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**China and Multilateral Energy Cooperation in East Asia:
Opportunities and Challenges**

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Chen Shaofeng *

Introduction

Energy could be a source of both friction and cooperation, contingent upon how countries handle their energy security. It could tear nations apart, which could trace back to the Trojan War and the latest Iraq War. As historian Paul Kennedy indicates, gaining control over raw materials especially energy has become one of the important provoking factors leading to war and countries have to incorporate it into their national strategies.¹ Yet energy could also be a contributor gluing nation states together. The experience of European Union provides such a vivid case that started from the integration of energy.

By reference to the European Coal and Steel Community, East Asian countries have dreamed for developing an energy community for a long time.² Such an idea has been widely discussed in both official circles and academia.³ Irritated by surging oil prices, East Asian countries have further realized the significance of such an energy community, where multinational energy collaboration like cross-border pipelines, if available, would be more economically efficient, environmentally friendly and lower-cost in transportation. However, in

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1 Kennedy, 1988.

2 According to Peter Robson, international economic integration has several forms, which include customs union, free trade area, common market, monetary union, and economic and monetary union. Customs union is the most basic form of international economic integration with the following attributes: common foreign customs, free-tax trade among member states, and coordinated customs policy; *Free trade area*: free-tax trade covering more goods than customs union, but each member state can decide their own foreign taxes; *Common market*: common foreign taxes, free-tax commodity and service trade, and the free flow of labor, capital and firms within member states; *Monetary union*: adopting single currency, and having a common central bank and monetary policies; *Economic and Monetary Union*: it is the sum of common market, common currency, fiscal integration, common budget policy, deficit and debt policy integration etc. See Robson, 1998. Based on Peter Robson's definition, I define **energy community** as an area wherein member states carry out free-tax energy trade, coordinate their energy policies, take concerted polices towards outside countries, build inter-state energy networks and share energy information.

³ See, for example, Richardson, 2008; Wishnick, 2008; Friedman and Sung, 2006; Shen, 2005; Yasuo, 2005; Zhang, 2005; Nagesh , 2005; Ito, 2004; Northeast Asia Economic Forum, 2005; Pacific Russia Information Group, 2003; Ryu, 2007.

contrast to regional integration in other regions, East Asia is far behind in multinational energy cooperation (MEC).

Geopolitical discourse has generally highlighted geo-strategic competition and political distrust as the fundamental causes that prevent East Asia from building an energy community.⁴ In the eyes of Jaewoo Choo, the reality is so chilling that establishing an East Asian energy community (EAEC) is simply out of question.⁵ Neo-liberal institutionalists and globalization theorists can hardly accept such an assertion, arguing that the growth of capitalism and international trade rest on the efficient use of energy and the reduction of interstate ‘resource war,’⁶ which can be achieved by the anti-geopolitics of the market.⁷ Both perspectives, however, can only account for the unfolding story partially at most.

With SWOT analysis,⁸ this chapter intends to systematically analyze the opportunities and constraints of building EAEC. It is argued that despite the stumbling blocks of power politics and energy nationalism, an energy community could be fulfilled with open regionalism and a market-based approach, given that a host of felicitous opportunities contributing to regional cooperation have emerged, particularly a new security paradigm in East Asia. These opportunities, if well exploited, can serve as building stocks for EAEC.

In order to identify cooperative opportunities in this region, the energy balance and outlook in East Asia will first be delineated in the next section. The third section elaborates on the strengths and weaknesses of EAEC, followed by my exploration of the constraints and opportunities of building EAEC. Based on the above analysis, the conclusion will make an overall assessment of MEC in East Asia.

⁴ See, for example, Herberg, 2004; Wesley, 2007, pp. 1-12; Liao, 2008, pp. 57-78; Calder, 2004.

⁵ Choo, 2006, pp. 91-106.

⁶ Peters, 2004, pp. 189-191.

⁷ May, 1998.

⁸ SWOT analysis is widely used to set out the strengths, weaknesses, opportunities, and threats pertaining to a research object, systematically compare these factors and help construct an organization’s developing strategy. With this method, we can have a comprehensive, systematic and accurate view on the context where an organization locates, and find how the above independent variables link together, thus helping us formulate a proper strategy.

Energy Balance and Outlook in East Asia

Growing energy deficits have posed a grave challenge to East Asian countries. Thanks to their robust economic growth in the past decades, this region has a surging appetite for energy. As shown in Figure 1, primary energy consumption in East Asia, whose share in world energy consumption rose from 18% to 29%, ascended by 116% during 1990-2007. Northeast Asian countries (China, Japan and South Korea) have constantly consumed approximately 80% of primary energy in the East Asian region. With a similar growth rate (117% and 113% respectively) during the above period, both Northeast and Southeast Asian regions have a growing energy deficit. Particularly conspicuous is China's voracious appetite for energy, which sees an almost triple increase in that period. Although each state may fare differently due to their different energy endowments and economic development, overall East Asia has to depend more on foreign energy imports due to indigenous resource insufficiency, with oil and gas in particular.

Oil

Oil consumption in East Asia gained a 78% increase over the years 1990-2007. While its share in the world has grown from 18% to 25%, oil production share has been leveled off in the neighborhood of 8%. As a result, the region is facing a growing deficit of oil (see Figure 2 and 3). As shown in Figure 4, oil production in Southeast Asia (SEA) could initially meet local demand, but that situation turned around in mid 1990s. By 2007, the gap reached 80 Mt, meaning that 38% of oil consumption has to be imported from other regions. In fact, most SEA producers including Indonesia, Malaysia and Vietnam, have peaked their oil production in the past years. Indonesia has turned into a net oil importer since 2004.

In Northeast Asia (NEA), oil consumption hovers around 79% of that in East Asia. Individually, China more than doubled its oil consumption while South Korea's went up for 117% over 1990-2007. Conversely, oil consumption in Japan dipped by approximate 8% during the above period. As a result, since 2002 China has replaced Japan as the second largest oil consumer, just next to the United States, and South Korea is the ninth largest oil consumer in the world, but Japan remains the second largest oil importer, also after the US, while China and South Korea have become the third and fifth largest oil importers respectively. Japan and South Korea have to import almost all the oil they consume (99% and 97% respectively). China became a net oil importer after 1993. Since then, the gap between domestic oil production and consumption keeps enlarging. By 2007, China has to import nearly 50% oil it consumes. In view

of its surging demand, China's reliance on foreign oil imports is set to increase.⁹ According to International Energy Agency (IEA), oil imports would reach 80% in its overall petroleum consumption by 2030.¹⁰

Natural Gas

Natural gas consumption in East Asia tripled during the period of 1990-2007 and gained 57% increase between 2000 and 2007, reflecting that countries in this region have attached new priority to this clean energy. Indeed, natural gas use has been expanded very rapidly, with a striking increment of 174% in China, 47% in SEA, 25% in Japan, 76% in South Korea and 74% in Taiwan, respectively.¹¹ However, its share in the world by 2007 remains relatively low, accounting for only 11% in the world in 2007, which indicates that there is very large room for further development in East Asia. In the production side, as indicated in Figure 5, not only can SEA fully meet local consumption with indigenous gas production, but also has a lot for export. In contrast, with a fast growing appetite for natural gas, NEA has to rely on foreign imports, notwithstanding a rapid pace in gas production.

In absolute terms, the use of natural gas in China has increased sharply over the past years. Gas consumption leapfrogged from less than 15 Mtoe in 1990 to more than 60Mtoe in 2007. Despite such a progress, the percentage of natural gas in China's energy mix remains very low, only 3.3% in 2007.¹² According to IEA, China started to import gas from 2006, and 50% of its gas use would have to rely on imports by 2030.¹³ In Japan and South Korea, natural gas consumption is projected to grow on average by 0.7 percent and 2.2 percent per year between 2005 and 2030 respectively.¹⁴ Rich reserves in SEA may be a good import option for Northeast Asian countries to expand their gas use.

⁹ The reserve/production ratio (R/P ratio), denoting the number of years of remaining production from current proved reserves at current production rates, is only 11.3 years at end 2007. See BP, 2008.

¹⁰ IEA, 2007, p. 326.

¹¹ BP, 2008.

¹² Data from BP, 2008.

¹³ IEA, 2007, p. 332.

¹⁴ Energy Information Administration of the U.S. Government, 2008.

Electricity

As shown in Figure 6, electricity generation in East Asia in 2007 was more than twice that in 1990, and its share in the world rose from 16% to over 29%.¹⁵ Northeast Asian countries have generated 87-89% electricity over the years 1990-2007, but Southeast Asia countries have tripled their power generation during the above period. Likewise, much of the increase derives from China, where electricity generation jumped from 621 Terawatt-hours to 3300 Terawatt-hours over the above years. Power generation in other Northeast Asian economies keeps an upward trend, but the increase is much lower in recent years. In China, 80% of electricity is generated by burning coal, a way with severe environmental consequence.

Energy Structure

In NEA, the energy structure in Japan and South Korea is akin in the sense that oil remains the primary source, followed by coal, and that both nuclear energy and natural gas account for over 12% in their energy equation respectively. As shown in Figure 7, oil consumption dropped 4-5% from 2002 to 2007 in the two countries, whereas natural gas and coal gained some weight by around 3% and 2-3% respectively at the same time. Nuclear energy dipped 2% in Japan while it increased slightly in South Korea. But in general, their aggregate energy consumption has been leveled off over the years of 2002-2007. In contrast, China's primary energy consumption went up from 1036Mtoe in 2002 to 1863Mtoe in 2007, going up by 80%. Retaining as the dominant energy form in China, coal's share even increased in the past years. Natural gas and nuclear energy have slightly been expanded in China's energy equation. Conversely, oil's percentage declined by 4% (see Figure 7).

In SEA, the energy structure has remained relatively stable over 2002-2007. As shown in Figure 8, oil is the predominant form of energy with around 55% in the consumption mix, followed by natural gas, which has a higher percentage than Northeast Asian countries. In contrast to China's heavy reliance on coal, coal only accounts for 12-15% of energy use in SEA.

¹⁵ Due to unavailable data on electricity consumption, electricity generation is used as an alternative. Given that East Asian countries have carried out little electricity trade except that China has very small mega watt imports from Russia and export a very small portion to Vietnam, electricity generation can roughly indicate power use although there is some power loss in transmission.

Hence, energy demand in Northeast Asian countries and regions except China has been flat. Conversely energy consumption in China and Southeast Asia keeps surging. This surging trend has already turned Indonesia into a net oil importer and Malaysia will lose its petroleum self-sufficient status in the coming years. East Asian countries as a whole have a fast reliance on foreign oil imports. Their huge oil demand may produce two contrast consequences: on one hand, countries in this region may intensify their contest for overseas oil resources, and they may also consolidate their pertinacious stance on disputed territories like South China Sea due to the alleged existence of abundant fossil fuels. On the other hand, inter-state cooperation may be elicited from their competition. European Union can be regarded as a cooperative body after decades of war among European countries, an extreme form of competition.

In fact, East Asian states have to collaborate with each other. First, they have to sit together in order to tap into energy resources in those disputed territories. Rational governments are aware that any dispute cannot be resolved by military force in contemporary world. Second, due to their growing dependence on foreign imports, they are confronted with a set of similar risks related with energy production, trade and transportation in foreign countries and international waters. Moreover, there are more areas that East Asian countries can promote their collaboration.

Strengths of EAEC

East Asian countries are quite stratified in many aspects such as energy endowment, economic development, and even political and economic systems. Such tremendous variations on one hand are stumbling blocks that obstruct coordinated actions; on the other hand, the distinctions may be mutually supplemented. Establishing an energy community at least has the following strengths:

The collective bargaining power of East Asian states arising from such energy cooperation would be greatly enhanced to the extent that they could vigorously counterbalance and constrain the market power of oil producers in other regions with the Middle East in particular. Most East Asian countries have a high dependence on the Middle East, but they have to pay an “Asian premium” for the imported oil from the Middle East partly because there is no united energy market in Asia. This premium could go up to \$1.6 per barrel.¹⁶ According to Yoshiki, due to the “Asian premium”, Asian consuming countries have to pay 5-10 billion dollars more per annum

¹⁶ *Alexander's Gas & Oil Connections*, 2004.

to oil producing countries, and the Asian premium is not just confined to oil.¹⁷ To pare away the premium, Asian countries have to stand together in the negotiation with the Middle East.

Establishment of an EAEC will also contribute to promoting energy trade within this region. The EAEC, once established, could help attain the goal of mutually compensating for each other. For instance, Northeast Asian countries are extremely poor in energy resources but own advanced technology and rich capital, while Southeast Asian oil producing countries are thirsty for foreign investment for oil and gas exploration and production (E&P) as well as infrastructure construction. Thus, if these countries can work together, mutual benefits can thus be achieved. Thus far, economic relations in this region are mainly on a bilateral basis, which “may be sufficient for general trade and investment, but not for promoting industries bound to a regional infrastructure, such as the energy trade.”¹⁸

EAEC might be a viable way to low down or even remove the possibility of inter-state confrontations. Asian continent is fraught with various disputes. It is said that “Every state in the (Pacific Asian) region except land-locked Laos is involved in at least one dispute with a neighbor.”¹⁹ Some of these disputes are likely escalate due to the alleged rich energy reserves in the disputed territories, such as the East China Sea between China and Japan, and the South China Sea between China and some ASEAN countries. The motif of creating European Coal and Steel Community was to remove those factors that might trigger conflicts in Europe. Almost half a century's experience has testified that this way works well there. Can that approach be duplicated in East Asia? The practice in Mekong River among China and some ASEAN countries provides a case to turn a region of conflict into a community of cooperation.²⁰ In that regard, EAEC may not completely eliminate inter-state conflicts, but it does contribute to reducing the possibilities.

Both oil importing and exporting countries in East Asia have a stake in common to preserve maritime security in the Malacca Strait. As East Asian countries become more reliant on this sea lane for their commodity imports and exports, particularly oil, the Malacca Strait is crucial to regional energy and economic security. Currently, this chokepoint is the busiest waterway in the world, with about 50,000 ships plying the route annually, carrying half of the world's oil and

¹⁷ Yoshiki, 2003.

¹⁸ Northeast Asia Economic Forum, 2005, p.6.

¹⁹ Dupont, 1998, p. 28.

²⁰ Dosch, Durkop, and Nguyen, 2005.

one-third of the world's trade. In particular, over 80 percent of oil imported by China, Japan and South Korea has to pass through this chokepoint, thus making it connotative of strategic and economic implications. Strategic concerns have lured Asian big powers including the US, China, Japan, India and South Korea, to exert their influence upon the waterways. Yet any single power's proactive move to control the Strait would be considered as unfriendly and provocative, let alone to say that littoral states have different views concerning their involvement. Can other countries just leave the task of patrolling and countering maritime security threats in the Malacca Strait such as terrorism, piracy, human and drug trafficking, and marine environment, to the three littoral states, namely Indonesia, Malaysia and Singapore? This is largely the status quo, but it is unclear how long the three states are willing to shoulder the burdens of providing such a public good. In fact, littoral governments have called for fiscal, technical, and military assistance from 'outsiders'.²¹ The EAEC would be an optimal option that can both get 'outsiders' in and rule out the obstacle of power politics.

The EAEC can also help improve energy efficiency and energy conservation in East Asia. Improving energy conservation not only benefits the country itself, but also can help reduce Asian inter-state competition for energy sources. Moreover, higher energy efficiency often goes in tandem with technology advance as well as alleviation of environmental pollution. According to the Institute of Energy Economics, Japan (IEEJ), if Asian countries adopt advanced technologies, 1.1 billion tons of oil equivalent, or 17% of Asia's primary energy demand, could be reduced by 2030. The saved amount would be twice of Japan's total energy demand at present.²² Given the great externalities and waste generated in producing and consuming energy, one unit of energy saved must be larger than one unit produced.

As part of the EAEC program, a concerted emergency response system is conducive to preventing oil price fluctuation. Even if oil crisis happens, such a system can help reduce the percussions to the least extent. Normally, the emergency response system requires each member state to construct certain strategic petroleum reserves, share energy information and take concerted actions to prevent or resolve energy crisis. For instance, IEA net oil importing countries have the obligation to build oil stockpile "equivalent to at least 90 days of net oil

²¹ Mahendra Ved, "Outsiders' not needed to patrol Malacca Strait: Malaysia," *Indo-Asian News Service*, 14 June 2007.

²² Tsutomu, 2008.

imports of the previous year”.²³ And it is up to the IEA to coordinate member states' energy policies, collect and analyze energy data, initiate policy proposal for member states, and decide when and how to take concerted actions. In the East Asian region, Japan and South Korea have already owned 160-day and 90-day oil stockpiling respectively. China is in the early stage to build its strategic petroleum reserves, and some other East Asian countries like Vietnam have similar plans. Since Japan and South Korea have sound experience in building and managing petroleum reserves, EAEC will provide opportunities for new investments in stockpiling infrastructure construction and for cooperation in storage information exchange and concerted actions to release stocked oil to the market.

Energy cooperation will generate a spill-over effect to other industries. Considering that the energy chain from production to consumption calls for the support of infrastructure construction and a lot of other basic materials such as steel. Hence, construction of regional energy networks and maintenance of the bulky infrastructure would greatly promote the growth of other industries, and create vast job opportunities.

Last but not the least important, EAEC not only promotes interdependent relationship between countries, but also can foster trust among people in different countries, thus greatly curtailing the possibility of conflict. EU's case indicates that such cooperation starts from energy, but will not end at that point; rather, member states can further expand their collaboration into other fields. Take the oil or gas pipeline as an example, constructing transnational pipelines preconditions that countries involved have good relations. “To get built they require stability, trust, and cooperation,” and once such pipelines are in place, they “lock suppliers and buyers into a long-term relationship.”²⁴ In that sense, energy indeed can glue countries together.

Weakness of EAEC

However, every coin has two sides. There are weaknesses of the EAEC too. The most striking one is the rights (interests) and obligation allocation problem. Apparently oil exporters' interests and oil importers' are sometimes at odds. In particular, few oil producers are willing to surrender the big fat of upstream oil to outsiders. Neither do they have the same sense of risk as

²³ International Energy Organization, 2004.

²⁴ Pacific Russia Information Group, 2003.

the oil importers. Under such circumstances, it is very hard to distribute rights and obligations. Even among the East Asian oil importers, their different national situations, such as economic development, foreign energy dependence rate, membership of other international energy organizations, relations with key energy producers, progress in energy emergency-countering system and energy market development, and so forth, are bound to have different expectations from the EAEC. For instance, Japan may attach priority to free flow of fossil fuels within the regional framework, while China may stress the importance of energy-related technology transfer. Countries with common interests but different priorities are often liable to fall into endless debates and bargaining, thus affecting agenda setting and policy making.

Aside from the influence on interest redistribution among each member state, forming an EAEC is set to affect the interest distribution among different social groups within each country. Consumers should be able to benefit from the EAEC as it is conducive to lower and stabilize energy prices. Yet, due to the competition and free trade the EAEC would bring about, not every one would brace for it. Most likely is the opposition from the state-owned enterprises monopolizing some countries' domestic energy market, whose interests might be hurt; therefore, they may be reluctant to join the EAEC.

Another daunting challenge pertains to issues relating to institutional and legal framework, financial/commercial concerns, technical support, management, and health, security and environment (HSE). Disparities and differences in terms of energy regulations and technical standards widely exist in different countries. Paring away these differences not only calls for huge costs, prolonged negotiation and bargaining, but also involves the problem of 'path dependence', a problem exists for a wide range of industries, which may have to change their manufacturing equipments, and also for consumers, who have got used to the existing facilities.

Moreover, institutionalization of an EAEC implies the loss of some autonomy with regard to energy policy making and implementation of the member states. For those countries which cherish sovereignty and/or use energy policy to regulate the economy, they would lose these expediential instruments. It is conceivable that oppositions may derive from the energy policy making apparatus in some countries as an EAEC would directly water down their authorities.

Despite the existence of some weaknesses, the EAEC owns a plethora of strengths for the East Asian countries and even the world. Therefore, it is a great project that merits pursuit. Before exploring the new opportunities, it is necessary to straighten out the potential constraints.

Threats/Constraints of Building an EAEC

Geopolitical discourses have ascribed the failure of MEC in East Asia to political distrust, power politics as well as energy nationalism. First, the lack of political will and mutual trust in East Asia, to a large extent, derives from the problems highlighted by historical animosity and territorial disputes among East Asian states, as well as the uncertainty of future strategies. These problems, if handled improperly, are very liable to provoke their citizens' strong nationalism, which further sours political relations. The absence of mutual confidence and trust makes them very sensitive and vulnerable to foreign risks. As a result, countries in this region have a propensity to over-politicize the energy issues.

In particular, the Sino-Japanese relationship has been plagued by their strategic suspicions originating from their political distrust. China complains that Japan has no proper recognition about its invasion and the atrocities it brought to the Chinese people. Beijing particularly suspects that Tokyo intends to expand its military power, obstruct its development and even block its unification with Taiwan. In contrast, Japan feels very disconcerted towards the rise of China. It aspires to become a normal big power hallmarked by the membership of the Security Council of the United Nations, and the possession of its own national defense military. However, it sees China as an obstacle to attain both goals. In its eyes, China just takes the history issue as an excuse to prevent it from being a 'normal state'.

Although efforts towards an EAEC are under way in the non-governmental levels, due to the lack of confidence and trust of the national leaderships, this great project can hardly pick up any impetus from the governments. Moreover, as the Chinese proverb goes that “no more than two 'tigers' can coexist in the same mountain”, the big powers (including the U.S.) tend to hold misgivings and suspicions towards the other. As a result of such over-sensitiveness, these countries have the propensity to over-politicize the energy issues. As the neorealist argues, they not only concern about the absolute gain, but also the relative gain. When Japan perceived that China might gain more than its own, it tried hard to prevent Sino-Russia cooperation although both Japan and China could have found a win-win solution. Thereby, one country's activeness to promote an EAEC may easily be misinterpreted as an ambition of being a regional hegemon.

Pertaining to the above, the United States, though geographically not in the East Asia, has a large say and extensive influence on regional affairs including launch of an EAEC. However, for a long time Washington was reluctant to see an economic block excluding its participation in this region. Without its permission, is it possible to take the initiative by the East Asian countries themselves to set up an energy community? A definite answer may be doubtful because neither Japan nor South Korea and other allies would offend the U.S. for fear of its withdrawal of the security protection commitment.

‘Energy nationalism’, namely, direct competition for energy supplies among East Asian countries, has further consolidated the idea that their energy interests are in collision.²⁵ As Sino-Japan tussle over Siberian oil pipeline case suggests, Sino-Japanese competition over the oil pipeline had not been inevitable, and both could have benefited from cooperation, but it was geopolitics that precluded such a win-win option. Once such a conflicting view consolidates, it is liable for countries to look at things from an adversarial perspective. China is in a good position to link Eurasia and East Asia and it had hoped to forge an energy transit hub in NEA, but Japan would not accept it for fear that its energy security might be controlled by China. Energy nationalism will remain formidable in East Asia considering that it is intertwined with their national security concerns.²⁶

In fact, some of the strengths through MEC can be or have been achieved through bilateral cooperation, and the costs of bilateral cooperation may be far less than those of multilateral one. Such a fact has further dampened the zest of relevant parties to engage in EAEC. For example, Energy trade with countries outside East Asia may be more alluring than with countries in the same region in view of resource constraints, quality and terms of cooperation. By the same token, it is manifest that bilateral negotiation and transactions are relatively more time-saving and cost-efficient than multilateral ones. Therefore, when countries believe that some policy goal could be better served through bilateral collaboration, they would have no incentive to promote multilateral cooperation.

The differences in foreign energy dependency, energy management system and policy orientation add another constraint to the setup of EAEC. The variance in energy dependency rate and energy consumption patterns makes countries differ in sense of risk on foreign reliance.

²⁵ Herberg, 2004, p. 368.

²⁶ Tow, 2007, p. 163.

Moreover, countries like China and Malaysia are adopting a mixing system combining both market means and state command instruments, while market system has been embedded in Japan, South Korea and Singapore. Noteworthy is that almost all East Asian states play an important role in regulating energy markets and especially in actively conducting energy diplomacy to ensure energy security. Hence, these countries would inevitably encounter various difficulties in harmonizing energy policies. Even if East Asian countries have the ambitions to set up an EAEC, they still need to resolve the problems like who leads the project, how to overcome free riding, how to institutionalize such cooperation, how to settle potential disputes, and how to harmonize their regulatory framework and technical standards.

Another constraint comes from the diversified priorities of goals and expectations of the East Asian countries on the EAEC, and thus different views on how to grasp the opportunities to form an energy community. Apparent are the divergent views among oil importing countries and oil producing countries. Under the pressure of high oil prices, oil importing countries may be impelled to take precedence of energy conservation and development of renewable energy, which oil producing countries may be indifferent; In contrast, oil producing countries may prioritize stepping up investment to explore and develop new oil reserves. As a core requirement of energy community, member states need to open their energy market to each other, but doubtlessly it will not be easy for oil producing countries to fully open their upstream market to outsiders.

The last constraint consists in the mismatch of government and business within one country. Each government invariably has its strategic and politic considerations, but for business, they only concern about their profits. Hence, business goals sometimes may not comply with government interests. Under such circumstances, it is very likely that those state policies that require business support may not be fully executed. For instance, the Japanese government may be willing to share its experience in energy conservation with other countries, but the Japanese business may be reluctant to transfer such conservation technologies for fear of losing their competitive edges.

Despite the conceivable constraints, East Asia is still fraught with various kinds of opportunities to build EAEC. Virtually conditions for the existence of some constraints are in flux, and a more amiable environment is emerging, both of which are conducive to EAEC.

Opportunities for Building an EAEC

Existing Achievements

The opportunities first and foremost refer to those areas where East Asian countries have common interests or the likelihood to develop their common goals. There are many issue areas that call for multinational cooperation in East Asia. Kensuke Kanekiyo has summarized these areas as the “three S’s of energy”, namely energy security, energy stability and sustainability of energy.²⁷ As a matter of fact, East Asia has achieved some success in promoting MEC, which is often neglected by geopolitics proponents, though much more progress is required to set up an EAEC. The existing achievements as illustrated below can elicit and facilitate further collaboration in new frontiers.

Of particular importance is the growing energy trade and investments among countries in East Asia, which has formed an interdependent nexus. As shown in Table 1 and 2, while SEA furnished China with 63% of steam coal and 35% of oil products in 2004, the reverse trade in the two commodities from China to SEA reached 4% and 47% respectively. While Japan, South Korea and Taiwan relies on energy imports from SEA, with LNG in particular, Japan and Korea also export oil products to SEA, though the percentage was relatively small (see Table 1 and 3). Other than that, NEA is the major source for foreign energy investments in SEA. For instance, China, Japan and Korea have poured huge capital in helping SEA to carry out energy drilling, infrastructure construction and other energy-related projects in Indonesia, Cambodia, Myanmar, Malaysia, Vietnam and so on. Countries in this region also go hand in hand to conduct some energy projects in other continents, such as China’s collaboration with Malaysia and India in Sudan.

Besides energy trade and investments, East Asian countries have also made great efforts to institutionalize their cooperation. In the East Asia-wide level, ASEAN+3 and APEC are the two major platforms involving most states. Under the ASEAN+3 framework, member states have decided to “build a framework for energy policies and strategies and action plans”. The first Energy Ministers meeting convened in the Philippines on 9 June 2004, have agreed to strengthen ASEAN+3 Energy Partnership, aiming to achieve greater energy security and sustainability in East Asia. Since then, Energy Ministers of member states meet on a regular basis to enhance

²⁷ Kensuke, 2007.

MEC.

Under APEC, energy cooperation has been conducted under the framework of Energy Security Initiative, which was first put forward in 2000 to prevent member states from energy supply disruptions. To that end, an Energy Working Group was set up in 1990, working to maximize the energy sector's contribution to the region's economic and social well-being and mitigate the environmental effects of energy supply and use.

Thus far progress on MEC under ASEAN+3 and APEC has been achieved at least in the following aspects although more efforts are needed: energy market data collection and sharing, real-time emergency information sharing, jointly developing civilian nuclear energy, Asian energy conservation program initiated by Japan, maritime energy transport security, emergency preparedness, energy efficiency, clean energy technology, and so on. The efficacy may be a problem as any decision made by ASEAN+3 and APEC is on a vulnerary and non-binding basis, but these achievements should not be ignored.

In the sub-regional level, NEA lags behind SEA as there is no specific arrangement or plan among China, Japan and Republic of Korea though their energy ministers also meet frequently. In contrast, ASEAN has some grand plans on table. Of particular importance are the ambitious trans-ASEAN gas pipeline and grid network projects. In the ASEAN Vision 2020, this block put forward the plan to “establish interconnecting arrangements in the field of energy utilities for electricity, natural gas and water within ASEAN through the ASEAN Power Grid and Trans-ASEAN Gas Pipeline, and promote cooperation in coal trade, energy efficiency and conservation, as well as the development of new and renewable energy resources.”

A related issue pertains to the way regional energy market integration should be pushed forward: whether all or most East Asian countries should be involved in this process, or whether the two subregions – NEA and SEA, should pursue that goal independently. This paper put the two subregions together. In effect any integration advance in whichever subregion would be a spur and reference for the other and thus contribute to EAEC. Energy cooperation within the two regions is not exclusive. In spite that ASEAN countries go ahead of NEA in energy market integration, but they are plagued by lack of capital, technology and even leadership within the block itself. In that sense, NEA can make up for those deficiencies. According to Elspeth Thomson, SEA and NEA “are deeply integrated in terms of energy relations and security”. While NEA have procured large share of energy from SEA, their investments have fostered ASEAN’s

industrial and regional development, which has boosted the latter's energy demand and may force them to re-consider their energy export contracts with NEA.²⁸ This is understandable in view of ASEAN's priority of meeting their energy demand, but that does not mean their energy relationship would be severed. SEA remains thirsty for NEA's assistance to conserve energy use and develop other types of energy.

Potential Cooperative Areas

There are numerous areas deserving further cooperation, including oil stockpiling, emergency preparedness, energy market information collection and analysis, energy market construction, energy market reform, coal purifying, cross-state oil and gas pipeline, inter-state grid networks, joint development in disputed territories, joint development of civilian nuclear energy, harmonizing energy regulations and technical standards, and so forth. Hereupon five areas are highlighted in view of their imminence.

The first opportunity for building an EAEC is to improve energy efficiency and conservation. In the spectrum of energy conservation development, the gap is huge. East Asia houses the world's most developed nation in energy conservation as well as countries with very low energy use efficiency. Against the backdrop of growing energy deficits, energy conservation provides not only a new arena for inter-state cooperation, but also a substantial commercial opportunity for local business.

The environmental security problem is a second area for East Asian states to cultivate cooperative relationships in order to deal with it more effectively. Environmental pollution is a kind of negative externality that does not distinguish state borders. A company that pollutes within one country may not be punished in doing so, but the society (not necessarily within one country) has to shoulder the heavy burden to take care of the pollution caused. Whereas environmental clean-up and research is contrarily a kind of positive externality, that is, one's effort of improving the environment also benefits others though they have not paid for it. A better environment benefits the whole society (cross national borders), but does not increase profits for the country or company which spends money to improve it. Due to the incompatibility of economic development and environmental protection, countries have the propensity to pollute more, but are less willing to share responsibilities in improving the environment. The attribute of

²⁸ Thomson, 2006, pp. 67-90.

externality implies that no country can tackle the environmental pollution problem solely. Given that Asia will be worst affected by climate change and coastal zones in South, Southeast and Northeast Asia will be severely jeopardized by increased flooding from the sea and storm surges,²⁹ a multilateral framework for joint policies and actions is more urgent and indispensable to prevent further environmental pollutions.

A third area may rest with the need to counterbalance and constrain the ascending bargaining power of the oil producing countries, and to eliminate the “Asian premium”. As most oil importing countries strive hard to diversify their oil importing sources by acquiring foreign oil concessions or long-term oil supply contracts, such competition has provided opportunities for oil producing countries to take advantage, as evidenced by Russia’s maneuver over China and Japan in the Siberian case. Asian major oil importing countries have made some efforts to take concerted actions to negotiate with oil producing countries, for instance, China, Japan and South Korea set up a Committee on East Asian Co-operative Initiative in 2004 to explore ways to eliminate the premium;³⁰ in January 2005, hosted by India, key Asian oil importers sat together with Gulf OPEC countries to work for long term oil supply and to reduce the 'Asian premium' problem.³¹

The fourth area is to maintain smooth sea-lane communication around the Malacca Strait and the Taiwan Strait, which East Asian countries have common stakes. While daily passages have dramatically increased in the past decade, the Malacca Strait has been plagued by piracy and terrorist activities. It is projected that daily passage of oil traffic through the Strait of Malacca will jump from 12 million barrels (Mb) in 2004 to 21 Mb in 2030.³² But so far except that the three littoral states (Indonesia, Malaysia and Singapore) have carried out coordinated patrol to prevent terrorist attacks in this waterway, most of the time East Asian countries act as free riders despite their growing reliance upon it. There is no other multilateral framework concerning how to ensure the smooth communication and how to preserve the daily use. Despite the coordinated patrol, vulnerability to terrorists remains high.³³ In the South China Sea, crisis also lurks behind, but there is no corresponding emergency preventing and handling system either. The likely risks in these sea lanes urgently call for multinational collaborations.

²⁹ Richardson, 2008.

³⁰ Teo, 2004.

³¹ IMF New Delhi Office, 2005.

³² Tsutomu, 2008.

³³ Gatsiounis, 2004.

In particular, gas can be the initial area for inter-state cooperation as East Asian countries call for more use of natural gas. On the one hand, this type of energy can not only satisfy energy demand, but meet local requirements for cleaning up the environment. On the other hand, as it is in the initial stage of development, the problem of repeated construction does not exist, and the vested interests in most countries are less strong, which is helpful for inter-state coordination and cooperation. Furthermore, SEA has taken the first step in working out a grand plan of building a trans-ASEAN gas pipeline, and there are some sections of pipelines available. Nonetheless, to promote the use of natural gas, substantial investment for exploring, drilling, and infrastructure construction is required. A multinational cooperative framework can not only help solve the problem of capital starvation for gas producers, but also can make rational use of this type of resource.

More Friendly Environment for EAEC

Another implication of opportunities for promoting EAEC is a friendly environment which can facilitate MEC. Existence of geostrategic power competition and lack of mutual trust are the major grounds for a pessimistic view by geopolitical discourses on EAEC, but the deepening interdependent relations among East Asian countries mean that other countries can hardly be separated from the loss of any of them. Moreover, a new security paradigm hallmarked by the warmer relationship among big powers has been emerging in East Asia.

Of particular importance is the Sino-U.S. relationship. Despite their differences over Taiwan, trade, human rights and other issues, Beijing and Washington have transcended the previous “confrontational” relationship and developed as “part-time partners in handling regional security matters”. This can be proved by their cooperative efforts with respect to North Korea and anti-terrorism activities, regular senior-level strategic and economic dialogues, military-to-military relationship, frequent constructive consultations between top leadership, and alleviation of tensions in the Taiwan Strait and East China Sea.³⁴

Recent warming relationship between China and Japan, the two Asian giants which are key to forming an energy community, has created a good atmosphere for that cause, and their decision of putting aside dispute for sake of joint development in the South China Sea has provided a rare felicitous chance to go forward. Nonetheless, even if the two big powers

³⁴ Mervadon, 2008.

competed with each other, their tussles might turn into an indirect outlet to attain the goal of EAEC, though that way would be more zigzagging. It was the launch of the China-ASEAN Free Trade Agreement negotiations that prompted Japan to reconsider its regional economic policy, and forced it to take a more aggressive approach in bilateral FTA negotiations.³⁵

Likewise, latest development in the South China Sea and Beibu Gulf has greatly alleviated regional tensions and created a good atmosphere for China's engagement with SEA. In the Beibu Gulf, a Pan-Beibu Gulf Regional Economic cooperation scheme encompassing a wide range of countries is put into execution. In the South China Sea, these developments sprang from the joint venture proposal between China and the Philippines in the Spratlys in 2004, and then the same between China and Vietnam in the Beibu Gulf in 2005. More importantly, China, the Philippines and Vietnam have come to agreement to jointly conduct seismic survey in parts of the Spratlys for three years starting from 2005. These are positive moves that are conducive to enhancing mutual trust.

Externally, the opportunities first derive from the drive of globalization. Today's international energy market is a highly integrated one where each oil importer has to accept the integrated oil prices when purchasing oil from other countries. It is such an interdependent nature that makes the market vulnerable to any economic and geopolitical risks. And more vexing is that such vulnerability is liable to lead to volatile oil prices, which can concurrently produce a contagious effect on other commodities, thus making percussions on the world economy. Under a globalized energy market, all Asian oil importing countries are 'stakeholders' to maintain stability in the oil producing regions and countries, particularly in the Middle East, from which their major oil imports come. Furthermore, the highly interdependent economic relations among East Asian countries make each side benefit from the others' boom and also suffer from the other's bust. International economic relations are not simply zero-sum games but more and more present the feature of either win-win or loss-loss outcome. In addition, the regionalization in West Europe and North America also poses a challenge for East Asia.

Another opportunity lies in the US policy shift. The U.S. used to oppose the establishment of EAEC because it was afraid that this multinational framework would go beyond its control and turn into a platform to challenge its hegemonic status in this region. The US has already shifted its policy towards East Asian integration. Both Naoko Munakata and Shoichi Itoh have

³⁵ Tan, 2006.

highlighted the policy change of the US and its proactive engagement in pushing forward East Asian regionalism.³⁶ With this change, the US encourages Sino-Japanese energy dialogue and engages China in regional energy cooperation.

A third opportunity derives from the spill-over effect produced by Free Trade Area (FTA) between ASEAN and its Northeast Asian counterparts including China, Japan and South Korea. Progressive implementation of FTA will activate removal of trade barriers and reduction of taxations, which not only would deepen interdependence among East Asian states, but also would create a more amiable market for energy trade and investment.

Coordination and harmonization of energy institutional framework and energy regulations, as aforementioned, is one of the stumbling blocks for EAEC. The challenge will still be there, but as countries like China are in transition to the market system, such a problem would become more and more insignificant.

As for competition for oil sources, this could eventually be vitiated by fostering cooperation in formulating common energy policies. It is true that East Asian countries are in different energy situations, but that does not necessarily constitute an obstacle to some form of association, which has been verified by the European Union and North America cases. Should East Asian countries perceive a clear mutual interest, there is no reason why they will not come together to form an energy community.³⁷

Finally, Russia's foreign attempt to drive a wedge between China and Japan was often considered as a stumbling block preventing MEC in East Asia, but its efforts proved to be counterproductive. The rise of Moscow's "energy nationalism" has elicited the political will for more cooperation among energy import countries.³⁸

Conclusion

East Asian countries would gain much more benefits both economically and politically if they could they work together to set up an energy community in this region. Although an EAEC has not taken shape and needs a long way to go, in reality progress is under way towards that goal. Moreover, there are ample opportunities to push forward EAEC notwithstanding daunting challenges as well. These opportunities, not only consist in those new areas that urgently call for

³⁶ Munakata, 2006.

³⁷ Northeast Asia Economic Forum, 2005.

³⁸ Itoh, 2008, pp. 79-98.

multinational cooperation, but also include the changes of both internal and external environment, which are more friendly to building an EAEC.

Some cooperation may be developed from the constraints set forth above. Take political distrust, the most often referred factor, as an example, it is indeed an obstacle for EAEC, but this can be changed bit by bit through incremental cooperation and with the change of national leadership. Also, not all countries in this region have low trust, countries with such political will and trust can take the first step and then incorporate others. This is also the functional way the European Union has followed.³⁹

It is necessary to point out the impact of oil price fluctuations on the EAEC construction. Indeed, surging oil prices may be a divisive factor since they have engendered different impacts on different countries, hinging upon their dependence rate on foreign oil, energy efficiency as well as economic structure, and so on.⁴⁰ But oil price volatilities do provide opportunities for inter-state cooperation because it is in the interests for all East Asian countries to have a stable and acceptable price. As verified by the oil price spikes in 2008, few countries could escape from being affected by rising inflation stemming from the hikes. Oil price has plunged in November 2008 due to the financial crisis, but in the long run, with the recovery of world economy, it is very likely to regain the rising momentum thanks to the surging demand from emerging markets and concerns about oil depletion.

Although bilateral energy cooperation in East Asia may remain the primary form, multinational cooperation is entailed and will become more urgent with the region's growing reliance on extra-region energy resources. In launching the EAEC project, several principles are worthwhile to abide by. First is an open regionalism approach. This approach, as practiced by APEC, does not require all countries in this region to join and stride forward in the same pace. Rather, it is on a voluntary basis. As such, ex ante full discussion and negotiation among member states are necessary for a policy to enter into force. This has determined that EAEC can only be pushed forward in a piecemeal way.

³⁹ Initially the European Coal and Steel Community was created by six countries (France, Germany, Italy, Belgium, Netherlands and Luxembourg) in 1951. Britain joined the European Community only until 1973.

⁴⁰ For example, China feels being more constrained by surging oil prices due to its low energy efficiency, a growing foreign oil dependency rate (47% in 2007), and a large share of heavy industry in GDP creation. In contrast, Japan may fare better despite a higher dependency rate on foreign oil (99%), largely because it has the most energy efficient system, and high oil prices could help seize more market shares for its energy conservation technologies and energy saving products.

Second, market-based cooperation should be the primary form in pushing forward EAEC. The market-based approach implies that any joint policy or action should be cost effective and follow market principles although MEC does not exclude foreign aid and assistance. It also means that business or industry should be allowed to get involved in this cause.

Related with the above, a top-down approach should combine with a bottom-up approach. Political will and drive from national leadership is important for inter-state collaboration given that most East Asian countries have an underdeveloped society, but that should not be used as an excuse to deny the participation of civilians and communities. As a matter of fact, it is imperative to promote trust among citizens from different countries in order to succeed.

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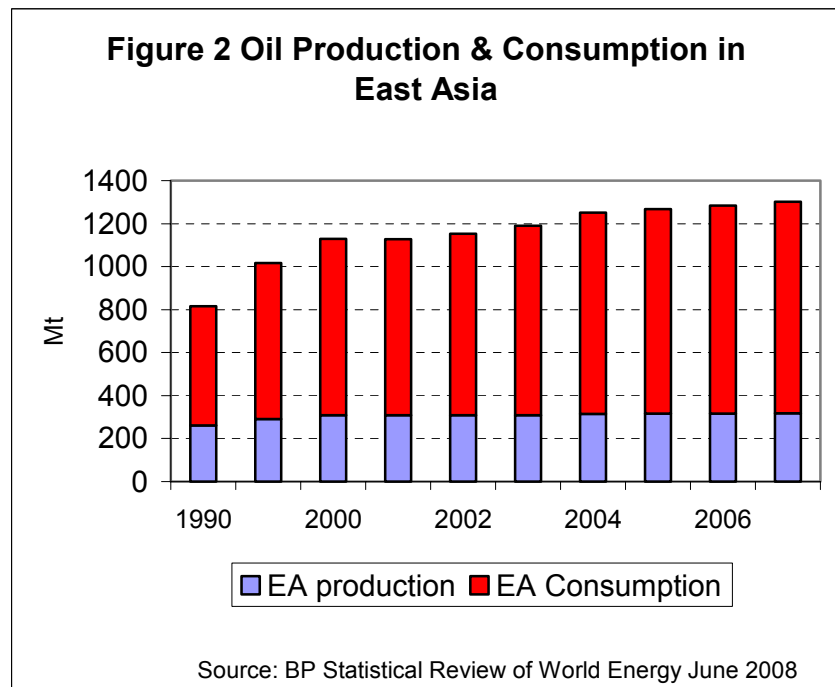
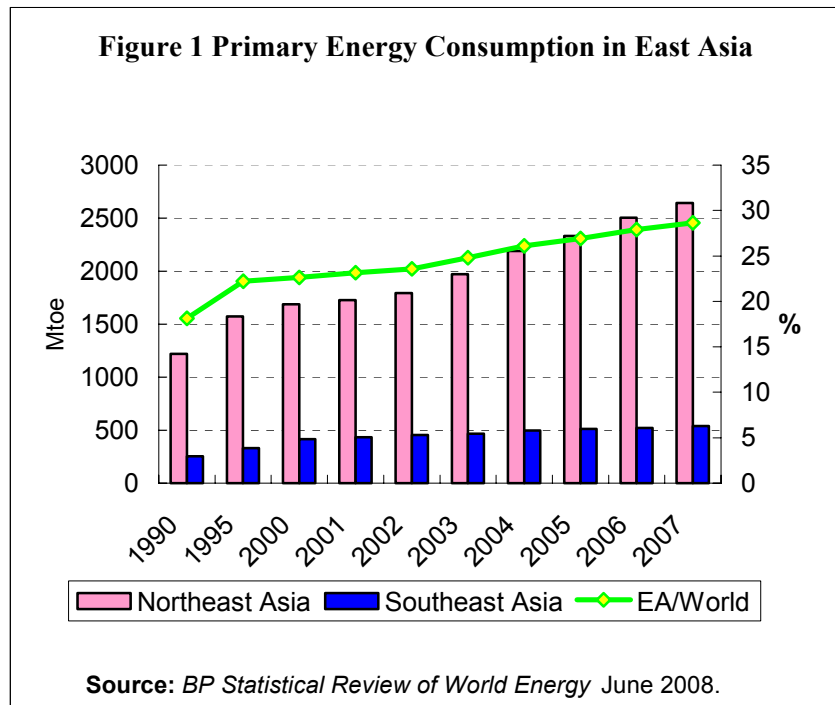
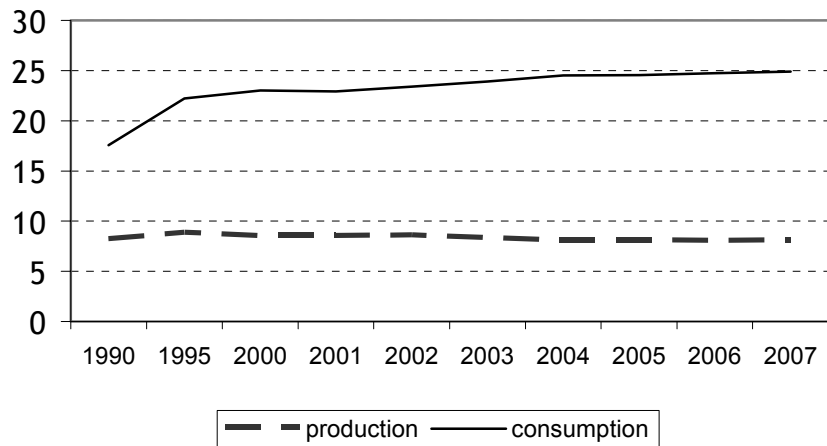
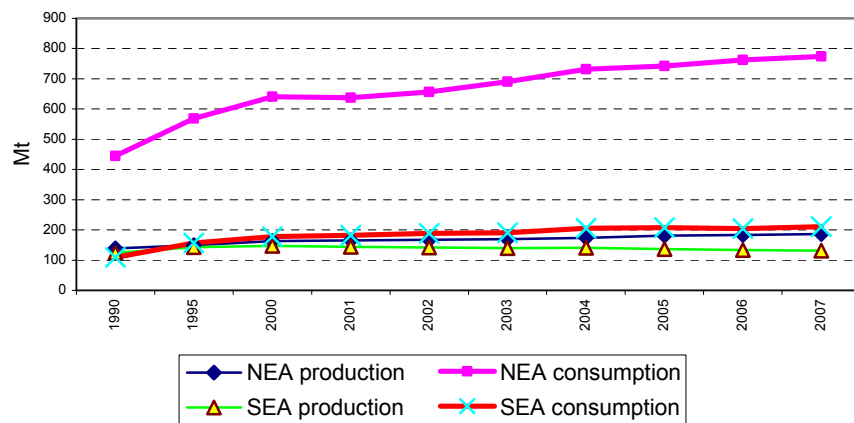


Figure 3 Share of EA Oil Production & Consumption in the World (%)



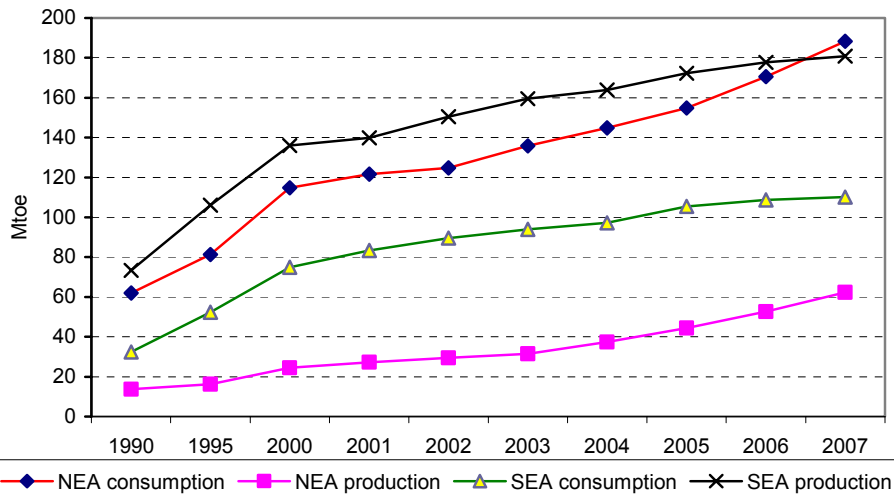
Source: BP Statistical Review of World Energy June 2008

Figure 4 NEA & SEA Oil Production & Consumption



Source: BP Statistical Review of World Energy June 2008

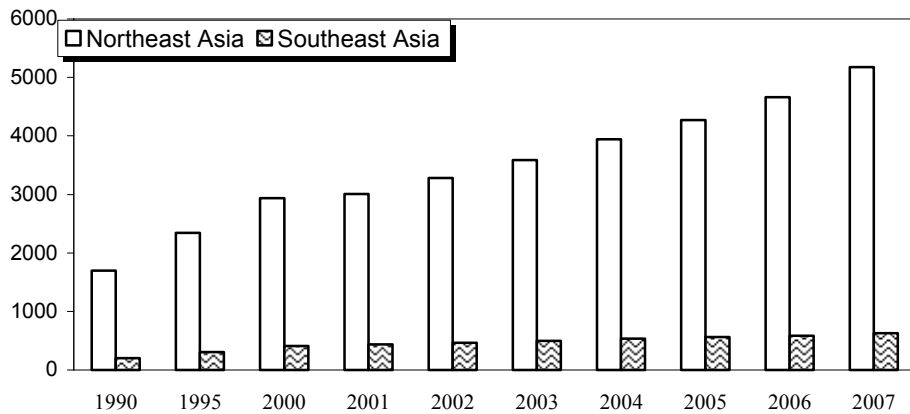
Figure 5 Natural Gas Production & Consumption in East Asia



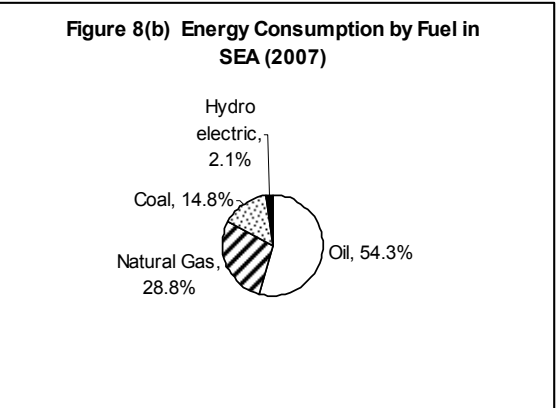
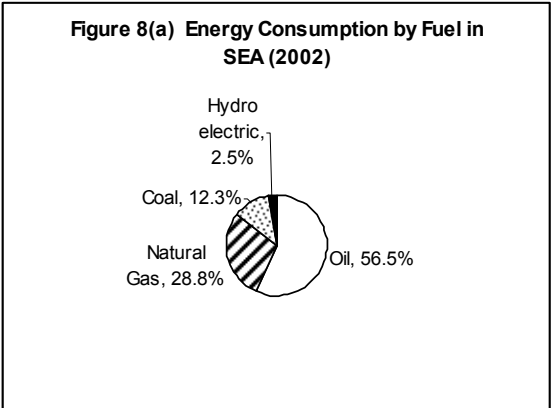
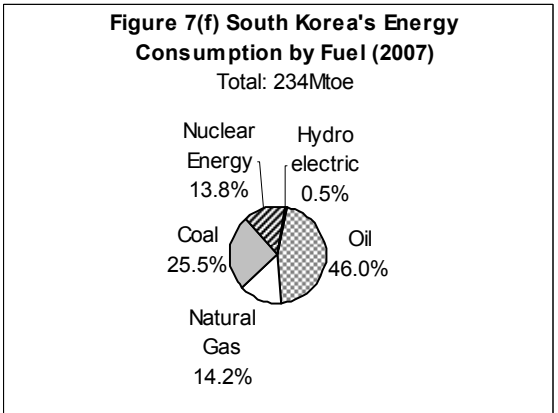
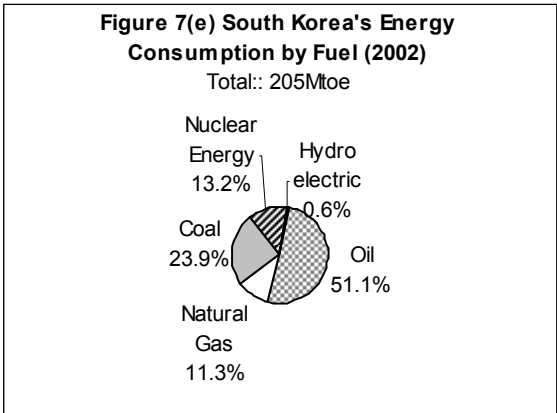
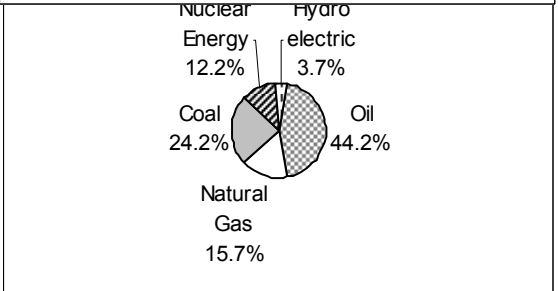
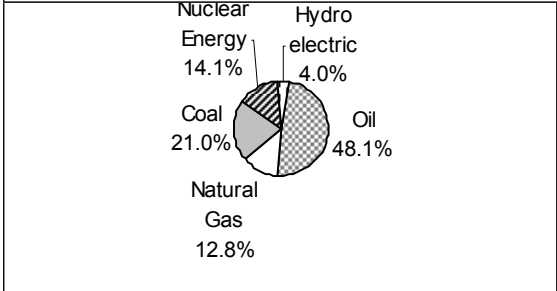
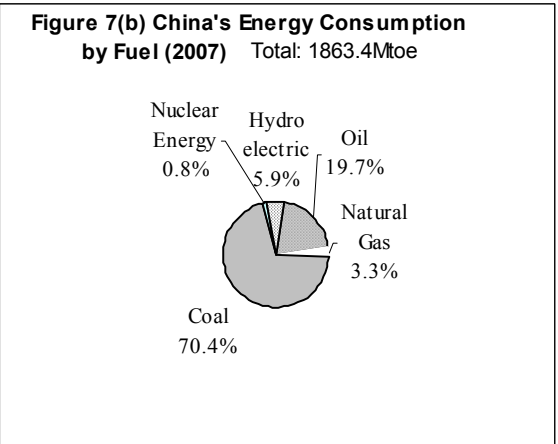
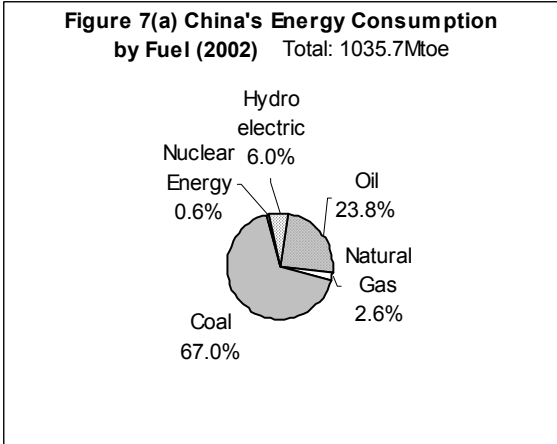
Source: BP Statistical Review of World Energy June 2008

Figure 6 Electricity Generation in East Asia

(Unit: Terawatt-hours)



Source: BP Statistical Review of World Energy June 2008



Source (Figure 6 & 7): BP Statistical Review of World Energy, 2004 and June 2008.

Table 1 Summary of Energy Flows from ASEAN to NEA in 2004 (minimum percentage of total imports from ASEAN)				
	China	Japan	Korea	Taiwan
Steam Coal	63	11	24	36
Coking coal		21		
Crude oil	10	5	6	
Oil products	35	15	11	
LNG		60	50	98

Source: Thomson, 2006, pp. 67-90.

Table 2 China's Energy Exports to ASEAN in 2004			
	% of China's steam coal exports	% of China's coking coal exports	% of China's oil products exports
Brunei			0.09
Cambodia	negligible		0.049
Indonesia	0.046	0.196	10.421
Laos			
Malaysia	0.075	0.223	0.655
Myanmar			0.671
Philippines	3.378	0.074	1.925
Singapore	0.004		15.356
Thailand	0.198	0.335	1.553
Vietnam	0.154	0.533	15.916
total	3.855	1.361	46.555

Source: Thomson, 2006, pp. 67-90.

Table 3 Japan and Korea's Oil Product Exports to ASEAN in 2004		
	% of Japan's Oil Product Exports	% of Korea's Oil Product Exports
Indonesia	0.4	0.77
Malaysia	0.1	Negligible
Philippines	0.7	0.53
Singapore	3.76	4.91
Thailand	0.32	Negligible
Vietnam		2.6
Total	5.28	8.81

Source: Thomson, 2006, pp. 67-90.

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