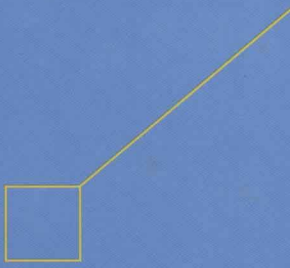
Asian Energy Security

The Maritime Dimension



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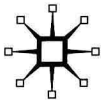

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Acknowledgments

The topic of energy security and related maritime security is not only highly relevant for today's world facing relatively high oil prices, as the price of Dubai crude oil (destined for Asia) per barrel rose steadily from $12 in 1997 to $68 in 2007 and even surpassed $140 in some periods in 2008; it is also meaningful for regional integration in East Asia. Chapters two–six in the volume originated from presentations delivered at the workshops and meetings for the Network of East Asian Thinktanks (NEAT) Working Group on Energy Security Cooperation in East Asia in Singapore in 2005 and 2006.

As the editor I thank the following individuals or institutions for respective reasons—Professor John Wong at the East Asian Institute (EAI) of National University of Singapore for launching the energy project for the working group; the EAI administrative staff for arranging the workshops and meetings for the NEAT working group; participants at the workshops and meetings for their feedbacks; the EAI for hosting my visit in the summer of 2008 to finalize the manuscript and University of Nottingham for enabling me to pursue the project; Drs Peng Er Lam and Elspeth Thomson for editing several chapters at an earlier stage; anonymous reviewer(s) for the helpful comments. Last but not least, the volume's publication benefits from strong support from editorial staff at Palgrave Macmillan, especially Anthony Wahl, and help from Emily Hue and Asa Johnson.

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1

Introduction: Understanding and Enhancing Energy and Maritime Security in Asia

Hongyi Lai

In the recent decade Asia has become an important player in the world energy market and international energy politics. This can be attributed to Asia's rising energy demand and its initiatives in securing its energy supplies around the world. Meanwhile, a greater number of Asia nations have a higher stake in energy security and security of sea lanes for energy transport. As a result, they have taken a series of precautionary measures. These developments have profound regional and global implications.

This volume aims to investigate these important issues. Contributors to the volume survey the external initiatives undertaken by China and Japan, the two largest East Asian energy consumers, to secure energy supplies and maritime energy transport. They also examine strategic areas critical for energy sea lanes for both economic giants, such as the Straits of Malacca, the South China Sea, and the East China Sea. They examine the rationale for Japan's and China's external energy security, as well as their interaction with their neighbors, major oil producers, and littoral states to ensure energy security and energy sea lanes. In addition, they also look at a host of energy-related issues of both giants, which have attracted attention from the region, major powers, and even the United States. These issues include implications of China's and Japan's oil diplomacy for Asia and the United States, China–Japan disputes over the East China Sea, the traffic

volume and pattern and the security of the Straits of Malacca, and piracy and maritime terrorism in Asia. The issues being examined also include bilateral and regional cooperation in enhancing maritime security, stipulations of international law of sea regarding the Straits of Malacca and maritime zones in East Asia, and the state of major disputes over territorial waters involving China and Japan.

The volume will also discuss theoretical issues related to energy and maritime security in Asia. The most conspicuous issue is the provision of global public goods. Energy security can be regarded as public goods for major oil consumers in Asia, while maritime security is a global good for all nations engaged in trade. Contributors try to come to grips with the issue of how to provide for these global goods while containing unnecessary tensions.

About half of the chapters in this volume were originally presented at the workshops and meetings for the Network of East Asian Thinktanks (NEAT) Working Group on Energy Security Cooperation in East Asia in Singapore in 2005 and 2006. The NEAT is a second-track network for East Asian regionalism. The majority of the contributors are thus interested in empirical and policy issues related to energy and maritime security. In examining these issues, they also ponder how Asian nations can minimize their conflict and tensions over energy and maritime security and how they can further their mutual energy and maritime security through cooperation, instead of cutthroat competition and rivalry. They offer useful and constructive suggestions.

Growing Energy Profile of Asia

Prior to the 2000s, especially in the 1980s and 1990s, Japan was the largest oil consumer in Asia. In 1995, Japan consumed 268 million tons of crude oil, accounting for 8.2 percent of the world's oil consumption, just behind the United States and the European Union (EU). On an individual country basis and prior to 2003 Japan was the second largest oil consumer after the United States in the world (table 1.1), much larger than Germany. Japan's heavy consumption of crude in the 1990s had to do with its large economy and the predominant role of oil in its primary energy supply (over 50 percent from 1965 to 1999).[1]

Table 1.1 Oil consumption of major economies, 1985–2005

	Oil consumption (million tons)			*Share of world's oil consumption (%)*			*Dependency on oil imports (%)*		
Country	*1985*	*1995*	*2005*	*1985*	*1995*	*2005*	*1985*	*1995*	*2005*
China	90	160	327	3.2	4.9	8.5	−39.1	7.0	44.7
Japan	206	268	244	7.4	8.2	6.4			
India	43	75	116	1.6	2.3	3.0	30.8	49.8	68.7
Asian Giants	*339*	*503*	*687*	*12.1*	*15.5*	*17.9*			
United States	720	808	945	25.7	24.8	24.6	30.3	52.5	67.2
EU (25 countries)	602	652	700	21.5	20.0	18.3			

Notes: Oil data for the same country from different sources in this volume may vary slightly. However, these data are still informative. Subtotals of Asia in this and next tables may differ slightly from sums of rounded data of the relevant countries and sub-regions.

Source: Zhongguo Chanye Ditu Bianweihui and Zhongguo Jingji Jingqi Jiance Zhongxin (Zhongguo Chanye Ditu in short), eds. *Zhongguo nengyuan chanye ditu (Atlas of China's Energy Industry) 2006–2007* (Beijing: Shehui kexue chubanshe, 2006), 5–6.

Nevertheless, in the recent years Japan's dominant position in crude consumption in Asia has given way to a rising China and, to a much lesser extent, to India. In 1985, Japan accounted for 7.4 percent of the world's oil consumption, China 3.2 percent, and India 1.6 percent. By 2005, however, China's share rose to 8.5 percent, India's share to 3 percent, whereas Japan's share declined to 6.4 percent (table 1.1). Since 2003 China has replaced Japan as the largest oil consumer in Asia and the second largest one in the world, just after the United States.[2]

Now China, Japan, and India parallel the EU in their aggregate oil consumption. Back in 1985, the three Asian nations consumed 339 million tons of oil, slightly over half of the consumption of the EU (which was 602 billion tons). By 2005, oil consumption of the three Asian economic giants doubled to 687 million tons of crude, accounting for 17.9 percent of the world's total. Their total was at a par with the EU, which registered 700 million tons and accounted for 18.3 percent of the world's total (table 1.1).

If we expand Asia to include East Asia, India, and the Oceania, by 2004 the share of the Organization for Economic Co-operation (OECD) Pacific (namely, Japan, Korea, Australia, and New Zealand), China, India, and the other parts of Asia combined to account for

27.4 percent of the world's oil demand, close behind 30.3 percent of OECD North America that comprised of the United States, Canada, and Mexico, but far surpassing OECD Europe's 17.7 percent. In particular, OECD Pacific and China accounted for 17.7 percent, exactly the same as OECD Europe (table 1.2).

Asia–Oceania is projected to be the largest oil market by the end of this decade. According to the International Energy Agency (IEA), the combined share of OECD Pacific, China, India, and the rest of Asia will edge over the OECD North America and will emerge as the largest oil market by 2010. This will take place despite the declining share of OECD Pacific in the world's oil consumption, from 10.1 percent in 2004 to 7.6 percent in 2030 (table 1.2).

The driving force for Asia's rising energy profile is the robust growth of oil demand from China, other Asia, and India. China's share in the world's oil consumption is projected to further increase by 1.8 percentage points from 2004 to 9.4 percent in 2010 and to

Table 1.2 Oil demand and percentage of oil demand satisfied through imports, 2003–2030

	2003	*2004*	*2010*	*2020*	*2030*
World oil demand total and breakdown in the reference scenario					
World Oil Demand (million barrels per day)	79.2	82.1	92.5	104.9	115.4
Share of the World Demand (%)					
OECD North America	30.4	30.3	29.1	27.7	26.5
OECD Europe	18.3	17.7	16.2	14.7	13.6
OECD Pacific	10.6	10.1	9.3	8.3	7.6
China	6.8	7.6	9.4	10.7	11.4
India	3.2	3.2	3.6	4.1	4.5
Other Asia	6.4	6.6	7.1	7.9	8.6
Pacific Asia	***27.0***	***27.4***	***29.4***	***31.0***	***32.1***
Percentage of oil demand satisfied through imports (estimates)					
OECD North America		45.4	46.5	56.7	64.7
OECD Europe		58.6	70.7	79.9	85.4
OECD Pacific		92.8	94.2	95.4	95.5
China		43.5	59.8	73.2	81.7
India		69.2	72.7	81.4	88.5
Other Asia		64.8	68.2	79.5	86.9

Source: Computation from data in International Energy Agency, 2005, *World Energy Outlook 2005: Middle East and North Africa Insights*. Paris: OECD/IEA, pp. 83, 90.

11.4 percent in 2030. The share of other Asia will grow by 0.5 percentage point from 2004 to 7.1 percent in 2010 and to 8.6 percent in 2030; India's share by 0.4 percentage point to 3.6 percent in 2010, and to 4.5 percent in 2030 (table 1.2).

International Implications of Asian Energy Security

Rapid growth in oil consumption in Asia, especially East Asia, has already had extensive implications for international economy, political economy, and international security. First of all, Asia is becoming an important economic power in the world. China, India, and Japan accounted for 12.3 percent of the world's exports of goods and services, dwarfing the U.S. 11.2 percent. In 2004 the three Asian giants jointly produced 17.4 percent of the world's GDP in U.S. dollars in exchange rate in 2004. This share is expected to reach 19.1 percent in 2020.[3]

Second, in tandem with its dynamic growth, Asia has also become major energy consumers. Currently, in terms of energy use, China and India account for 12 and 5 percent of the world total, respectively, compared to U.S. 24 percent.[4] The Asia-Pacific also accounts for over 27 percent of the world's oil consumption.

Furthermore, the dependency of Asia and Oceania on imported crude has been growing unabated in the recent decade. By 2004 as much as 93 percent of the oil consumption in OECD Pacific needed to be imported. This astoundingly high dependency ratio is projected to go up to 94 percent by 2010 and to 95 percent by 2020. "Other Asia," which is obtaining about 65 percent or more of their crude oil from the world market, will see their dependency on oil imports further rise to 80 percent by 2020 (table 1.2).

In this regard China and India will witness the most drastic changes. Back in 1985, China was still a net exporter of crude oil, whose exports were equivalent to nearly 40 percent of its oil consumption. But by 1995, 7 percent of China's oil demand was filled by imports. China's imports dependency ratio surged to 44.3 percent in 2005. It was at a par with the share of OECD North America. According to the IEA projection, China's dependency ratio could be 60 percent in 2010, noticeably ahead of that of OECD North America (which is

projected to be 47 percent). Deepening reliance on oil imports is also taking place in India. In 1985, only 31 percent of India's oil demand needed to be met by imports. This ratio soared to 69 percent in 2005. India's oil imports dependency ratio is projected to be 73 percent in 2010, at a par with that of OECD Europe. In 2030, China's and India's dependency ratio will reach 82 percent and 89 percent, respectively, at a par with OECD Europe and far exceeding that of OECD North America (table 1.2).

Furthermore, rapid growth in oil demand in Asia, along with the growth in oil demand in the rest of the world, is believed to have contributed to the surge in oil price in the recent decade. It will continue to play a role in sustaining a high level of oil price in the coming years. Take, for example, the price at the Dubai Crude market whose oil is destined for Asia. The price per barrel of crude was only US$18.5 in 1996. After declining from 1997 to 1999, it shot up to US$26.2 in 2000. After another two years of slight decline, it recovered to US$26.8 in 2003. It increased to US$33.6 in 2004 and US$49.4 in 2005. A similar but slightly higher price could be seen at the Brent Crude for the European markets.[5] For some period in 2007 and 2008, crude price even approached or surpassed the range of $100 and even $140 per barrel.

Moreover, China's joining the global hunt for oil has a complex effect on political economy and security in the world, at least in Asia. Several chapters in this volume are devoted to this topic.[6] China's oil-related external initiatives have attracted worldwide attention in the recent years. For example, in a recent book written for U.S. policymakers, leading China experts in the United States made the following observation on China's energy diplomacy: "China's need for an uninterrupted and secure supply of natural resources, particularly energy (oil and natural gas), has become an increasingly strategic element of Beijing's international relations."[7]

Existing Views on Asia's Energy and Maritime Security

There is a limited but growing body of literature on Asian energy markets and on maritime security. The existing literature on Asian

energy security looked at Asia's current and future energy consumption, domestic energy sources and structure; Asian economies' efforts to expand energy production and improve energy efficiency; external economic implications of energy consumption and imports of major Asian oil consumers such as China and Japan.[8] Several studies were devoted to efforts by China, especially those by its state oil corporations to tap on overseas oil markets and acquire oil fields in the Middle East, Africa, Central Asia, and Russia.[9] A few studies also examined China's and Japan's moves to secure sea lanes, as well as China's plans of a strategic oil reserve and to build an oil refinery, as well as energy policies until the late 1990s.[10]

While these studies are informative, they also have their apparent and increasingly severe limits. First, as these studies were largely based on data up to the late 1990s or even earlier, their analyses appeared to be out-of-date. In the 2000s, the oil price has shot up, drastically altering the outcomes of some of the existing energy initiatives by Asian consumer nations.[11] China's dependence on oil imports has deepened at a surprisingly rapid pace, and more importantly, China's and Japan's efforts to secure its oil supplies and oil transport routes have been intensified. Both nations have also embarked on many new initiatives in their oil quest abroad. It is necessary to incorporate these new developments in our analysis.

Second, we still need a systemic overview and a reasonable evaluation of China's and Japan's oil diplomacy through carefully analysing their ongoing conflict and competition with other Asian nations over oil. China is widely expected to compete against Japan, South Korea, and India for supplies of oil and gas around the world. Some analysts also fear that China's active courting for oil from Iran would compromise the international pressure on Iran to halt its nuclear weaponry program. Some others have even foreseen conflicts between China and other nations over oil and gas. Michael Klare, for example, predicted that China might clash militarily with other claimant states in Southeast Asia due to their conflicting claims over the oil and gas resources in the South China Sea. In addition, China and Japan might resort to the use of their naval forces in defending their overlapping claims over islets and reefs in the East China Sea.[12] An observer in 2005 proclaimed that China's quest for oil security might destabilize international security.[13]

Even some of the recent informative studies of China's oil diplomacy have not been immune from these unwarranted negative views. They played up controversial aspects of China's oil quest, especially its efforts to make energy deals with "rogue states" such as Sudan, Iran, and Myanmar. They also exaggerated China's strained ties with claimant states in the South China Sea and with Japan over energy resources.[14] They have left out positive developments in the recent years, such as China's oil cooperation with India and Southeast Asia in the South China Sea, its self-restraints in its interaction with Japan, as well as its shift toward the West's stance over Iraq and Iran.

Most of the oil imports of China and Japan have been shipped on sea and many of China's and Japan's energy sea lanes pass Southeast Asia, the South China Sea, and the East China Sea. Inevitably, maritime security assumes importance and requires close analyses. There is a body of literature on maritime security, especially in Southeast Asia. Most of the literature is dedicated to maritime piracy in Southeast Asia. The research can be categorized into several types. A number of studies approach piracy from a historical perspective. They examine the evolution of these illicit activities over different eras and their complex relations with the state and the society.[15] A good number of analyses focus on contemporary maritime piracies and possible terrorist activities by probing the concept, characteristics, and magnitude of piracy, its ties with terrorism, as well as its geopolitics, criminology, and economics.[16] Another category of research investigates the role of states, including littoral states and big powers such as the United States and Japan, in the crackdown on piracy.[17] An additional stream of literature also discusses maritime strategies, as well as disputes in the South China Sea.[18]

While these studies on maritime security are illuminating, they largely fail to make the connection with energy security in Asia, despite the latter's growing importance that has been described earlier. Therefore, maritime piracy is seen more as a threat to seaborne trade and navigation in the region, especially in Southeast Asia, in general. Little is known about the possible effects of piracy on the energy security of China and Japan, as well as their stance and responses toward the issue. In addition, a number of these studies, which were published a couple of years ago, also left out a good number of the latest developments in the region regarding maritime security.

Energy and Maritime Security in Asia

This volume sets out to shed light on two important issues. The first issue is energy security in China and Japan. Under this purview is the importance of oil imports for these two giants, their initiatives for securing oil imports, interaction between them as well as their interaction with other Asian neighbors. Responses and the role of the United States are also taken into account. The second issue is energy-related maritime security in Asia. It encompasses the security of energy sea lanes for China and Japan, as well as China's shipping capacity, offshore oil and gas development, and disputes over territorial waters with neighbors in Asia. It also includes maritime piracy and terrorism, as well as schemes Japan and China have introduced to ensure sea lanes or alternate routes in Asia. The Straits of Malacca and Singapore are a particularly vital, narrow but somewhat fragile, waterway for Asian energy security. It is an increasingly busy international channel, as traffic density is projected to increase from 94,000 ships in 2004 to 141,000 in 2020.

In the following paragraphs the gist of the arguments of the volume is outlined with the purpose of clarifying the state of energy security in China and Japan and oil- and gas-related maritime security in Asia. It offers a quick glimpse at some of the prominent issues that will be explored in greater depth in the volume.

As I suggests in chapter two "China's Oil Diplomacy in Asia," the most dramatic change in Asia's energy security is China's bursting into the global oil market as a major consumer. Driving China's thirst for oil are its booming auto and aviation markets. Since the early 1990s China has been reducing its exports of oil and increasing its imports of oil.

China's policymakers and state oil corporations were quick to appreciate the role of oil in the nation's economic security. They have orchestrated a series of measures to increase oil supplies overseas. This is reflected in the shift of China's geographic sources of oil imports. By 1995, China relied heavily on oil from the Asia-Pacific as well as the Persian Gulf, especially secondary producers such as Oman and Yemen. Since then, China strove for faster expansion of oil imports from the Persian Gulf and Africa, as well as Russia and Kazakhstan. Through leadership exchange and corporate cooperation, China has

forged closer energy ties with larger producers in the Gulf, such as Saudi Arabia and Iran, as well as Russia and Kazakhstan. However, in doing so China also needs to do a delicate balancing act. In March 2008, China supported the adoption of Resolution 1803 at the UN Security Council, which pressured Iran to halt its uranium-enriching activities for its nuclear weaponry program. Meanwhile, China continues to conclude energy deals with Southeast Asia and Australia, despite the latter's declining share in China's oil imports. China has also made some tangible progress in joint exploration of gas and oil resources in the South China Sea with other claimant states, such as Vietnam and the Philippines.

In chapter three "Security of China's Energy Imports," I suggest that China's dependence on oil imports has also given rise to its growing concerns with maritime security. China's most important energy route is the sea lane through the Indian Ocean and the Straits of Malacca, through which over three-quarters of China's oil imports need to go. China is concerned with disruption of its energy cargo along the Straits of Malacca by piracy, congested traffic, possible collisions, terrorist attacks, and especially by naval forces of major powers. China has opposed the U.S. patrol of the Straits, is concerned with Japan's prominent role in aiding littoral states, and has supported littoral states' central role in enhancing the Straits' security. China has offered to aid the littoral states over enhancement of the Straits' security and has won the littoral states' acceptance of its aid. China has also contemplated alternate routes on land to bypass the Straits, including land-based rail and pipelines with Kazakhstan and Russia, railroads through Southeast Asian Peninsula, and transport lines through Pakistan, or through Myanmar. It has made some progress in this regard. Furthermore, China has started to reduce its reliance on foreign fleets for transporting its imports including oil. Contrary to the predictions of armed conflict, China, Vietnam, and the Philippines have agreed to joint energy exploration in the disputed waters of the South China Sea. China and Japan have also reached an agreement to extract gas in the disputed waters in the East China Sea.

The Chinese efforts to ensure energy security have broad international ramifications. As noted, the United States is one of the powers in the world that has been heeding closely China's oil diplomacy.

In chapter four entitled "China's Mercantilist Oil Strategy and Its Implications for U.S.–China Relations," Yuanming Alvin Yao provides an in-depth discussion on China's approach to energy security as well as the U.S. responses. In response to growing dependence on oil imports, the Chinese government has adopted domestic administrative measures. Yao maintains that China has relied on a mercantilist approach rather than a market one to guarantee its oil security. This is due to the constraints imposed by institutional fragmentation, strategic thinking, and vested interest concerns. Meanwhile, in order to prevent oil tension and an uncertain China, the U.S. government has adopted a hedging strategy toward China through a mixture of energy cooperation and military preparedness. Nevertheless, more needs to be done in order to prevent unnecessary conflict from erupting between the two powers over oil.

Japan is the other major oil consumer in Asia. A resource-poor island nation, it imports over 80 percent of its primary energy supply and 99 percent of its oil. In chapter five "Japan's Energy Diplomacy and Maritime Security in East Asia," Peng Er Lam provides a brief historical overview of Japan's quest for oil, as well as its strategies to mitigate its reliance on imported oil and gas. Nevertheless, despite these measures, in Japan's strategic considerations the maritime security of its oil tankers amounts to a "matter of life and death." Japan has attempted to ensure an unimpeded flow of energy resources through a largely nonmilitary and multifaceted approach. It relies on its U.S. ally to maintain a command of the sea. From 1977 onward it has also sought to play an active political role in the region by reconciling the noncommunist ASEAN with the communist Indochinese countries for the sake of regional order and stability. Importantly, Japan has actively forged friendly relations with energy-producing countries and littoral states along Japanese shipping lines, and engages in maritime cooperation with East Asian states. Lam also examines the prospects for an energy partnership in East Asia.

As Asia's thirst for energy heightens the significance of maritime security, maritime disputes between Asian nations have also developed, attracting attention and arousing concerns in the region and beyond. In chapter six entitled "The Maritime Dimension of Energy Security in East Asia: Legal Implications," Keyuan Zou examines international laws in two areas most relevant to maritime security in