

The need for a geopolitical strategy for ASEAN energy security

By Philip Andrews-Speed,¹ Christopher Len² and Seksan Anantasirikiat³

¹ Principal Fellow, Energy Studies Institute, National University of Singapore.

² Research Fellow, Energy Studies Institute, National University of Singapore.

³ Academic Officer, ASEAN Studies Centre, Chulalongkorn University.

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Abstract

Most of efforts by the Association of Southeast Asian Nations (ASEAN) to enhance energy co-operation are directed inwards, but insufficient attention is being given to addressing the external dimensions of collective energy strategy. ASEAN members, both individually and collectively, face a number of threats to their energy sectors that have external sources. These include the growing involvement of powerful Asian actors in the region, an increasing vulnerability to disruptions in international energy markets, and a shortage of inwards investment and service provision in the energy sector. In addition to actively pursuing energy market integration, ASEAN should develop a coherent external energy strategy that includes developing coherent approaches to managing relations with large Asian energy importers and their energy companies, managing maritime disputes, enhancing relations with key energy exporters, and speaking with one voice in an energy crisis. In addition, steps must be taken to attract the flow of investment, technology and services related to clean energy and energy efficiency.

Introduction

The central purpose of this paper is to highlight the urgent need for an external ASEAN energy strategy to promote a unified and cohesive external position on ASEAN energy policy in the framework of ASEAN Energy Market Integration (AEMI). The focus is on external threats, geopolitical trends and events external to ASEAN as well as on possible geopolitical strategies to address these challenges.

Section A of this paper provides a brief summary of the internal dynamics of ASEAN and its external relations. Section B provides a brief survey of global energy trends and examines in some detail the context of energy in the region, in ASEAN as well as in South and East Asia, looking ahead to 2030. In particular, section B provides an account of the behaviour of Asian actors in the field of energy affecting ASEAN members, including both investment and trade flows.

Section C identifies the implications of the preceding analysis for ASEAN. It first examines three issues: security of external energy supply, the management of domestic energy resources, and clean and efficient energy supply and use. The section also assesses ASEAN's capacity to address these challenges and identifies the threats if ASEAN fails to take action.

Section D briefly examines the international experience of regional organisations in trying to develop co-ordinated external action in the field of energy and identify the difficulties. This analysis draws on the experience of the European Union. Finally, section E proposes some potential priorities for developing a coherent external energy strategy for ASEAN.

A. Regional economic and political context

1. Internal dynamics of ASEAN

Established in 1967 in light of Cold War circumstances, ASEAN was initially politically translated into a grouping of anti-communist countries by the five founders, Indonesia, Malaysia, the Philippines, Singapore and Thailand whose leaders were keen to establish a framework for interstate dispute management between members. As collaboration expanded, the ASEAN Secretariat was established in 1981 to assume a co-ordinating role within the organisation. ASEAN underwent gradual expansion with the admission of Brunei Darussalam in 1984 as the sixth member, followed by Viet Nam in 1995, the Lao People's Democratic Republic and Myanmar in 1997, and Cambodia, as its tenth member, in 1999.

The process of community building has been fostered by institutionalising ASEAN. In 2003, ASEAN leaders committed to building the community by setting three pillars of ASEAN, which cover the political-security, economic, and socio-cultural co-operation. Another important leap of ASEAN's institutional development was the adoption of the ASEAN Charter in 2008, which bestowed legal entities to the organisation. The groundwork for the ASEAN regional structure and governance was laid in the Charter to strengthen the capacity of ASEAN to meet external and internal challenges.

As noted in the ASEAN Political-Security Community (APSC) Blueprint, ASEAN has been envisaged as being "a dynamic and outward-looking region in an increasingly integrated and independent region". This objective covers the concept of ASEAN centrality in regional co-operation and community building, the promotion of ties with external parties, and consultations and co-operation on mutual issues of concern. Adding to that, the ASEAN Economic Community (AEC) Blueprint also draws attention to external economic relations and global supply networks to reinforce the idea of "Global ASEAN".

To make ASEAN more integrated, the organisation's leaders adopted the Master Plan on ASEAN Connectivity (MPAC) in 2009. It noted three main concepts of connectivity: (a) logistics; (b) institutional; and (c) people-to-people connectivity. A very important issue concerning the relations between the concept of ASEAN Connectivity and ASEAN's dialogue partners is that MPAC itself aims to reinforce a more "internally" integrated ASEAN; however, this requires extensive economic engagement and assistance among the dialogue partners. It should be noted that many development projects are funded by ASEAN's dialogue partners.

2. ASEAN's external ties

Throughout the 47 years since its inception, ASEAN has gradually evolved and adapted in response to global and regional developments. Institutional development of ASEAN can be considered from the establishment of the ASEAN Regional Forum (ARF) in 1994, which focused on the security issues in the Asia-Pacific region.

Over the years, ASEAN's external relations have expanded and external parties – countries, regional and international organisations, and institutions – may be conferred formal status as Dialogue Partner, Sectoral Dialogue Partner, Development Partner, Special Observer or Guest. Table 1 provides a summary of the ASEAN relationship with key external parties.

Table 1. ASEAN's relationship with key external parties

External Parties	Relationship
Australia	Dialogue Partner (1974)
Canada	Dialogue Partner (since 1977)
China	Dialogue Partner (1996)
European Union	Dialogue Partner (since 1977)
India	Dialogue Partner (since 1995)
Japan	Dialogue Partner (since 1977?)
Republic of Korea	Dialogue Partner (since 1991)
New Zealand	Dialogue Partner (since 1975)
Russian Federation	Dialogue Partner (since 1996)
United States of America	Dialogue Partner (since 1977)
UNDP	Dialogue Partner (since 1977)
Pakistan	Sectoral dialogue status (in 1993)
ASEAN + 3	China, the Republic of Korea and Japan (1997)

Source: www.asean.org/asean/external-relations.

The Asian Financial Crisis during 1997-1998 provided the urgency and justification for ASEAN members to develop closer economic links with external parties, especially China, Japan and the Republic of Korea in the North-East Asian region through the ASEAN+3 framework. A key outcome from this framework is the Chiang Mai initiative, which is the multi-currency swop arrangement to ensure the financial stability of the region.

Japan and the Republic of Korea have played an active role in ASEAN members notably in the Greater Mekong Subregion (GMS) from the 1980s to the present. They promote logistical and institutional connectivity by funding road and rail construction, providing technical assistance and innovation to CLMV countries (Cambodia, the Lao People's Democratic Republic, Myanmar and Viet Nam), and training officials and staff from those countries. Large amounts of outward foreign direct investment (FDI) in GMS come from Japan and the Republic of Korea. Japanese and Korean companies also draw a great attention to oceanic ASEAN, especially Indonesia, due to great purchasing power and the size of the market. The statistics from the Japan International Co-operation Agency (JICA) shows that Japan and Republic of Korea attracted the highest amount of two non-ASEAN members' FDI in Indonesia in 2012, totally US\$ 2,457 million and US\$ 1,950 million respectively.⁴

Apart from Japan and Republic of Korea, China is another main player in the region. The signing of the Declaration on the Conduct of Parties in the South China Sea in 2002, and China's subsequent signing of the ASEAN Treaty of Amity and Co-operation in 2003, heralded a new

⁴ www.jica.go.jp/english/news/opinion/2013/131115.html.

phase of improved relationship between China the ASEAN politically, economically and socially. However, since 2008, concern has been rising over China's influence in South-East Asia due to Beijing's growing assertiveness and enforcement activities in the South China Sea, and the fact that negotiations for a Code of Conduct for the South China Sea has yet to be finalised between China and fellow South-East Asian claimants.

ASEAN's external linkages have also expanded to include India, Australia and New Zealand similarly through the ASEAN Plus Framework. ASEAN has also entrenched its position as South-East Asia's key political and economic regional organisation through a number of free trade agreements (FTAs) signed with China, Japan, the Republic of Korea, and Australia-New Zealand.⁵ Table 2 provides information on the Top 10 ASEAN Trade Partner countries/regions at the end of 2013. The table shows that China was ASEAN's largest trading partner in 2013, accounting for 14 per cent of total ASEAN trade. The European Union was second at 9.8 per cent, while Japan was third with 9.6 per cent, followed by the United States and the Republic of Korea.

Table 2. Top 10 ASEAN trading partner countries/regions in 2013

Trade partner country/region ^{1/}	Value			Share to total ASEAN trade		
	Exports	Imports	Total trade	Exports	Imports	Total trade
ASEAN	330,318.1	278,240.2	608,558.3	26.0	22.4	24.2
China	152,545.5	197,962.8	350,508.4	12.0	16.0	14.0
European Union-28	124,434.1	121,794.1	246,228.3	9.8	9.8	9.8
Japan	122,863.2	117,903.9	240,767.1	9.7	9.5	9.6
United States	114,509.7	92,345.7	206,855.4	9.0	7.4	8.2
Republic of Korea	52,823.0	82,139.6	134,962.6	4.2	6.6	5.4
Taiwan	35,469.4	66,220.0	101,689.4	2.8	5.3	4.0
Hong Kong	82,084.8	13,135.9	95,220.7	6.5	1.1	3.8
Australia	45,526.1	22,531.4	68,057.5	3.6	1.8	2.7
India	41,935.2	25,926.7	67,861.9	3.3	2.1	2.7
Total top 10 trade partner countries	1,102,509.2	1,018,200.3	2,120,709.5	86.7	82.1	84.4
Others countries ^{2/}	168,618.9	222,188.1	390,807.1	13.3	17.9	15.6
Total	1,271,128.1	1,240,388.4	2,511,516.5	100.0	100.0	100.0

Some figures may not add up to totals due to rounding off errors.

1/ Identified/ranked based on share of total trade

2/ Includes trade of all other countries and those that could not be attributed to specific countries

Source: www.asean.org/resources/2012-02-10-08-47-55/asean-statistics/item/external-trade-statistics-3.

⁵ Overviews of the various FTAs can be found at www.fta.gov.sg/sg_fta.asp and www.asean.org/communities/asean-economic-community/category/free-trade-agreements-with-dialogue-partners.

A number of ASEAN-linked regional economic arrangements have emerged over the years, thereby making ASEAN the regional hub for FTAs in Asia. As noted by Das (2014), such economic diplomatic alignments play a role in reaffirming closer political ties. In addition to lowering trade and investment barriers, they also enable improving technology and skills transfer as well as infrastructure investment. Asia's economic rising powers are thus able to channel their resources from power politics to softer, more peaceful and influential politics. On the other hand, the growth in economic relations could also give rise to negative economic pressure when countries face political disagreements.

In addition to the ASEAN+1 FTAs and the Regional Comprehensive Economic Partnership (RCEP), there are also agreements that do not cover all ASEAN members such as the Trans-Pacific Partnership (TPP). The FTA initiatives follow four tracks: (a) global, WTO-based; (b) trans-regional, APEC and TPP-based; (c) regional, ASEAN+1⁶ and ASEAN+6 (or RCEP) based; and (d) bilateral initiatives.⁷ Singapore has the largest number of bilateral and plurilateral FTAs that are signed and in effect among the ASEAN members, followed by Malaysia and Thailand, while Cambodia and Myanmar have the least (Das, 2014).

This has led observers to comment on the “noodle bowl” of Asian trade agreements.⁸ The multiplicity of trade agreements, while underscoring the recognition of ASEAN's economic potential by external parties, also reflects an ASEAN dilemma – it is an attempt to engage all external parties, yet ironically it has disrupted the regional grouping's economic integration process. The multiple trade agreements also reflect a degree of strategic rivalry among the external parties as they seek to engage ASEAN. While this has enabled ASEAN to leverage its position through such rival courtship, it has also had the effect of diluting of ASEAN resources.

In November 2011, the 10 ASEAN members and their six free trade partners (China, Japan, Republic of Korea, India, Australia and New Zealand) decided to establish a region-wide FTA under the ASEAN-led RCEP framework that was WTO-consistent and would further enhance economic integration between ASEAN members as well as between ASEAN and its partners.⁹ The target date for completion for such negotiations is by end-2015, which appears to be optimistic given the complex nature of this agreement.

⁶ For elements of the ASEAN+1 Free Trade Agreements, see Chirathivat and Srisangnam, 2013.

⁷ For elements of the ASEAN members bilateral trading arrangements, see Chirathivat and Srisangnam, 2013.

⁸ www.eastasiaforum.org/2012/08/27/asias-regional-comprehensive-economic-partnership/.

⁹ www.asean.org/news/item/asean-framework-for-regional-comprehensive-economic-partnership.

Table 3. Size of ASEAN FTAs, 2012

Agreement	Total population, 2012 (billion persons)	Total GDP, 2012		Total global trade, 2012 (US\$ trillion)
		US\$ trillion	PPP\$ trillion	
ASEAN-Australia- New Zealand FTA	0.65	4.04	4.92	3.06
ASEAN-China FTA	2.00	10.55	16.09	6.34
ASEAN-Japan CEP	0.75	8.29	8.41	4.16
ASEAN-RoK FTA	0.67	3.46	5.43	3.54
ASEAN-Indian FTA	1.80	4.17	8.55	3.26
RCEP (ASEAN+6)	3.40 (48)	21.20 (29)	7.80 (32)	10.50 (28)

Sources: World Economic Outlook, October 2013 IMF Database; World Trade Organization Database; and authors' estimate.

Notes: PPP – purchasing power parity; RoK – Republic of Korea; CEP – comprehensive economic partnership; FTA – free trade agreement. Numbers in parentheses are percentage share of world total.

Source: Das, 2014.

Apart from RCEP, the other mega-regional trade agreement (RTAs) is the Trans Pacific Partnership (TPP), which is being negotiated among 12 countries (Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States and Viet Nam). However, it does not include major powers such as China, India and key ASEAN members such as Indonesia, while the Philippines and Thailand are still considering whether to join. The aim of TPP is to liberalise trade in goods and services, encourage investments, promote innovation, economic growth and development, and support job creation and retention.¹⁰ The TPP is proving difficult to conclude and missed its December 2013 deadline. While there have been discussions that RCEP and TPP could be combined to lead to the creation of a Free Trade Area for Asia-Pacific (FTAAP), the political rivalry between the United States and China in the Asia-Pacific region will make it difficult to combine the two mega-RTAs.

In addition to the ASEAN+3 framework, an even larger cluster, that became known as the East Asian Summit (EAS), with the objectives of: (a) facilitating confidence-building and discussions on broad strategic issues (including energy) that concern the region; and (b) developing East Asian regionalism in an inclusive manner (Desker, 2005). At its first meeting in 2005, EAS comprised the 13 members of ASEAN+3 and Australia, New Zealand and India. The United States and the Russian Federation joined in 2011.

In addition, ASEAN participates in the Asia Cooperation Dialogue, Pacific Economic Cooperation Council and the Asia-Pacific Economic Cooperation (APEC). It also has bilateral arrangements with other regional organisations such as the Gulf Cooperation Council (GCC), MERCOSUR, the Southern African Development Community, the Shanghai Cooperation Organization, and the Organisation for Economic Co-operation and Development as well as a number of United Nations organisations. Although ASEAN has succeeded in building this wide

¹⁰ www.iseas.edu.sg/ISEAS/upload/files/Paper-ASCCC-2014-SBD.pdf.

web of general political and economic relations, in most cases these interactions are relatively shallow (references) and few have a strong focus on energy.

In this regard, it is notable that ASEAN has little engagement with key energy organisations. Indonesia and Thailand are the only two ASEAN members that have close relations with the International Energy Agency (IEA), but ASEAN itself has no formal engagement with IEA or with other energy-related international organisations such as the Energy Charter Treaty or the International Energy Forum (IEF). Only the Philippines and Brunei Darussalam are IEF members. ASEAN's window on the Middle East oil suppliers is provided through its formal relationship with GCC, but this partnership appears to pay little attention to oil. The ASEAN-GCC Two-Year Action Plan, 2010-2012, mentions the promotion of investment in energy, including alternative and renewable energy, but this is just one of many sectors including agriculture, tourism and construction.¹¹

B. Global and regional energy context to 2030

1. Global and regional energy trends

This section identifies those trends in global and regional energy supply, demand and flows and investment requirements that have the greatest potential significance for ASEAN.¹²

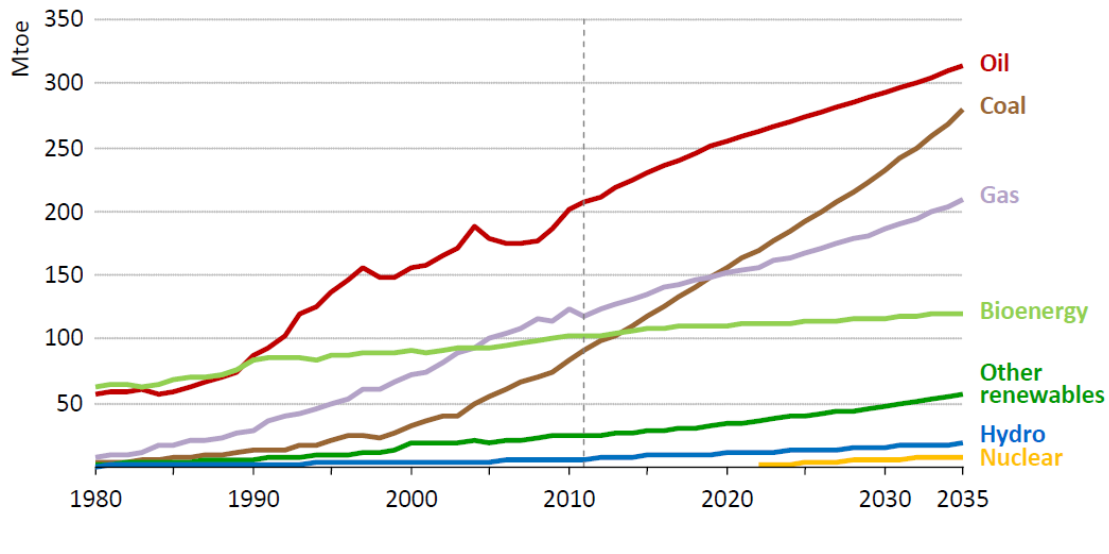
(a) Energy demand

A combination of economic growth and population increase will drive rising demand for all forms of primary energy, especially gas, but also coal, oil and renewables. Sixty per cent of this demand growth will occur in China, India and South-East Asia. In ASEAN alone, energy demand may grow by 60 per cent between 2011 and 2030. The absolute quantity of energy used and the energy mix will depend greatly on policy decisions taken by Governments to improve energy efficiency and reduce the share of coal and other fossil fuels in the energy mix. The consumption of coal demand will grow across Asia, most rapidly in South-East Asia and India, where it will be used for power generation and industry (figure1). Gas demand in Asia could increase more than two-fold to 2030, mostly in China, but also in India and South-East Asia.

¹¹ www.asean.org/archive/documents/ASEAN-GCC%20Two-Year%20Action%20Plan%20as%20of%201%20June%202010.pdf.

¹² This section draws heavily on IEA, 2013 and 2014.

Figure 1. ASEAN primary energy demand by source, IEA New Policies Scenario



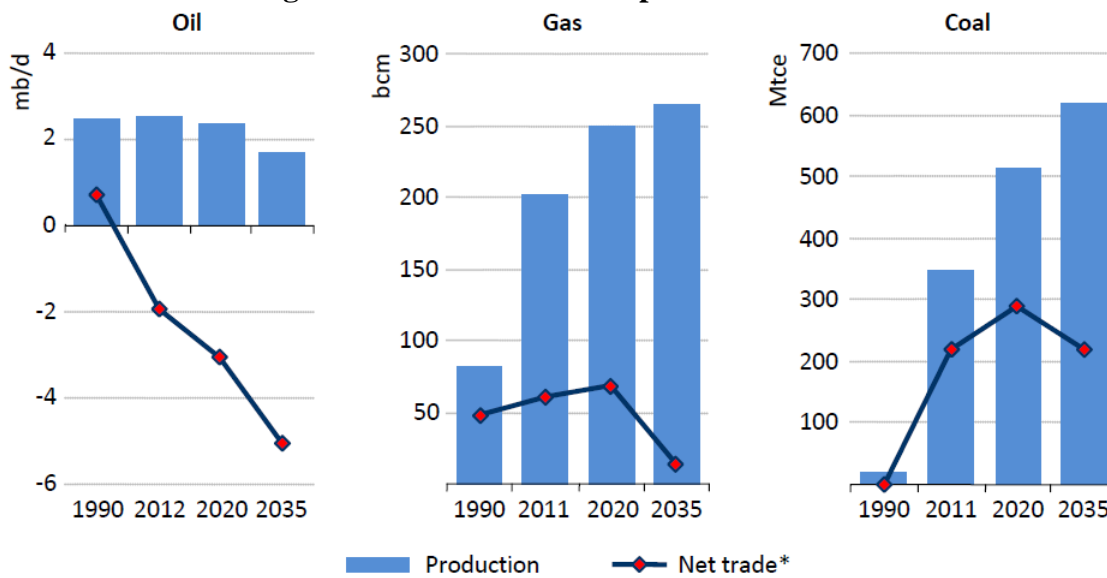
Source: IEA, 2013.

In addition to the problem of changing the energy mix, Governments across Asia face two energy challenges with a strong societal component. The first is to ensure a gradual reduce fossil fuel subsidies in order to constrain demand growth and reduce the burden on the national budgets. In 2012, the total amount of subsidies for fossil fuels in ASEAN is estimated to have reached US\$ 51 billion. The second is to provide electricity and clean cooking energy to the hundreds of millions of people in South and South-East Asia. Within ASEAN in 2011, it was estimated that 134 million people, or 22 per cent of the population, lacked access to electricity, while 279 million (47 per cent of the population) were cooking using traditional biomass.

(b) Energy production

The Middle East will remain the world’s key oil producing region, but North America will become increasingly important. Oil production within ASEAN will decline (figure 2). Likewise, incremental coal production will become increasingly concentrated in Asia, mainly in China, India and Indonesia as well as in Australia. In contrast, incremental production of natural gas will be distributed among a number of regions, notably the Middle East, Africa, China, Central Asia, the United States and the Russian Federation, in part due to the rise in the use of unconventional gas. Renewable electricity generation other than hydroelectricity could start to make a major contribution to global electricity generation over the next 25 years, rising from 4 per cent of total electricity generation in 2011 to 15-20 per cent by 2030. China and, to a lesser extent, India and South-East Asia will be major centres of growth for renewable energy. Although China and India both have ambitious plans for nuclear energy, its role on ASEAN is likely to remain very small over the period to 2030.

Figure 2. ASEAN fossil fuel production and trade



* Positive values are exports; negative values are imports.

Source: IEA, 2013.

(c) *Energy trade*

The coming two decades will see dramatic shifts in the patterns of global trade in energy commodities as well as the continued growth in the quantity of trade. On the one hand, China’s and India’s net import requirements for oil and gas will keep growing. On the other hand, North America will become a net exporter of oil and gas. The Middle East, Africa, the Russian Federation and the Caspian region will remain as net exporters of oil and gas, and this quantity of exports will increase, with the exception of some countries where domestic demand will take a growing share of production.

The Russian Federation and Middle East will send more gas and oil to South, South-East and North-East Asia, and Africa is set to become a new gas supplier to Asia. Developing Asia (China, India and South-East Asia) will change from being a marginal net exporting region for gas in 2011 to a major importer by 2025, with net imports reaching more than 320 billion m³ per year, or 31 per cent of gas consumption. ASEAN’s net imports of oil will continue to grow, while its capacity to be a net exporter of coal and natural gas is likely to reach a peak over the next 15-20 years (figure 2).

Together with changing trade flows, the nature of international gas markets will continue to evolve. The next 25 years will see a gradual increase in share of internationally-traded gas that is priced based on gas-to-gas competition, but this will be mainly in Europe and North America. In Asia, prices for LNG have tended to be benchmarked against oil and are significantly higher than in Europe. However, even here, there is a long-term trend towards more market based pricing, growth of spot markets and development of one or more Asian gas hubs.

(d) *Energy and the environment*

Greenhouse gas emissions are set to continue rising, notably in the industrialising nations of Asia, not least because of coal use. India, China and South-East Asia could account for 45 per cent of global greenhouse gas emissions by 2035, although emission intensity (emissions per unit of GDP) will decline. The growing use of coal and oil in ASEAN will add substantially to local and regional atmospheric pollution.

(e) *Technology*

A wide range of technologies will be required across the world and in ASEAN. Some of these are already commercialised and require diffusion, others have been developed but not yet commercialised, while yet others are still at an early stage of development (table 4).

Within ASEAN, the priority over the next two decades should be to promote the diffusion of what are today the best available commercialised technologies, together with best practices. In the case of energy efficiency, such policies would result in a reduction of total energy demand of 13 per cent in 2035 compared to a less efficient scenario (IEA, 2013).

Table 4. Examples of energy technologies

Commercialised but require diffusion	Not commercialised/early commercialisation	Under development
Shale gas, coal bed methane extraction	Smart grids	Fourth generation nuclear energy
Wind power and solar PV	Ultra-high voltage transmission	Carbon capture and storage
Small-scale LNG, floating LNG	Electric cars	Large-scale electricity storage
Building insulation	Integrated gasification combined cycle technology	Methane hydrate production
Ultra-super critical technology		Fourth generation solar technology
Energy efficient industrial technologies		
Energy efficient vehicles technologies		
Energy efficient lighting		
Biofuels and biomass		

(f) *Investment*

In order to meet the world's energy demand, a massive amount of investment will be required in energy supply and energy efficiency. Annual investment needs to increase from US\$ 1.7 trillion in 2013 to US\$ 2.5 trillion in 2035 in real terms. This amounts to a total of about US\$ 48 trillion over the period to 2035 (table 5). While the investment needed in ASEAN's energy sector is only 4 per cent of this total, it still amounts to US\$ 2 trillion, or about US\$ 100 billion per year in 2012 US dollar terms. Much of this investment will have to come from outside

ASEAN, from international companies and international financial institutions as well as from state-owned enterprises and their home Governments.

Table 5. Estimates of total investment needs to 2035 for the world and ASEAN
(Unit: Billion US dollars as of 2012)

Source	Product	World total 2014-2035	ASEAN total 2013-2035
Fossil fuel supply	Oil	13,700	205
	Gas	8,800	460
	Coal	1,000	40
	Sub-total	23,400	705
Electricity supply	Power generation	10,000	440
	T and D	7,000	550
	Sub-total	17,000	990
Total energy supply		40,000	1,695
Energy efficiency		8,000	330
Total investment requirement		48,000	2,025

Source: International Energy Agency, 2013 and 2014.

2. Regional energy actor behaviour

This subsection examines the recent and current behaviours of key energy actors across South and East Asia, with special reference to the Governments and energy companies of China, the Russian Federation, India, Japan and the Republic of Korea, as well as the Middle East. It highlights the significant and growing engagement of Asian energy companies in the ASEAN region in a manner that has some neo-mercantilist characteristics.¹³

The engagement of these countries and their companies in ASEAN usually takes one or more of the following forms (table 6):

- (a) Investment in the production of primary energy sources such as oil, gas, coal and hydroelectricity as well as rare earth metals;
- (b) Investment in energy transformation infrastructure such as oil refineries, gas liquefaction plants and thermal power stations;
- (c) The provision of construction and technical services related to primary energy production, transformation and transportation;
- (d) Trade in energy raw materials such as coal, oil and natural gas as well as electricity.

(a) *Investment in the production of primary energy*

(i) *Oil and gas*

ASEAN is rich in primary energy resources. Foreign investment in the extraction of these resources dates back to the 1890s when the founders of the company that would later become

¹³ Main source – unpublished information from the Energy Studies Institute (Singapore) database of investments in ASEAN.

Royal Dutch Shell discovered oil in North Sumatra. Since that time, major international oil companies (IOCs) and many smaller independent companies, in partnership with Pertamina since 1957, have contributed to making Indonesia the largest producer of oil and gas in ASEAN. Oil production in Brunei Darussalam and Malaysia also dates back to the beginning of the twentieth century. Each ASEAN country has its own national oil company (NOC), which plays an important role in either production or sector management, or both.

With the exception of a small number of licences awarded to Japanese companies in Indonesia and Thailand in the 1960s and 1970s, IOCs in partnership with host country NOCs have dominated oil and gas exploration and production in ASEAN. In the meantime, in 1981 the former Soviet Union established Vietsovpetro as an oil and gas joint-venture between Zarubezhneft and PetroVietnam that has played a major role in developing Viet Nam's oil industry.

The late 1980s and early 1990s saw renewed interest on the part of Japanese companies as they expanded into Malaysia, Cambodia, Malaysia, Myanmar and Viet Nam as well as the first investments in ASEAN oil and gas assets by companies from China, the Republic of Korea and India. Chinese NOCs took out licences in Indonesia and Thailand, marking the first steps of what was to become a massive programme of overseas investment, whilst ONGC Videsh (OVL) of India and the Korean National Oil Company (KNOC) joined IOCs in the search for oil in offshore Viet Nam.

Table 6. Summary of investments in ASEAN's energy resources by companies from China, Japan, the Republic of Korea and the Russian Federation, indicating relative scale and principal destinations

Product	China		Japan		Republic of Korea		Russian Federation	
	Scale	Countries	Scale	Countries	Scale	Countries	Scale	Countries
Oil and gas	XX	Ind, My	XX	In, Th, Vt	X	Vt	XX	Vt
Hydro-electricity	XXX	My, Cam, Lao	XX	Th, Ph, Vt			X	Cam, Laos
Coal-mining	XXX	Ind, My	XXX	Ind				
Nuclear energy			(X)	Vt	(X)	Vt	(X)	Vt

Source: Unpublished information from the Energy Studies Institute (Singapore) database of investments in ASEAN.

Relative scale: XXX = large scale, XX = medium scale, X = small scale, (X) = yet to be realised.

Countries: Ind = Indonesia, Lao = Lao People's Democratic Republic, My = Myanmar, Cam = Cambodia, Th = Thailand, VT = Viet Nam, Ph = Philippines.

The marked increase in international oil prices in 2003 and 2004 triggered an upsurge of overseas investment in oil and gas assets by companies from the importing nations of Asia, most notably China, India, Japan and the Republic of Korea. China has been the most prominent actor, with a large number of onshore and onshore oil and gas projects in Indonesia and Myanmar, and minor interests in Thailand and Cambodia. Japanese companies have built up their ongoing presence across ASEAN, OVL took out new blocks in Myanmar and Viet Nam, and KNOC acquired assets in Cambodia, Indonesia and Thailand. For the first time, the Overseas Petroleum Investment Corporation (OPIC) of Taiwan Province of China started to invest in the region, partnering with IOCs in Indonesia and with China's Sinopec in Myanmar. Although in an

oil and gas exporting country, Russian Federation oil companies have also been showing greater interest in ASEAN resources, signing new contracts in Viet Nam and starting to build a presence in Indonesia.

Despite the long period of their engagement in ASEAN's oil and gas sector, these external Asian oil companies never played a prominent role in any one country, with the exception of Russian Federation companies in Viet Nam and Chinese companies in Myanmar, before the first international licensing round was held in 2013.

With the exception of the Russian Federation, the motivations for these overseas investments are multiple. The Governments are supporting their oil companies in order to gain access to overseas sources of oil and gas supply in the (arguably mistaken) belief that this will enhance national security of supply. For the companies, the objectives include a mix of internationalising their businesses, making profits and securing supplies for their downstream activities in their home countries. In this regard, their investments in ASEAN are part of global oil and gas strategies in which ASEAN plays a relatively minor role on account of the small size of its remaining resources. As the Russian Federation is a major exporter of oil and gas, its motivations are probably limited to corporate business goals and the Government's desire to build influence in the region.

(ii) *Hydroelectric dams*

Chinese companies are involved in more than 100 hydroelectric dam projects across ASEAN, of which about 30 have a capacity greater than 500 MW. The largest projects exceed 7,000 MW and are in Cambodia and Myanmar. The Sinohydro Corporation is by far the largest actor. Other investors include the China International Water and Electric Corporation, China Power Investment Corporation, Guodian, Huaneng and the Three Gorges Corporation as well as companies from border provinces such as Yunnan and Guangxi.

The involvement of these Chinese companies generally takes one of two forms: (a) a build-operate-transfer contract, which is a true investment; or (b) a construction-only arrangement. Japan is the other country involved in significant dam building in ASEAN but on a much smaller scale than China, while the Russian Federation and Republic of Korea have a very low level of activity. In most cases, the projects receive financial support from the foreign country, through the Government or state-owned banks

In all these cases, it is difficult to obtain sufficient information to determine whether individual projects involve investment by these foreign companies or just construction contracts. The motivations for undertaking the investment projects include corporate goals of profits and international business development as well as government objectives of development aid and regional influence. China is one exception, as electricity generated from neighbouring countries in South-East Asia can be transmitted back to satisfy its growing domestic demand for energy.

(iii) *Coal*

In addition to oil and gas, Indonesia has substantial reserves of coal, and both Chinese and Japanese mining companies have entered into joint ventures with local mining companies. Although the reserves are much smaller in these countries, Viet Nam has received investment in

its coal mines from Japan while and Myanmar has Chinese investors. The corporate objectives are threefold: (a) to internationalise their business; (b) to make profits; and (c) to help satisfy their home countries' needs for imported coal.

(iv) *Nuclear energy*¹⁴

So far, no ASEAN member has a nuclear power plant in commercial operation. The Fukushima accident put a temporary halt to development in those ASEAN members that had aspirations, but a number of Governments have recently revitalised plans or are assessing their options. In all cases, the construction of a nuclear power plant will require technologies and skills from outside ASEAN and, in many cases, financial support. Japanese, Korean, Russian and, more recently, Chinese companies are all actively promoting their interest in these projects. In most cases, the foreign Government is aiming to support the export of its companies' technology and expertise and could provide financial assistance to the projects.

Viet Nam is the furthest ahead with plans for four reactors, two of Russian design and two of Japanese design. The Republic of Korea is also reported to be in discussions to construct a plant in Viet Nam. Construction of the first Russian plant was due to start in 2014 or 2015, but early in 2014 the Government of Viet Nam announced that this was being postponed by up to six years on safety grounds. In Thailand, the national power development plan has identified the potential for nuclear power since 2007 and agreements have been signed with Japanese and Chinese nuclear power companies. Feasibility studies have been underway, but in August 2014 the Government of Thailand ruled out the nuclear option.

Korean and Japanese companies have been working with the Government of Indonesia for several years to assess the options for nuclear power plants, and have identified a number of possible locations. More recently, the Russian Federation has been proposing the use of floating nuclear power plants for use by Indonesia's small islands. The Government of Malaysia has identified possible sites, is planning a feasibility study for nuclear power and has been in discussion with Korean and Russian companies.

The Philippines built a reactor of United States design as far back as 1985, but it was never put into operation on account of safety concerns. The Government is now considering whether to refurbish and commission it and construct other plants. Myanmar also announced in 2014 that it wishes to revitalise its nuclear programme, which dates back to earlier research and training co-operation with the Russian Federation's Rosatom.

(v) *Rare earth metals*

Although not a source of energy in themselves, rare earth metals are vital inputs to appliances that produce and use energy. After China's curtailment of rare earth metal exports in 2010, Japanese and Korean companies have been seeking to develop overseas sources of supply. This has included investigating mining opportunities in Viet Nam and Myanmar, both of which have deposits of rare earth metals.

¹⁴ Main sources: World Nuclear Association documents.

(b) *Investment in energy transformation*

Most oil refineries and petrochemical plants, liquefied natural gas (LNG) liquefaction plants and thermal power stations in ASEAN are owned and operated by companies from the host country itself or by international companies from outside of Asia. Involvement in ASEAN's energy transformation sector by companies from other Asian countries appears to be quite limited.

(i) *Oil refineries and petrochemical plants*

China's companies are the most active. PetroChina has owned a large majority of the shares of the Singapore Petroleum Company since 2006 and is getting involved in the construction of petrochemical plants in Myanmar, while the privately-owned Zhejiang Hengyi Petrochemicals Company is investing in an oil refinery and aromatics complex in Brunei Darussalam.

NOCs from the Middle East have yet to take a strong position in ASEAN. Saudi Aramco sold its 40 per cent stake in the Philippines' Petron in 2008. Kuwait Petroleum has a 35 per cent stake in a consortium that started construction of a refinery and petrochemical complex in Viet Nam in 2013 after five years of negotiations; Mitsui and Idemitsu from Japan are the other foreign partners. Both Kuwait Petroleum and Saudi Aramco signed initial agreements with Pertamina in 2010 to build two new refineries by 2018, but in late 2013 the negotiations were terminated.

(ii) *Liquefied natural gas*

China National Offshore Oil Company purchased a share of the Tangguh LNG project in Indonesia from BP in 2003, and a number of Japanese companies own minority shares. Much of this LNG is sent to China and Japan.

(iii) *Thermal power stations*

Both Chinese and Japanese companies are investing in thermal power plants in ASEAN, but at a very limited scale. Chinese companies have power plants associated with coal mines that they operate in both Indonesia and Myanmar. A Chinese company is also building a thermal plant alongside an aluminium smelter in Indonesia. Japanese companies are involved in coal-fired plants in Viet Nam and Indonesia.

The aims of most of these projects appear to be corporate internationalisation and profits. In the case of the Tangguh LNG plant, these investments reflect the broader strategy of Chinese and Japanese companies to be involved in the full LNG supply chain back to their home countries.

(c) *Provision of construction and technical services*

(i) *Oilfield services*

In the past, oil field services across ASEAN were provided either by subsidiaries of NOCs or by international services companies from Europe and the United States. The restructuring and internationalisation of China's NOCs in the 1990s led to a massive growth in the overseas activities of the subsidiaries of these NOCs, especially those of CNPC/PetroChina.

(ii) *Pipeline construction*

China's CNPC has extensive experience in building long-distance pipelines and was the key member of the consortia that constructed the oil and gas pipelines from Myanmar to China. These consortia also included companies from the Republic of Korea and India.

(iii) *Hydroelectric dams*

As described above, companies from China, Japan, the Russian Federation and the Republic of Korea are all involved in the construction of dams in ASEAN members to a varying extent. Some projects involve investment while others are purely construction contracts.

(d) *Trade in energy raw materials¹⁵*

ASEAN lies between the Middle East, a major energy exporting region, and North-East Asia, a major energy importing region. ASEAN is heavily dependent on the Middle East for crude oil imports. This dependence has grown in recent years, from 42 per cent by value in 2008 to 69 per cent by value in 2012, and is likely to grow further as net oil imports grow. Crude oil imports from the Russian Federation and Azerbaijan are also increasing. The total volume of imports of oil products to ASEAN members is also rising rapidly, as is the share provided by the Middle East, which increased from about 4 per cent in 2008 to 9 per cent in 2012. Malaysia and Brunei Darussalam continue to export crude oil.

A growing proportion of these exports flow to North-East Asia and Australasia, reaching 66 per cent by value in 2012; however, only 20 per cent by value of the crude oil exports flow to other ASEAN members. ASEAN members also export a significant quantity of oil products. The share of these products that are sent to other ASEAN members rose from 48 per cent to 58 per cent by value between 2008 and 2012. During the same period, the flow to North-East Asia declined from 23 per cent to 17 per cent of total oil product exports.

North-East Asia is also the major market for ASEAN's LNG exports, with 98 per cent going to China, Japan, the Republic of Korea and Taiwan Province of China, which rely on ASEAN for 30 per cent of their LNG imports. In addition, a new pipeline carries gas from Myanmar to China. Thailand became ASEAN's first importer of LNG in 2011. By 2013 it was importing 2 bcm/yr, of which 80 per cent came from the Middle East and none from within ASEAN.

There are also strong connections between ASEAN and North-East Asia in the coal trade. Indonesia accounts for nearly all of ASEAN's coal exports, while Viet Nam is about to become an importer of coal having been an exporter for many years. Sixty per cent of Indonesia's coal goes to North-East Asia, with 24 per cent going to India. At the same time, about 30 per cent of North-East Asia's coal imports come from Indonesia. Of the total exports of coal from Indonesia, approximately 14 per cent by value went to other ASEAN members in 2012, accounting for 80 per cent by value of the coal imports by these countries.

¹⁵ Main sources – IEA, 2012; ASEAN Centre for Energy, 2013; and BP, 2014.

C. Implications for ASEAN

1. ASEAN's external energy security challenges

Based on the evidence presented in the previous section, ASEAN's external energy security challenges can be placed under three headings: (a) security of external energy supply; (b) management of domestic energy resources; and (c) clean and efficient energy supply and use.

(a) *Security of external oil supply*

Security of external energy supply is most relevant to oil, as net oil imports to ASEAN continue to grow; the region is likely to remain a net exporter of coal and gas to at least 2030. The security of oil supply is a threat to oil importers that has been recognised since the Organisation of Oil Exporting Countries (OPEC) oil embargos of the 1970s. The threat has two inter-related components: (a) a substantial physical interruption of oil supplies lasting for a significant period; and (b) a sharp increase in oil prices. For ASEAN, as for many other regions, the most important location of a physical interruption of any size is the Straits of Hormuz, through which a significant and growing share of ASEAN's oil imports flow (Mitchell, 2014).¹⁶ A prolonged interruption at this point would have serious economic consequences for most ASEAN members as oil prices would rise markedly. The Malacca Straits is another potential choke point that could be easily blocked, although the consequences for ASEAN would be less serious than from a closure of the Straits of Hormuz, as ships could take alternative routes to their destinations. This would raise costs and add time, but cause no sustained interruption.

A sustained high level of prices or sudden spikes in oil prices is much more likely than a significant physical interruption. Such a price increase can be driven by a wide range of economic and political factors occurring anywhere in the world as well as by natural disasters or military action. The economic consequences can be just as dire for ASEAN members as would be a physical interruption at a single location because of the high level of subsidies on oil products sold in most ASEAN members. The higher the level of fuel subsidies, the greater the impact on national budgets. Conversely, the higher the level of fuel tax, the lower the impact on the consumer.

(b) *Management of domestic energy resources*

Despite the declining output of crude oil, ASEAN is relatively rich in other primary energy resources such as coal, natural gas and hydroelectricity, and probably has significant resources of unconventional gas (coal bed, methane, shale gas and possibly methane hydrates) and geothermal energy.

As described in section B, ASEAN has a massive requirement for investment in the production, transformation and transportation of primary energy in order to satisfy its rising energy demand. Much of this funding will need to come in the form of FDI or as bilateral or multi-lateral aid. While traditional international energy companies are still investing in ASEAN,

¹⁶ Mitchell (2014) estimated that the share of national crude oil consumption passing through the Straits of Hormuz amounted to 88 per cent for Singapore, 33 per cent for Thailand, 29 per cent for Malaysia and 15 per cent for Indonesia.

national and state-backed companies from other ASIAN countries are playing a growing role. Such countries include China, India, Japan, the Republic of Korea and the Russian Federation as well as Middle Eastern countries.

Such investment is to be welcomed, in principle, provided that: (a) the energy produced is made available to the host nation and to the wider ASEAN community; (b) the environmental and social impacts of the projects are managed in a responsible way; (c) the technology used is the best available and/or most appropriate; and (d) the construction and operating practices meet international standards.

Concerning the first point, the construction of hydroelectric dams by Chinese companies in Myanmar and on the Mekong River in ASEAN as well as a gas pipeline in Myanmar is being undertaken with the explicit purpose of sending energy from ASEAN members to China. While this may bring economic benefit to the host ASEAN members in the short term, such investments create the risk that limited ASEAN energy resources are being sent abroad rather than being kept to satisfy demand within ASEAN. Some of these same projects have caused significant dissatisfaction among local populations, notably in Myanmar, on account of the poor management of social and environmental impacts.

In order to ensure the long-term sustainability of its energy sector, ASEAN should make sure that all energy projects use the best or most appropriate technologies and apply international standards to construction and operation. While these requirements apply equally to all sources of energy and along the full supply chain, the energy source that is causing the greatest concern is nuclear energy. In this industry, China, Japan, the Republic of Korea and the Russian Federation are all competing to win projects in ASEAN countries. It is up to ASEAN member Governments to ensure that the suppliers and contractors meet the highest standards.

Two further issues related to domestic primary energy resources also concern countries in North-East Asia. The first concerns the maritime territorial disputes in the South China Sea and China's persistence in proclaiming its historic rights over a vaguely-defined area bounded by a nine-dashed line that it backs up with active oil exploration. Legal grounds (although not definitive) exist for a number of ASEAN members to claim sovereign rights over energy resources that lie within the area of the nine-dashed line. Were it to be decided that such resources belonged to one or more ASEAN members, this would in principle enhance ASEAN's security of energy supply.

Taken together, these considerations highlight the growing degree of interaction and interdependence between ASEAN members, on the one hand, and Governments and energy companies in North-East Asia (China, Japan, the Republic of Korea and the Russian Federation) as well as India and the Middle East, on the other hand. This phenomenon provides opportunities in terms of investment, technology and skills, but poses a range of risks if these relationships are not managed well.

(c) Clean and efficient energy supply and use

In addition to the massive investment required to raise the scale of energy supply, ASEAN also faces the need to boost investment in energy efficiency and clean energy along the supply

chain. This will require funds, technology and skills, much of which are likely to come from outside ASEAN, at least for the next few years. If ASEAN can develop into a single market for energy technology, goods and services, this is likely to encourage investment and the provision of energy services from outside ASEAN.

2. ASEAN's current capacity to meet these challenges

In order to assess ASEAN's capacity to address these external challenges, we examine three aspects of energy governance in ASEAN:

- (a) The capacity of ASEAN to act cohesively and communicate externally with a single voice on energy matters;
 - (b) The nature of (energy) diplomatic relations between ASEAN and key external actors and organisations;
 - (c) Progress towards ASEAN energy market integration.
- (a) *The capacity of ASEAN to act cohesively and communicate externally with a single voice on energy matters*

This subsection assesses ASEAN's capacity to act and communicate cohesively on three issues:

- (a) Response to energy supply crises including sea-lane security;
- (b) Engagement with state-backed energy companies from outside ASEAN;
- (c) The South China Sea.

The most important contribution to alleviating a global oil supply crisis is effective communication by all actors. ASEAN has no formal engagement with IEA, and the ASEAN Petroleum Security Agreement (APSA) is at a very early stage of development and has no binding obligations. As a consequence, during an international energy crisis the world will be looking to ASEAN and similar regional organisations to provide accurate and unambiguous up-to-date information about a range of matters including the state of energy supply, measures to constrain demand, the availability of strategic stocks and plans for release of these stocks. It is not evident that ASEAN at present has the coherence to provide such information at short notice.

South-East Asia's energy trade from the Middle East and Africa depends heavily on the seaborne route via the Straits of Malacca and the South China Sea (figures 3 and 4). Similarly, the major oil and gas importing countries in North-East Asia – China, Japan and the Republic of Korea – also rely on the same maritime routes for transit. In 2013, approximately 15.2 million barrels of oil per day flowed through the Malacca Straits, which was equivalent to the annual import requirements of China, Japan, the Republic of Korea and Taiwan Province of China. In the same year, about 120 bcm of LNG flowed through the Malacca Straits, which is more than 50 per cent of the annual LNG imports by these four countries.¹⁷ A further 15 per cent of North-East Asia's LNG travels from Australia through ASEAN seas further to the east (BP, 2014). Coal imported to North Asia from South Africa and Australia also passes through ASEAN waters.

¹⁷ www.eia.gov/countries/regions-topics.cfm?fips=wotc&trk=p3.

Figure 3. Major crude oil trade flows via South-East Asia



Source: EIA South China Sea figure, available at www.eia.gov/countries/regions-topics.cfm?fips=scs (accessed 7 February 2013).

Figure 4. Major LNG trade flows via South-East Asia



Source: EIA South China Sea figure, available www.eia.gov/countries/regions-topics.cfm?fips=scs (accessed 7 February 2013).

These busy routes face the risk of accidental disasters and security threats that range from collisions and spills, to piracy, terrorist attacks and military blockades. These can have major economic impacts for countries in the South-East and North-East Asian regions. The United States Energy Information Administration noted that nearly half of the world's fleet would have to be rerouted around the Indonesian archipelago, such as through the Lombok Strait between the Indonesian islands of Bali and Lombok, or the Sunda Strait between Java and Sumatra, in the event that the Straits of Malacca were to be blocked. This would add to shipping costs and potentially have an impact on energy prices.

To address the issue of piracy, the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) entered into force in September 2006. This is the first regional Government-to-Government agreement in Asia to promote and enhance co-operation against piracy and armed robbery; to date 20 States¹⁸ are Contracting

¹⁸ The 19 Contracting Parties to ReCAAP are Australia, Bangladesh, Brunei Darussalam, Cambodia, China, Denmark, India, Japan, the Republic of Korea, the Lao People's Democratic Republic, Myanmar, the Netherlands,

Parties. The ReCAAP Information Sharing Centre (ReCAAP ISC) is based in Singapore.¹⁹ ASEAN also created the ASEAN Maritime Forum in 2010 to improve maritime relations between ASEAN members in the areas of maritime security and co-operation, maritime connectivity and protection of the marine environment through dialogue, consultations, policy-oriented studies and joint activities. In 2012, the Expanded Maritime Forum was established, which expanded the forum to East Asian Summit (EAS) participating countries.

A Memorandum of Understanding (MoU) for an Oil Spill Response Action Plan (OSPAR) was signed under the auspices of ASEAN in 1993 by Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Thailand (signed in January 1994). The ASEAN OSPAR has since become the basis for co-operation at the operational level on oil pollution preparedness and response between these six countries. However, it needs updating since the four new ASEAN members (Cambodia, the Lao People's Democratic Republic, Myanmar and Viet Nam) are not party to the MoU. A draft MoU on Joint Oil Spill Preparedness and Response in the ASEAN region is currently under discussion in partnership with the International Maritime Organisation.²⁰ This gap again demonstrates the disparity in terms of capabilities between ASEAN members and the need for better sharing of resources and build up resource capacity within the region.²¹ An ARF seminar on the topic "Regional Co-operation on Offshore Oil Spills" was convened for the first time in March 2014 at Qingdao, China and was co-chaired by Brunei Darussalam, China, Singapore and the United States. This could potentially facilitate a wider co-operative approach among ARF participants on this issue in the ASEAN region.²²

A growing proportion of inward investment to ASEAN's energy sector is coming from state-owned and state-backed companies, notably from China, Japan, the Republic of Korea and the Russian Federation. While such investment is welcome, there are a number of risks involved, as discussed above. While each sovereign State has the right to make its own choice of inward investors, ASEAN as a group has a role to play to ensure that such investments do not undermine collective interests. In particular, investment opportunities should be open to tender and not decided on the basis of political objectives; in addition, energy flowing from such investments should be made available to the ASEAN energy market and not be committed to long-term exports to the home country of the investor. If an effective ASEAN energy market were to be established, then such bilateral deals with a strong political element would be precluded.

Norway, the Philippines, Singapore, Sri Lanka, Thailand, the United Kingdom and Viet Nam. The United States became the twentieth member in September 2014.

¹⁹ For more information, visit the ReCAAP website at www.recaap.org/.

²⁰ www.imo.org/OurWork/TechnicalCooperation/TCActivities/Pages/ASEAN-OSRAP.aspx.

²¹ <http://eascongress.pemsea.org/sites/default/files/document-files/presentation-st43-prasertwong.pdf>.

²²

<http://aseanregionalforum.asean.org/files/library/ARF%20Chairman's%20Statements%20and%20Reports/The%20Twentyfirst%20ASEAN%20Regional%20Forum,%202013-2014/11%20-%20Co-Chairs'%20Summary%20Report%20-%20ARF%20Seminar%20on%20the%20Regional%20Cooperation%20on%20Offshore%20Oil%20Spill,%20Qingdao.pdf>.

One pressing area in which ASEAN has singularly failed to act cohesively relates to engagement with China over the South China Sea. In particular, Viet Nam and the Philippines, which are actively confronting and challenging China's claims, have indicated that they would like to see ASEAN take a stronger stance over the South China Sea. However, the role of ASEAN in these disputes has been limited. This is because not all ASEAN members are directly involved in such disputes with China; it is therefore difficult for ASEAN as a consensus-based organisation to motivate all member States to adopt a collective stance. In fact, the ASEAN members recognise that their relationship with China is multi-dimensional and they are thus mindful of not allowing the maritime disputes overshadow overall relations. Furthermore, ASEAN does not have much experience in resolving such a complex dispute.

Essentially, ASEAN's role is to serve as a facilitator by providing a framework for all parties to resolve their disputes peacefully, without resorting to the use of force. ASEAN does not take a position on the respective claims and has instead repeatedly urged all disputing parties to finalise the long-delayed Code of Conduct as a way of reducing tension in the region. The organisation's focus in relation to these disputes is to ensure (a) freedom of navigation and flight in the region, (b) that the rule of law is applied as competing claimants assert their claims and, most importantly, (c) that South-East Asia remains an open region and does not become beholden to any single external power.

(b) The nature of energy diplomatic relations between ASEAN and key external actors and organisations

While ASEAN has a relatively good track record of external engagement related to general political and economic issues, it has been much less active on matters related to energy. This is not to say that ASEAN members do not recognise the importance of international engagement to attaining greater regional energy co-operation. In 1998, the East Asia Vision Group (EAVG) – comprising eminent intellectuals from the ASEAN+3 member States – submitted the EAVG Report to the leaders attending the 2001 ASEAN+3 Summit.²³ The report called for East Asian Governments “to strengthen and increase efforts towards institutionalising environmental and energy co-operation in the region” and dedicated an entire section under the “Energy Cooperation” where it called for the region to “jointly develop and explore new sources and supplies of energy within the region, and promote the efficient use of energy”. It also called for a framework “to help the region develop a broad regional consensus for energy policies and strategies both for the short and long term”.

The 2010 ASEAN Plan of Action for Energy Cooperation 2010-2015, adopted in July 2009, noted that the twenty-fifth and the twenty-sixth ASEAN Ministers of Energy Meetings held in November 2007 in Singapore and in August 2008 in Bangkok, Thailand provided guidelines and directives towards enhancing regional co-operation on energy. The 2010 Plan of Action reiterated the call to:

“Expand external energy co-operation and to continue joint programmes under the ASEAN+3 and the East Asia Summit (EAS) energy co-operation programmes

²³ *Towards and East Asian Community – Region of Peace, Prosperity and Progress (2001)*, available at www.mofa.go.jp/region/asia-paci/report2001.pdf.

and dialogue partners, such as the European Union, Japan, Australia, Germany etc.”²⁴

In 2012, a follow-up East Asia Vision Group II (EAVG II) Report, *Realising an East Asia Economic Community by 2020*, was submitted to the ASEAN+3 Summit leaders in Phnom Penh.²⁵ This report noted that ASEAN+3 Ministers had agreed in 2002 to five initiatives for energy co-operation among members, consisting of: (a) the creation of an emergency energy security network; (b) the development of oil stockpiling; (c) joint studies on the APT oil market; (d) the improvement of natural gas development, and (e) the improvement of energy efficiency and renewable energy. It went on to note that progress in these five areas remained limited:

“Most of the initiatives are at very preliminary stage such as APT oil market, natural gas development, and the improvement of energy efficiency and renewable energy. Some other initiatives, such as oil stock piling, are voluntary and non-binding, causing a big gap between developed member countries and least developed member countries.”

This observation by EAVGII highlighted the slow pace in developing these five energy co-operation initiatives over the past decade and raised the question on whether substantial progress could be achieved by 2020. It served to demonstrate how ASEAN’s slow decision-making process has also hampered the organisation’s ability to engage in energy-related matters with its closest three neighbours, China, Japan and the Republic of Korea, which were represented at EAVG. Similarly, ASEAN has recognised energy co-operation as a key area for external engagement and co-operation through Plans of Actions and Work Programmes with countries such as India,²⁶ the Russian Federation²⁷ and Canada.²⁸ Such Plans of Actions covering energy co-operation with the external parties are meant to facilitate the deepening of co-operation between ASEAN and the external parties. While holding great promise, they also all remain at the preliminary stage.

One key reason for the slow progress is probably because the ASEAN Secretariat has inadequate human and financial resources to manage the expanding energy co-operation agenda with multiple external parties. A second key reason is likely to be due to the slow progress in the implementation of the ASEAN Plan of Action on Energy Cooperation (APAEC, 2010–2015,

²⁴ 2009 ASEAN Plan of Action on Energy Cooperation, 2010-2015, adopted on 29 July 2009 in Mandalay, Myanmar by the Energy Ministers (p. 11), <http://cil.nus.edu.sg/2009/2010-asean-plan-of-action-on-energy-cooperation-2010-2015/>.

²⁵ Report of the East Asia Vision Group II (EAVGII), 19 November 2012, available at www.mfa.go.th/asean/contents/files/asean-media-center-20130312-112418-758604.pdf.

²⁶ Plan of Action to Implement the ASEAN-India Partnership for Peace, Progress and Shared Prosperity (2010-2015), available at [http://cil.nus.edu.sg/rp/pdf/2010%20Plan%20of%20Action%20To%20Implement%20the%20ASEAN-India%20Partnership%20for%20Progress%20and%20Shared%20Prosperity%20\(2010-2015\)-pdf..](http://cil.nus.edu.sg/rp/pdf/2010%20Plan%20of%20Action%20To%20Implement%20the%20ASEAN-India%20Partnership%20for%20Progress%20and%20Shared%20Prosperity%20(2010-2015)-pdf..)

²⁷ ASEAN-Russia Dialogue Relations, June 2012, available at www.asean.org/asean/external-relations/russia/item/asean-russia-dialogue-relations.

²⁸ Plan of Action to Implement the Joint Declaration on ASEAN-Canada Enhanced Partnership, available at www.asean.org/archive/documents/Plan%20of%20Action%20to%20Implement%20the%20Joint%20Declaration%20on%20ASEAN-Canada%20Enhanced%20Partnership_f.pdf

between the ASEAN members themselves. A third reason is that ASEAN members tend to prefer voluntary and non-binding agreements, resulting in fragmentation of energy initiatives, as noted in EAVGII Report. In sum, given that internal regional conditions remain inadequate, the contributions by external parties have also been limited.

(c) *Progress towards ASEAN energy market integration.*

ASEAN energy market integration will provide a number of regional public goods, one of which is enhanced security of energy supply (Andrews-Speed and Hezri, 2013). This benefit arises through the free movement of energy commodities, energy services, technologies, investment and skilled labour across the region. Effectively managed, energy market integration enhances long-term energy security through the more effective allocation of resources between ASEAN members of complementary energy endowments and capacities. It also boosts the region's ability to react to short-term crisis through the sharing of energy supplies and emergency stocks.

While progress has, and continues to be made towards ASEAN energy market integration, it has been slower than might have been hoped for in a number of respects (Andrews-Speed and Hezri, 2013):

- (a) The Trans-ASEAN Gas Pipeline and the ASEAN Power Grid are behind schedule, constraining physical interconnection between member States;
- (b) The ASEAN Trade in Goods Agreement may have removed most tariffs, but many non-tariff barriers to trade in energy remain in place;
- (c) The ASEAN Comprehensive Investment Agreement has country-specific annexes that list many exemptions related to energy. These restrictions on investment flows within ASEAN are exacerbated by regulatory and fiscal measures at the national level, which constrain the flow of inward investment in energy regardless of the source of the funds;
- (d) A revised APSA was signed in 2009 and ratified in March 2013 providing for voluntary (not obligatory) measures in times of supply crisis, including emergency energy-saving measures and the sharing of oil or gas. It allows for, but does not oblige member States to construct oil stockpiles, either individually or jointly. The sharing mechanism has never been implemented because supply problems have been solved bilaterally between ASEAN members, with non-ASEAN oil producers or through oil traders (Nicolas, 2009). As a result, it is highly uncertain how the APSA mechanism would work in a supply crisis (Mitchell, 2014);
- (e) One of the objectives shared by the strategies for renewable energy and energy efficiency is to promote the development of manufacturing capacity and trade across ASEAN in the relevant technologies and appliances. Progress in this regard has been hampered by a number of factors, such as weak technological capabilities and the lack of national technical standards (ASEAN Centre for Energy, 2013).

More fundamentally, energy does not appear to have been identified as a priority for the ASEAN Economic Community (AEC), either in official documents or in published accounts that assess progress towards the implementation of AEC (Das, 2013; Das and others, 2013). Unless the pace of ASEAN energy market integration is accelerated, the capacity to manage external energy challenges will remain low.

D. International experience of multilateral cohesive action and effective communication concerning external energy matters

Rather than address the issue of energy market integration itself, this section focuses on how a group of nations have worked together successfully and unsuccessfully to address external energy challenges and opportunities such as those faced by ASEAN. We have chosen the example of the European Union in the first instance because it is a long-established regional group and has for many years tried to develop a coherent external energy policy, but with mixed success. While the European Union can claim some success in launching strategic initiatives to support energy security, it has faced a number of profound challenges in implementation rising mainly from differences of outlook among member States.

While internal energy policy and energy market integration is managed by the Directorate-General for Energy,²⁹ it is the External Action Service that drives external energy policy.³⁰ The European Union's external energy policies are focused strongly, but not exclusively, on security of supply. The European Commission has carried out extensive analyses, and numerous policy documents are publically available.³¹ The European Union has also established or has been instrumental in establishing a number of instruments and institutions, including:

- (a) The setting up of requirements in 1968 for all member States to build oil stock piles equivalent to 65 days of net imports. This was then raised to 90 days after the establishment of the IEA in 1972;³²
- (b) Acting as the prime mover in creating the Energy Charter Treaty which was signed in 1994. The aim of this treaty was to support investment and trade in energy across the Eurasian continent, but especially between Europe and the countries of the former Soviet Union.³³
- (c) The establishment of the Energy Community by Treaty in 2005 as an international organisation dealing with energy policy. Membership includes the European Union plus those Balkan States that are not European Union members, the Ukraine and Moldova, with Norway, Turkey and Armenia as observers.³⁴

The European Union has formal energy dialogue or partnership relations with Algeria, Brazil, China, India, Iraq, Japan, Norway, the Russian Federation, South Africa, Turkey, Ukraine and the United States. It has regional energy partnerships in the “near abroad” across the Mediterranean Sea and with countries in the Caucasus and Central Asia. Finally, the European Union has formal partnerships with IEA, the International Energy Forum, the International

²⁹ http://ec.europa.eu/dgs/energy/index_en.htm.

³⁰ www.eeas.europa.eu/index_da.htm.

³¹ See, for example: http://ec.europa.eu/energy/international/security_of_supply/cooperation_en.htm.

³² http://europa.eu/legislation_summaries/energy/external_dimension_enlargement/127071_en.htm.

³³ www.encharter.org/.

³⁴ www.energy-community.org/.

Atomic Energy Agency, OPEC, GCC, the Energy Charter Treaty, and the G8 and G20 groups of nations.³⁵

Despite these steps being taken over several decades, it was only in 2011 that the European Commission published its first comprehensive external energy strategy document.³⁶ In addition to consolidating the thinking behind the measures already implemented, it included the need to (a) more effectively share information between member States and promote a coherent European Union external energy policy, and (b) promote the safe, sustainable and environmentally-sound production and use of energy across the world.

Arguably the most important and most urgent measure within this external energy policy document was to promote greater investment in infrastructure to import energy, and to transport it within Europe with the aim diversifying gas supplies away from the Russian Federation. The “Southern Gas Corridor” lies at the heart of this strategy. The concept of the “Corridor” was developed in the late 1990s and comprises a series of pipelines that would bring gas from Azerbaijan and Central Asia to Europe. However, the project has repeatedly been delayed by financial and political obstacles, and in particular by the competition between different options for routes (Sartori, 2012).³⁷ Recent tensions with the Russian Federation have added urgency to the project,³⁸ and on 21 September 2014 a ground-breaking ceremony was held near Baku, Azerbaijan, to mark the start of construction of a pipeline that will eventually take gas to mainland Europe.³⁹

In addition, the European Union’s LNG regasification capacity has risen from 175 bcm/yr in 2010 to 217 bcm/yr in 2014, and is projected to grow to 355 bcm/yr by 2020 (Deschuyteneer, 2014). This growing ability to import seaborne LNG will further reduce the European Union’s reliance on Russian gas, especially as total energy demand is projected to remain flat or to decline during the next 20 years.

The most prominent source of division among European Union member States over external energy policy is related to the Russian Federation. In simple terms, those States closest to, and most directly reliant on Russian gas tend to take a different approach from those States that are more distant and less directly reliant. The European countries’ perception towards Russian dependence is also coloured by their historical relationship with the Russian Federation. The European Commission is trying to make the European Union less dependent on Russian gas, which currently accounts for approximately 39 per cent of European Union natural gas imports and 27 per cent of European Union gas consumption in 2013.⁴⁰ Attempts to wean Europe off Russian gas and negotiate against the Russian Federation as a bloc have also been thwarted by the competing interests of individual European countries. For example, Austria is very keen to

³⁵ http://ec.europa.eu/energy/international/index_en.htm.

³⁶ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0539:FIN:EN:PDF>.

³⁷ www.eurodialogue.eu/energy-security/Europe-southern-gas-corridor-The-great-pipeline-race.

³⁸ www.huffingtonpost.com/david-koranyi/revitalizing-the-southern-gas_b_5214501.html

³⁹ www.oilandgastechology.net/pipeline-news/bp-begins-construction-southern-gas-corridor-pipeline-between-azjerman-europe.

⁴⁰ European Energy Security Strategy, European Commission, 28 May 2014, http://ec.europa.eu/energy/doc/20140528_energy_security_communication.pdf.

develop a new gas pipeline, called the “South Stream”, connecting the Russian Federation via the Black Sea to Bulgaria and on to Central Europe, and which would bypass Ukraine. Meanwhile, Brussels has prevented the construction of the Nord Stream pipeline, which connects the Russian Federation with Germany via the Baltic Sea and bypasses the traditional ex-Soviet transit countries, from operating in full capacity. These cases show the challenges involved in attempting to develop a unified and coherent regional energy policy in the face of differing views and competing interests among different State actors.

Since the start of the crisis in Ukraine in 2014, the importance of the European Union’s energy relationship with the Russian Federation has been complicated by wider and more urgent strategic concerns. Following its new assertive approach towards Ukraine, the Russian Federation is now regarded more as a strategic challenge, rather than a strategic partner to Europe. This has raised the question of whether the Russian Federation would eventually become a direct threat to the European Union and NATO members, particularly Poland and the Baltic States. The spectrum of views among European leaders and the European Union agony on how best to respond to the Russian Federation’s activities against Ukraine – due to the concern among some leaders of the possibility of economic fallout – has shown how some crises can threaten cohesiveness even of a regional grouping with a relatively coherent external energy strategy.

E. Towards an external ASEAN energy strategy

If ASEAN fails to act cohesively to address the challenges outlined in this paper it will face a number of threats to its energy sector that include:

- (a) Growing vulnerability to, and dependence on the actions of other powerful Asian nations with regard to energy supplies;
- (b) Growing vulnerability to, and dependence on the actions of other powerful Asian nations as they gain access to ASEAN’s energy resources;
- (c) Greater vulnerability to the economic, social and political consequences of a major interruption to energy supplies, both for ASEAN as a group and for individual ASEAN members;
- (d) A shortage of inward investment and service provision in the energy sector across ASEAN, especially in the field of clean energy and energy efficiency.

One of the biggest challenges for ASEAN, both currently and looking ahead, would be its management of the relationship with China. ASEAN needs to strike a careful balance to ensure that the South-East Asian region will benefit from China’s growing economic and political influence, while not becoming over-reliant on China to the extent that the organisation loses its central position in driving the evolution of the East Asian institutional architecture – which covers political, economic, and socio-cultural co-operation. In dealing with China, ASEAN also has to strike a fine balance in managing the varied expectations of the different member States, to ensure that ASEAN remains able to provide a common strategic vision for its members.

The South China Sea is suspected of holding significant resources of oil and natural gas, and may also host deep-marine gas hydrates. However, the sea is also the subject of a large number of maritime boundary disputes. Most disputes between ASEAN members have either been resolved or have been set aside in favour of establishing joint development arrangements

for oil and gas. In contrast, China's claims to "historic rights" over a large area of the South China Sea bounded by a "nine-dashed line" means that it has overlapping claims with Brunei Darussalam, the Philippines, Malaysia and Viet Nam. There have already been direct confrontations at sea between China and Viet Nam and the Philippines. Chinese oil companies have been carrying out geophysical surveys in the disputed parts of the South China Sea for several years, and in 2014 made the first move to drill an exploration well in waters claimed by Viet Nam, using the first deep-sea drilling rig to be made in China.

To set ASEAN's ambition in creating a cohesive regional energy strategy and the suggestion of an external ASEAN energy strategy in context, it is useful to consider the length of time that European integration took. European had instituted supranational governance enabling the creation of binding rules for member States. This process can be traced back to the Treaty of Paris in 1952, and it was only four decades later, in 1992 that the Maastricht Treaty was signed followed by the establishment of the European Union in 1993. However, it was not until 16 years later, in 2009, that the European Union created the role of a Representative of the Union for Foreign Affairs and Security Policy, which is likened to a European Union foreign minister's post for the European Union.

On the subject of a common international energy policy, it has taken the Europeans decades to establish an internal energy market, and to plan at the European Union-level for the bloc's strategic energy imports, greenhouse gas emissions reduction, energy technology development and, finally, to speak with a single voice on international energy issues.⁴¹ Yet, even now, the European Union's agony and internal debate over sanctions on the Russian Federation have revealed the divisive nature of international energy politics.

The only other regional bloc in the world that is attempting to create a regional energy strategy besides the European Union is ASEAN, which is neither a supranational organisation, nor possesses the human and financial resources to manage the expanding energy co-operation agenda both domestically and externally. Furthermore, given that the ASEAN members have traditionally been unable to present a united front due to narrow self-interest calculations, ASEAN has typically prioritised agreement by consensus and the adoption of the lowest common denominator. This approach has undercut the bold and visionary approach set out by EAVG to strengthen ASEAN (Desker, 2008). Given the limited sense of community among ASEAN members, the organisation can only remain a modest institution.

Given ASEAN's pressing energy challenges, it is necessary for the bloc to develop an external energy strategy that will promote a unified and cohesive external position in the framework of AEMI and enhance ASEAN energy security. At the heart of this strategy would be the development of coherent approaches to a number of key concerns that are identified in this paper. These include approaches to:

- (a) External relations with large Asian energy importers and their energy companies;
- (b) Managing disputes in the South China Sea;
- (c) Relationships with key oil and gas exporters, especially in the Middle East;
- (d) Speaking with one voice in the event of a supply crisis;

⁴¹ http://europa.eu/legislation_summaries/energy/european_energy_policy/127067_en.htm.

- (e) Attracting the inward flow of investment, technology and services relating to clean energy and energy efficiency.

Two key sets of requirements exist for ASEAN to develop these capabilities. First, the ASEAN Secretariat must have much greater functional capacity in terms of personnel, skills and authority. In particular, the Secretariat must possess greater analytical capability with access to intellectual experts in order for it to objectively identify, examine and address the challenges faced by the region at the different levels. Second, the member States must be able to set aside their individual narrow interests for the sake of larger regional interests, in order to achieve a higher level of co-operation through ASEAN.

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