enterprises are mainly motivated by economic factors to implement CP measures [and that] environmental protection is considered a secondary benefit.”⁵ Enforcement improves, however, when these municipal agencies are (politically) motivated to modify their priorities, reallocating resources to implement effective auditing, cooperating with other agencies, and identifying the economic incentives for those implementing the laws, including enterprises.

Urban Chinese may thus look to public hearings as a mechanism to learn about municipal agencies, pollution issues, and even as sources of collective negotiating strength in dealing with such units. Public hearings may thus serve an important role in the future in setting some energy prices, but they may also play an important role in resolving conflicts over local environmental pollution problems, particularly in the absence of developed legal systems. Clearly, future research needs to be conducted on how the multifaceted role and residual influence of the socialist work unit affects public discussion on energy, energy security, and environmental issues.

Regarding the topic of cooperation with foreign governments and corporations, the Chinese people seem to trust international organizations more than regional or bilateral arrangements, although the extent of their knowledge of these international organizations’ capabilities is not clear.

When questioned about which organizations play an important role for China on energy issues, some 57% identified the WTO, 51% the International Energy Agency (IEA), and 50%

5. He Oliver & Ortolano, “Promoting Cleaner Production.”

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the United Nations. But only 36% identified the Asia-Pacific Economic Cooperation group (APEC), 26% the Association of Southeast Asian Nations (ASEAN), 14% the Shanghai Cooperation Organization (SCO), and 11% regional cooperation among China, Japan, and South Korea. When asked to identify which particular countries played an important role for China on energy issues, 31% identified the United States, 27% Japan, 18% Russia, 17% Europe, and only 5% South Korea. These views are consistent with other studies which reflect a general optimism by Chinese city dwellers about the long-term benefits of integrating into the global economy, including accession to the WTO.⁶

Finally, when questioned about which countries are important sources of oil for China, some 61% of those Chinese surveyed chose Russia, 29% chose Kazakhstan, 41% the Persian Gulf, 35% Southeast Asia, 13% East Africa (Sudan), and some 10% Canada. Since China imports nearly half of its oil from the Middle East, and relatively small amounts from Russia, Kazakhstan, and Canada, it appears that perceptions of China's international energy suppliers are influenced by specific events and discussions of governmental exchanges and agreements that appear in the Chinese media. In recent years, there has been much discussion of the "going abroad" strategy of China's SOEs, focusing in particular on potential oil and gas pipelines with Russia and Kazakhstan and the acquisition of fields in Canada.

Looking more closely at how China might cooperate with other countries, the Horizon survey concludes, "The United States is deemed to play the most important role in providing assistance for China in the development of energy infrastructure, power generation technology and international negotiations; Japan is deemed to play the most important role

6. Yuan, "How do Chinese People."

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for China in treating automobile emissions, storing home-use energy sources and energy education; Russia is deemed to be the most important common oil/fuel reserve base for China”.⁷

This strong differentiation in the perceived roles of various international actors suggests that the Chinese public has a more realistic and pragmatic view of international cooperation than implied by the nationalistic discussions of energy security issues in the Chinese media and academic publications. The Chinese people seem to see the global energy security context as an arena in which economic actors and markets are to be engaged, along with individual governments and political organizations, through negotiation rather than through multilateral agreements. The days of viewing the world as one of opposing camps or spheres of developed and developing nations—and China as the “leader” or chief protector of Third World interests—appear to have passed in public perception, if not yet in academic or foreign policy circles.

Clearly much future research is required to assess how notions of “nationalism” influence the Chinese people’s preferences for solving energy security and environmental problems. Research presented at the workshops in Beijing, Tokyo, and Houston reveals that Chinese nationalism is surprisingly pervasive, yet it is complex in its focus and strength on specific policy issues. Overall, this research supports other surveys showing that younger generations of Chinese are more nationalistic. That research found that while they may favor the use of force to resolve international conflicts, they support the integration of China into the global economy (and are consumers of foreign goods and lifestyles).⁸

7. Yuan, “Chinese Residents’ Perceptions” (2004B).

8. Fewsmith and Rosen, “The Domestic Context.”

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The omnipresence of nationalistic sentiment is not surprising, given the Chinese Communist Party's (CCP) policies to strengthen "patriotic education" in the wake of the Tiananmen protests in 1989 and encourage more "patriotic" discussions by China's academic and public intellectuals of the social inequalities created by economic liberalization.⁹ This nationalism comes to the forefront when the Chinese public perceives a threat to sovereignty and security. Such incidents have included the U.S. bombing of the Chinese embassy in Belgrade in May 1999 and the "spy plane" incident in April 2001, in which a U.S. Navy reconnaissance plane made an emergency landing on Chinese soil after colliding with a Chinese fighter jet sent to intercept it.¹⁰

Research shows that Chinese policymakers and the Chinese public clearly distinguish between general international arenas, and those involving territories that have not yet been "reclaimed," such as Taiwan, or strategic border or periphery areas in China.¹¹ By implication, the Chinese public may be particularly sensitive to energy and environmental issues that involve potential conflicts with neighbors which are suppliers of energy resources, including Russia and Kazakhstan, and neighbors which eventually may come to be viewed as potential competitors for oil resources, namely India, Japan, and South Korea.

Unexplored as yet in survey research are questions about how the Chinese public views international cooperation in detail and practice. The preference towards international organizations over regional or simply bilateral or multilateral ties on energy issues is clear,

9. Zhao, "Chinese Intellectuals"; Zhao, "A State-Led Nationalism"; Zhao, "Political Liberalization Without Democratization."

10. Chen, Jie "Chinese Perceptions of Threats"; Chen, Jie, "Urban Chinese Perceptions."

11. Zhao, "China's Energy Security."

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but not explained. The view that the United Nations or the WTO are important actors on energy issues may be linked to China's membership in both organizations. Interestingly, however, the Chinese public also identifies the IEA even though China is not a member of the Organization of Economic Cooperation and Development (OECD). In addition, the Chinese people also fail to identify more closely the distinctly Chinese-led international initiatives, such as the Shanghai Forum, or initiatives underway with China's close economic partners and neighbors, Japan and South Korea.

The identification of the United States as the most influential actor may be important in this context. Perhaps the Chinese public views the international energy environment as a sphere largely controlled by the United States, either as the largest consumer or as the only remaining military superpower. It also may be that Chinese "nationalists" see the United States as inextricably tied to the policies of Japan and South Korea, as illustrated by discussions on distinctly nationalistic internet chat rooms (see Appendix A for an exploratory study of how Japan and the United States are tied together in Chinese nationalist discourse on the internet). Given U.S. military defense treaties with Japan and South Korea, these links between the three countries may make sense to the Chinese on the basis of regional security issues, but may not incorporate attitudes regarding the global international security environment and energy security issues affecting all consumer nations.

How much influence does public opinion have on policymaking on energy security and environmental issues in China? Although the decision making of China's one-party state is not sufficiently transparent to answer this question comprehensively, the actions and statements of China's leaders suggest that they are concerned about the views of the Chinese

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public on energy and environmental issues. China's energy security problem, especially its oil import dependency, is now freely recognized and debated even in the state-controlled media.ⁱⁱ Along with the pervasive semi-privatization of the media and the resulting competition between local "media groups," Chinese policymakers have allowed a primarily academic and elite debate to become one that is influenced by media which are responsible for promoting state interests as well as private or commercial interests.

In addition, leaders including Premier Wen Jiabao have called for the more "scientific" study of China's economic and social welfare problems, including energy security and environmental issues, with a new focus on assessing the "social costs" of various energy policy alternatives. These "social costs" include, for example, the increase in deaths and injuries in the coal mining population that might result from an energy security policy that attempts to shift some parts of industrial energy consumption away from imported oil and natural gas and toward the use of China's relatively plentiful domestic sources of coal. China's energy policy researchers and public policy think tanks are now examining the costs of such tradeoffs.

These trends are likely to expand the analytical role that public policy think tanks have played in policy deliberation and promotion.¹² Although the Chinese public appeared to distrust the official media in the period following Tiananmen, the rapidly increasing consumption of newspapers, television, and other news media, and the use of survey research and public polling in recent years suggest that the limited public debate in these arenas is

12. Downs, "The Chinese Energy Security Debate"; Glaser and Sanders, "Chinese Civilian Foreign Policy"; Zhao, "China's Energy Security."

likely to expand their influence on policymaking.¹³ Energy security and environmental awareness among the Chinese public are likely to be more influential in the future. In sum, urban Chinese view energy and environmental issues predominantly as local and personal issues. They also view these as practical or pragmatic problems that should be solved collectively, and they seem to prefer international and multilateral forms of cooperation to solve energy security and environmental problems. These understandings of the preferences of the Chinese public, however, must be viewed as exploratory. Social scientists need to conduct future research to examine how Chinese city dwellers may weigh energy security and environmental quality policies, how they obtain information about these issues, and also how they view collective solutions (local, national, or transnational) to these problems.

The Changing Relations Between Government and Business in China

How might the changing relations between China's governmental, regulatory, and state-owned institutions and its state-owned oil and gas companies affect the ability of these actors to cooperate with Japanese and American governments and corporations?

In order to understand the changing nature of relations between government and business in China, we must first consider the history of privatization, deregulation, investment, and liberalization of the oil and gas industry in China since reforms began in the Post-Mao era of the late 1970s. China's path of Post-Mao governmental reforms and privatization has created unique institutional obstacles to the further development of national energy infrastructure.

13. Chen and Shi, "Media Effects on Political Confidence."

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Because of these obstacles, foreign participation in China's energy infrastructure development, including multilateral emergency use of stockpiles, is problematic. SOEs are still a major source of production, revenue, employment, and technological innovation, and China is still very much a planned economy. But, unlike the former Soviet Union, Eastern Europe, Cuba, or North Korea, where national planning was controlled by a large central government, China's planned economy is run on a regional basis.

China's central government and Communist Party leadership were not able to recentralize state ownership after the disruptions of the Cultural Revolution in the 1960s and 1970s. Deng Xiaoping chose to recognize the rapid growth in China's small-scale, private, and collective agricultural and light-manufacturing sectors in the 1970s, particularly in the coastal areas. He and other national leaders did so by decentralizing ownership of many industrial sectors and the government and Communist Party cadre management systems.ⁱⁱⁱ

Against this backdrop, local governments began to compete with each other and the central government for revenue from state enterprises and increasingly from private and collectively-owned enterprises. By the 1990s, local governments were successful in retaining most revenues for local development purposes, and the central government had largely given up its role as redistributor of revenue between wealthier and poorer, coastal and interior regions.

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In 1991, local governments' investments in capital construction equaled those made by the central government. But by 2000, capital construction investments by local governments were more than double those by the central government. As a result, local government Five Year Plans are more important to China's infrastructure development than the central government's Five Year Plan and development programs.^{iv}

As seen in Table 3, in the key municipalities of Beijing, Tianjin, Shanghai, and Chongqing, the central government makes large investments in development projects, but the Shanghai and Chongqing municipal governments invest far more proportionately. In the economically-vibrant border and coastal provinces of Northeast, East, and Southern China, local investments often outweigh central investments by a factor of three or four. Except for Xinjiang, even in the poorer, interior provinces of the Southwest and Northwest that are to be included in the "Develop the West" campaign, central government investments are comparatively small. The result is that China's infrastructure development is being built according to regional development needs, plans, and programs.

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**Table 3: Central and Local Government Development Projects, 1999-2000
(in U.S. \$Billions)**

Locality	1999	1999	2000	2000
	Central	Local	Central	Local
Beijing	3.104	2.325	2.222	3.228
Shanghai	2.261	7.333	1.770	6.808
Tianjin	1.512	1.694	1.557	1.861
Chongqing	.407	1.916	.350	2.279
Heilongjiang	.986	3.159	1.351	3.280
Liaoning	1.993	3.149	1.620	3.883
Shandong	2.128	6.566	2.357	6.937
Jiangsu	1.528	7.123	1.802	7.359
Zhejiang	2.305	5.991	2.322	7.689
Fujian	.654	3.780	.471	3.604
Guangdong	1.931	12.601	1.570	12.250
Sichuan	1.599	5.203	1.628	6.139
Shaanxi	.987	2.419	.121	2.845
Ningxia	.193	.648	.239	.811
Gansu	.760	1.526	.801	1.738
Xinjiang	2.374	1.683	2.858	1.931

Source: Chinese Statistical Yearbook, various years. Dollar amounts converted at RMB 8.2 = U.S. \$ 1.00.

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And as seen in Table 4, China's local governments are the main source of investment in power generation, transmission, and distribution. These investments have increased five-fold since 1991. China's local governments decreased investment in coal mining and processing, petroleum processing, and coking in the late 1990s. Investment in the oil and gas sector has increased five-fold since 1991, with much of it made by the three state oil and gas enterprises, but also including investments made by local subsidiaries created and supported by local governments.

**Table 4: Capital Construction Investment in China's Energy Industry, 1991, 1995-2001
(In U.S. \$ Billions)**

Energy Industry	1991	1995	1996	1997	1998	1999	2000	2001
Electricity, Steam, Hot Water	4.60	13.70	16.75	21.43	23.64	24.26	27.64	24.14
Coal Mining and Processing	1.42	2.30	2.64	3.24	2.21	1.52	1.41	1.15
Oil and Natural Gas	1.07	2.32	2.69	4.12	3.78	3.84	5.13	6.13
Petroleum Processing, Coking	.77	1.33	1.49	1.84	1.68	.92	.39	.87
Coal Gas and Coal Products		.44	.56	.68	.78	.70	.67	.74
TOTAL	7.87	20.12	24.15	31.33	32.11	31.26	35.27	33.03

Source: Steven Lewis, adapted from China Energy Statistical Yearbook, 1997-1999, (Beijing: China Statistics Press, 2001); pg. 26; and various years of China Statistical Yearbook, (Beijing: China Statistics Press, 2002); Dollar amounts converted at RMB 8.2 = U.S. \$ 1.00.

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China's planned economy is largely overseen by local government offices and officials and analysts within state enterprises. As interviews reveal, after the 1998 restructuring, the State Development Planning Commission (SDPC) and the State Economic and Trade Commission (SETC) had approximately 500 staff members each (with an additional 500 each part-time).¹⁴

The current restructuring, with the planned establishment of new agencies regulating the energy industry under the National Development and Reform Commission (NDRC) and the Ministry of Commerce (MOC), is still underway, with actual responsibilities, staff, and resources being allocated under the leadership of the new premier, Wen Jiabao. Given limited central government budgets, it is unlikely, however, that the staff of these offices will grow. Recent case studies of "downsizing" at the local level, however, suggest that local governments have been successful in both maintaining the nomenklatura system and also expanding public employment.¹⁵

The staffing of support offices in agencies responsible for negotiating with foreign governments and foreign investors is similarly constrained, with the central government agencies often smaller in size than their provincial counterparts. Guangdong Province alone has 230 staff in its Foreign Economic and Trade Office and 108 people in its Overseas Chinese Affairs Office. The three oil and gas state enterprises employ many hundreds in their planning departments. These can be contrasted with only a few dozen staffers in the central government counterparts.

14. Lewis, "Privatizing China's State-Owned."

15. Burns, "Research Report: 'Downsizing.'"

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Recognizing these constraints, central government and Communist Party leaders have used two strategies to maintain control over the decentralized government ownership and regulatory authority. They have created newly incorporated geographic areas that are administratively and fiscally more directly under control of the central government. The result is the many forms of “Special Economic Zones” (SEZs) that now constitute the most economically developed coastal and border areas. They have also maintained Communist Party Central Committee control over the nomenklatura appointment of cadres to manage SEZs and central government state enterprises, including the component production units, the individual oil field and refiners of the three oil and gas companies.¹⁶

Both strategies increase competition between local governments and between subsidiaries of the central companies. They also slow the professionalization of the bureaucracy and the corporatization of the central companies.¹⁷ As a result of these strategies, China’s national regulatory authority in the energy sector has been *ad hoc* and largely driven by the plans and investments of local governments and the central enterprises. Key infrastructure development projects that seek to move electricity and oil and gas from the resource-rich Northeast and West to the economically dynamic coastal areas of the East and Southeast are more and more dependent on the coordination of local governments, central enterprises, and foreign investors.

16. Lewis, “Privatizing China’s State-Owned”; Bo, “The 16th Central Committee.”

17. Lewis, “Privatization and Decentralization”; Lewis, “Privatizing China’s State-Owned.”

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Additionally, the central government and Communist Party rely on “leadership small groups,” as in the case of the Three Gorges Dam, which has had a group comprising many members of the Politburo. It is important to note, however, that no Communist Party small group has been formed for the West-to-East Gas Pipeline or for a strategic petroleum reserve or strategic stockpiles. Although there are leadership and study groups for these projects under the offices of the State Council, their bureaucratic clout and influence is unclear.

Their priority status as central-government investment projects, however, is likely to be lower than that of the Three Gorges Dam because those projects do not have the coordinating support of a Communist Party leadership small group. A project that can draw upon the cross-cutting expertise, knowledge, and political support of many high-ranking Communist Party members is more likely to be able to resolve conflicts or coordination problems among local Party leaders than one that is merely supported by an office under the State Council or a State Council minister lacking high Communist Party ranking.

The cross-cutting role of Communist Party leadership is a critical element in resolving conflicts between the State Council leading groups set up in recent years to coordinate central government plans to develop specific regions, including Western China and the Northeast. Such groups vie for the strategic and economic value of oil and gas infrastructure projects, including the gas pipelines from Western China (or Kazakhstan) to East China, and the proposed oil pipelines from Western Siberia to Northeast China.

Although the deliberations of these informal leadership groups are not made public, and thus it is difficult for outsiders to assess their positions historically, it is likely that the leading

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group for the development of the Western regions will make different assessments of these projects than the leading group for the development of the Northeast. This problem is exacerbated by the fact that there are also leadership groups responsible for developing and coordinating policies on specific economic sectors—e.g. finance, information technology, electronics—and on issues related to economic liberalization—e.g. social welfare system development, and population migration.

Decentralization has continued in fiscal areas that directly affect the energy sector. China's urban governments have maintained the "hukou" household registration system which has created the need for their own social welfare systems (unemployment, pensions, health care, and education) that exclude people born in the countryside.^v As a result, there has been no national privatization program, but rather many local and informal privatization programs. Because these programs began in the agricultural, light industrial, and urban service sectors, the establishment of semi-private or collective forms of property has been the most common means of privatization. Even the large, central-owned oil and gas companies have used informal privatization, as seen in the many forms of collectives and cooperatives in their subsidiaries.

As surveys of CNPC's subsidiaries and administrations show, the privatization that created PetroChina came after the informal, local privatization within CNPC's subsidiary oil fields.¹⁸ The privatization that created Sinopec came after the even more extensive informal privatization of its refineries. Sinopec acknowledges that it still must resolve thousands of legal claims by collective enterprises in order to clarify its actual ownership of assets

18. See note 14 above.

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described in its overseas listing. Even CNPC and PetroChina must deal with residual privately-owned oilfields, of which their legal rights are defined and enforced by local governments.¹⁹ As with Sinopec's overseas listing, CNPC must consider how to classify and report these disputed residual local property rights in its current plans for a domestic listing.²⁰

As extensive studies on privatization in other countries have shown, informal privatization is dependent on local legal and regulatory authority, and it creates conflicts between local governments, central government, and central state-owned oil and gas enterprises over who will pay for the costs of absorbing excess labor and non-core production. Informal privatization in China, as in Poland and Hungary, has created the incentive for labor to protest and renegotiate repeatedly, and this has happened at oil fields and refineries in China in the last few years. Such legal problems and protests are more likely to occur at older, larger oil fields, which are losing production and struggling to shed non-core production enterprises, and less likely to occur at the newly-established subsidiaries for oil and gas fields in the Northwest and offshore.

Given this path of privatization and structure of relations between business and government in China, questions remain about the competitiveness of China's oil and gas companies and their potential for successful further privatization.

The Chinese leadership assumes that China's energy needs to sustain its economic development goals require at least semi-privatized oil and gas SOEs that can compete with the major multinational companies. This is considered necessary in order to accomplish a

19. Dickie, "Chinese Investors to Sue."

20. Guerrero, Tsui, and McGregor, "PetroChina Plans \$4 Billion."

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number of tasks deemed important by both higher-income, more educated groups as well as lower-income, less educated groups: to boost domestic production while at the same time obtain stable, low-cost supplies of oil and gas from overseas and to attract financial resources, technical expertise, and business practices from energy sector partners and investors in domestic and foreign capital markets.

Given China's decentralization in government and the economy, it remains to be seen whether China's oil and gas SOEs can compete with the multinational oil and gas companies. As discussed above, the decentralized nature of privatization in China has created unique institutional obstacles to effective semi-privatization of its oil and gas SOEs in the future. The decentralized privatization of the oil and gas SOEs has delayed or blocked the design of comprehensive national energy and energy security policies and the creation of effective governmental institutions to coordinate them.

But China is not the only country to face this problem, and the statements of Chinese leaders supporting the transformation of its central state-owned oil and gas companies into entities that can compete with the multinational corporations suggest that there are strong political incentives for these companies to change through privatization.

Extensive comparative economic research reveals governments privatize SOEs for a variety of reasons:²¹

- To raise revenue for the state;
- To promote economic efficiency;
- To reduce government interference in the economy;

21. Megginson and Netter, "From State to Market."

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- To promote wider share ownership;
- To provide the opportunity to introduce competition;
- To subject SOEs to market discipline;
- To develop national capital markets.

This research also reveals there are many factors affecting the selection of privatization methods:²²

- History of the asset's ownership;
- Financial and competitive position of the SOE;
- Government's ideological view of markets and regulation;
- Past, present, and future regulatory structure in the country;
- Need to compensate important interest groups during privatization;
- Government's ability to credibly commit itself to respect investors' property rights after divestiture;
- Capital market conditions and existing institutional framework for corporate governance;
- Sophistication of potential investors;
- Government's willingness to allow foreign ownership.

These general studies suggest several conclusions about the conditions necessary for successful privatization: privately-owned firms are more efficient and more profitable than comparable state-owned firms; divested firms almost always become more efficient, more profitable, and financially healthier, leading to increased capital investment; some evidence suggests that share issues stimulate national capital markets and modernize corporate

22. North, "Privatization, Incentives and Economic."

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governance, with direct sales and public share offerings being the most common and most successful methods, while voucher programs are less common and frequently problematic; finally, informal privatization (as in China) is the least commonly used method and the least studied.²³

General studies conducted by such non-governmental organizations (NGOs) as the World Bank and the World Energy Council and industry best practices reports prepared by the energy-sector consulting sections of multinational accounting and consultancy firms try to identify successful privatization steps.²⁴ The following are common steps deemed as successful to privatization:

- Corporatization prior to privatization and deregulation;
- Identification and compensation of all potential stakeholders;
- Development of transparent legal institutions to resolve potential conflicts among stakeholders;
- Clear separation of business and government functions.

Because of fiscal and state-enterprise ownership decentralization, the lack of a national privatization program makes identification and compensation of potential stakeholders problematic in China's case. Local governments are pitted against SOEs and the central government on costs of privatization. The Communist Party's informal system of controlling

23. Lewis, "Testing General Theories of Change"; Lewis, "Privatizing China's State-Owned."

24. Aegis, "State Oil Company Privatization"; Bacon, "A Scorecard for Energy"; Irwin and Yamamoto, "Some Options for Improving the Performance"; PricewaterhouseCoopers, "The Impact of Competition"; World Bank, "Bureaucrats in Business"; World Bank and IESM, "Modernizing China's Oil and Gas"; World Energy Council, "The Benefits and Deficiencies."

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the ownership of SOEs undermines corporatization. The identification and compensation of enterprise stakeholder interests is thus necessarily opaque. In turn, this stunts development of legal systems and autonomous regulatory agencies at all levels of government. The energy sector here suffers from many of the same problems as the creative or cultural industries, including media enterprises.²⁵

The restructuring of the Chinese oil and gas sector into three companies in 1998 created three integrated corporations, but gave them almost exclusive production and distribution rights in various parts of the country and offshore. CNPC and PetroChina operate in the North, Northeast, and Northwest; Sinopec in the Central, East, and Southeast; and CNOOC offshore. Although not economically feasible—and under WTO accession rules not economically sustainable after 2005—such an institutional arrangement was a compromise intended to maintain the domination of the various subsidiary oilfields and refinery administrations, and Chinese Communist Party direct administrative control over them. Decentralization has merely restrengthened the authority of component departments and of their economic partners, the local governments.

This mode of restructuring has created enormous obstacles for the successful vertical integration of China's oil and gas companies. It has been difficult for them to reorganize according to product lines, to standardize training, employment, and management practices across subsidiaries, and even to develop the large pipeline projects that are necessary to implement the plans of far-flung oilfields, refineries, and local governments. CNPC, Sinopec, and the central government hope to develop oil and gas pipelines to bring oil from

25. Lewis, "Defining and Enforcing Intellectual."

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Kazakhstan, Russia, and Xinjiang to Northeast China, and gas from Xinjiang's Tarim Basin, several thousand kilometers eastward to Shanghai in East China.

But as these companies have not yet even successfully integrated their component oilfields and refinery administrations, much less addressed how to coordinate the development plans and regulatory authority of dozens of provincial and municipal governments as well as the investments of many multinational corporations, the successful construction, operation, and maintenance of all of these pipelines will be difficult to achieve in the near future.^{vi}

The confusion created by decentralization is exacerbated by the semi-privatization of these companies through the listing of American Depositary Shares (ADS) on foreign stock exchanges. The central government and the headquarters of these companies plan to "peel off" the "non-core" departments of these companies, laying off millions of employees and putting them into the hands of social security systems maintained by local governments. The hope is that the "leaner" and more efficient components can then be turned over to the administration of the newly-formed, privatized subsidiaries. Local governments, often the original investors in these component oilfields and refineries, do not receive assets from these privatizations, but they must bear the cost of the downsizing.

Unlike many decentralized fiscal and political systems, China's planned economy does not provide natural resource royalties to local governments. Not surprisingly, China's decentralization has resulted in increased competition and conflict between local governments and the central government and between corporate headquarters and local departments and subsidiaries.

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All levels of the Chinese government and China's SOEs are facing increasing pressure to pay for the costs of establishing a national social welfare system and also to pay the costs of cleaning up industrial pollution. With privatization, the various levels of government in China gain the incentive to sue the new corporations to recoup these costs. This situation is similar in other countries pursuing the privatization of their national oil companies (NOCs).

As a result, PetroChina, Sinopec, and CNOOC face considerable institutional obstacles to successful corporatization and preparation for competition with the multinational, integrated oil and gas companies, as there are few established legal institutions in China today to resolve conflicts between government agencies and enterprises and between and among central and local governments.^{vii} The maintenance of the nomenklatura system of Communist Party control over appointments to the judiciaries is an additional obstacle to the establishment of independent regulatory authorities and privatized state enterprises.

This pattern contrasts sharply with the privatization of Petrobras, Petro-Canada, or Repsol YPF.^{viii} Similar to the Chinese state energy companies, Brazil's energy conglomerate, Petrobras, must contend with problems created by the incomplete decentralization of fiscal authority and environmental policy, especially with the issue of pollution control and cleanup. However, one major difference is that the corporatization of Petrobras appears largely unaffected by decentralization policies. Petrobras, as with Petro-Canada and Repsol YPF, has the ability to restructure successfully to adapt to international market conditions.

One reason is that unlike the Chinese corporations, Petrobras does not have the problem of "shedding" the bulk of its employees through the elimination of corporate social welfare

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units, including education and medical services. Brazilian local governments are already providing these services, and they are negotiating with union authorities for the fiscal resources to support their development. In addition, Petrobras' employees are already represented by national unions and labor organizations, making collective bargaining for compensation under privatization both politically feasible and credible. The same is true for Petro-Canada and Repsol YPF.

In China, the CCP's policy of opposing the creation of autonomous worker organizations, particularly at the national level, has effectively prevented the establishment of credible commitments between government owners, managers, and employees to settle compensation claims during privatization. Workers who have been laid off as a result of downsizing, in particular, have an incentive to continuously engage in popular protests to obtain compensation from the corporations.²⁶

Beyond these substantial institutional obstacles, Chinese energy SOEs lag their multinational counterparts on other measures as well.

The few social scientists studying energy sector competitiveness often use a variety of basic measures to compare the efficiency of enterprises: profitability by invested assets, number of employees, etc. Energy industry analysts, however, commonly employ a much broader range of performance indicators that are influential in the valuation and comparison of oil and gas companies conducted by international investors.

26. Lewis, "Privatization Best Practices."

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For example, a report by Aegis Energy Advisors using data from 2000, 2002, and 2003, examines the competitiveness of Petrobras in comparison with PetroChina, Sinopec, and the multinational oil and gas companies, such as the “super majors” (BP, ExxonMobil, Royal Dutch/Shell Group), the “integrated majors” (Chevron, ConocoPhillips, Repsol YPF and Total), and the other privatizing, integrated oil and gas companies (Eni, Statoil, Petro-Canada, PetroChina, and Sinopec).²⁷

Comparisons were made according to five broad categories: absolute size comparisons, operating characteristics, operating performance, financial performance, and stock market performance.²⁸ The following is a summary of the findings based on these comparisons:

Comparisons of absolute size:

- Both PetroChina and Sinopec are very large NOCs that are similar with majors and peers on some measures of absolute size;
- PetroChina compares similarly with competitors in terms of reserves, production, net income, but has less assets and revenues than peers, and many more employees;
- Sinopec does not compare as well with competitors in reserves, production, assets, revenues or employees, but has high refining capacity.

27. Aegis, “Aegis Comparative Analysis.”

28. See Lewis, “Privatization and Decentralization” and Aegis, “Aegis Comparative Analysis.”

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Comparison of operating characteristics:

- PetroChina and Sinopec are not as integrated as many of their foreign competitors;
- PetroChina is more competitive than Sinopec in terms of having more liquids and gas reserves, but both compare favorably on efficiency in use of reserves;
- Both are seeking overseas assets in order to offset aging domestic fields, and because of competition from CNOOC in offshore exploration and production.

Comparisons of operating performance:

- The Chinese oil and gas SOEs have many of the production inefficiencies characteristic of privatizing NOCs;
- PetroChina compares favorably with majors and peers on the exploration and production side of operating performance, but has relatively high lifting costs and low per employee profitability;
- Sinopec compares favorably with majors and peers on refining and marketing, but compares poorly on exploration and production, lifting and reserve replacement costs, and per employee profitability.

Comparisons of financial performance:

- As of 2002, PetroChina and Sinopec compare favorably with foreign competitors in terms of financial performance in international capital markets, although much of this may be based on ignorance of foreign investors, and lack of transparency in capital market requirements for overseas listers.
- Overall, both PetroChina and Sinopec provide favorable returns on capital employed, they reinvest in capital assets, and they have debts equal to their privatizing peers.

Comparisons of stock market performance:

- PetroChina and Sinopec are less capitalized on the markets overall, have less firm value than their foreign competitors, and were likely “undervalued” in 2002 capital markets;
- PetroChina and Sinopec are both still trying to adopt international accounting standards in order to attract foreign investors.

Comparisons of the corporatization and organizational efficiency of the Chinese energy SOEs also reveal persistent problems resulting from incomplete privatization in the context of decentralization and the maintenance of Party nomenklatura control.²⁹

In sum, foreign participation in the development of China’s energy infrastructure is problematic for many of the same reasons that Chinese domestic investment—by government or private sources—is problematic: the definition and enforcement of property rights over energy resources is not only unclear at the local level, it is contested. Such conflict is part of China’s gradual and ongoing struggle to develop the organizations of an internationally-competitive industrial economy while at the same time constructing a national social welfare system.

Furthermore, as illustrated by the surveys in the previous section of this study, foreign governments and corporations must also address the fact that urban Chinese see the role of

29. Bo, “An Exploratory Analysis”; Nolan and Zhang, “The Challenge of Globalization”; Wang, “Zouxiang shijie de zhongguo (China’s Multinational Companies)”; World Bank and IESM, “Modernizing China’s Oil and Gas”; Zhang, “Cooperation with China”; Zhi, “The Recent Financial.”

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multinational corporations as one largely complementary to China's governments and SOEs. Multinationals are expected to play a role in developing distinctly international sources of oil, gas, and coal—including pipelines—but not domestic resources. On the other hand, when the successful privatization of Chinese SOEs requires uniquely foreign resources, including technical and informational, urban Chinese may support such policies. The surveys suggest that Chinese city dwellers are primarily concerned with the effective resolution of environmental problems and value foreign sources of technology and policy measures directed toward that goal.

More finely-tuned survey research is required to understand how the Chinese public views foreign participation in privatization in general and the energy sector in particular. Because of the informal and bottom-up character of China's institutional path of privatization, surveys of the enterprise managers and local government officials who often initiate privatization should also be conducted.

Developing Cooperation Among Chinese, Japanese, and American Governments and Corporations

Given the views of the Chinese public on energy, energy security, and environmental policies and the impact of decentralization and privatization on Chinese energy SOEs, it remains to be seen how the Chinese, Japanese, and American governments, the state-owned oil and gas companies, and the multinational firms can construct multilateral institutions of energy policy coordination. However, the potential for such cooperation seems promising despite institutional barriers.

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In large part, the end result will depend on the compatibility of the competing visions of how China should best obtain energy security and improve the quality of its environment. As posed by a common metaphor used to describe international cooperation, “Even if they sleep in the same bed, will they share the same dreams?”

If we assume that recent workshops and conferences of scholars, officials, and industry analysts in Tokyo, Beijing, and Houston comprise a representative sample of the range of policy prescriptions deemed to be in the best interests of all three countries, there is strong potential for successful cooperation. But this can only occur if the governments, corporations, and policymakers act swiftly to establish the institutional framework necessary for long-term, multilateral cooperation on energy and environmental issues.^{ix}

Scholars and analysts have identified a similar set of short-term and long-term goals for cooperation, albeit with differences on some rankings and priorities and on certain measures of implementation.

All actors agree that China needs to be brought into the multilateral frameworks and stockpile control mechanisms of the IEA and the OECD. All agree that this will be achieved successfully when China not only accedes to the rules of government-to-government interaction shared by OECD members, but when its governments, NOCs, and private energy companies are sufficiently transparent such that they can provide information that is viewed as credible by governments, corporations, and individual investors alike.

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Scholars assume that these are largely technical issues: the range of experiences of other oil-consuming nations in joining OECD and IEA can serve as models for China's future membership, and the establishment of the economic and statistical analysis organs required for the membership of existing OECD members might present useful blueprints for China's own path. According to this line of thinking, China needs highly-trained individuals—statisticians, accountants, lawyers—with organizational resources, including auditing guidelines and processes and independent budgets, necessary to provide high-quality data and analysis.

The history of the development of similar institutions in other advanced industrial societies, however, suggests that these individuals and resources may not be sufficient to provide credible information. The problem is that while they may provide accurate information, such data will not be viewed as credible without the independent review by outside institutional and organizational actors. More specifically, such information must be exchanged by all in an environment of competing organizations and individuals that allows for the possibility of both agreement and disagreement by governmental, corporate, and individual (including academic) sources of information and analysis.

China needs to establish a true market for energy information. Markets require not only many players and many alternative institutional arrangements (here the competing explanations and theories of analyses), they also require low-cost information about the actions of the other actors, and the low cost-exchange of such information. Privatization and liberalization have brought more and more players to the table, each with competing explanations. Central government and local governments have their contending theories.

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And SOEs and private energy companies have competing explanations as well. Foreign governments and multinational corporations have still more. This situation lacks credibility, however, as each actor merely suspects the other actors of providing information in the best interest of that actor. What is lacking is accurate information about the actions of all actors and a low-cost exchange of this type of information.

This is a classic collective action problem and one for which institutional arrangements in the advanced industrial societies have emerged over many decades. More specifically, and most importantly, multiple and overlapping government regulatory jurisdictions compete to provide economic analysis. In the United States, the Department of Energy, the Department of Commerce, the Department of Transportation, the Environmental Protection Agency, and other agencies must provide analysis of many of the same energy and environmental policy issues.

These analyses compete with those of the fiscally autonomous U.S. central bank, the Federal Reserve, which itself has competition among its district banks. In addition, more energy economy analysis is provided by actors serving distinctly corporate, individual, and broad social interests: economists working for energy corporation planning departments; consulting companies; investment banks; insurance companies; law firms; mutual funds; universities; the media; consumer advocacy groups and producer associations. Japan has a similar array of energy information organizations.

In addition, there are economists working for distinctly international organizations, including the OECD and the IEA. These analysts have an incentive to provide the most accurate

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information and predictions possible (or face unemployment). Finally, in these advanced industrial societies, the collective action problem of providing low-cost information is also solved by governments that provide data, or mandate firms and individuals to provide such data, to the public at low cost. Because energy data is largely provided for free in OECD countries, there are few barriers to entry for individuals and firms seeking to join the energy analysis industry. In sum, multiple, competing analysts and low-cost data are the sources of credibility of energy policy analysis in the OECD countries.

Contrast this situation with the case of China.^x As debates in recent years about the proficiency of central government statistical bureau data and analyses reveal, there is much support and more and more resources for the training of energy economists, energy statisticians, and energy analysts in general. China's government agencies and SOEs have trained thousands of these professionals, both at home and abroad.

What is lacking, however, is the pervasiveness of energy analysts across the Chinese bureaucracy. The absence of energy analysts in a central bank that is gradually becoming more autonomous of government policies, for example, is particularly damaging. The provision of low-cost, standardized data from all economic jurisdictions is of special concern.

China's path of privatization has not only left most experienced energy analysts working in the energy SOEs, it has actually allowed government agencies to increase the cost of data that should be made available publicly. Counterintuitively, economic data that was previously provided at low cost by the statistical bureaus of central and local governments in the era of central planning, is now provided at higher cost through consulting agencies—organized as

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cooperatives—set up by bureaucratic agencies that resulted from downsizing after the 1998 reforms, which were intended to halve the ranks of public sector employment.

The development of domestic capital markets and the simultaneous growth of a middle class with substantial resources and investment goals—through individual retirement accounts, for example—may provide the motivations for energy analysts to leave the SOEs and government agencies and to circulate more widely among corporations, banks, and the media. But this cannot occur until there is a shared pool of data that can be commercially analyzed.

China's top leadership does not seem to recognize the importance of multiple, competing explanations—based on low-cost data and the free exchange of data—as the sources of credibility in energy analysis. The central government's policy of centralizing information, even as it greatly enhances the training and resources available to government energy analysts, is likely to be counterproductive in the long-term. These measures may provide more and more accurate information, but not necessarily more credible information. The long-term goal of bringing China into multilateral institutions of cooperation on energy and environmental issues depends upon distinctly domestic reforms to establish a credible energy information industry.

There is much agreement on the goals of multilateral cooperation on energy security and among Chinese, American, and Japanese scholars. All agree that the establishment of successful cooperation in the oil and gas sector in the short term can lead to broader long-term cooperation in other energy sectors and also on environmental issues.

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The leading short-term goals for China are the establishment of a strategic petroleum reserve and stockpiles of oil and fuel in tandem with cooperative efforts with other oil-consuming countries to lower the cost of oil and fuel from the Middle East (reducing the so-called Asian Premium). Some scholars and analysts view the former as primarily a matter of government and corporate investment,³⁰ while others view it as a matter of adapting to the global oil market, or to introducing modern financial instruments to use the advantages of oil futures markets in a more sophisticated manner (e.g., stock tickets).³¹

In general, Japanese and Chinese scholars have identified government-to-government interaction as essential for cooperation, while American scholars have identified market solutions as the primary solution. Japanese scholars at the Institute of Energy Economics, Japan (IEEJ) have thus focused on specific goals for cooperation in the short term: “For the near-term consideration on regional energy cooperation, oil should be given priority in view of easy exchange: (1) oil stockpiling and rules for emergency response; (2) compatibility of importing facilities; and (3) a business alliance for joint purchase and operation of fleets.”³²

Chinese and Japanese scholars have also advocated the establishment of cooperation goals among Asian consumer nations and oil-producing nations: “Asian countries need sufficient energy supply at reasonable prices to meet their growing energy requirement (energy supply security), [and the] Middle East needs markets for their energy commodity to secure stable and sufficient revenue flows (energy demand security).”³³ Essential to this, Japanese scholars

30. Kanekiyo, “Energy Cooperation”; Koyama, “Energy Security”; Ogawa, “Energy Cooperation”; Ogawa, “Cooperation in Asia”; Ogawa, “The Possibility”; Xu, “China: Searching.”

31. Jaffe, “International Oil Market Outlook”; Morse, “Rethinking Regional.”

32. “Kanekiyo, “Energy Cooperation.”

33. Koyama, “Energy Security.”

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argue, is the “establishment of a common perception among Asian consuming countries and to unite in various stages such as policy, government, and the private sector.”³⁴

American scholars, however, argue that the international oil market is one indivisible market. “Neither physical supplies nor firm contracts guarantee delivery or price,” and, as demonstrated by history, “strategic stocks require international cooperation.”³⁵ Scholars also disagree about the appropriate venue for negotiating government-to-government cooperation on the establishment of stockpiles and actions designed to lower the Asian premium. Some see ASEAN +3 as the most appropriate venue,³⁶ while others propose the Boao Forum for Asia.³⁷

Rather than reproduce these complex arguments here, this study will simply focus on the challenges to these short-term goals posed by the changes in energy and environmental awareness of the Chinese public, and the changes in business and government relations in the energy sector in China.

First, consider the challenges for government-to-government interaction created by the views of urban Chinese on energy security and environmental awareness. As the discussion of nationalism in the first section described, the Chinese government is likely to be primarily concerned with avoiding popular protest and discontent over its foreign relations, including cooperation and conflict over energy supplies. As the surveys reveal, urban Chinese do value multilateral cooperation on energy and environmental issues, but they are also relatively

34. Ogawa, “Cooperation in Asia.”

35. Morse, “Rethinking Regional.”

36. See note 33 above.

37. Xu, “Chinese Views.”

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uninformed about the exact nature of their foreign energy ties (their misidentification of oil import sources, for example).

The Chinese public also perceives that broad international organizations of economic cooperation—the WTO and the IEA—are more influential than regional economic organizations, including ASEAN and talks between Japan, South Korea, and China. These urban Chinese believe that the United States is an influential actor in the resolution of China’s energy problems. Government-to-government interaction in the short term may be especially problematic, given Japanese and Chinese competition over potential Russian supplies of oil as part of their diversification strategies and any perceived conflict over boundaries that involve energy resources (the Sendakyu or Diaoyutai Islands). On the U.S.-Chinese side, there is potential conflict over the Taiwan Straits and also the Korean peninsula.

In short, there are many potential tripwires, even minor and temporary international conflicts that can provoke protests in Chinese cities and effectively stall government-to-government interaction among the three countries. The Chinese public seems to value market solutions and international market institutions, but it is not clear the extent to which it separates the actions of the Japanese and American governments and Japanese and U.S. energy companies (and multinationals).

The Chinese people believe that the country’s SOEs should develop domestic energy resources, rather than multinationals or private energy companies. They do not trust the abilities of China’s SOEs to “go abroad” successfully to obtain equity oil. Overall, it is important to note that the views of the Chinese public present a significant challenge to the

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short-term goals of multilateral cooperation identified by Japanese, American, and Chinese scholars.

The importance of understanding the depth and scope of privatization and decentralization in China also presents significant challenges to the government-to-government and market-oriented short-term goals identified by scholars of all three countries. China's oil and gas SOEs and local governments are certainly the most influential actors in developing China's domestic energy infrastructure, in establishing overseas sources of oil supplies, and in implementing environmental protection rules and regulations. Foreign and Chinese scholars, however, have identified the central government as the main actor representing Chinese interests in solving its energy security and environmental problems. But experience and history suggest that foreign actors need to engage both state enterprises and local governments directly, as they are the actors who have initiated reforms since 1978.

Furthermore, the strategies adopted by the central leadership of the Communist Party—the creation of competing special economic jurisdictions controlled by leaders appointed from Beijing, and the maintenance of the nomenklatura system that sees the competing subsidiaries of the oil and gas SOEs also appointed from the capital—continue to present the coordination problems of decentralization even as they appear to centralize authority. Market solutions to the short-term goals identified by scholars are also hindered by China's changes in business and government relations.

In sum, these solutions may require the participation of corporatized oil and gas companies, although studies of China's oil and gas SOEs suggest that they largely function much as

traditional NOCs. Calls by Chinese and Middle Eastern scholars to establish effective mechanisms of cooperation between China and the Gulf states must also focus on the critical role played by the oil and gas SOEs, which may have more extensive ties in the Middle East than the central government foreign and security policy organs (Ahmed 2004A, 2004B).^{xi}

Tentative Policy Recommendations for Chinese, Japanese, and American Governments and Corporations

Given the constraints on energy policy, energy security policy, and environmental policy in China posed by the views of the Chinese people and the privatization and decentralization of government and business relations, a key question centers on what recommendations scholars can suggest to achieve successful cooperation among Chinese, Japanese, and U.S. governments and corporations?

Regarding long-term goals, any measures that help Chinese policymakers (governmental and non-governmental) develop institutions that will integrate China into cooperative frameworks with the OECD and IEA are valuable. Chief among these, as identified by all scholars, are the institutions of energy information analysis. However, foreign governments and corporations need to help develop statistical analysis across Chinese bureaucratic agencies in numerous localities and to foster the creation of independent analysis by private consultants and academic institutions.

The Japanese and U.S. governments, in particular, should continue their exchanges that promote, as the Japanese government has identified, “3-E” (energy, environment, and

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economy) cooperation and educational exchange.³⁸ Chinese NOCs and multinational corporations should also help develop and support academic research on these issues. All actors should help the Chinese government study ways to provide low-cost economic data, as in other oil-consuming societies, and to stop the privatization of government economic data.

Finally, as with Japanese and American populations, the Chinese people need to have a more comprehensive and accurate understanding of China's complex foreign energy relations.

Education exchange may facilitate this, particularly among groups with higher income and education levels, but comparative surveys of views on energy security and environmental awareness may also increase these understandings. In particular, asking the Chinese people to identify themselves as Chinese energy consumers—by telling interviewees that they are participating in an international survey and publishing the results of this in the Chinese media—may not only help scholars better understand the influence of localism, nationalism, and transnationalism in energy and environmental policy issues, but also actually generate a shared understanding among the three populations.

As for the short-term goals, the governments, corporations and peoples of China, Japan, and the United States have no choice but to explore both government-to-government and market-oriented solutions. Spillover from potential disruptions in other security and economic spheres may be ameliorated if there are repeated, high-level dialogues among government actors and the inclusion of representatives from central governments, influential local governments, and the Chinese energy SOEs and multinational corporations.

38. METI, "Establishment of Mutually Beneficial" (2003); METI, "Establishment of Mutually Beneficial" (2004).

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The Chinese and U.S. governments, having a more diffuse division of labor in energy policy, energy security policy, and environmental policy among national government organs than the Japanese, may need to be more creative in demonstrating a long-term commitment to dialogue among the three countries. Scholars in all three countries need to examine more closely the influence of local governments and the SOEs on energy and environmental policy formation in China. Discussion of such research in international workshops and conferences should continue, particularly in the absence of sustained government-to-government discussions.

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Appendix A

The Internet and Chinese Popular Views on Strengthening China and Relations with Japan and the United States:

**A Research Note
Steven W. Lewis, Ph.D.
2001**

After analyzing the content of the nearly 8,400 threads^{xii} of conversation in the “Strengthen China” discussion room of the official *People’s Daily* website (www.people.com.cn), for the week of Friday, September 28 to Thursday, October 4, 2001 we can draw some general conclusions about how an important part of the Chinese population^{xiii} views Beijing’s foreign relations with Japan, the U.S. and other countries:

- When Chinese talk about international relations and “strengthening China’s” role in the world, they commonly, but not exclusively, refer to Japan and the U.S. During this week, the U.S. (12% or 985 threads) was a significant topic of discussion. Japan, however, was much less frequently discussed during this period (2% or 135 threads). Taiwan was more frequently discussed than Japan (9% or 750 threads), but both Russia and India, countries with which China has complicated international relations, were not significantly discussed (less than 1%). Overall, most discussions about “strengthening China” were limited to domestic issues or international relations in abstract terms that do not refer to specific countries.
- When Chinese talk about “strengthening China” as an economic superpower, they frequently discuss domestic political and economic reforms and much less frequently talk about the role of Japan, the U.S. or international organizations. During this week, although foreign economic relations were frequently mentioned when relations between China, Japan and the U.S. were discussed, in general they were not frequently discussed. References to the “World Trade Organization,” “multi-national corporations,” and “transnational” issues were very few. Most significantly, during this week there were no discussions of energy security issues. During the previous two weeks, however, there were a very small number of discussion threads (23) that discussed “oil” related energy security and energy import dependency issues.
- When Chinese talk about international relations they frequently do so in a civil or abstract manner, and not in a blatantly xenophobic way. During this week, although they were significant in the few discussions of Japan and the Japanese people, insulting or strident language was not very common. Hateful language seems to be concentrated in the discussions of a few people, who may frequently interact, but overall, the language presented on this internet discussion room can be described as “civil”, and not strident or warlike. Less than half of a percent of all discussion threads used the insulting term “dog” to refer to foreigners. Most remarkably, although they are common in official discourse, only one percent or less of all discussions used the terms “motherland,” “nationalism,” “imperialism,” or “patriotism”.
- When Chinese talk about “strengthening China” in public forums they frequently critically discuss China’s current economic policies, but they rarely refer directly to Chinese leaders or the Chinese Communist Party. During this week, there were very few direct references to Chinese leaders or the Chinese Communist Party, with most representing re-postings of official Chinese government statements. Public discussion here is likely constrained by government policies that allow discussion of government policies but censor criticism of the Communist Party and its leaders.^{xiv}

Views on Japan and the U.S.:

I. An in-depth analysis of the 200 most recent threads, between September 25 and October 4, 2001 that mention “Japan” shows the following:

- When Chinese talk about Japan they frequently also discuss the U.S., and sometimes Taiwan. During this 11-day period, Japan was frequently mentioned together with the U.S. (about 25% of the time), and significantly but less frequently mentioned together with Taiwan (about 9%). In most of the discussions about Japan, the U.S. and Taiwan, these are portrayed as enemies of China. The discussion threads thus support recent research on polling in China that reveals growing hostility toward Japan and the U.S., particularly among China’s youth. When asked to rank positively and negatively a list of countries which have relations with China, both Japan and the U.S. were at the top of both lists for Chinese high school students in 1999. Overall, combining both rankings, the U.S. was viewed as the main enemy, followed by Japan, and then Vietnam (Fewsmith and Rosen 2001).
- When Chinese talk about Japan they commonly do so in the context of its history with China, including references to past and present security/military issues. During this 11-day period, these topics were very common (42%). These include references to topical affairs, such as Japan’s current discussion of revising its constitution to allow for collective self-defense, the Japanese Self-Defense Force’s coordination with American military actions in the Middle East, the debate about the content of Japanese textbooks, current border disputes (Sendakyu Islands), and Prime Minister Junichiro Koizumi’s visit to the Yasukuni Shrine. These also include references to historical military conflicts between China and Japan, and ensuing legal disputes (comfort women and forced laborer claims). Some of these discussions were about how to commemorate the many patriotic holidays that memorialize specific incidents in Japan-China relations, including the recent remembrance of the Japanese invasion of Northeastern China, on September 18 (“9-18”). These reflect recent public debates in the mass media about the purpose and utility of having so many patriotic holidays. In general, however, most of the discussions about history and military/strategic affairs were focused on concrete policy issues (reparations, textbook revisions, etc.), or on speculation about Japan’s future military role in Asia.
- When Chinese talk about Japan they commonly do so as a way to discuss economic policies and economic development in general, but rarely as a way to discuss political policies and political reforms in China. Many participants used Japan’s rapid economic development in the Post-Meiji era as a way to criticize the economic policies of the Chinese government, or as a way to criticize certain aspects of Chinese culture. Indeed, as with much intellectual debate since May 4, 1919, Japan frequently plays a role in discussions among Chinese about the role of culture in economic development. Many discussants see a paradox in theories of culture and economic behavior: “China and Japan share the same culture, and yet why is Japan so advanced economically?” is a common question. Remarkably, although Japan is certainly Asia’s most successful and stable democratic society, it rarely plays a role in discussions about political issues.
- When Chinese talk about Japanese and Japan they commonly do so in derogatory terms. During this 11-day period, Japan and the Japanese people were significantly referred to in insulting or diminutive terms (12 %), with common terms being “Little Japanese”, “Japanese Devils,” and “Japanese Dogs”. This analysis thus also supports recent polling research in China, in which a surprising number of Chinese youth displayed strong hostility toward Japanese: “...(t)he word *Japan* ‘most easily’ made 83.9% of the youth surveyed think of the Nanjing Massacre and made 81.3% think of ‘Japanese denial’ and the ‘war of resistance against Japanese aggression’. When asked which Japanese person in the twentieth century is most representative of Japan, first place (28.7%) went to Tojo Hideki, of World War II fame. When asked to place a

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label on the Japanese, 56.1% chose ‘cruel’.” (Fewsmith and Rosen 2001). The insults reflected in the internet discussion rooms are certainly also part of this “national memory” that is a part of government education and official propaganda even today.

II. An in-depth analysis of the 200 most recent threads that mention “Japan”, and the 200 most recent threads that mention “Koizumi”, from the period between when the Chinese people learned of Prime Minister Koizumi’s visit to Beijing on October 8, 2001 and several days after his visit, (from October 5 to October 12), shows the following:

- When Chinese talked about Japan and relations with Japan during this period they continued to do so with frequent references to political symbols, political language and the history of Japanese relations with China. Some 128 of the 200 threads (65%) made reference to historical and current conflicts with Japan. Most of these threads referred to his apology to the Chinese people made after a visit to the Marco Polo Bridge’s shrine built to commemorate the War of Resistance Against Japanese Aggression. Many of these were discussions about the language used and therefore the nature and implied sincerity of the “apology”.
- When Chinese talked about Japanese in general during this period they continued to do so with a significant amount of insulting language (10% of threads).
- When Chinese talked about Japan during this period they continued to frequently discuss the U.S. too (25% of the threads).
- When Chinese talked about Prime Minister Koizumi during this period they very rarely used insulting language (3% of the threads).

III. An in-depth analysis of the 200 most recent threads, between October 2 and October 4 (48 hours) that mention the U.S. shows the following:

- The United States is also frequently discussed in reference to historical or current affairs that deal with security/strategic issues (about 56% of the threads during this 48-hour period). These include the “9-11” terrorist attacks on the World Trade Center and the Pentagon, the “5-8” U.S.-China spy plane incident, the “4-1” U.S. bombing of the Chinese embassy in Belgrade, and also historical references to military relations and conflicts with China (American colonies in China, World War II and the Korean War). Many of these discussion threads portray the U.S. as an enemy, supporting recent polling research on Chinese perceptions of America: “*China Youth Daily* conducted a large-scale public opinion poll in May 1995, which found that 87.1% of respondents believed that the U.S. was the country ‘least friendly’ to China, whereas 57.2% responded that the U.S. was the country toward which they felt most negative. Reflecting cynicism about American motives, 85.4% responded that they believed that the U.S. engaged in the Gulf War ‘out of its own interests’.” (Fewsmith and Rosen 2001).
- The Chinese people frequently use the U.S. as a way to discuss both political and economic reforms in China, as well as the development of international relationships of cooperation. Many of the conversation threads compare political reforms in China with the political system in the U.S., as well as the economic policies of the American federal and local governments and behavior of American corporations and entrepreneurs. Many of the threads contain personal anecdotes from Chinese who have lived in the U.S., suggesting a high level of informal interaction between the two populations.
- When the Chinese people discuss America and Americans, they very rarely use derogatory terms. During this 48-hour period, the U.S. and the American people are not significantly referred to in diminutive or insulting terms (less than 1%). The few terms used included “American Devils,” and “Old America”. President Bush was also called “Little Bush”, a reference to his being the son of George Bush, albeit in a disrespectfully familiar way. The civility of the language used may reflect generally

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favorable feelings about Americans as individuals, perhaps coming from the extensive informal ties with Chinese living in the U.S. as immigrants, scholars and students, but it also may reflect a more temporary or immediate sympathy with the American people in the wake of the terrorist attacks on the World Trade Center and the Pentagon. Analysis using observations from other time periods will be necessary to assess the relevance of these factors.

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- ⁱ The author would like to thank Mr. Ting Wang, Baker Institute summer research intern, for his assistance in researching current corporatization best practices of NGOs and consulting companies.
- ⁱⁱ For an example see Xu 2004; China's local newspapers in the summer of 2004 have seen many stories questioning the pricing of energy resources, especially the coal that provides thermal power generation, and thus relates to the electricity power shortages in some of its major cities; see, as a representative example, Ding & Wan 2004.
- ⁱⁱⁱ This is the so-called Soviet-style nomenklatura system of cadre appointment and promotion, in which the Central Committee had to directly approve appointments to thousands of leadership positions at all levels of government, industry and social-cultural organizations.
- ^{iv} For example, see Shanghai's oil and gas development plans in SUFE-FERI/UEPRC 2004.
- ^v For a useful study of the various pension and social welfare plans of the central government, central-owned state enterprises, and local governments, see Zhu 2002.
- ^{vi} See McGregor & Hoyos 2004, Chen 2004, Guerrero, Tsui & McGregor 2004 for reports in the Western media in summer 2004 of the plans of CNPC to develop the West-to-East pipeline by itself. Pace such reports, CNPC faces many obstacles to the successful construction and operation of this pipeline and its related distribution networks.
- ^{vii} For a more thorough description and discussion of decentralization and privatization of Chinese oil and gas companies see Lewis 1999.
- ^{viii} For a discussion of Petrocanada's privatization see Mito 2001, and for a discussion of Repsol-YPF's see Sturzenegger and Gadano 1997.
- ^{ix} See Liu & Zhang 2003; Jaffe 2004, Kanekiyo 2004; Koyama 2004; Lewis 2004A; Morse 2004; Ogawa 2004A; Ogawa 2004B; Ogawa 2004C; Wu 2004; Xu 2004A; Xu 2004B; Zhang 2004; Zhu 2004. Other studies of China's energy security dilemma include Andrews-Speed, Liao & Dannreuther 2002, Jaffe & Lewis 2002, Manning 2000, Ogutcu 1999, Trough 1999, Toichi 2003.
- ^x For a discussion of the interests and duties of China's statistical agencies see Holz 2003.
- ^{xi} For a sample of arguments made by Middle East scholars see Ahmed 2004A, 2004B; for a discussion of how energy security relates to general foreign policy issues in China, see Yang 2002, Yang 2004, Takagi 2002.
- ^{xii} A thread represents a distinct message or a series of messages to which several discussants respond with their own messages. Most threads contain brief discussions by two or three people. Looking at the enormous number of threads within this week under examination, it is thus likely that the "Strengthen China" discussion room has thousands of active participants. There are also, of course, likely to be many thousands more who silently view the messages posted and yet do not participate in the discussions. It should also be noted that these ongoing discussions by participants are not necessarily limited to this discussion room, and so the messages posted most likely represent what participants are most interested in presenting publicly. Discussants can easily directly discuss the same

issues with participants via personal e-mails. The fact that they continue to do so in a forum that allows for public viewing, and the addition of other participants, suggests that this is a distinctly public-oriented, or advocacy-oriented form of discourse.

- xiii Given market research on the use of personal computers in China, it is likely that most of the participants are young, urban-dwelling and educated (high school or university education) individuals who are interested in discussing ways to “strengthen China”. These types of individuals are also the most common participants in public protests against both foreign governments and the Chinese government. Because individuals do not need to provide biographical information, or even identify themselves through their primary e-mail address, however, it is difficult to know what type of people participate in these discussions. Looking at the content of the messages, almost all seem to identify themselves as “Chinese,” although there are occasionally interactions with foreigners, including Japanese and Americans. More frequently, there are individuals who identify themselves as Chinese living abroad, especially as foreign students in the U.S. This ambiguity about identity, however, is itself often a topic of discussion, as those representing themselves as “Chinese” either frankly discuss international relations with those identifying themselves as “foreigners” (or Chinese living overseas), or those representing themselves as “Chinese” speculate about the identity of each other. There are occasional discussions of “special agents” of foreign governments that are believed to be participating in the chat rooms, and more frequently individuals question the identity of other discussants as a rhetorical device, to shape discussion by questioning the loyalty of those they disagree with: “Are you Chinese or American?” or, “Are you Chinese or Japanese?” Individuals who explicitly identify themselves as foreigners, or as Chinese living abroad, however, do not seem to attract hostility, but instead curiosity: “As a Japanese, what do you think about this issue?” or “Since you are living in the U.S., what do Americans think?” This is much more common in discussions about the U.S. than in discussions about Japan, perhaps reflecting the fact that hundreds of thousands of Chinese, including the children of many of China’s top leaders, have studied or are studying in the U.S. Indeed, when discussing the political or cultural nature of “Americans” it is common for discussants to use personal anecdotes. This is not common in discussions of the nature of “Japanese”.
- xiv Discussion in these internet chat rooms is likely constrained by censorship, including self-censorship. The presence of discussion threads that criticize government policies on the official website of its main newspaper, *People’s Daily*, including such sensitive topics as human rights and political reforms, however, suggests that government control over the internet is at least ineffective. Given the enormous volume of discussion threads (hundreds per hour), it may be that censors can only focus their efforts on stopping criticisms of individual leaders. Certainly the editors of *People’s Daily* and other official newspapers in China have a strong incentive to curtail such discussion. Historically, publishing criticisms of individual leaders in these media have heralded factional strife and leadership purges. It is also likely that there is self-censorship. Individuals participating in discussions may refrain from criticizing the Communist Party because they know that they are being monitored and may face individual sanctions from the government, but also because they fear that they will be ostracized by other discussants.