

Japanese Energy Security and Changing Global Energy Markets: An Analysis of Northeast Asian Energy Cooperation and Japan's Evolving Leadership Role in the Region

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Asia's Energy Security and the Role of Japan: A Diplomatic Perspective

by:

Kohei Hashimoto
General Manager, Senior Research Fellow
PHP Research Institute, Inc.

Introduction

A broad consensus exists in Japan that national "energy security" goals must include simultaneous achievement of the three "Es": economic growth, environmental protection, and energy security. A discussion of this conception of energy security has been presented at length in a recent article by Hiroaki Fukami.¹ Each factor is of great importance, but it should be noted that in the case of Japan it is necessary to balance security and environmental policies against the third goal of economic growth, particularly if that growth is to be "sustainable." For Japan, this delicate balance is perhaps more difficult than for other Asian countries.

Instead of discussing further the theoretical merits of different definitions of energy security, I will discuss this matter as illustrated through the prism of five major challenges faced by Asian nations today with regards to energy security.

The first factor to be discussed in this paper is the changing influence of China on Asian energy markets. China needs to be discussed separately because China's rapidly growing energy sector will have a significant impact on energy consumption and security patterns in Asia. China's influence is predictable inasmuch as its energy demand is expected to increase phenomenally in the future. But how it will secure supplies to meet its growing energy needs and what impact those choices will have on its

neighbors is less certain.

The second element investigated in the paper concerns the security of Sea-Lanes of Communications (SLOCs) and the countries along these lanes. Here, discussion will focus on the safe passage through the so-called "choke points" of Asian waters including the Strait of Malacca, the Spratly Islands, and the Bashi Channel. In this connection, the special influence of China over the security of these choke points will be investigated since this factor has specific pertinence to the question of the free navigation of oil shipments to Southeast and Northeast Asia.

Thirdly, the issue of energy diversification including the development of alternative sources of supply is discussed. With China's demand for fossil fuels accelerating and also with Asian nations consuming most of the energy from the Middle East, this issue is a pressing one.

Besides alternative energy, a fourth area concerning the potential for joint strategic oil reserves and coordination of energy procurement on the international markets is discussed. Japan and South Korea hold emergency stocks and China is beginning to pursue this strategy, but few other countries in Asia are prepared for a sudden disruption of their energy supplies. While the possibility of supply disruption is lower than before, the degree of dependence of all Asia on Persian Gulf oil is at record highs. Any accident or disruption in the Gulf or along the sea-lanes to Asia could affect Asian countries significantly. To better prepare for such events, there are several possibilities for Asian countries to work together on joint stockpiling and protection of sea-lanes and environment.

Finally, a discussion of the security of the Middle East oil-producing nations follows, including external and internal factors affecting security in the Middle East, as well as options available to Japan and other nations to enhance security in the Middle East. The paper ends with broad recommendations for policy initiatives, including suggestions that Asian nations can work together to tackle important energy security challenges. Specifically, the paper outlines the benefits of a multilateral framework and creation of new institutions such as a maritime safety commission and an Asian oil stockpile mechanism similar in nature to that of the International Energy Agency (IEA).

¹ "The Restructuring of Energy Security and A Review of the Energy Security Policy Base" by Hiroaki Fukami," Kokusai Mondai (International Affairs)" November 1999, pages 2-24.

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I. China as an Independent Variable

Some forecasts suggest that China's oil and gas demand will grow by 5.4% per year, and by 2010, will exceed that of Japan. In 2020, China's total demand for energy will reach the equivalent of 21 million barrels per day (b/d). The options China may have to meet its growing energy demand are numerous, including the joint development of gas fields in Eastern Siberia, Central Asia or the Sakhalin Islands; nuclear power generation; and importation of oil from the Persian Gulf oil-producing countries. China

has yet to commit to a final strategy, but it is safe to say that China's foreign policy will be significantly influenced in years to come by its energy policy choices.

China's energy strategy is of concern to Japan. Among the issues is a looming fear in Tokyo that the current stable energy supply from the Persian Gulf might be jeopardized by China's entry into the market in "a war for energy resources." Another concern is that China, which will increasingly view energy imports as a matter of life or death, will be tempted to launch its own antagonistic campaign to command the sea-lanes, thereby jeopardizing the Asian security balance.

Neither of these two concerns is a realistic threat in the immediate term. The concept of "a war for energy resources" arises from the concept that imports to Asia will rise significantly over the coming years. Predictions of rising demand have led to speculation that the Persian Gulf countries will not be able to meet the rapidly growing Asian oil demand and therefore will have to pick among potential customers. Such discussion has caused discomfort among the Japanese public.

However, as the IEA recently reports, the world's oil reserves are estimated at 1.35 trillion barrels and even as much as 2.3 trillion barrels inclusive of oil sands and oil shells. Thus, there is no need to fear exhaustion of energy for the time being. Moreover, OPEC's oil production capacity, especially in the Persian Gulf, is sufficient to meet the rapidly growing demand from Asia. The Gulf is expected to produce 55.5 million b/d by 2020, more than 2.5 times the 1991 production level and in line with reasonable forecasts of demand. In addition, there is the dominant view among oil experts that it is too early to worry about exhaustion of oil reserves because innovations in oil production technologies have reduced oil production costs and shortened dramatically the time it takes to develop new oil fields.

Even under the highest growth scenarios for Asian oil demand, there is still good reason to think sufficient supplies will be available. At present, most forecasts predict that oil prices will decline over the long run. If oil supplies are ample, as predicted, there will be no need to compete for energy supply.

If oil and gas are likely to be easily accessible, then it makes no sense for China to spend billions of dollars to increase its naval projection capability in order to secure oil and gas, especially considering that such a military expansion would cause unnecessary frictions with China's neighbors. Still, it may be difficult to tell whether China is pursuing military expansion due to concerns about energy security or because it desires to be a hegemonic power in the region. China may try to avoid relying on Asian sea-lanes whose security is dominated by the U.S. China treats its energy security as a highly political issue rather than just an economic one. Indeed, China may feel threatened by recent policy initiatives in East Asia. These initiatives include a new, stronger U.S.-Japan defense guideline, closer maritime cooperation between Japan and the Republic of Korea, the new U.S. law enhancing Taiwan's security, and discussion of a deployment of theatre missile defense systems in Asia by the U.S.

If China feels these efforts represent policies intended to contain its power, Beijing may want to avoid, to the extent possible, relying on sea-lanes controlled by the U.S. military for transport of energy to China. The danger of this situation is that if U.S.-China relations worsen, especially if the Taiwan issue

makes bilateral relations tense, China may have no other alternative but to increase its naval projection power in the long run to counter reliance on the U.S. domination of sea-lanes. Considering China's current financial situation and military capability, however, the likelihood that China will be able to control sea-lanes from the Persian Gulf in the next decade or two is very dim.

Still, even if China does not soon launch capability to challenge the U.S. military in the sea-lanes from the Middle East, it is still possible that Beijing will opt to build up more limited power to control the Spratly and the Senkaku Islands. China's unilateral development of oil resources near these islands would cause frictions with its neighbors, opening the possibility that lesser regional conflicts may inflict challenges to Asia's energy security.

Securing energy resources is a highly political matter. This was the case for Japan before the Second World War. It is also the case for China today with its growing energy demand. Therefore, stable energy supply to China will be one of the most important security issues for the whole of Asia. Asia's energy security policy should take into account ways to remove China's uneasiness and fear of high dependency on the U.S.-controlled sea-lanes and Persian Gulf. China finds itself unavoidably dependent on the Gulf oil-producing countries for its future energy needs and has to rely on the same sea-lanes used by other Asian nations. In other words, China is in the same boat as other Asian nations, and antagonistic actions to ensure energy security will hurt not only China's neighbors but also China itself.

Therefore, it is important for the security of sea-lanes that China should continue to share the use of sea-lanes peacefully with its neighbors and refrain from pursuing its own increasing naval projection power. It would be dangerous if China were to try to manage the sea-lanes single-handedly without cooperating with other neighboring nations.

The best possible scenario for the region would be if China continues to rely on the common usage of Asian sea-lanes. It may require, however, sophisticated diplomacy to ensure that China, which has less experience participating in multinational political institutions, takes a cooperative stance. Here, it may be useful, as part of the confidence building measure, to create a common forum to discuss jointly over several SLOC-related issues, such as increasingly congested sea-lane carriage, the necessity of maritime traffic control of the straits, or piracy.

At any rate, to ensure energy security, it is important that an environment be developed which would enable China to fill its energy needs and be engaged in a multinational framework, thereby removing the sense of isolation China may feel. At the same time it is necessary to continue in persuading China that uncooperative energy policies would work against its own best interest.

China's Energy Strategy

The requirements for an energy policy are not a choice between the given alternatives, A or B. Policies for energy security require both A and B. The wider the choice, the lesser the risk. This applies to both oil suppliers and alternative sources of energy. Since most of the Asian nations with rising oil demand

plan to get oil from the Persian Gulf, China will have to consider diversifying its own energy supply sources to reduce risk.

The energy development projects China is currently pursuing can be divided into several groups. Some projects aim to ensure oil supplies from the Gulf while others include programs to secure natural gas from Russia, especially from East Siberia. China has also announced plans to secure natural gas from Central Asia as well as to expand nuclear power generation. But China's recent moves seem highly politically motivated and many of the ongoing energy development projects are lacking commercial or economic viability.

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Gas Development in Eastern Siberia

Analysts believe that development of gas fields in Eastern Siberia and pipeline construction to China are not commercially feasible due to the characteristics of the gas fields and the high costs of constructing a long distance pipeline. The Irkutsk gas fields were discovered in the 1980s but remain unexploited. In 1997, Russia and China began discussing joint development. SIDANCO with cooperation from BP Amoco announced plans to develop the Kovyktinsky gas field and to construct a pipeline to China and the Korean peninsula. The Kovyktinsky gas field is located in the deep Cambrian stratum and its gas wells are fairly widespread, making development costs high. Moreover, the transport of the gas to China means the construction of 3,700 km long pipeline that might be too expensive for either Russia or China to finance easily. China's unwillingness to lay the pipelines through Mongolia, which is the shortest possible route, would make the project costs even higher.

The Yakutsk gas field is also at a standstill for financial reasons due to the cost of pipeline construction. Moreover, rather than China developing the Yakutsk gas field on its own, it would be preferable to construct extension pipelines from the Sakhalin gas field, part of which has already been developed.

The Sakhalin gas fields are the most promising sources of gas supply for northeastern China, especially Dalian and Beijing. Choosing Sakhalin gas means, however, that China would have to depend on foreign multinational oil companies for its energy needs.

Already, gas pipelines have been laid between Sakhakin and Komsomolsk. It will be relatively easy to construct extension pipelines connecting Komsomolsk with Harbin, Senyang, and Beijing via Khabarovsk. The construction costs for the Sakhalin-Senyang pipeline is estimated at \$3 billion, which is lower than for the Irkutsk-Rizhao pipelines. This project would be suitable for official development assistance by the Japanese government.

Pipeline Construction from Central Asia

A span of 2,880-km of pipeline would be required to connect Kazakhstan and Xi'an at the cost of \$3.5

billion. But gas consumption in this area of China would be extremely small, and a more expensive extension to other parts of China would be necessary to make the project commercial.

Electricity from Hydroelectric Power Plants in Siberia

A project to transmit 2,500 kW of electricity to China from hydroelectric power plants using the abundant waterpower in Siberia is under way with Iruktsenergo of Canada. It is considered technically possible to transmit electricity over a distance of several hundred kilometers (km). With this project, however, the distance to major electricity consuming cities is over 1,000 km. Existing power transmission lines connecting Canada and America use the same method, but the distance is 800 km. The fact that there is no precedence for power transmission lines of more than 1,000 km leaves this project with technological uncertainty. The planned Russia-China power transmission lines would be 2,250 km long or at least 1,500 km long even if the shortest route were chosen. The greatest benefit of this power transmission method, however, is the relatively low cost of \$1.5 billion.

Using coal is, generally speaking, the cheapest and most economical choice for China. The most difficult problem with this choice is adverse environmental impact. Japanese support in dealing with Chinese environmental issues has already begun in many different forms as part of the of the 1997 "Japan-China Environmental Cooperation Toward the 21st Century." Under the "green aid plans," projects utilizing technologies such as gas generation from coal and desulfurization of coal combustion gas have been initiated in China. However, pollution-reducing equipment adds to production cost, which will make its widespread use unlikely, unless mandated by law. It is questionable whether China's local governments could be encouraged to introduce pollution-free high technologies that tend to lead to higher production costs of energy.

Nuclear Power

Nuclear power is an environmentally sound choice but has political problems for China. Nuclear power would require China to seek technological and financial support from other countries. Managing the problems of nuclear waste and of fuel cycles will involve intervention from other countries. China may not welcome this intrusion. Still, even if nuclear power is quickly introduced, it is estimated to account for only about 5% of China's total electricity generation in a decade. Moreover, it would not ease demand for energy in the transportation area where growth is expected to be concentrated.

Development of Energy Resources within China

As discussed above, many projects to develop and supply energy from outside China lack commercial feasibility. Of course, realization is technically possible if the Chinese government is willing to ignore economic feasibility and incur a considerable debt. Energy developments in Eastern Siberia, while allowing China to diversify supply sources, still run the risk of disruption if relations between China and Russia were to deteriorate. That is why China is likely to first pursue more vigorously the development of oil and gas fields within its territory. As a matter of fact, China has promising gas fields, which offer

more realistic choices compared with those costly projects in Eastern Siberia. Development of natural gas resources, however, is politically sensitive and requires fine-tuning in the relationship between central and local government in China.

Even if China can develop its own domestic resources, it will not be practical unless and until the necessary supply and distribution infrastructure within China is fully developed. Japan should pursue possible cooperation in this area of development and modernization of energy-related infrastructure in China. Among development needs are the construction of town gas distribution lines and other systems for delivering oil and gas to the consumer and construction of power transmission lines. In this area, legislative reform is under way to make it possible for private-sector companies to participate in the business of developing and modernizing the energy infrastructure.

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II. DISRUPTIONS IN ASIAN ENERGY SUPPLY

Except for Japan and South Korea who have substantial emergency stockpiles of oil, most countries in Asia are relatively unprepared for sudden disruptions in energy supplies. A few other countries carry some stored oil such as Taiwan that holds at present 60 days of stocks and Indonesia with 34 days oil storage. China is also initiating the creation of a national stockpile.

Asian countries would be greatly affected by a disruption of oil from the Persian Gulf. Similarly, an accident in the Strait of Malacca would certainly affect the whole of Asia. Any disruption of the sea-lanes off the Spratly Islands would also significantly affect China, Taiwan, South Korea, the Philippines, and Japan. Security of these important "choke points" is vital to most of the countries of Asia.

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Choke Point Security

The security of the sea-lanes that extend from the Persian Gulf to Japan and South Korea through the Indian Ocean, Southeast Asia, Spratly Islands and the Bashi Channel is an essential issue for Asia's energy security. Also important is the stability of countries that border these sea-lanes. These passageways are, so to speak, a "lifeline" on which the Asian nations will rely in the near future for almost all of their energy imports. The sea-lanes are a common asset for Asia. Any nation that impedes their use would significantly affect the energy supply not only of other nations but also its own. However, not all countries are affected equally by a disruption to a particular choke point in these sea-lanes. The following charts show the relative importance of various routes for each country in Asia.

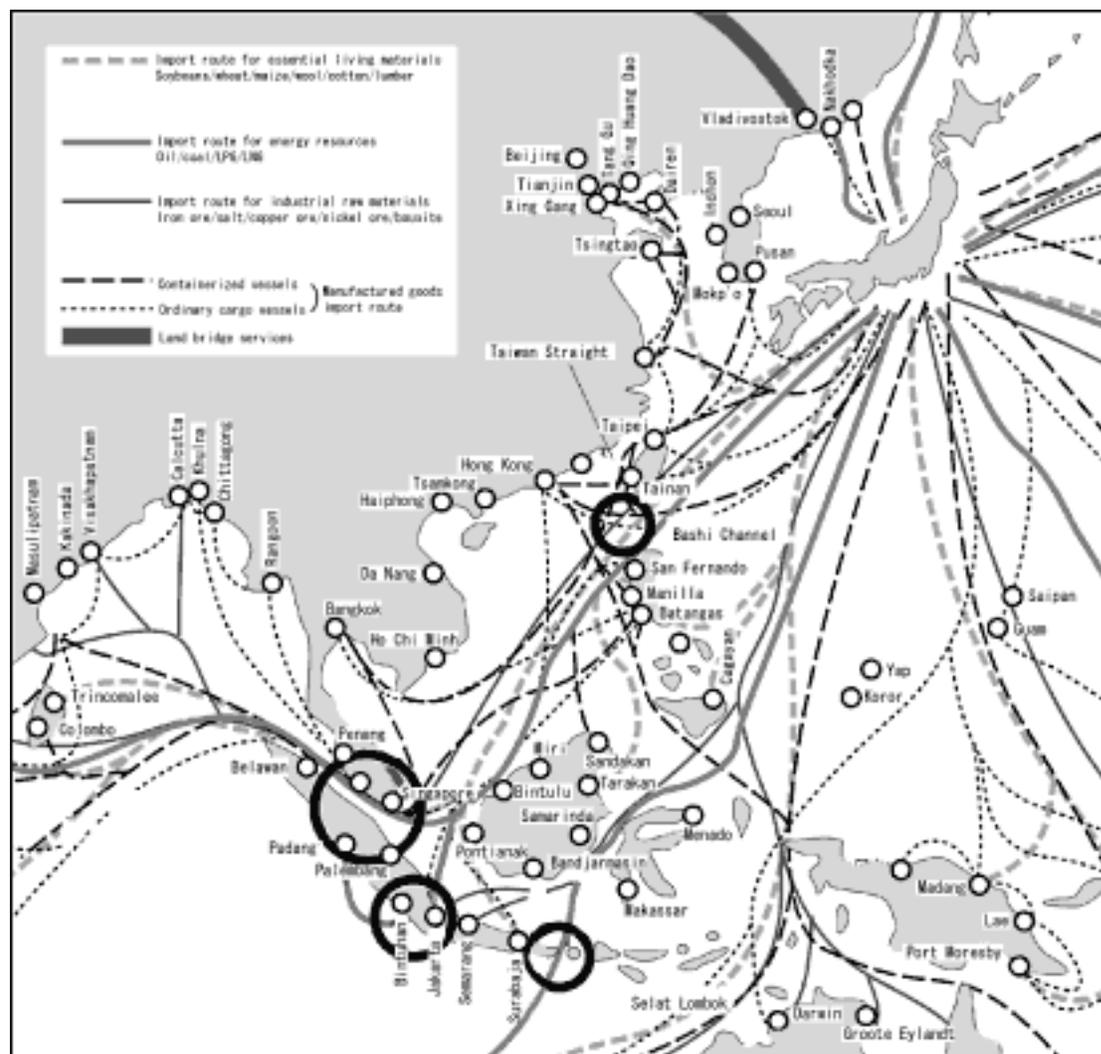
Chart 1 shows that nations in both East and Southeast Asia rely predominantly on the Strait of Malacca for the carriage of energy resources, manufactured products, and other commodities. However, the frequency of the use of the other straits differs, depending on the nation. Chart 2 classifies the nations in

East and Southeast Asia by each of the important straits and passage points.

With respect to energy supplies from the Gulf, Myanmar is the only nation among the 14 nations in East and Southeast Asia that doesn't have to ship oil through the Strait of Malacca. Laos is excluded from consideration here as it does not have direct passage to the ocean. The remaining 12 nations are dependent on the Strait of Malacca.

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Chart 1: Sea Lane Carriage and Choke Points in Asia



Source: Kohei Hashimoto, *A Review of the International Situation*. PHP Institute, Inc., 1999.

The five nations of Japan, South Korea, China, Taiwan, and the Philippines utilize the sea-lanes off the Spratly Islands. Japan and Korea use the sea-lanes beyond the Bashi Strait. Oil shipments to consumers in Northeast China must traverse the Taiwan Strait though it is projected that most Middle East imports will be used mainly by provinces in Southern and Central China. Both the Sunda and Lombok Straits, which are now used infrequently, are also very important as alternatives to the Strait of Malacca.

Chart 2: Actual Use of the Straits by Countries

Strait of Malacca	Sunda Channel	Selat Lombok	Natuna Islands	Taiwan Strait	Bashi Channel	
						Japan
						Korea
						China
						Taiwan
		Brunei				
				Philippines		
			Indonesia			
	Vietnam					
	Cambodia					
	Thailand					
	Malaysia			Frequently used		
	Singapore			Infrequently used		
Myanmar						
Laos						

Another possible danger which Asian nations should be concerned about is a long-lasting blockade of any given choke point.

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The Strait of Malacca

The Strait of Malacca is a common asset for all the Asian nations, the security of which is shared by all Asian nations. Possible cases of the blockade in the strait include, among others, an accident where a large cargo vessel becomes stranded, preventing access to the strait. This danger will increase in the years ahead with rising maritime traffic. Measures to help reduce maritime accidents in this strait could include rerouting of more ships to bypass this strait and sail through the Sunda and Lombok Straits instead. This detour, however, would mean higher shipping costs, making it unlikely that cargo vessels will voluntarily take this option. Imposition of a toll for the use of the Strait of Malacca could equalize the freight costs of traversing the Strait of Malacca or the Straits of Sunda and Lombok. This toll could be used as a kind of "purpose-specific taxation" to help create an Asian joint emergency oil stockpile, to build a pipeline across the Malacca Peninsula, or to control pirates' activities. However, it would take a considerable amount of time and persuasion to build a consensus for this new taxation for what has been essentially a toll-free highway.

The Spratly Islands

Passage around the Spratly Islands is so narrow that it should be considered a choke point. Any closure of passageways through the Spratly's would affect oil shipments to the Philippines, China, Taiwan, Japan, and Korea and also adversely affect trade within Southeast Asia. The territory around these

islands is claimed by six nations - China, Taiwan, Vietnam, the Philippines, Malaysia, and Brunei and an occasional flare-up over territorial issues has taken place in recent years. China and Vietnam skirmished over the Spratly Islands in 1988. This area has not seen any major direct-armed conflicts since, but remains an area of potential conflict.

China unilaterally instituted a law declaring the Spratly Islands part of its territory in 1992. Strong reactions came from the other nations concerned, and a declaration toward restraint was made during the ASEAN ministers' meeting that same year. In 1995, China constructed a small building on the Spratly Island's Mischief Atoll whose territory is claimed by the Philippines. Between 1998 and 1999, China added an extension to its building on Mischief Atoll, increasing the tension between the two nations.

In 1999, Malaysia, as one of the nations concerned, chose to expand its existing facilities on the Investigator Atoll that is claimed by the Philippines, again raising the stakes.

It is advisable to initiate preventive diplomacy surrounding the territorial conflict over the Spratly Islands to ensure safe and stable passage of international shipping in the area. Diplomatic effort should be made to urge a joint declaration guaranteeing safe passage and agreeing that issues of territorial rights be resolved peacefully.

The Bashi Channel

An armed conflict between China and Taiwan could possibly affect the safe passage of the Bashi Channel. In the case of such a war, the battleground would surely include Taiwan's East Coast shorelines where its military facilities are mostly located. In the event of direct-armed conflict, moreover, the water surrounding Taiwan would most likely be designated, as outside the war time insurance coverage, making it unlikely that commercial cargo vessels would navigate through or near the Bashi Channel.

If waters around Taiwan were blockaded, vessels destined for Japan would navigate north by taking a more easterly course via the Lombok Strait. This change of course would add to the carriage cost, but will not pose a critical problem. The problem for South Korea would, however, be more complicated. In a China-Taiwan conflict, the East China Sea would likely be within the war zone. If so, the only alternative route left for the Republic of Korea is via the Tsugaru Channel in the northern part of Japan, again raising costs.

With the stakes so high, Japan, the U.S. and South Korea should make a joint effort to help ensure that any China-Taiwan conflict would be resolved without the use of force. Measures to ensure Asia's energy security include traffic control in each channel's choke points, accident-preventing measures, and diplomacy to help prevent regional conflicts on and around the sea-lanes.

The Importance of Stockpiling

An even more critical situation would arise in the event of a disruption of energy supply from the

Persian Gulf. Safeguard measures to cope with such an eventuality, especially emergency oil storage, need to be addressed in earnest.

Four related issues are discussed below: 1) incentives required to persuade nations without any stockpiles to join an oil storage scheme; 2) storage location; 3) usage and distribution of stockpiles; and 4) usage of Japanese storage at the time of emergency.

Incentives for Joint Oil Storage

The experience of the OECD industrialized countries in the 1970s and during the 1990 Gulf crisis has demonstrated the benefit of a jointly held emergency oil stockpiling system. But, many Asian nations did not experience the disruptions of the 1970s as the rise in their imports from the Middle East is relatively recent and are not fully cognizant of the risks involved. The 1998 recent financial crisis has also prompted fiscal cautiousness, discouraging any stockpiling scheme that may require an additional financial burden.

To facilitate the development of joint oil storage, the importance of safeguards must be illuminated, and the lower cost of joint stockpiling as opposed to individual stockpiling must be stressed. At the same time, it will also be necessary to develop, through repeated explanation, a common awareness of the fact that all Asian nations will come to share the same supply sources, the same risks, and the same SLOCs in the long years ahead. Japan, having experienced two oil crises, should play a central role in developing a common awareness of the importance of oil storage.

Conversely, one of the merits of promoting joint stockpiling is that it can incubate a common awareness of security within the region. That is to say, jointly working to secure energy in an emergency situation can eventually lead to lowering the incentive for regional conflicts. In other words, effort for joint stockpiling could have several positive by-products for energy security.

However, even if a consensus is reached for joint stockpiling, there will be many details to resolve, including the location of the joint storage and an oil drawing method.

Joint Oil Storage Location

The location and impact of different choke points must be taken into account when considering where joint Asian oil storage facilities should be placed. The effect of a blockade of any particular choke point will vary according to its geographical location. In chart 2 above, the Strait of Malacca, Spratly Islands, and Bashi Channel are shown as three choke points, and all Asian nations are grouped according to the choke points they frequently use. Making use of this grouping as a basis for considering where the joint oil storage bases should be located is an ideal approach since each group is divided according to the level of effect to a specific disruption.

Logical Groupings and Locations for Joint Storage

Joint storage in either Brunei or Thailand could provide emergency supplies to Myanmar, Cambodia, the Malay Peninsula, Singapore, and Vietnam. Asia Pacific Energy Research Center notes that Thailand has a rock salt dome capable of storing up to about 100 million barrels of oil, and a joint stockpile could be built at relatively low cost within a relatively short period of eight years.

A joint storage in Brunei could be used to supplement stocks held in Thailand, possibly making use of unused storage tanks at Brunei's oil fields. Stocks located in Brunei could serve the Philippines, East Malaysia, and part of Indonesia. It would also be possible to build a storage base in Indonesia. However, as Indonesia faces separatist movements and internal disturbances that render it undesirable as a site for emergency stocks. Another possibility is for Brunei, Indonesia, and Malaysia to build up small stockpiles to use in the case of disruptions to Asia.

There will be different opinions as to whether or not it is realistic to have joint oil storage for the Philippines, Vietnam and China. More likely, China might want to develop its own storage.

Japan, South Korea, and Taiwan may choose to utilize storage at Okinawa in Japan. Okinawa is geographically near Taiwan, Northern China and the Republic of Korea. To implement such a plan, a legal framework must be created in Japan to make stored oil available to the market. Specifically, it would have to be clarified how to price oil sold from Japanese storage and whether it could be legal for Japan to sell oil held within its borders to another country during a supply crisis.

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Asian Equivalent of CERM

To cope with sudden reductions in world oil supply, an International Energy Agency (IEA) Governing Board decision in 1984 established the basis of a framework for international consultations on coordinated stockdraw and other response measures known as the Coordinated Emergency Response Measures (CERM). CERM could operate in advance of, and would complement the emergency system established by the Agreement on an International Energy Program (IEP). It provides a rapid and flexible system of response which could apply whether or not the oil supply disruption would be large enough to activate the IEA emergency system. The CERM program is the only mechanism that exists to help counter-balance fluctuating oil prices. There are doubts as to how this scheme could be employed to help Asian nations, many of which are not members of the IEA. As the oil and gas from the Persian Gulf is increasingly directed toward Asia, doubts arise that the IEA system will be effective to mitigate the loss of Persian Gulf oil supplies to Asia. As the dependency of OECD member countries on Middle East oil declines, questions arise whether Asian countries can count on these IEA members to use their oil stockpile to save Asian countries.

During the Gulf War in 1990, U.S. mass media posed questions as to why the U.S should risk the lives of American soldiers to protect Japanese interests. This point must be considered in thinking about

Asian energy policy.

It is important to work out measures to reduce the risk of energy supply disruptions for the Asian nations. Ideally, the best scenario would be for each Asian nation to participate in the CERM scheme while having its own oil stockpile. In Asia where many nations are underdeveloped, however, it might be impractical to enforce a highly integrated level of stockpiling from the beginning. It might be more practical to start with more limited measures such as establishing energy resources lending programs beginning with Japanese initiative.

One idea is to form an Asian Oil Stockpile Mechanism (AOSM), which would be created by 2010 with the following functions:

- (a) Establishment of Oil Drawing Rights (ODRs) ratio corresponding to the equity (in currency or in kind).
- (b) Creation of oil stocks representing 30 to 40 days' worth of each nation's consumption in the preceding year.
- (c) Rulemaking that in an emergency situation, each country could draw from the stock in proportion to its ODRs.
- (d) Stipulation that demand exceeding ODR entitlement could be supplemented by other nations having surplus oil.
- (e) Repayment schemes that allow borrowed oil to be repaid in kind or in currency. Repayment may be made over a long period of time.
- (f) An Asian Energy Agency in which each will be required to have its membership registered.

Establishment of an Asian Energy Agency

Asian nations can influence a stable supply of Gulf oil only indirectly. Asian nations are destined to become the biggest market for Persian Gulf oil. Hence, Asia will provide the Persian Gulf oil producers with "Security of Demand." Saudi Arabia enunciated such a policy in the 1980s saying that oil consuming nations and oil producing nations should make an "effort to stabilize the oil market jointly." The collapse of 1970s style resource nationalism and progress towards peaceful resolution of the Arab-Israeli conflict have helped to reduce significantly the likelihood that oil will be used as a political weapon. In reality, the Persian Gulf countries should have little need to employ a highly politicized oil strategy against the Asian nations that are least politicized towards Arab states. This leads to the prevailing observation that the likelihood of oil supply from the Gulf being disrupted has been remarkably reduced.

Nevertheless, an internal crisis within a Persian Gulf state would have a large adverse effect on the Asian economies. It is no exaggeration that the Gulf States and Asia share common interests of stable oil supply. The groundwork has already been laid to discuss energy security as an issue involving all Asian nations. The creation of a multinational organ to examine the issue of energy security for the entire Asian region makes sense. It would be especially welcome to the IEA member nations for non-member

nations to create an organization that supplements the IEA. The role that an Asian Energy Agency (AEA) might play could include the promotion and supervision of joint oil storage and several other functions relating to security in Asia. Just as the IEA was created to deal with OPEC, it is advisable that the Asian nations, which must build long-term close relations with the Gulf oil-producing states in years to come, create a multinational organization that representing their interests. Such a multinational organization would also help enhance the bargaining power of Asia. As the largest regular customers for Gulf oil, Asian nations could integrate and organize their energy policies and thereby gain more power to bargain with the oil producers in the Gulf.

Establishment of a maritime safety committee within the AEA structure could also help create an atmosphere for preventing political and diplomatic problems within the region. The Maritime Safety Committee could play an important role in discussing and resolving multinational issues like the issues of the Spratly Islands and the control of the pirates. The AEA, which can be instrumental in generating mutual trust, would supplement the Asian Regional Forum (ARF).

The AEA could also function as a forum for the comprehensive discussion of nuclear energy issues including managing fuel cycles and identifying storage for nuclear waste. There is already ideas circulating inside Asia for the need to establish an independent body to discuss nuclear power issues in the Asian region. Any move to ensure a place to discuss nuclear issues, including nuclear fuel cycle, in Asia would be welcome. Japan, South Korea, and Taiwan, which are now using and promoting nuclear power generation are hard pressed for the storage of nuclear waste. Even China, which expects to increase nuclear power generation in the years to come, needs to figure out how to resolve the issue of nuclear waste.

In this connection, Mongolia has expressed its willingness to take over both the export of uranium and the storage of spent nuclear fuels. If this move should lead to the creation of an extensive cycle of nuclear fuel, it would help brighten the nuclear prospects of Japan and South Korea as well as China and Russia.

Finally, with many Asian nations considering economic development as their top priority, the issue of environmental protection often falls by the wayside. However, it is impossible for the Asian nations with the world's highest growth rates to avoid environmental issues. Especially in China, environmental protection is no longer a vague global concept but a new focus of China's own population. In particular, the use of abundant coal as a cheap source of energy is generating hazardous gases. This could be an area where Japan can offer pollution abating technologies.

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Diversification of Energy Sources and Suppliers

The development of alternative energy sources would lessen dependence on the Persian Gulf oil. To date, progress in this area in Japan has been quite remarkable. Solar and windmill power generation have

begun to meet household electricity demand while the hybrid car and the fuel cell car are being developed.

The problem is that these alternative sources of energy are still not cost-effective. Tax incentives need to be continued to encourage innovative endeavors. Japan has a significant role to play in this high technology area.

New efforts to reduce the dependence on oil from the Middle East will become increasingly important. However, China's efforts to diversify oil and gas suppliers, such as developing sources in Central Asia and Eastern Siberia, presume that crude oil prices will remain at relatively high levels over the long term. However, this might not be the case, rendering mega-projects requiring costly infrastructure building as commercially unattractive.

The Sakhalin gas field is the most feasible major project in Northeast Asia. At the moment, the export target of the Sakhalin gas is either Japan or China. To supply Japan, however, a new set of distribution pipelines would have to be built. Since such new installations would require purchasing of expensive land, it seems difficult for Sakhalin gas to be used directly in Japanese households.

However, Sakhalin natural gas may possibly be used in the future as a fuel for thermal power plants in Japan. Ever since the nuclear emission accident at Tokai-mura, concern over safety of the nuclear power generation is widespread in Japan, making any new nuclear power projects highly controversial. A new nuclear power plant project, to be located in Mie Prefecture, was canceled by the governor's decision in February 2000. Other plants have no specific schedule for completion except for one, which is already under construction.

A new thermal power station may be one of the most viable options to meet Japan's growing energy demand. A pipeline connection between Sakhalin and the northern most island of Hokkaido could bring Sakhalin gas to be used in power generation there, covering the electricity requirements of Hokkaido.

China too has a good reason to pursue a pipeline connection to Sakhalin gas since diversification of energy suppliers is also under consideration as an important topic in both economic and political terms.

Still, generally speaking, most new energy projects in East Asia are not commercially viable, making it likely that the region will be forced to rely on imports of Gulf oil.

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GULF SECURITY

It is self-evident that the security of the Middle East oil-producing nations is of immediate common concern to Asian countries because Asia will increasingly have to depend on Middle East oil in the years

to come. The external and internal factors adversely affecting Gulf security and how the Asian nations could be engaged in sustaining stability in the Gulf are discussed below.

External Factors

Many people believe that the end of the Gulf War brought "American Peace" in the Gulf. Unfortunately, the reality may be just the opposite. Rather, the Gulf States are now in a most uncertain situation, and security there cannot be ensured without the presence of American military forces.

Since the government of Saddam Hussein continues to survive and America is forced to deploy its military forces to defend the Gulf States from Iraqi expansionary ambitions, the American forces represent the only alternative for ensuring security and peace in the Gulf. Nevertheless, we should also recognize that the current situation in the Gulf is something abnormal and that this status quo will be difficult to sustain both by the Gulf States and the United States.

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Handling the issue of Iraq returning to the international community

Historically speaking, the Arabs and the Persians have lived as two opposing forces in the Gulf region with the river Tigris being the borderline between the two. The river Tigris now makes a natural border between Iran and Iraq. At times of Persian expansion, battles were fought across the river Tigris, and once the Persian forces crossed the river, the entire Arab region fell under Persia's control. That is to say, the river Tigris is the last defense line for the Arab world.

The concept of the river Tigris as the natural defense line for the Gulf Arabs is still effective today. Once the enemy crosses the river Tigris, there are neither walls nor natural obstacles. People can walk across the desert easily crossing Saudi Arabia and other Gulf States. It was easy for the Iraqi forces to advance to the Saudi border crossing Kuwait in the early stage of the Gulf war. Thus, problematically, Iraq remains a key to Gulf security. Put simply is a phrase; "You must not fight with Iraq, which has river Tigris." In fact, it was the Gulf nations themselves that supported Saddam Hussein's function as the defense line against Iran immediately after its 1979 Islamic revolution in Iran.

Iraq may seem toothless since the Gulf War, but it is nothing but a nightmare for both the Gulf States and the United States that a recovered Iraq may dare to invade Kuwait and Saudi Arabia again. The U.S. military must remain in the Gulf as long as Saddam Hussein remains in power. But this U.S. military presence, in turn, stimulates Iraq and its supporters, fomenting uncertainty in the region in a vicious cycle.

Therefore, the most important issue in achieving long-term security in the Gulf is to have Iraq, if not Saddam Hussein, return to the fold of the GCC.

Three factors could change U.S. Middle East policies in the near future. First, the regime of Saddam Hussein could collapse. This would lead to drastic changes in U.S. Middle East policy. The U.S. is clearly aware of worst scenarios from the potential Iraqi threat to Kuwait and Saudi Arabia. Therefore, as long as Saddam Hussein remains in power, no major conciliation with Iraq is possible; there will be no change in America's conventional hard-line stance to monitor Iraq's moves and to use military force against any suspicious movements by Iraq.

However, once the Hussein regime falls, the tension prevailing ever since the Gulf war will dissipate. The U.S. will do its best to reestablish the balanced power in the Gulf by encouraging Iraq to return to the GCC. It would take time before normalized relations between Iraq and the U.S. as well as the Gulf States.

What bothers the U.S., however, is that there may be a country or countries, which will give a helping hand to Iraq while the current regime is still in place. Countries such as China, Russia, and France have maintained for years that the United Nations sanctions against Iraq should be removed. The U.S., on the other hand, has been adamantly opposed to such a step. Recently, this hard-line attitude of the U.S. has been generating increasing displeasure among the nations of the world, weakening support for continuation of sanctions.

Furthermore, some Gulf States such as the UAE and Qatar are increasingly irritated by the U.S. attitude and have started to engage Iraq on their own.

The security of Saudi Arabia is the dependent variable of the Iraqi move. Especially in light of the fact that there are no physical borders separating the two countries, there is no practical alternative Saudi Arabia could take when confronted with Iraqi hostility. It can try to regain friendship with Iraq through pro-Iraqi diplomacy, but Saudi Arabia cannot check the intrusion of Iraq by force without the help of American forces stationed on its soil. The presence of U.S. troops conflicts, however, with Saudi Arabia's Islamic orientation and constituency which does not necessarily welcome the long stay of the American forces. The longer the country's dependence on the American forces, the worse its relations with Iraq will become. Not only that, the equation of "America equals Saudi Arabia" will become widely fixed as a concept among Arab populations, reducing Saudi Arabia's ability to serve as a leader among Arab nations.

Importance of Turkey for Gulf Security

The importance of Turkey for U.S. Middle East strategy is manifold. At present, there is a strategic alliance between Turkey, America and Israel. The use of Turkish air bases enables the U.S. to control Iraq by air, enhancing U.S. ability to defend the Gulf.

Relations with Iran

Currently, America continues to employ a dual containment strategy against Iran and Iraq. The

continuation of its obstinate sanctions against Iran can hardly be called a wise policy. Especially with Iran's reformists winning a landslide victory in the February 2000 elections, the economic sanctions against Iran may well begin to be removed gradually. Obviously, terrorist attacks by Iran's religious fanatics should be monitored with the utmost care, but it is also true that every country has fanatics or terrorists whether or not it has sanctions imposed on it. Japan's AUM Shinrikyo and Saudi Arabia's Othman bin Ladin are a few examples.

It is important to recognize that since radical fundamentalists are increasingly moving into the minority in Iran, it is advantageous to support the reformists as the majority. These reformists will benefit from removal of sanctions. Still, it would be a mistake to strengthen Iran as a counter balance against Iraq.

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Internal Factors

At present, the possibility of an oil-producing country in the Gulf collapsing for internal reasons is remote. Even if such a thing should happen, the next regime would have nothing but oil revenues to rely on, making it unlikely that the collapse for some internal reason would disrupt long-term oil supply. It is true, however, that the Gulf nations, and Saudi Arabia in particular, are faced with the great pressure to create jobs for a growing population, and the situation there is far from healthy.

A political eruption of bottled-up frustrations arising from the poor could, nonetheless, generate a revolutionary current. The Japanese government should seriously consider increasing its support for the people in the society's lower strata so as to insure social peace in the Gulf.

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Role of Japan and other Asian Nations

The following two points should be given careful consideration as part of the common understanding among the Asian nations. First, any military support or export of weapons to the Gulf States and the Middle East as a whole should be strongly discouraged as they would disturb the power balance in the region. This is especially true for the transfer of technologies for weapons of mass-destruction and of missile technologies. To prevent proliferation will require the utmost mutual cooperation among the Asian nations.

It is evident from the erroneous U.S. Middle East policy during 1970s and 80s that excessive political and military support given to any particular nation in the Gulf will disrupt a delicate balance of power, resulting in insecurity for the entire region. The U.S., which backed the Iran of the Pahlavi era and thereby gained a foothold in the Gulf, underestimated the religious movement of the Iranian people, contributing unwittingly to the violence of the 1979 Iranian revolution. The U.S. then chose to support Iraq against Iran. In doing so, the U.S. turned a blind eye to the expansionism of the Ba'ath party led by

Saddam Hussein. Then, making light of Iraq's moves after the end of the Iran-Iraq War, the U.S. failed to accurately interpret Saddam Hussein's motives and let Iraq invade Kuwait, resulting in the Gulf War. As a result, the U.S. had to ensure security in the Gulf by its own military force.

For the Asian nations heavily dependent on the Gulf oil producers, it is important to share the awareness that any actions tending to disrupt the power balance in the Gulf will eventually come back to haunt them. Of special importance is the fact that China should be reminded repeatedly that its military support for particular nations would only help to disturb the military balance in the Middle East.

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Findings and Recommendations

1. To promote Asian energy security, it is important to take steps to resolve China's fear that its energy supply may be disrupted while its energy demand is rapidly growing.
2. It is possible that China, which feels uneasy about securing a stable energy supply, will develop a military force strong enough to unilaterally pursue oil field development in the Spratly Islands and the Senkaku Islands, generating conflicts with the neighboring nations. Therefore, Japan must consider policies that will protect its oil supplies from disruption from lesser Asian regional conflicts.
3. Pipeline projects connecting gas fields off Sakhalin with Harbin, Senyang and Beijing via Khabarovsk should be considered by Japan as one project to assist Russia and China.
4. Projects to modernize China's energy-related infrastructure should be considered by Japan for official development assistance.
5. An Asian Energy Agency (AEA) should be created to coordinate Asian energy policies including joint oil storage, nuclear power, maritime security, and the environment.
 - (a) The Asian Oil Stock Mechanism (AOSM) should be created by 2020 within the framework of the AEA to prepare for joint oil storage and joint release of stocks during a supply emergency.
 - (b) ASIATOM should be created within the framework of the AEA for comprehensive discussion of Asian nuclear issues.
 - (c) A common awareness of the security of SLOCs should be raised by discussing the issues of the Spratly Islands and control of piracy within the framework of the AEA.
 - (d) Asian environmental issues should also be discussed.
6. For the security of the Gulf nations, Iraq's eventual return to the GCC fold will be critical.
7. Economic sanctions against Iran should be removed.

8. Weapons exports to the Middle East should be strongly discouraged to avoid disturbing the power balance in the region. In particular, transfer of technologies for weapons of mass destruction and missile technologies should be eliminated with the utmost mutual attention among the Asian nations.

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