

China's Conception of Energy Security: Sources and International Impacts*

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Introduction

China's fast-paced economic growth can be seen both as a powerful challenge and as a unique opportunity. However, with its imports of oil rising almost exponentially while the world experiences a period of tight oil supply, many have been concerned that China's hunger for energy might destabilize the international markets or lead to their political disruption.

In assessing the evolution of China's energy policy, however, we tend to commit two important mistakes. The first is that analysts often assimilate China's future path of development with the developed countries' own past development experience, thus dismissing evidence that might point toward a different relationship with energy. Second, we tend to focus on the external expression of China's energy needs, its oil imports, while overlooking other energy-related crises such as insufficient electric supplies or the growing toll taken by the widespread degradation of the environment.

In this paper, I will argue that, in parallel with a debate about China's path toward economic development, the Chinese leadership is redefining its understanding of what constitutes the country's energy security. I will then assess the international impacts of such a redefinition as well as the international aspects of a "business-as-usual" scenario in which China would pursue its traditional model of energy security. A better understanding of this central issue is crucial because the two different patterns of energy security will lead to different sets of challenges and opportunities for Western governments and enterprises, but we might not be able to differentiate them if we keep a traditional view of what is China's energy security.

Views of China's energy security

Although a simple definition of energy security, "enjoying sufficient supplies at an acceptable cost", was more or less consensual before the 1990s, the concept has been the centre of a highly controversial debate, some stressing the "supply" element, others the "cost". The first conception of energy security might be thought to be "realist" or strategic since it is viewed mainly as a struggle to control the sources of a strategic energy resource, oil. For this approach, oil, being a scarce, highly prized, and geographically concentrated commodity, can be used as a "weapon" of blackmail on the international scene. Thus, proponents of this understanding recommend energy self-sufficiency or, at least, the diversification of supplies sources and

of the energy mix, and the establishment of reserves to help face a sudden tightening of supply.¹ Simple reliance on the market should be avoided as it might orient a country's energy dependence toward cheaper foreign sources.² Authors writing along those lines use the examples of the Japanese quest for oil in the early World War II period, the 1973 Arab producers' embargo and the 1991 invasion of Kuwait as instances of oil-driven conflict.³

A second, more "liberal", school of thought on energy security appeared during the 1980s and challenged the first, strategic, approach. According to this second point of view, given the regular discovery of new oil deposits, the growing role of non-OPEC producers, and the development of hedging instruments such as the futures market, oil is becoming less strategic and should be considered as a normal commodity. Thus, government intervention would be desirable only in a situation of market disruption – i.e. when a given externality is not taken care of by the market structures. As such, state intervention would be legitimate only in basic regulation of the market, information gathering and diffusion, R&D and international cooperation.⁴ Oil being a fungible product, diversification is counterproductive and

¹ Robert E. Ebel. "Hearing on China's Energy Needs and Strategies."

Testimony Presented to the US-China Economic and Security Review Commission, October 30, 2003.

<http://www.uscc.gov/hearings/2003hearings/hr031030.htm> and John F. Ahearn. "Challenge for Energy Security Policy to the Year 2000 (or Santayana Was Right)" in Richard J. Gonzalez, Raymond W. Smilor, Joel Darmstadter (Eds.). *Improving U.S. Energy Security*. Cambridge (Ma): Ballinger Pub. Co., 1985, p. 9.

² Robert Belgrave, Charles K. Ebinger and Hideaki Okino (Eds.). *Energy Security to 2000*. Boulder (Co): Westview Press, 1987, pp. 7-8 and Edward L. Morse. "A New Political Economy of Oil?" *Journal of International Affairs*. Vol. 53, No 1 (1999): 29.

³ For a review of the role of oil as a strategic commodity and as part of military thinking see Daniel Yergin. *The Prize: The Epic Quest for Oil, Money, and Power*. New York: Simon and Schuster, 1991.

⁴ Douglass R. Bohi. "Searching for Consensus on Energy Security Policy" in Hans H. Landsberg. *Making National Energy Policy*. Washington, D.C.: Resources for the Future, 1993; Douglas R. Bohi and Michael A. Toman. *The Economics of Energy Security*. Boston: Kluwer Academic Publishers, 1996, p. 1, and Michael May. "Energy and Security in East Asia," *A/PARC Occasional Paper*. (1998). <http://cisac.stanford.edu/publications/10043>. It is interesting to note, though, that externalities linked to the cost of dispatching military units to protect supplies, the environmental externalities, and the risks of balance of payments disruptions linked to oil supplies are not factored in the calculation of energy security.

energy security is better protected by the markets,⁵ so the best strategy a country can follow is to decrease barriers to trade and investments in production and limit its intervention.⁶

The two approaches presented above share some important characteristics: both are supply-oriented, focused on oil, and state-centred.⁷ Environment protection is seen as a goal competing with security.⁸ The rise in environmental awareness, the development of transnational terrorism and the 1990s' challenge to established schools of thought in International Relations has recently produced a new, "non-traditional" perspective on energy security critical of these three features. For instance, Stoett and Pretti argue that energy security should be assessed at all the different steps of the energy cycle: production, transportation, transformation/consumption, and waste. Viewed along those lines it becomes clear that a mode of development relying on fossil fuels transported over long distances, processed in centralized and dangerous plants, and producing immense pollution is more vulnerable to accidents or attacks than a decentralized system based on renewables and hydrogen produced and processed *in situ*, not to mention the environmental merits of such a system.⁹ Advocates of such an approach thus encourage the development of a "new energy paradigm" that will both be more secure and cleaner than the actual model of energy development.¹⁰

In the debate about China's conception of energy security it is assumed by the vast majority of analysts that Beijing has adopted the first conception to determine its policies. For example,

⁵ William W. Hogan. "Energy, the Economy, and Oil Security," in Richard J. Gonzalez, Raymond W. Smilor, Joel Darmstadter (Eds.). *Improving U.S. Energy Security*. Cambridge (Ma): Ballinger Pub. Co., 1985, pp. 47.

⁶ Philip Andrews-Speed and Sergei Vinogradov. "China's Involvement in Central Asian Petroleum. Convergent or Divergent Interests?" *Asian Survey*. Vol. 42, No. 2 (2000): 391.

⁷ Paul B. Stares (Ed.). *Rethinking Energy Security in East Asia*. New York: Japan Center for International Exchange, 2000, p. 21.

⁸ Yergin, *op. cit.*, p. 779 and Joseph A. Stanislaw. "Energy Competition or Cooperation: Shifting the Paradigm," *Economic Perspectives*. V. 9, No. 2 (2004). <http://usinfo.state.gov/journals/ites/0504/ijee/toc.htm>.

⁹ Stoett, Peter J. and Dwayne Pretti. "Energy Security: A Risk Vulnerability Analysis," *CEPES – Notes de recherches*, 2003, pp. 6-7 <http://www.er.uqam.ca/nobel/cepes>.

¹⁰ Christopher Flavin and Seth Dunn. "A New Energy Paradigm for the 21st Century," *Journal of International Affairs*. Vol. 53, No. 1 (1999): 167-190.

the Pulitzer-winning specialist on energy, Daniel Yergin, notes “many describe Beijing’s policy options in ways that come perilously close to the shortage-equals-security-threat scenarios of the 1970s”.¹¹ Similarly, and more recently, Erica S. Downs alleges that the mainstream thinking about energy security in China shares the characteristics of the “traditional” approach: it is state-centric, supply-side biased, overwhelmingly focused on oil and tends to equate security with self-sufficiency.¹² Finally, Phillip Andrews-Speed has argued in many outlets that the Chinese government has adopted a “strategic” approach to China’s energy security and, as such, prefers political means to economic ones to ensure the country’s energy security.¹³

This understanding of Beijing’s approach seems to be vindicated by the energy policies that have been adopted by China throughout the 1990s.¹⁴ However, I will argue that focusing on measures taken by China during the 1990s to draw inferences about the future fails to take into account the profound debate about future path for Chinese development initiated in 2003 by the fourth generation of leaders. The concept of “*jiyue shehui*” (conservation-minded society), which is the energy and resources leg of the broader “*kexue fazhanguan*” (scientific development concept)¹⁵ represents a move by the new group of Chinese leaders

¹¹ Daniel Yergin, Dennis Eklof and Jefferson Edwards. “Fueling Asia’s Recovery,” *Foreign Affairs*. Vol. 77, No. 2 (1998): 36.

¹² Erica S. Downs. “The Chinese Energy Security Debate,” *China Quarterly*. No. 177 (2004): 22-23.

¹³ For good examples, see Philip Andrews-Speed “State Control is the Cause of China’s Crisis.” *Asian Wall Street Journal*. (30/04/2004) and Philip Andrews-Speed, Liao Xuanli and Roland Dannreuther. *The Strategic Implications of China’s Energy Needs*. Adelphi Paper (No. 346), New York: International Institute for Strategic Studies, 2002.

¹⁴ For a detailed list of these measures, see International Energy Agency. *China’s Worldwide Quest for Energy Security*. Paris, International Energy Agency, 2000, p. 8 or Sergei Trough. “China’s Changing Oil Strategy and its Foreign Policy Implications”. *CNAPS Working Paper*. (1999). http://www.brookings.edu/fp/cnaps/papers/1999_troush.htm.

¹⁵ Reference to the concept of conservation-minded society is invariably linked in the Chinese literature and in official declarations to the larger goal of promoting a scientifically sound model of development, which is one of the central “political platforms” of the new leadership team. For some examples, see Zhou Genghu. “Zhengxie changwei: yi kexue fazhanguan wei zhidao, jianshe jiyuexing shehui (CPPCC Standing Committee: Follow the Compass of Scientific Development to Build the Conservation-Minded Society). *Xinhua*. (09/07/2004) www.xinhuanet.com;

toward the third conception of energy security described above. This new approach to energy security is the only one that can tackle the different types of energy crises which China faces while respecting the overall leaders' ideational framework, which favours self-sufficiency and loathes relying extensively on international energy markets. However, this transition is likely to be opposed and slowed down by vested interests at central and provincial levels, the cumulative effects of investments in the traditional energy sector, and fears that a change in economic direction might stir social trouble.

The politics of a concept

Constructivist research in the field of International Relations has reintroduced the legitimacy of studying ideas as factors of political choice.¹⁶ The material elements or rational utility that inform political decisions cannot be interpreted without an understanding of the ideational environment which allows political actors to ascribe meanings to these elements.¹⁷ Thus, from

Huang Tiemao. "Ruhe jianli ziyuan jieyuxing shehui (shuli he luoshi kexue fazhanguan)" (How to Create a Conservation-Minded Society. Establish and Realize the Scientific Development Concept), *Renmin ribao*. (06/07/2004). www.peopledaily.com.cn; Chen Qingtao (Deputy Director *Guowuyuan fazhan yanjiu zhongxin* – State Council's Development Research Center). Shuli kexue fazhanguan, shixian kexue fazhan (Establish the Scientific Development Concept, Realize Scientific Development). www.drcnet.com.cn (11/03/2004)

¹⁶ In comparative politics, historical institutionalism also stresses the importance of ideas and their processing through political institutions. For instance, the three conceptions of energy security described above can be easily understood as 'policy paradigms', a concept developed by Peter A. Hall, which he defines as "an overarching set of ideas that specify how the problems facing [policy-makers] are to be perceived, which goals might be attained through policy and what sorts of techniques can be used to reach those goals. Ideas about each of these matters interlock to form a relatively coherent whole that might be described as a policy paradigm." Peter Hall. "The Movement from Keynesianism to Monetarism: Institutional Analysis and British Economic Policy in the 1970s" in Sven Steinmo, Kathleen Thelen and Frank Longstreth. *Structuring Politics. Historical Institutionalism in Comparative Analysis*. Cambridge: Cambridge University Press, 1992, pp. 91-92; and Peter Hall. "Policy Paradigms, Social Learning, and the State. The Case of Economic Policymaking in Britain," *Comparative Politics*. Vol. 25, No. 3 (1993): 275-296.

¹⁷ For a detailed discussion, see Alexander Wendt. *Social Theory of International Politics*. Cambridge: Cambridge University Press, 2000.

this perspective the way the Chinese leaders deal with energy crises and use the definition of energy security as a tool in their internal squabbles is informed first and foremost by a strong historical preference for self-sufficiency, the leaders own formative experiences and, to a lesser extent, by the experience of other countries faced with energy crises.

First, the most defining feature of Chinese energy politics is the importance of the ideal of self-sufficiency. While economic self-sufficiency was lauded both under the millennia of imperial rule and reiterated during the Maoist period, nowhere has it been seen as important and as fundamental as in energy production. The extreme emphasis on self-reliance in the Chinese energy industry can be traced back to the early 1960s when the Sino-Soviet split meant that China was deprived not only of the Soviet specialists that were helping it develop this industry, but also of around 50% of its oil supplies that were imported from the Soviet Union.¹⁸

This first powerful experience with dependence on others for fuel supplies was later reinforced by the discovery of huge oil deposits in China's Northeast. The discovery of Daqing, Shengli and Liaohe would give China the oil sufficiency, and even an export capacity, for 30 years and would epitomize, in Maoist propaganda, the successes of the Chinese Communist Party (CCP) rule. The maturing of these three huge fields – which still provide more than half of the country's crude oil – and the failure to find replacement sources on China's territory triggered, with the growing consumption of the late 1990s, the sense of crisis that led to the emergence of energy security as an urgent economic issue.

A second ideational factor participating in the definitions of China's energy security has to do with the generational change within the central leadership. Even though the concept of "generation" is not without drawbacks,¹⁹ many Western scholars

Also, Peter Katzenstein (ed.) *The Culture of National Security: Norms and Identity in World Politics*. New York: Columbia University Press, 1996; Richard Ned Lebow and Thomas Risse-Kappen. *International Relations Theory and the End of the Cold War*. New York: Columbia University Press, 1995; Robert Jervis. *Perception and Misperception in International Politics*. Princeton: Princeton University Press, 1976; Friedrich Kratochwil and John G. Ruggie, "International Organization: A State of the Art or an Art of the State," *International Organization*, 40 (Autumn 1986), pp. 753-775.

¹⁸ Erica Strecker Downs. *China's Quest for Energy Security*. Santa Monica (Ca): RAND, 2000, p. 11-12.

¹⁹ The concept of generation is closely linked to the conception of legitimacy of the Chinese regime: it represents both a type of Marxist-Leninist anointment and a claim to some traditional moral

have pointed out that patterns of behaviour can be inferred from common generational formative experiences, historical background, or similar professional paths. For instance, about the fourth generation of leaders, Fewsmith writes that they are not expected to adhere strongly to ideological formulas because of the political disillusionment engendered by their participation in the Cultural Revolution. As a result they are seen as likely to be more open-minded and while they might be supportive of market-oriented reforms, they will remain cautious, in part because of their experience with the plight of poor, rural areas.²⁰ This formative experience might account for the emphasis on sustainable or “balanced” development that the new leadership has adopted as its economic creed. In contrast, many members of the third generation had had their formative experiences during the 1970s and 1980s in the centralized energy sector and remained close to the three major state owned oil enterprises (SOOE),²¹ the power industry companies and coastal regions that have benefited the most from the 1990s’ growth-oriented development.²² Given these widely different experiences, it is quite possible that the two generations of leaders will rely on distinct, and maybe contradictory, cognitive instruments to define both the terms of the energy crises and the ways to remedy them.

Finally, the type of energy security adopted by Beijing is influenced by foreign experiences with energy insecurity: guided by their bias toward self-sufficiency, Chinese analysts and decision-makers have been looking closely at the experiences of other states in alleviating their dependence on overseas supplies.

authority. Thus, the generation label is a hotly contested title, which, in the case of the Cultural Revolution generation, overlaps with a deeper, historical division among the members of a same generation that had clashed in the Chinese streets during the sixties. As such, to be labeled part of a generation called upon to exert leadership is a source of power in some long-haul fratricidal feuds. Sausmikat, Nora. “Generations, Legitimacy, and Political Ideas in China.” *Asian Survey* Vol. 43, No. 2 (2003): 358

²⁰ Joseph Fewsmith. “Generational Transition in China.” *The Washington Quarterly* Vol. 25, No. 4 (2002): 23-35, see also Li Cheng. 2001. *China’s Leaders. The New Generation*. Lanham (MD): Rowman & Littlefield and Li Cheng. 2003. “The Emergence of the Fifth Generation in the Provincial Leadership.” *China Leadership Monitor* (6). www.chinaleadershipmonitor.org.

²¹ The three most important national oil SOEs are China National Petroleum Company (CNPC), Sinopec, and China National Offshore Oil Corporation (CNOOC).

²² See Willy Wo-Lap Lam. *The Era of Jiang Zemin*. Singapore: Prentice Hall, 1999., p. 94.

The International Energy Agency recognizes that the strategies deployed by China to respond to its increasing dependence on foreign markets are “the classic moves” of nations that found themselves in a new situation of reliance on imports.²³ For example, Xia Yishan encouraged the Chinese government to use the experience of Russia, the US and Japan to (1) adopt an energy security policy grounded in national security and a strategic vision, (2) raise the importance given by the government to energy security, (3) encourage the overseas activities of China’s oil SOE, (4) increase the government bilateral international interventions on behalf of these enterprises, (5) adopt a policy of diversification, (6) establish a strategic oil reserve, and (7) engage in bilateral and multilateral energy cooperation.²⁴

This should not come as too much of a surprise given that many Chinese specialists openly advocate learning the lessons of the West, while others simply adopt the concepts and recommendations found in the American literature on energy security. More unsettling though is the kind of lessons that Chinese specialists and, by extension, leaders may learn from recent American interventions abroad. Given that most Chinese assessments of the Afghanistan and Iraq wars (some even include Kosovo) see in those military operations a ploy to reinforce US control over oil production areas and transport corridors,²⁵ military strength may be seen as an increasingly legitimate instrument to ease energy concerns. Indeed, analysts on both sides have been

²³ International Energy Agency (2000), *op. cit.*, p. 74. For instance the ‘Go-Out’ strategy parallels the Japanese government’s decision to provide financial and political incentives and help for Japanese oil companies to invest in overseas oil production after the first oil shock. However, this program encouraged the Japanese to take participation in some ventures of dubious economic value, thus leaving Tokyo with a tab of more than 20 billions dollars in unrecoverable loans. Clay Chandler. “Can China Keep the Lights On?” *Fortune*. Vol. 149, No 4 (23/02/2004): 120.

²⁴ Xia Yishan. “Dangqian guoji nengyuan xingshi he Zhongguo nengyuan zhanlüe” (Current International Energy Situation and China’s Energy Strategy). *Heping yu fazhan* (Peace and Development). No. 2 (2002). pp.: 36-39.

²⁵ See Zhang Yuncheng, Gao Zhugui, Yuan Chunqiang, Feng Yujun, Liu Junhong, and Da Wei. “Guoji shiyou de Zhanlüe yingxiang” (The Strategic Influence of International Oil). *Xiandai guoji guanxi* (Contemporary International Relations). No. 2 (2003): 47-56 and Chang Zekun. “Shijie Shiyou diyuan xin tujing xia de shiyou anquan wenti” (The Issue of Oil Security under the New Global Oil Geopolitics Scene). *Guoji wenti yanjiu* (International Studies). No. 2 (2004): 67-69.

drawing on each others to support their arguments and validate their concerns thus generating a spiral in which alarmists become even more so.²⁶

During the 1990s, the factors enumerated above converged to forge an understanding of energy security, which was strongly supply-oriented and focused on oil. As early as 1993, Li Peng set the stage for this approach by defining the objectives of the country's energy policy as "to secure the long-term and stable supply of oil to China".²⁷ This fundamental objective guided most of the energy decisions taken during the rest of the decade; energy security even topped the list of strategies to develop the energy sector in the 2001 "Tenth Five-Year Plan of Economic and Social Development". To reach this goal, the plan proposes, to encourage the use of advanced technologies, to increase national production, to develop the gas industry, to improve the competitiveness of the SOEs on the international markets, to build up the national strategic oil reserve, to improve the conservation and efficiency level of oil consumption, to improve the regulatory and overseeing framework of the industry, and to deepen the reforms of the oil industry.²⁸

This understanding of energy security is also reflected in many Chinese academic works produced during that decade: energy security is often associated with energy or oil geopolitics or the struggle among great powers to reach pre-eminence.

²⁶ See the use of articles from the magazine *Survival* in Wang Yadong. "Shijie nengyuan diyuan zhangzhi tujing: lishi yu fazhan" (The World Energy Geopolitics Scene: History and Development). *Guoji luntan* (International Forum). Vol. 5, No. 2 (2003): 1-6.

²⁷ Felix K. Chang. "Chinese Energy and Asian Security," *Orbis*. Vol. 45, No. 2 (2001): 233.

²⁸ *Guomin jingji he shehui fazhan dishige wunian jihua. Nengyuan fazhan zhongdian zhuanding guihua* (Tenth Five-Year Plan of Economic and Social Development. Special Section on the Energy Development Program). Zhonghua renmin gongheguo guojia fazhan he gaige weiyuanhui (National Development and Reform Commission) (2001). www.ndrc.gov.cn. In a 2000 report on oil security, the State Council Development Research Center (DRC) proposed to adopt substantially the same measures although it emphasizes the improvement of the management and regulatory framework.²⁸ Li Runsheng, Liu Yan and Ma Shenyuan. "Woguo shiyou anquan mianlin de xingshi he duice" (Tendencies and Countermeasures in China's Oil Security), *Guowuyuan fazhan yanjiu zhongxin diaocha yanjiu baogao* (Research Reports of the State Council's Development Research Center). No. 162 (2000). www.chinaiss.org/strategic/2b_001.htm (Accessed 10/05/2003, not available at this address anymore).

Recommendations proffered by these academics to policy-makers, in general, stay close to the supply-side strategies mentioned above while they tend to emphasize diversification of supply sources diplomacy and the development of pipeline transportation to lower the risk of China being subjected to an embargo.²⁹

The traditional concept challenged

In many political system, too large a discrepancy between the promises and goal of a concept or policy and the events in the world “out-there” might prompt a re-evaluation of this concept, political struggle between its proponents and advocates of a new approach and, eventually, its reinstatement or replacement. Thus, in China, while the new generation of leaders shares a commitment to the ideal of self-sufficiency, the supply-oriented, oil-centred approach to energy security held throughout the 1990s has come under the combined challenges of 1) the material needs related to rapid economic expansion and China’s entry in the WTO and 2) the political expedients of a transition from one set of leaders to another.

The issue of defining energy security entered the realm of leadership politics in parallel with the introduction of the concept of ‘Scientific Development’. Set against the background of growing social and regional inequalities, of growing rural impoverishment and of over investment in many industries, this new concept of economic development is meant to alleviate the growing tensions generated by years of economic growth at all cost. In his presentation of this new concept of economic development to group of high-ranking provincial cadres, Premier Wen Jiabao put forward seven goals:

- 1) economic growth is to remain the principal goal, but it is to be understood as a long term objective and should to be accompanied by a transition from extensive to intensive development,
- 2) economic development and social development (culture, education, social order, etc.) have to go hand in hand,

²⁹ For some representative examples, see Anwar Amuti and Zhang Shengwang *Shiyou yu guojia anquan* (Oil and National Security). Urumqi, Xinjiang Chubanshe, 2003; Wang Jiashu *Shiyou yu guojia anquan* (Oil and National Security). Beijing, Dizhen chubanshe, 2001, and Xia Yishan. “Zhongguo nengyuan anquan wenti ji jie jue qianjing” (China’s Energy Security Question and Some Perspectives of Solution). *Heping yu fazhan* (Peace and Development). No. 4 (2003): 20-24.

- 3) both cities and rural areas should benefit from economic development,
- 4) development should attenuate regional inequalities,
- 5) development must be sustainable, and protect the environment and natural resources,
- 6) development should ensure the pursuit of reform and opening up, and
- 7) the development strategy should put the people first (yirenweiben).³⁰

As this new approach is meant to be a remedy to a decade of rapid but wasteful economic growth, it is seen by some as a first move by the new leaders to establish their own political agenda and to put some distance between themselves and the legacy of Jiang Zemin.³¹

Thus, the obsession with GDP growth during the 1990s led to more inequalities, corruption, and a culture of waste that could not be understood as “progress” for proponents of the new concept. Also, it became clear for them that the central goal set by the Communist Party of attaining widespread economic well-being by 2050 would be hard to reach if China was to continue developing along the extensive growth model and at the expenses of its social and environmental capital. The limits of this model were especially obvious in the energy sector by three distinct crises: 1) the perceived oil insecurity which was growing quickly despite the measures taken during the 1990s, 2) the electricity supply crisis that unfolded in 2003, and 3) the increasing understanding of the extent to which current energy consumption patterns was hurting the environment.

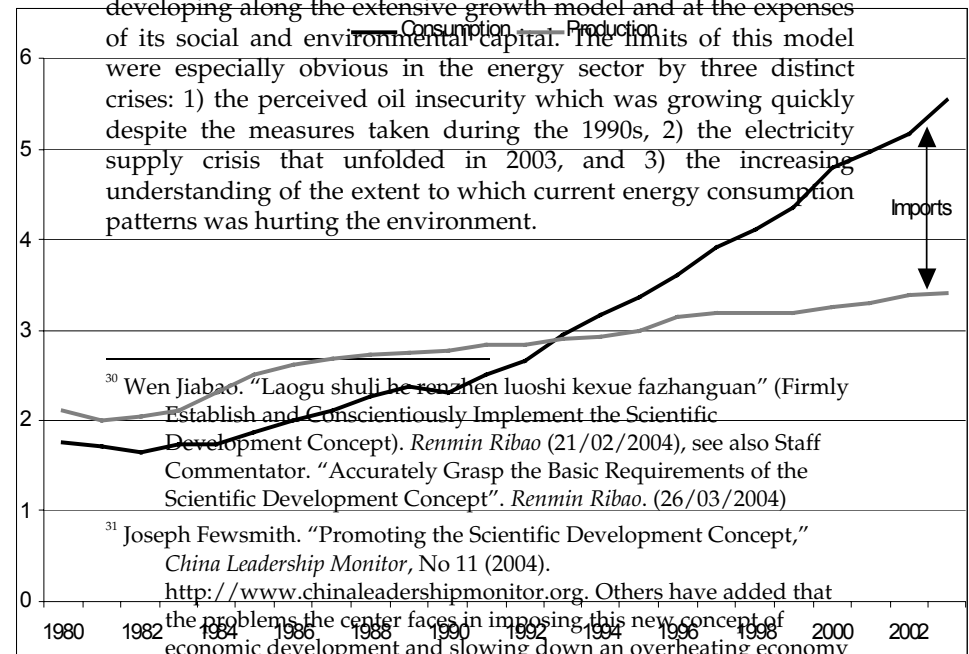


Figure 1: Chinese Oil Production, Consumption and Imports, in millions of barrels/day, 1980-2003

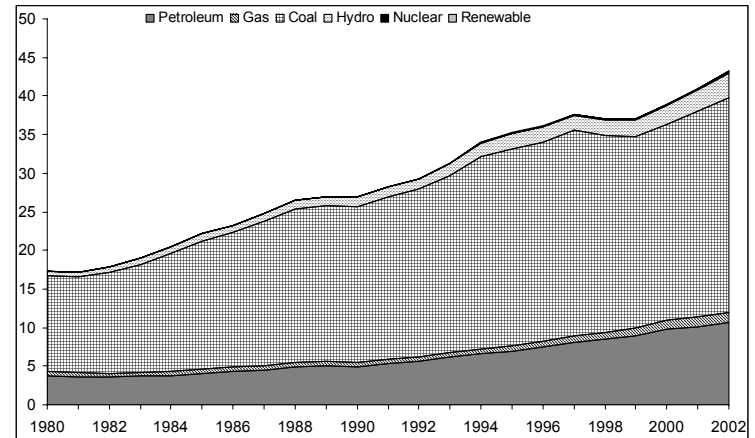
Source: US Department of Energy, *Energy Information Administration*, 2004

The first challenge came with the growing sense of discomfort with oil imports despite the measures China had adopted to curb its demand and ensure supplies. First, demand was left unchecked: for example, encouraged by favourable policies and growing public affluence, the car industry has been adding half its production capacity every year since 2001.³² Meanwhile, oil production growth was almost flat as the old fields' production was declining without being replaced by sufficient new output from Xinjiang or offshore exploration (See Figure 1).

In addition to these difficulties, the failure of China's energy diplomacy to guarantee oil security became conspicuous with the failure to secure a deal with Russia over a pipeline planned to link the Siberian oil deposit of Angarsk (near Irkutsk) and its oil infrastructures in Daqing. This setback had to be added to the new situation in Iraq which jeopardized China's investments there and to the fact that, given the post 9-11 presence of the US military in Central Asia, a pipeline between the Caspian Sea and Xinjiang would be as exposed to American intervention as the sea lines from the Middle East – not to mention the risks of terrorist attacks. These questions will be addressed later in this paper.

Figure 2: Chinese Primary Energy Consumption, in Quadrillion (10^{15}) of BTU, 1980-2002

³² Yet Chinese only have 10 motor vehicles for every 1000 inhabitants compared to 30 in Egypt, 552 in Japan and 770 in the United States. Richard Mc Gregor. "Beijing Opens Door to Foreign Car Loan Groups." *Financial Times*. (05/10/2003) and Bernard D. Cole. *Oil for the Lamps of China" – Beijing's 21st-Century Search for Energy*. McNair Paper 67, Washington, D.C.: Institute for National Strategic Studies, National Defense University, 2003, p. 51. The growth in car sales, especially those of sport utility vehicles (SUV), and the ineffectiveness of the current tax system to curb gas consumption are top sources of energy insecurity in Beijing. Interview No. 6, Beijing, May 2004.



Source: US Department of Energy, Energy Information Administration, 2004

However, as can be seen on Figure 2, oil only represents a relatively small (less than 25%), albeit growing share of China's primary energy consumption. Hence, the second crisis' implications are even wider as they question the capacity of the state to plan and regulate the energy industry and the sustainability of the current rhythm of economic growth. Indeed, the electricity shortages that hit at least half of the Chinese provinces throughout 2003 and 2004, find their source in a decision, taken during the aftermath of the Asian Economic Crisis and in a situation of power glut, to impose a three-year moratorium on new investments in the power sector. This moratorium ended in 2002, but since the sector's growth in 2003 was 15.3%³³ and since, on average, it takes 3 years to put a plant online (8 for a nuclear plant) the authorities see the shortages continuing up until 2006 despite the addition of 31 gigawatts in 2003 and of another 37 in 2004.³⁴ Bad planning, however, is not the only culprit in this crisis: breakneck growth of the investment in power-hungry sectors like aluminium, steel and cement; the increasing prevalence of air conditioning, which can represent up

³³ That was 4 times what Western experts had believed. Chinese analysts and Canadian diplomatic personnel also confirmed that the sudden surge in power consumption took the whole Chinese energy community by surprise. Interviews in Beijing, May 2004.

³⁴ Le-Min Lim and Xiao Yu. "China Races to Avert Blackouts," *International Herald Tribune* (11/02/2004). www.ihrt.com and Keith Bradsher. "Air Pollution Rises with China's Growth," *International Herald Tribune* (24/10/2003) in *Alexander's Oil & Gas Connections*. Vol. 8, No. 22 (13/11/2003).

to 40% of grid capacity; a dry and warm summer that emptied hydropower reservoirs; half-hearted reforms in the coal industry,³⁵ and the lack of standards of power conservation in the construction industry have all contributed in the emergence of the worst power crisis since the beginning of the reforms.

Finally, while the third crisis was identified a while ago, it is now acquiring a newfound importance. Indeed, widespread pollution of China's territory means that it is increasingly difficult for the government and the public to ignore the issue of environmental degradation, especially because, in addition to the ecological costs, there is an increasing economic tag attached. For instance, in a study published in 1997, the World Bank evaluated that, each year, China loses 8% of its GDP to pollution, pays 20 billions of dollars in health care and has to account for 200,000 premature deaths.³⁶

A "Conservation-Minded Society"

These growing contradictions in the energy sector gave rise to many calls for a shift to sustainable development as a national development strategy, but it is only with the transfer of power to the fourth generation of Chinese leaders that these views were taken into account and reflected in a flurry of state-sponsored narrative on sustainability.³⁷ Indeed, during his address

³⁵ The price of coal is set by the market while the price of power is still regulated. The rise in demand for coal in the industry and in the power sectors have sent prices sky-rocketing especially since, in recent years, the government has cracked-down on unsafe and polluting small mines in a drive to concentrate the coal industry around a few big SOEs. However, with fuel prices rising and power price held steady some coal-fired plants have simply limited their output to avoid important losses. "China's Economy Feels Pinch of Power Shortage," *Beijing Xinhua* (10/12/2003). FBIS : CPP200312100000170 and "China Faces Energy Shortage," *Xinhua* (08/12/03) in *Alexander's Gas & Oil Connections*, Vol. 9, No. 1 (15/01/2004).

³⁶ Todd M. Johnson. *Clear Water, Blue Skies: China's Environment in The New Century*. Washington, D.C.: World Bank, 1997. It is also interesting to note that, despite the current shortages in electricity, Premier Wen opposed a hydroelectric dam project on the Nu River in Yunnan, one of the last virgin areas in China. Jim Yardley. "Beijing Suspends Plan for Large Dam," *New York Times* (08/04/2004). www.nytimes.com.

³⁷ For example, Pan Yue, Deputy Minister at the State Environment Protection Administration and influential reformist, wrote that the obsolete development pattern followed by China relies on so much on rare resources and produces so much pollution that it cannot be

to the Chinese National Assembly Ma Kai, State Council's Minister of the National Development and Reform Commission –China's top planner, stressed the importance of the construction of a "conservation-minded society" as the way to sustainable, scientific development. While this term had been used before in the Tenth Five-Year Plan, it became commonplace only after this speech and the numerous follow-up articles published in the People's Daily at the end of 2003.

According to this new policy paradigm, energy security means guaranteeing access to the energy resources needed for economically and socially sustainable development while ensuring that the production and use of these resources do not impact negatively on the environment.³⁸ For instance a "Staff Commentator" article written in the *People's Daily* argued that enhancing energy conservation and improving the energy structure of the Chinese economy are not only the best ways to decrease energy consumption, protect energy security, increase economic returns and protect the environment but they represent the only possible way to realize the construction of a well-off society by 2020.³⁹ In order to reach this ideal, this approach calls for the government (1) to encourage the propagation of a sense of conservation (*jieryue yizhi*), (2) to reinforce its planning and macro-instruments, (3) to perfect the related legal standards, regulations and overseeing system, (4) to accelerate the adjustment of the energy structure, (5) to accelerate technological innovation, (6) to foster political and systemic innovation, and (7) to push forward the objective of a "circular economy" (*xunhuan jingji*).⁴⁰

sustained in the long run. Hence, for him, the only way forward is to rely on new, renewable energy sources (hydrogen, wind and solar power) and to create a "circular economy." Pan Yue "China Makes Ecology a Priority," *China Daily* (17/06/2004) in *Alexander's Gas & Oil Connections*, Vol. 9, No 13 (29/06/2004).

³⁸ Lu Zhongwei (Ed.). *Feichuantong anquan lun* (On Non-Traditional Security). Beijing, Shishi Chubanshe, 2003, p. 166.

³⁹ Staff Commentator. "Energy Conservation: An Inexorable Choice for Building a Well-Off Society in an All-Around Manner," *Renmin Ribao* (03/11/2003). FBIS: CPP20031119000078. For a more in depth analysis along those lines, see Li Jingwen (Ed.). *Kechixu nengyuan fazhan zhanlüe* (A Strategy for Sustainable Energy Development). Beijing, Shehui kexue wenxian chubanshe, 2001.

⁴⁰ Also translated as "recycling economy", it means an economy where the waste of one industrial sector serves as an input in another and it is intimately associated with "conservation-minded society". Together they form the economic expression of the "scientific development concept". Ma Kai. "FaGaiWei zhuren Ma Kai : Jianchi kexue fazhanguan. Jiakuai xiandaihua jianshe" (Ma Kai, State Council's

The difference in strategy and priorities is stark when one compares the draft of “China’s Medium and Long-Term Energy Development Plan, 2004-2020” approved on June 30, 2004 and the “Tenth Five-Year Plan” of 2001. Whereas the latter emphasized energy security and oil supply, the former makes energy conservation the top priority. In addition, it stresses the need for an adjustment and an optimization of the energy structure, calls for more geographic rationalization and coordination among energy projects, emphasizes the need for China to use domestic resources as well as those offered on the international market, recommends that supplies should further rely on energy-related technological innovations, calls for the state to enhance environmental protection, suggests that energy security be ensured through the diversification of supplies, and pushes for market mechanisms to be fully used through further reform of the energy sector.⁴¹ Along this perspective, even oil security acquires a new sense since it must be viewed in terms of sustainable development, substitution fuels, and conservation in addition to the traditional concerns with supplies.⁴²

In other words, this is a more comprehensive conception of energy security as it attends to supply, production, and waste and places oil in a larger energy perspective. In fact, according to the *China Daily*, “the ultimate goal is to replace fossil fuels with recycled energy”.⁴³ Although this new conception does not advocate for the decentralization of the energy system entailed by some western versions of non-traditional energy, it is definitely a

Minister of the NDRC: Strongly Support the Scientific Development Concept. Quicken the Construction of the Modernization). *Renmin Wang*. (07/11/2003). www.people.com.cn; Ma Kai. “Jiakuai jianshe ziyuan jieyuexing shehui” (Hasten the Construction of the Conservation-Minded Society) *Renmin Ribao* (26/05/2004). www.peopledaily.com.cn. See also Huang Tiemao, *loc. cit.*

⁴¹ “Wen Jiabao zhuchi huiyi, tongguo nengyuan zhongchangqi fazhan guihua ganyao” (Wen Jiabao Presides a Meeting, Adopts the Draft of the Medium and Long-Term Energy Development Plan, 2004-2020), *Xinhua*. (30/06/2004). www1.china.com.cn/chinese/2004/Jun/599109.htm.

⁴² Zhang Jianhua. “Nengyuan zhengdouzhan: woguo mianlin de tiaozhan he duice” (Struggle for Energy: Challenges facing China and Countermeasures) in Zhang Jianhua (Ed.). *Shiliuda zhihou. Guanzhu Zhongguo mianlin de jinyao wenti* (After the 16th Congress. Focusing on Critical Issues Faced by China). Beijing, Jingji ribao chubanshe, 2003, pp, 276-277.

⁴³ Zi Xiao. “Safeguarding Energy Supply,” *China Daily*. (23/04/2004). www.chinadaily.com.cn.

departure from the traditional, strategic conception of energy security identified by most analysts.

For the new leaders, this “non-traditional” conception of energy security has some obvious advantages over the former, “strategic” conception of the 1990s. First, it dovetails with the priority given to decreasing reliance on the international energy markets whereas the Go-Out and energy diplomacy tactics entailed reliance on seemingly unsafe sea lines of communication and on unstable governments. It also allows Party theoreticians to locate it in a larger body of knowledge and theory that stress the importance of national self-reliance. Second, by putting the emphasis of energy security on demand control and conservation, this new concept enables the design of policies that can help alleviate the three types of energy crises, not only the question of supplies. Finally, this new concept plays a role in the larger political picture, as it is part of a larger discursive framework, which allows greater differentiation between the new leadership and the former team.

Is it going to matter?

An obvious question is, of course, how much of a chance does the new concept stand of succeeding as a meaningful development strategy. This is a relatively new strategy, its ambitious goals are without precedent, and it is already under attack from a group of people that benefits from the current paradigm. In addition to these larger political struggles, three factors specific to China’s energy policy are likely, at least, to slow down China’s transition toward this non-traditional definition of energy security: vested interests in a fractured policy-making landscape, the CCP’s obsession with social stability, and the phenomenon of lock-in.

A first hurdle in operating such a transformation is obviously the fragmented and competitive decision-making process that characterizes Chinese energy policy: 15 years after Lieberthal and Oksenberg coined the term; China’s energy sector still appears to be a perfect example of “fragmented authoritarianism”.⁴⁴ From the beginning of the reforms China lacked a comprehensive energy strategy. Since the short-lived Ministry of Energy was dissolved in 1993, no bureaucratic structure has had general oversight over the industry, much less

⁴⁴ Kenneth Lieberthal and Michel Oksenberg. *Policy Making in China: Leaders, Structures, and Processes*. Princeton (NJ): Princeton University Press, 1988.

the power to set out and enforce such a wide-ranging strategy as the shift to a “conservation-minded society”. An Energy Bureau was established in 2003 but its low administrative rank, the lack of personnel and the limited energy-related credentials of its head, Li Tiejun, all make it fall woefully short of the calls for an independent Energy Commission or Ministry.⁴⁵ Indeed, for some, the greatest threat to Chinese energy security does not come from its international environment, but comes from the lack of effective and centralized leadership over energy decision-making inside the country.⁴⁶ A last obstacle on the way to conservation is that the bureaucratic structures in charge of this aspect of energy policy are not even regrouped with the energy-related offices, but fall under the jurisdiction of the resources and environment ministries.⁴⁷

Also, one might question the potential for the SOOEs to fall in line behind the central government for the implementation of such a dramatic revision of the energy policy that cannot but negatively affect their profits. First, these enterprises have a quasi-ministerial status in the Chinese state apparatus and their leaders have personal contacts at all levels. As such, SOOE priorities command respect throughout the energy hierarchy and have considerable clout over the formulation of the energy policy that allow them to protect their interests in resource extraction and

⁴⁵ “China Appoints Economist to Steer Energy Policy,” *The Peninsula Online* (07/05/2003), in *Alexander’s Oil & Gas Connections*. Vol. 8, No. 11 (03/06/2003), and “China Urged to Speed Up Design of National Oil Strategy,” *China Daily* (03/03/2003), in *Alexander’s Oil & Gas Connections*. Vol. 8, No. 6 (20/03/2003). This point was also made during discussions with Guo Fei and Gao Shixian in May 2004.

⁴⁶ Chen Fengying. “Dui jianli woguo zhanlüe shiyou chubei de jidian sikao” (A Few Thoughts about the Building of the National Strategic Oil Reserve), in Shi Guangsheng (Ed.). *Yilake zhanzheng yu Zhongguo jingji* (The Iraq War and China’s Economy). Beijing, Zhonghua gongshang lianhe chubanshe, 2003. This point was also made in interview No. 6, Beijing, May 2004.

⁴⁷ Wang Yichao. “Zhongguo nengyuan cong weiji dao xin zhence” (China Energy from Crisis to New Policy). *Caijing*. No. 23 (05/12/2003). It is also important to note that many other bureaucratic actors may have a stake in the definition of the concept of energy security and the implementation of different types of energy policies. For instance, the Ministry of Foreign Affairs sees its influence over that policy increased by the role of diplomacy in oil supplies, while provinces may either encourage self-reliance or imports depending on their geological endowments. For more details on the vested interests in the strategic approach, see Erica S. Downs (2004), *loc. cit*

supply.⁴⁸ Second, since the government has set profits as their overarching goal, the SOOEs have regularly used the reforms or the grey areas left by them to further their profits. For instance, during the recent hike in international oil prices triggered by the Iraq War, Chinese SOOEs have hoarded important quantities of oil while waiting for the quasi-monthly bureaucratic domestic price adjustment which only came months later, thus producing shortages in oil products that just added to the more generalized energy shortfalls.⁴⁹

Another important contradiction raised by the new energy strategy has to do with the CCP's overriding concerns with social stability. Since the transition to a new concept of development will certainly lead to some economic disruptions, economic growth – the source of the increase in living standards – will be dented as soon as the government progresses in this reengineering. A clear example of what is at stake is the role the traditional automobile industry has played in China's recent economic boom. For many provinces and cities this industry now constitutes the backbone of the local economy.⁵⁰ However, growth in this industry is not only encouraged by low prices and good financing conditions, it is also supported by gasoline prices that are among the cheapest in the world after the United States. Quite telling of the future difficulties that might face a restructuring is the fact that for years delegates to the National Assembly have debated the imposition of a substantial gasoline tax without any success.⁵¹

Another problem generated by improved livelihoods is that ideals of frugality and propaganda campaigns that stress the public good over individual happiness are less and less able to produce results among the new Chinese consumers. Hence,

⁴⁸ See China's Energy Policy Report. What Will Determine China's Future Use of Natural Gas. Murdoch University (Australia), Asia Research Centre, 2001.

⁴⁹ Ding Jun "Nengyuan jinzhang beihou mituan nanjie. Zhuanjia jihu xinxi touming" (The Hard-to-Crack Enigma Behind the Energy Tensions. An Expert's Inquiry), *Caijing*. (08/12/2003), and Karen Teo. "Market Forces : China Rethinks Oil Pricing," *Energy Compass*. (25/11/2003).

⁵⁰ Qiao Xinsheng. "'Youhuang' nengyuan anquan mianlin tiaozhan de xinhao?" ('Oil Scarcity' Signal of the Challenges Facing Energy Security), *Nanfang dushi bao* (09/11/2003).
<http://www.southcn.com/news/gdnews/chuanmei/200311190581.htm>.

⁵¹ Keith Bradsher. "China Wrestles with Dependence on Foreign Oil," *International Herald Tribune*. (04/09/2002) in *Asia-Pacific Resources Database*. <http://russia.shaps.hawaii.edu/dbadv.html>.

strategies based on drastic control of energy consumption might face considerable difficulties if they affect the middle class' comfort.⁵² Meanwhile, this focus on the population well-being might, in turn, bring the Chinese government to locate and take care of the most conspicuous effects of pollution like urban smog to the detriment of less immediate issues like greenhouse effects.⁵³

The social dimension of energy security can also be felt in the regions where coal or oil extraction accounts for a substantial part of the economy. On the one hand, a full-fledged restructuring of the energy sector would mean laying off millions of surplus workers in regions like the Northeast which are already hard hit by the reforms, a contributing factor in the 2002 oil workers' demonstrations in Daqing.⁵⁴ On the other hand, full-throttle energy production means precarious working conditions for millions of coal miners who are sent to mines that were deemed too unsafe or too polluting to be operated in the late 1990s, but were since reopened to face the surge in coal demand.⁵⁵

A last significant hurdle to the establishment of a conservation-minded society is known as the "lock-in" phenomenon: investments made along one mode of development are lost in another. For instance, investments in the transport and refinery infrastructures needed to sustain an oil-based economy are worthless in a hydrogen-based economy. Given that these important investments take a long time to be recouped it is most likely that they will slow down a transition toward a new model. Hence, many commentators have stressed that developing countries might be wasting precious funds in a soon-to-become obsolete mode of economic development.⁵⁶ Yet, in China, the recent power shortages and the supply-based way of thinking

⁵² Although Andrews-Speed, Liao and Dannreuther also warn that a "strategic" approach to energy security might accentuate regional and social cleavages. Andrews-Speed, Liao and Dannreuther (2002), *op. cit.*, p. 10.

⁵³ Guy Caruso. "China's Energy Needs and Strategies." Testimony Presented to the US-China Economic and Security Review Commission, October 30, 2003.

⁵⁴ John Pomfret. "Chinese Oil Country Simmers as Workers Protest Cost-Cutting" *Washington Post* (17/03/2002).

⁵⁵ "Deepening reform after coal mine accident." *People's Daily Online*. (24/10/2004)

⁵⁶ Stoett and Pretti, *op. cit.*, p. 50, and B. Buran, L. Butler, A. Currano, E. Smith, W. Tung, K. Cleveland, C. Buxton, D. Lam, T. Obler, S. Rais-Bahrami, M. Stryker, K. Herold. "Environmental Benefits of Implementing Alternative Energy Technologies in Developing Countries," *Applied Energy*. Vol. 76, No. 1-3 (2003): 89-100.

have prompted the government and SOEs to invest massively in expensive infrastructures (power plants, pipelines, liquid natural gas (LNG) decompression plants) that will take decade to be written off.

These are considerable hurdles in front of the transition proposed by the current Chinese leadership. It would be a mistake, however, to dismiss the whole idea of that change as being merely pie in the sky. First, many feats accomplished by the Chinese economy in the last 25 years would have been deemed unlikely, if possible at all, in the preceding years. The state's capability to steer the economy has not disappeared altogether even if it has been weakened: Beijing has fewer yet powerful political and administrative tools to define and enforce new development goals. Second, some concrete measures have already been taken to orient the economy along a new path while enhancing energy security. For example, the government has set the objective to start compiling a "Green GDP" statistic every year by the end of the decade.⁵⁷ It also imposed stringent gas consumption standards and began enforcing the "Euro II" standards of car emissions in 2004 and is getting prepared to implement "Euro III" by 2008.⁵⁸

Impacts on China foreign relations

Of course, a country's energy situation does not determine its foreign policy. In fact, many students of energy politics point out that the pursuit of energy supplies is often accused of being the source of international frictions when other sources – nationalism, geopolitical competition, competing territorial claims, to name a few – are most likely to have been at the root-cause of those conflicts.⁵⁹ I have no intention of disputing this interpretation here,

⁵⁷ Huang Quanquan and Liu Juhua. "Six Major Diseases Are Directly Attacking the Soft Ribs of our Economy; China's Economic Growth Mode Urgently Needs Changing," *Xinhua* (20/03/2004). FBIS: CPP20040329000163. This decision won Beijing some new, somewhat unlikely, friends as Greenpeace hailed it, see "Eastern Promise. China's Push for Renewable Energy Future," *Greenpeace International – Features* (07/04/2004). http://www.greenpeace.org/international_en/features.

⁵⁸ "China Strives to Cut Oil Consumption via Energy-Efficient Autos" *Xinhua*. (17/11/2003). FBIS: CPP20031117000146, and "China Adopts Euro II Auto Emission Standards" *People's Daily Online* (02/07/2004).

⁵⁹ William W. Hogan (1985), loc. cit., pp. 43-44, and Robert A. Manning. *The Asian Energy Factor: Myths and Dilemmas of Energy, Security and the Pacific Future*. New York: Palgrave, 2000.

especially in the case of a large country where different segments of the bureaucracy, and to a lesser extent society, have competing claim on the definition of the right foreign policy.⁶⁰ Nevertheless, China's energy policy decisions, the degree of its dependence on sources abroad, and the policies deemed the most efficient to deal with these issues will certainly be reflected in its foreign policy. In addition, whether or not related to the country's foreign policy these decisions will have an international impact if only because they will determine China's future path of development.

The creation of a "conservation-minded society" being a long-term goal however means that in the short term some issues – development of national resources, energy diplomacy and diversification, and stabilization measures – associated with the traditional conception of energy security will still hold the headlines. It is thus necessary to review them and to try to assess how much they have a role to play in a changing the energy policy framework.

Developing China's national resources

How China will decide to develop its natural resources will most certainly have an impact on its foreign relations and its international political environment. Of course, a change towards a hydrogen/renewables-based society would mean that China's power generation and energy needs could be basically resolved by using its national resources and would have minimal impact on its neighbours. In the meantime, though, some national resource development issues clearly have international resonance.

First, the question of foreign energy firms' access to the Chinese market will determine the extent to which China's domestic market will become intertwined with the energy world. Although interdependence per se does not guarantee peaceful international relations, it is likely that political pressure from oil companies and consumers on their respective governments may help smooth thorny bilateral political questions. In that sense Beijing's decision to let foreign oil companies form joint ventures to explore, transport and sell energy products to Chinese consumers has already tightened the embrace between the domestic and international markets. The opening of Chinese acreage for oil exploration has also borne fruits since foreign enterprises have been responsible for substantial offshore

⁶⁰ See David M. Lampton (Ed.). *The Making of Chinese Foreign Policy in the Era of Reform*. Stanford (Ca), Stanford University Press, 2001 and Lu Ning. *The Dynamics of Foreign-Policy Decisionmaking in China*. Boulder (Co), Westview Press, 2000.

discoveries.⁶¹ However, the extent of foreign investment in the energy sector has remained disappointing (10% of all FDI when Beijing was hoping for around 20%) due, in no small part, to international energy firms being held back by red tape, corruption, poor financial conditions, still largely regulated prices and the extensive involvement of the state companies in the sector. Nonetheless, China's admission to the WTO should push this integration further since Beijing has agreed to reduce its tariffs and eliminate its quotas on oil products imports, to expand the right of distribution and retail sales of foreign enterprises, to end the ban on international investment in urban gas networks, and to open its refinery and petrochemical sectors to FDI.⁶²

Second, since fear of too great a dependence on the outside supply is playing into the rationale behind the priority given to conservation, the availability of energy resources on China's territory will partially determine its future orientation. On this front, news has improved markedly in the last two years. Discoveries worth about 8.59 billion tons of oil, 10.7 trillion cubic meters of natural gas and 3.98 trillion tons of coal in the Ordos basin⁶³ and about 280 million more tons of oil around the Shengli oil field⁶⁴ have lightened up an increasingly gloomy production picture. Production and consumption of natural gas has also progressed steadily thanks to financial incentives aimed at switching from coal to gas, the adoption of gas as an oil substitute in power generation and mass transit, and the construction of the West-East gas pipeline.⁶⁵

Still, given the level and pace of growth of China's oil consumption these recent developments are only going to be able to slow down the rise of its dependence on oil imports. Only the development of large alleged oil reserves in Tibet⁶⁶ or tapping

⁶¹ Amy Myers Jaffe and Steven W. Lewis. "Beijing's Oil Diplomacy," *Survival*. Vol. 44, No. 1 (2002). p.: 120.

⁶² China's Energy Policy Report. What Will Determine China's Future Use of Natural Gas, op. cit., pp. 46-47.

⁶³ "Large-Scale Development of China's 'Energy Bank' Starts," *Xinhua* (13/04/2003), FBIS: CPP20030413000022.

⁶⁴ "New Oil Discoveries in North-East China," *The Straits Times* (07/04/2004). www.straitstimes.com.sg.

⁶⁵ "China to Become substantial LNG Importer by 2015," *European Intelligence Wire*. (16/04/2003) in *Alexander's Oil & Gas Connections*. Vol. 8, No. 9 (01/05/2003).

⁶⁶ Located at about 5,000 meters above the sea level and estimated at about 95 billions of oil equivalent –25% of it oil, the rest being made up of natural gas– the Qiangtang Basin would contain more than Kazakhstan's reserves but would be incredibly difficult to develop

China's reserves of tar sands and heavy oil⁶⁷ would ensure long-term national supply of the domestic market. But these resources are likely to be much more expensive to develop and exploit than the oil that can be bought on the international markets. Also, regardless of the strategic status attributed to the development of natural gas resources in the 1990s some important problems remains: gas prices are still set by local authorities and do not represent an incentive for investing in distribution network and a sizable share of the country's consumption has to be imported as Liquid natural gas (LNG) from overseas fields (located mainly in Indonesia, Australia and the Middle East).⁶⁸ Thus, these discoveries, the generalization of clean-coal technologies or the development of the gas market, are not going to change much about China's wasteful mode of development, to the national and transnational pollution it generates and its perception of energy security.

A third issue connected to China's national production has more of a direct effect on its relations with its neighbours. Indeed, a major problem is that many potential hydrocarbon basins are located offshore, in disputed territory around archipelagos in the South China Sea (Spratlys/Nansha and Paracels/Xisha) and the East China Sea (Senkaku/Diaoyu). This situation has led to the expression by academics of contradictory, yet generally alarmist, claims about the situation. Indeed, for some "It's not just about patriotism, China's unquenchable thirst for petroleum" explains renewed border tensions with Japan and Southeast Asia⁶⁹ while others have argued that since only a scant 50,000 to 100,000 barrels per day could be lifted from under the

and to bring to the markets. James Irwin. "Tibet: China's New Oil Province," *Energy Compass*. (03/07/2003): 1.

⁶⁷ Mehmet Ogutcu. "China and the World Energy System: New Links." *The Journal of Energy and Development*. Vol. 23, No. 2 (1998): 290.

⁶⁸ Pricing problems also explain why the Western partners of Petro China (CNPC) decided to walk away before the completion of the project and why the construction of LNG terminals along China's southeastern coast was delayed. Hoyos, Carola. "Shell Boggled Down in Haggling over China Gas Pipeline Project," *Financial Times*. (01/09/2003) See also, Myers Jaffe and. Lewis, *loc. cit.*, p. 122 and "The Main Study" in *China and Long-Range Asia Energy Security: An Analysis of the Political, Economic and Technological Factors Shaping Asian Energy Markets*. Rice University, James A. Baker III Institute for Public Policy, 1999, pp. 6-7.

⁶⁹ Willy Lam. "Beijing's Energy Obsession," *Asian Wall Street Journal*. (02/04/2004) in *Weekly Report from Taiwan Security Research* (12/04/2004).

Spratlys, the reasons for China's claims in the region had to be found in Beijing's will to control the sea lanes of communication and increase its regional influence.⁷⁰ The People's Liberation Army Navy's (PLA-N) operations in the region in the mid-1990s were widely cited as evidence of China's will to carve itself a kind of *lebensraum* in Asia.⁷¹

Nevertheless, the resources of these disputed regions are likely to come back to the front pages since competing exploration work is sponsored by most of the contending states. Recently Beijing has adopted a cooperative stand on the issue signing the ASEAN's Treaty of Friendship and Cooperation and pledging not to use the force to settle disputes in the region. It also has invited other claimants to participate in the joint exploration of the local energy potential, so far the Philippines is the only country that has agreed to participate.⁷² An equivalent offer made to Japan about contested waters in the East China Sea has also been rejected by Tokyo, much to the dismay of some Japanese analysts.⁷³

Energy Diplomacy and "Go-Out"

Two complementary strategies have been used by Beijing to diversify and secure their oil supplies. On the one hand, the government has used its diplomatic resources to lock long term supply and transport agreements with producing countries; on the other, bilateral cross-investments in the oil and gas industry were encouraged by SOOE's involvement and the attraction that the Chinese market exercises on foreign companies. However, even if these strategies are commonplace in the modern oil industry, such moves from Beijing have had political undertones that unnerved many. First, many in the West were worried that Beijing might cave in and offer political or military concessions to guarantee its oil supplies, while some in China were preoccupied by the

⁷⁰ Fereidun Fesharaki. "Energy and the Asian Security Nexus." *Journal of International Affairs*. Vol. 53, No. 1 (1999): 92.

⁷¹ Although, with 21 islands and atolls, 50 submerged land spits and 28 partly submerged rocks and reefs, which have a total land area of less than 5 square kilometers scattered over approximately 800,000 square kilometers, one can wonder what kind of "living space" the Spratlys would add up to.

⁷² Jennee Grace U. Rubrico. "R.P., China Firms Announce Tie-Up on Oil Exploration," *Manila Business World* (11/11/2003). FBIS: SEP20031111000014, and "China Proposes Joint Exploration in Spratlys," *BruneiDirect.com* (03/09/2003) in *Alexander's Oil & Gas Connections*. Vol. 8, No. 18 (19/09/2003).

⁷³ Editorial. "China's Quest for Energy," *Asahi Shimbun* (24/06/2004) in *Weekly Report from Taiwan Security Research* (28/06/2004).

vulnerability of these deals. Second, a contradiction between the SOOEs' goal to generate profits in and the government-attributed role of purveyors of national oil security rose in parallel with their participation in the international oil business.

Middle East

Table 1: China's Oil Imports, in Billion of US Dollars, 2002-2003.

	2002			2003		
	Value (billions US\$)	% change	Share	Value (billions US\$)	% change	Share
Total	12.76	9%	100%	19.82	55%	100%
Imports						
Saudi Arabia	2.09	-	16.4%	3.26	56%	16.5%
Iran	1.90	-	14.9%	2.64	39%	13.3%
Angola	1.09	-	8.5%	2.20	103%	11.1%
Oman	1.45	-	11.3%	1.98	37%	10.0%
Rep	0.42	-	3.3%			
Yemen				1.52	259%	7.7%

Source: *China Custom Statistics*

Holding the largest hydrocarbon reserves in the world, the Middle East naturally became the locus of Beijing oil diplomacy since the mid-1990s. At first, though, oil contacts were limited by the incapability of China's refineries to handle the sour crude (oil with a higher proportion of sulphur) from the Gulf; hence, its

supplies came first from smaller producers like Oman and Yemen and from Iran. It is relations with Iran that raised the most concern during the early to mid-nineties and especially the risk about weapons proliferation that some viewed might derive from this relationship.⁷⁴ In a similar fashion, China's willingness to invest in Iraq's oil industry and to buy Iraqi oil through the United Nations-administered Oil-for-Food Program raised some eyebrows. However, following the upgrading of China's refining capabilities and the opening of some cross-investment avenues, the closer reliance of China on Saudi Arabian supplies has changed Beijing's perception of the stakes in the region and, allegedly, raised the Chinese leaders' awareness of the risks of military destabilization of the region. Thus the developing dependence of China on Middle-Eastern oil does not seem to point towards future oil-for-weapons deals that would undermine the security of this region, to the contrary; the Chinese leadership appears to have relinquished that tactic to secure its oil supplies.⁷⁵

Indeed, from the Chinese perspective, the region is, first, seen as inherently unstable and, second, China's diplomatic and economic avenues toward the region are limited by the overwhelming presence of the US military and economic assets. In addition to the concerns pertaining to the region in itself, many Chinese analysts are worried that the sea lanes of communication, which are patrolled by the US Navy, might be disrupted in case of a crisis between Beijing and Washington.⁷⁶ The Bush

⁷⁴ "Proliferation and Chinese Relations with Terrorist-Sponsoring States" in *The National Security Implications of the Economic Relationship Between the United States and China* (Chapter 7). Report to Congress of the U.S. – China Economic and Security Review Commission. Washington, U.S. Government Printing Office, 2002. Most of the references pertaining to this arms trade tend to refer to the two same articles from the late 1990s: John Calabrese. "China and the Persian Gulf: Energy and Security." *Middle East Journal*. V. 52, No. 3 (1998): 351-366 and Sergei Trough (1999), *op. cit.*

⁷⁵ The intensification of American pressure on proliferation and the general lack of competitiveness of China's weapon industry might explain why it is now widely held that trade in weapons has lapsed. Erica Strecker Downs (2000), *op. cit.*

⁷⁶ This concern, and its mirror image of a Chinese control over the trade routes going through the South China Seas, seems a bit farfetched and reminiscent of 18th and 19th century military worries. First, as Manning nicely puts it, short of a major war, an embargo on oil trade would be the economic equivalent of the detonation of a nuclear weapon, and as such is not likely; second, it would be almost impossible to enforce a selective embargo since all oil trade going toward Asia follows the same routes and since the Asian

administration's war against Iraq and the ensuing uncertainties about the future of the Chinese investments in the country just heightened these concerns.⁷⁷ Lastly, some Chinese analysts have warned against too tight an embrace given that the Gulf States' version of Islam and inclination toward proselytism runs against the (Han) Chinese interest in Xinjiang.⁷⁸

Table 2: CNPC Investments in Iraq Before 2003

Oil fields	Acreage (km ²)	Proven Reserves (Mt)	Possible annual output (Mt)	Cost (B\$)
Al-Ahdab	250	180	5	1.3
Halfayah	350	750	18	–

Source: Xiaojie Xu. *China's Oil Strategy toward the Middle East*⁷⁹

Nevertheless, in the short to middle term it is clear that China will have to rely on the region to fill its oil consumption gap, as such, the country's economic health will partly be determined by stability in the Gulf, hence the need for China to collaborate with the groups involved in the region to maintain its peace and security. As such, although most Chinese analysts share a negative understanding of the impact on China of the 2003 war, it is important to note that some also see benefits from the American intervention. For instance, Han Wenke, Deputy Director of the Energy Research Institute with the National Development and Reform Commission, indicates that the war will make more

refining industry is increasingly integrated; finally, China's own oil reserves means that an embargo would have no direct effect on China's military capabilities. See Manning, *op. cit.*, 82-83. Some Chinese specialists share this understanding, for instance, Chu Shulong argued that fears about an embargo were groundless but could be used as a way to further larger bureaucratic interests. Interview No. 2, Beijing, May 2004.

⁷⁷ Wu Lei. "Yilake zhanzheng dui woguo shiyou anquan de yingxiang" (The Influence on China's Oil Security of the Iraq War). *Guoji luntan* (International Forum). Vol. 5, No. 4 (2003): 30-31.

⁷⁸ Wang Haibin and Wu Lai. "Zhongguo de shiyou anquan yu diyuan zhanlüe" (China's Petroleum Security and its Geopolitic Strategy), *Guoji guancha* (International Survey). No. 2 (2002). pp.: 35-40.

⁷⁹ Xiaojie Xu. "China's Oil Strategy toward the Middle East" in Amy Meyers Jaffe (Ed.). *Post September 11 Update Report: Political, Economic, Social, Cultural, and Religious Trends in the Middle East and the Gulf and their Impact on Energy Supply, Security, and Pricing*. Houston, James A. Baker III Institute for Public Policy, 2002.

supplies available on the international markets and will further affect the power of OPEC to influence the international price of oil. Such an appreciation might explain why, overall, China's opposition to the war was mild.⁸⁰ Nevertheless, it is likely that China will use its power to slow down key resolutions in the Security Council or other international bodies that would go against its main supplier. While less destabilizing than oil-for-weapons deals, the examples provided by China's obstructionist stance on both the Darfur crisis in the Sudan⁸¹ and on the issue of Iranian nuclear development prove that Beijing is ready to protect its oil investments in the region through political means.

Russia

A second central thrust of China's "oil diplomacy" was aimed at Russia. Indeed, for quite some time now scholars and pundits alike have pondered the possibilities of energy cooperation in Northeast Asia. But, 15 years after the dissolution of the Soviet Union, most of these promises are still left on the drawing board. This state of affairs has been especially discomfiting for Beijing that had seen energy as the backbone of the Sino-Russian strategic partnership. Of central importance was the Angarsk-Daqing pipeline, which was supposed to carry 20 million tons of crude oil per year in 2005, and 25 by 2010. This project was particularly appealing for China since it was relatively cheap, allowed diversification while being direct and secure, and allowed China to salvage the petrochemical industry in the Dongbei, the north-eastern rustbelt and the region that lost the most to the reforms.⁸² Many common declarations, memoranda of understanding and feasibility studies had been completed by Moscow and Beijing over the 1990s so that, reportedly, the construction of the pipeline was seen as guaranteed and, thus, was computed into the Tenth Five-Year Plan due to end in 2005.⁸³

⁸⁰ Han Wenke. "Cong Yilake zhanzheng kan woguo de shiyou zhanlüe" (China's Oil Strategy from the Perspective of the Iraq War) in Shi Guangsheng (2003), *op. cit.*, p. 174.

⁸¹ After the withdrawal of the Canadian company Talisman Oil from that country, most of the exploration and development activities undertaken on its territory were done by CNPC, and, to a lesser extent, Indian companies. Although it is unclear if the Darfur region holds important oil reserves, the perspective of economic sanctions against that country by the international community would mean the loss of an important source of crude for China.

⁸² "East Asia/Russia: Pipeline Plans," *Oxford Analytica*. (06/02/2003) and Wang Yadong (2003), *loc. cit.*, p. 5.

⁸³ Nelli Sharushkina. "Russia: China Meltdown," *Energy Compass*. (18/09/2003): 1.

Given the domestic political infighting in Russia on the one side between President Vladimir Putin and Transneft (the state pipeline monopoly), and Mikhail Khodorkovsky, and his company Yukos (the Russian oil giant which owned the oil to be pumped in the pipeline) on the other, this proved to be overly optimistic. Indeed, power struggles in Moscow and a diplomatic and economic offensive by Japan, supported by Russia Far East political elites, to promote an alternative route to the Pacific port of Nakhodka have combined to slow down, if not kill, the project, much to the displeasure of Beijing. From the Chinese perspective, this episode is representative of two larger setbacks. First, it embodies the general failure of the strategy of oil diplomacy pursued for a decade by the Chinese government, which was supposed to provide oil security and diversification of supplies.⁸⁴ Second, it undermines the whole idea of Northeast Asian energy cooperation since the Japanese move is seen as selfish and, overall, detrimental to the security of all the nations of the region.⁸⁵

Central Asia

Another important expression of Beijing oil diplomacy was the plan to build a pipeline between the Caspian oil basin and its own oil infrastructures in Xinjiang. This idea looked especially ripe in 1997 when a flurry of diplomatic activities and CNPC's successful bids to obtain a participation in the Uzen and Aktyubinsk oil fields, in Kazakhstan, seemed to signal that Beijing was ready to pay a premium in order to protect its oil security. This plan was later shelved for years because of the lack of economic sense of this 3,000 km-long pipeline (only halfway to the markets of the east coast) during a period of low oil prices, disappointing output at Uzen and Aktyubinsk (2.6 million tons/year, half of what was expected by CNPC), the priority accorded to the Angarsk-Daqing project, and, allegedly, the new

⁸⁴ Gong Xuzheng. "Cong 'AnDaxian' zhi zheng kan Zhongguo shiyou wajiao zhanlüe" (Looking at China's Oil Diplomacy Strategy from the Competition over the 'Angarsk-Daqing Line'). *Guoji luntan* (International Forum). Vol. 5, No. 6 (2003): 46-52.

⁸⁵ The problem is that, to be profitable, the longer pipeline toward the Pacific coast will have to have a higher output; however, it is well-known that at their present level the proven East Siberian reserves are not sufficient to fill this bigger pipeline. Also, since the Angarsk-Daqing plan was meant to supply oil to refineries in Dalian, which have been supplying Japan with Daqing oil since 1973, Beijing thought that Japan had a stake in this project, which also explains why this export agreement was terminated in early 2004. This point has been stressed in interview No. 3, Beijing, May 2004.

Premier Zhu Rongji's outrage, following his appointment in 1998, at the financial losses that these projects had already generated.⁸⁶

Nevertheless, the project has reappeared now that cooperation with Russia is on hold. In addition, the 2003-2004 price hike and new oil discoveries in the region –especially the Kashagan oil field, which, with 13 billions barrels, represent the world's biggest find in 25 years– might provide an economic rationale to such a costly pipeline.⁸⁷ Also, even though Chinese SOOEs have been excluded from participation by the Western firms which own the Kashagan field, they have been able to expand their share of the region's oil riches to the point that Beijing, in 2004, has given its green light to proceed with the pipeline project which should provide 20 million tons of oil upon completion.⁸⁸ Besides energy security the project is also seen by Chinese leaders as a good way to improve China's relations with Central Asian countries while helping the economy of Xinjiang, and, for some, to balance the power equation in the area. Nevertheless, if Chinese energy concerns have revived these projects, the interests in them among Chinese security experts has dwindled since Americans troops were deployed across Central Asia following the war in Afghanistan.

One key question associated with all those expensive projects is: how much is Beijing ready to pay for its energy security? Some have calculated that the overland routes contemplated to alleviate China's oil concerns would mean a subsidy of at least \$2.70 per barrel.⁸⁹ So far, it seems that both the government and the Chinese market are too price sensitive to accept such a rise in price on security grounds, but with rising international prices it is not impossible that this position will be revised. A related question, then, is who is going to pay for energy

⁸⁶ Robert A. Manning (2000), *op. cit.*, p. 87.

⁸⁷ "Sino-Kazakh Pipeline to Begin Construction," *People's Daily*. (11/03/2004).

⁸⁸ It is interesting to note, first, that Astana removed the tax breaks which the companies developing Kashagan benefited from after they had barred the Chinese companies from participation and, second, that it might push for its own state corporation to take part in the project thus ensuring that some of the field's production will go East. "Kazakhstan Hits Back at Kashagan Snub," *Energy Compass*. (22/05/2003). See also, "China's Quest for Energy and Northeast Asian Security," *Canada Asia Commentary*. No. 30 (2003). www.asiapacific.ca.

⁸⁹ Nawaf E. Obaid, Amy Jaffe and Edward L. Morse. *The Sino-Saudi Energy Rapprochement: Implications for US National Security*. New York, The Gracia Group, 2002, pp. 16-17.

security: the central government or the SOOEs acting as instruments of energy security? In the case of the central Asian deal, it seems that CNPC has an interest in portraying the pipeline project as a means to ensure energy security since linking the Caspian to Xinjiang would provide a rationale to build an oil pipeline from there to the east coast and thus to secure a return on the investments the company has already made in developing the Tarim resources.

In the case of the “Go-Out” (Zou chu qu) policy, it is much less clear if the state and the SOE interests are that close to each other. This policy of overseas investments in oil assets by the state-owned oil companies is meant to help China’s energy security by (1) helping to diversify oil supplies sources, (2) ensuring a better control on the production of these supplies, (3) depleting overseas deposits instead of national resources, and (4) insulating China’s economy from outside shocks, the SOOEs being expected to sell with a loss in order to maintain domestic prices.⁹⁰ Of course, in this strategy, profitability and security rarely meet. For different technical and economic reasons SOOEs benefit more from selling the production of their assets in Central Asia (Kazakhstan and Azerbaijan) Africa (Sudan) or South America (Venezuela) on the international market instead of to China. This issue has taken on a new importance since the three oil companies have all registered subsidiaries on stock exchanges around the world and are thus expected to make investment decisions in terms of economic returns not in terms of the elusive concept of national security. In other words, in the future, Chinese state owned oil enterprises might be torn between their responsibilities toward their international shareholders and national duties. Thus, short-term security could only be bought at the expense of long term SOOE competitiveness. In addition, overseas production by Chinese corporations still needs to be shipped through US-controlled sea-lanes and thus, for many Chinese analysts, is as exposed to an embargo as normal imports unless a pipeline network is also developed to link Chinese-owned fields with the national territory.⁹¹

⁹⁰ For an in-depth discussion of these issues, see Erica S. Downs (2000), *op. cit.*, pp. 19-23.

⁹¹ Although Chinese scholars recognize this contradiction they tend to dismiss it as short-termed. For them, in time, the interests of the state and the interests of the companies will increasingly come closer, just as, it is believed, western oil companies and their Presented to the US-China Economic and Security Review Commission, October 30, 2003; and Andrews-Speed, Liao and Dannreuther, *loc. cit.*

It is finally worth noting that despite some successes – such as in Kazakhstan – which were strongly influenced by China’s diplomatic clout, this approach has been disappointing overall. The three SOOEs have had many difficulties in competing on the international scene and were left with remote, hard to develop, small-sized fields in unstable countries and have been shutout of the most interesting new hydrocarbon basins. On the other hand, they have been able to market their oil-related services aggressively (engineering, construction, maintenance, etc.).

Cooperative oil security?

It is important to note that almost all Chinese analysts and officials that were interviewed or that are writing on the subject view security as achievable only through regional and international cooperation. For instance, Ji Guoxing, Director of the Institute of International Strategy Studies, Modern Management Center in Shanghai asserts that energy security cannot be attained by individual states but must be collective and, in Asia, such cooperation will not only help stabilize regional prices but encourage China’s smooth engagement in the international community.⁹² Not only is cooperation necessary at the regional level, but energy security is also seen as a globalized issue that has to be settled cooperatively by the world community.⁹³ Since at least in the medium term China will have to rely on international markets for its oil needs and since the market is not up to the task of organizing regional and international energy security, the Chinese see a need to develop institutional structures to ease energy concerns.

One such way is through the creation of a national strategic oil reserve, which would then be used in coordination with other major consumer states. The creation of a strategic reserve has been the object of an ongoing political discussion in China for some years. After some hesitations, the government has agreed to set up four oil stockpiles in Shandong, Liaoning and Guangdong that would equal 35 days of imports by the end of 2005. These reserves seek to reduce China’s vulnerability to short-

⁹² Ji Guoxing. “Yatai nengyuan de anquan hezuo: xingshi yu renwu” (The Secure Cooperation Relating to Energy Issue in Asia-Pacific Region: Situation and Mission) (*sic*). *Guoji guancha* (International Survey). No. 3 (1999): 10-12.

⁹³ Chen Zhun “Xin de shiyou zhanlue yao zhongdian yanjiu guoji shichang” (The Key to the New Oil Strategy is to Study the International Markets) in Shi Guangsheng (2003), *op. cit.*, p. 165.

term disruption, help stabilize prices and could lower the risks of politically motivated interruption of supply.⁹⁴

However, the capability of that reserve to achieve such a role on its own is open to question. First is the debate about the role of the reserve: is it to withstand short-term disruption of supply or is it a means to influence prices? If strategic reserves can help reduce some of the economic pressure in the first instance, it is widely held that it is almost impossible, if not counterproductive, to try to achieve the second goal, even through cooperation.⁹⁵ A second problem is, again: who will pay? As in the debate about foreign investments, SOOEs and their shareholders are not ready to shoulder the cost of idle resources while the government does not possess the necessary financial resources. Finally, the timing of the decision and the quantities needed constitute moving targets, since oil prices have been on the rise in the last few years and since the country's consumption has meant increasing imports and, thus, the need for a bigger reserve.⁹⁶

Therefore, the Chinese have recognized that not much could be achieved by a go-it alone strategy.⁹⁷ Oil being a fungible good, unilateral efforts to stave off a supply crisis are doomed as other countries will most likely simply free-ride on these efforts and enjoy lower or stable international prices. Therefore, since China has enough oil on its territory to supply its military in case of an embargo, the purpose of such a reserve can only be seen in a larger cooperative framework. Thus, Beijing has followed a two-pronged strategy of international cooperation in the energy security field: it has developed a deep working relationship with the International Energy Agency (IEA) and it has been seeking to develop regional cooperation in Asia.

The IEA being an OECD mechanism, China cannot participate directly in its functioning. However, the country has been cooperating with this organization since the signing of a Memorandum of Policy Understandings between the two in 1996. This agreement covers the fields of energy conservation and

⁹⁴ "China Plans to Build Four Oil Storage Bases," *Press Trust of India* (06/03/2004) in *Alexander's Oil & Gas Connections*. Vol. 9, No. 6 (25/03/2004).

⁹⁵ Bohi (1993), *loc. cit.*, pp. 44-45.

⁹⁶ Opinion. "China Steps up Efforts in Oil Reserves Building," *People's Daily* (21/01/2003) in *Asia-Pacific Resources Database*.

⁹⁷ Zha Daojiong. "Zhanlüe chubei yuanbuneng baozhang Zhongguo shiyou anquan" (Strategic Reserve: Far from Sufficient to Guarantee China's Oil Security), *Guoji Xianqu Daobao* (21/04/2004) in *Xinhua Wang* http://news.xinhuanet.com/herald/2004-04/21/content_1432501.htm.

efficiency, rational and efficient production, extraction, transport, distribution energy, foreign investment and trading in the energy sector; energy supply security, information and statistics, energy research and development and technology deployment, and energy and the environment. The agency has already held some discussions with Beijing over the means and ways to setting up a strategic reserve.

On the regional front, the ministers of energy of most East Asian states have met for the first time in June 2004 as part of the ASEAN+3 Energy Partnership. This followed the establishment of the ASEAN+3 governing group on energy which seeks to develop an Asian energy security network, encourages coordination in oil stockpiling, publishes oil market studies to enhance the diffusion of oil-related information, encourages the development of natural gas in East Asia, and helps to diffuse renewable energy technologies. The topic has also been the subject of the Qingdao initiative launched under the framework of Asia Co-operative Dialogue.⁹⁸

Impacts of the “Conservation-Minded Society”

Given that the new orientations in energy and economic development that the new leadership team is planning to implement are just beginning to pass from concept to concrete measures and given the unprecedented nature of the changes planned, it is hard to go beyond conjectures about what kind of international impact they might have. However, if successful, these changes are likely to have a deep effect on the environmental threat caused by China’s industrialization, the international oil markets, and the competitiveness of its economy.

One sure effect of a successful transition to a clean, recycling-based economy would be to drastically reduce the environmental threat that China represents at the moment. Since it is already the second largest producer of greenhouse gas after the US despite using only a tenth of the latter’s per capita energy consumption, a China that would adopt our model of development will represent a cause for global concern. Despite being ridiculed by conservatives at the time, Bill Clinton was surely right when he explained to Jiang Zemin that

The greatest threat to our security that you present is that all of your people will want to get rich in exactly the same way we got rich. And unless we try to triple the automobile mileage and to reduce

⁹⁸ See Hu Qinghua “Qingdao Initiative Highlights,” *China Daily*. (23/09/2004) and “Forging Closer ASEAN+3 Partnership” www.aseansec.org/16145.htm.

greenhouse gas emissions, if you all get rich in that way we won't be breathing very well.⁹⁹

Thus, by changing its model of energy development, China could alleviate some fears related to global environment degradation and, also, reduce tensions with its neighbours that suffer the effects from the pollution it generates. In addition, transition to a green mode of development could be a source of political influence for Beijing by giving it some kind of moral superiority in comparison to polluting, fossil-based economies.

The reduction of China's dependence on hydrocarbons will also mean reduced pressure on the world's tight supplies of oil. That can be seen as good news for the economic security of states that were affected by the recent surge in oil prices and, ultimately, could decrease tension generated by China's economic growth. The flip side of that coin is that lower prices mean fewer incentives for the adoption of cleaner energies in China as well as in the West.

Finally, although some equate a conservation-oriented approach to energy as reminiscent of autarky, and thus see it as potentially limiting cooperation perspectives,¹⁰⁰ the Chinese government's energy agenda will most likely usher in a new era of cooperation between enterprises in and out of China that will focus on the transfer of technology, start-up ventures, and investment in a whole set of new technologies. This cooperation will take place at the corporate level and through non-governmental action, but it will certainly also take place between governments. As such, it might further raise the level of transnational communication and help reach cooperative settlement of disputes. However, in the long term, if China is able to achieve this new economic revolution, its enterprises will be poised to take the lead in a large array of future, clean technologies and product lines, which could represent a huge challenge to the industrial base of the countries that did not move as aggressively. In fact, an underlying rationale of the current strategy hinges on technological leapfrogging, especially in the domain of hydrogen fuel cells.¹⁰¹ Thus, the new paradigm might transform China into an even more formidable economic juggernaut.

⁹⁹ Interview with Thomas L. Friedman. "Foreign Affairs; Gardening with Beijing," *New York Times*. (April 17, 1996). See also Foster, Gregory D. "China's Environmental Threat: Crafting a Strategic Response," *Comparative Strategy*. Vol. 19, No. 2 (2000): 123-143.

¹⁰⁰ IEA (2000), *op. cit.*, p. 45.

¹⁰¹ This interest for new technologies, beyond energy security, was emphasized during interview No. 4, Beijing, May 2004, see also "Hydrogen Listed into Energy Development Strategy," *China View*.

Conclusion

The predominant way of thinking about energy security is still supply-oriented, biased toward oil and state-centred. Clearly, as this paper has demonstrated, a vision that is informed by that traditional understanding of energy security risk leading to the wrong conclusions about the way China will deal with its future energy needs. To be able to better comprehend this question, oil should be seen as only one source of energy, albeit a primordial one, and thus one should adopt a more comprehensive approach which will recognize that other energies also have an important role. More importantly, we need to acknowledge that supply is far from being the most important aspect of Beijing's energy policy even while it is faced with a supply crisis of gigantic proportions.

The last aspect of the traditional approach to energy security, the central position given to the state still holds true. Given China's regime type, the continuing extensive economic role of the state and the intimate relationship between the state and the country's biggest oil corporations it would be surprising to see energy supplies completely left to the market in China. Indeed, the ambitious economic reengineering plan set up by the new leadership team calls for the use of all the state instruments – propaganda, taxes, regulations, etc.– available to gear the economy toward more energy conservation and efficiency. *Without state involvement this strategy cannot succeed.* In fact, it is likely that if left to the market China's energy mix would just follow the patterns of more liberalized economies and go for the cheapest fuel, which means, in China, coal for the production of electricity and imported oil for transportation. For reasons of supply security and environmental security, both options are seen as risky and unsustainable by the Chinese government.

Does this mean that because China's energy development strategy will rely less on the market and more on state direction for a transition period, it will also mean less international cooperation? The obverse seems likely to prove true.

First, I must make clear that military means are most unlikely to be used to alleviate China's energy needs whatever the development model chosen because they would be counterproductive and would most probably cost Beijing dearly on the international scene especially since Beijing has been trying

(23/04/2004). www.chinaview.cn. Nevertheless, with a mere 400 millions of Yuan (less than \$50 millions) earmarked for the development of hydrogen powered car in the Tenth Five-Year Plan, one can wonder the priority of this technology and the likelihood of China taking a lead position in that field.

to project a benevolent image through a new “peaceful” and good-neighbourly approach to its diplomacy. In the case of territorial disputes, it would not make sense in terms of energy production since to flex its military muscles would be to put a long-term halt to exploration of these areas. To use military instruments to obtain a special status in the Middle East is also unlikely to help the CCP ensure China’s energy supplies since more weapons also entail a less stable region, and in turn a less secure oil supply, not to mention tense relations with Washington. Finally, for China to develop a blue-navy to protect the sea lanes of communication also seems counterproductive barring an unlikely full-scale American withdrawal: it would be expensive, would lead to the development of “security dilemmas” all around China and would be absolutely useless if the US Navy really wanted to stop the fuel deliveries to Asia.

Second, the use of “oil diplomacy” and bilateral arrangements with major producers like Saudi Arabia, Iran or Russia will probably continue for sometime although its scope and form might change. Indeed, the major setback in Russia, dubious returns in Central Asia and diverging interests between the SOOEs and the energy security bureaucracy are likely to put a lid on grandiose, bilateral projects. The approach is more likely to be pragmatic, business-oriented and integrated in a larger program of reduction of oil dependence.

Therefore, cooperation is the most likely path that will result from China’s *energy policy*. Other, factors might stir disputes in areas of Beijing’s diplomacy where energy might be involved; however, energy per se is likely to be conducive to more cooperation, not confrontation. The first reason is simply because the large majority of Chinese analysts and decision-makers think it is the only way to enhance energy security. Second, the Chinese government has already begun to work on regional and international structures that will support and further cooperation even if progress is likely to be slow.

The problem is that the theoretical instruments we use to understand China’s policies tend to be blunt and biased toward a North American understanding of what energy security is and of what development should be. Thus, in order for Canada to participate efficiently in and benefit from the evolution of China’s energy policy, the Canadian government, enterprises and scholars need to overcome their traditional focus on supply and oil. This means: promoting the development of mutually-beneficial exchanges of technologies in renewables and alternative energy and encouraging China along the path of a development based on energy conservation. Finally, it means supporting China’s participation in and the development of energy related regional

institutions and to push for better and more extensive cooperation between the IEA and China.