

An assessment of trade and investment barriers in energy services in ASEAN

By Joy Abrenica and Adora Navarro

Contents

Introduction

A. What are energy services?

1. Main energy services
2. Energy-related services

B. Global and regional energy context to 2030

1. Global and regional energy trends
2. Regional energy actor behaviour

C. Comparison of commitments in energy and non-energy services

1. ASEAN's external energy security challenges
2. ASEAN's current capacity to meet these challenges

D. Barriers to trade and investment in energy services

E. Motivation for liberalising energy services

F. Towards an Energy Services Agreement

1. Elimination of barriers to trade and investment
2. Mutual recognition agreements
3. Common regulatory framework

Annex: Horizontal commitments on market access in AFAS

References

List of tables

1. Commitments undertaken by AMS on main energy services.
2. Commitments undertaken by ASEAN members on energy-related services.
3. Comparison of commitments in energy and non-energy services: Limitations on market access, Mode 3.
4. Comparison of commitments in energy and non-energy services: Limitations on market access, Mode 4.
5. Types of barriers to trade and investment in energy services.
6. Primary energy production and consumption of selected ASEAN members, 2009-2030.
7. Percentage of foreign equity allowed in the energy sector.
8. Electricity access in ASEAN, 2010.

Introduction

The goal of the ASEAN Plan of Action for Energy Cooperation 2010-2015 (APAEC) (ASEAN Centre for Energy, undated) is to ensure that the region would have secure and reliable energy supply through regional infrastructure projects such as the ASEAN Power Grid and Trans-ASEAN Gas Pipeline. While APAEC makes no explicit reference to liberalisation of trade and investment in energy services, it is sensible to suppose that such a measure is on the menu of strategies being considered by the ASEAN leaders to meet the plan's objective.

Bringing energy services into the fold of multilateral disciplines, however, has not had much success, except in a few preferential trading arrangements. Many countries are still protective of their domestic energy suppliers and natural resources, and thus maintain high barriers to foreign trade and investment in energy services.

Yet there are notable changes. A growing number of economies are becoming more disposed towards open and non-discriminatory market for energy. In these economies, new regulations encouraging competition and private sector ownership are replacing heavy market controls and government ownership – propelled in many cases by the poor performance of state-owned utilities. The fiscal burden of subsidies and investment deficiencies in certain activities, due to distorted incentives structure, are also providing additional impetus to market reforms.

Likewise, many economies are refraining from using price controls and import restrictions, particularly in globally-traded fuels such as oil and coal. Where there are active spot and futures trading markets and financial instruments that can help reduce price volatility, it is more logical and practical to provide free rein to market forces in determining energy prices and managing supply. Moreover, even in markets where state utility monopolies are still in control, opportunities for domestic and foreign firms to sell to such monopolies have been introduced as a way of ensuring that capacity additions and innovations are not held up by limitations in public funds.

Despite the changing landscape, significant barriers to energy trade and investment remain. This paper takes stock of these barriers and proposes measures to eliminate them through the multilateral disciplines of the Association of Southeast Asian Nations (ASEAN). The focus is on energy services, or activities related to the “exploration, development, extraction, production, generation, transportation, transmission, distribution, marketing, consumption, management, and efficiency of

energy, energy products and fuels.”¹ The policies of the individual ASEAN members that impede trade and investment in energy services are identified and assessed. The information is drawn from the individual members’ schedule of commitments in the ASEAN Free Trade Agreement in Services (AFAS). Other issues that may affect the negotiations to reduce or eliminate trade and investment barriers are also discussed, such as current and projected energy supply and demand conditions in the region.

Section A defines the scope of energy services. The World Trade Organization (WTO) Secretariat’s Note on Energy Services serves as the main reference, albeit Indonesia’s parallel classification is also discussed. Section B takes inventory of energy sector commitments in AFAS. A few member States made specific commitments to energy services, but all underwrite several energy-related sectors. Section C discusses the nature of trade and investment restrictions maintained by member States in energy and related sectors. What factors may drive them to lift these barriers are analysed in section D. In conclusion, section E explores the shape of an energy services agreement to remove the identified barriers.

A. What are energy services?

Despite the sector’s size and importance, energy services have not been well represented in global trade agreements. A possible explanation for this omission is the ambiguity on the scope of energy services. Unlike construction or telecommunications, energy services are not identified as a separate division in the United Nation’s provisional central product classification (CPC), nor in the WTO services sector classification (W/120). Rather, what are considered energy services appear in the W/120 with other generic services, such as business services, construction, distribution and transportation. In ASEAN, as it is in the WTO, members use the W/120 as a guide for scheduling their commitments. Negotiators tend to focus on sectors in which the scope is readily identifiable, trade is significant and there is strong business and consumer interest in trade liberalisation. That energy services are not easily distinguishable from other services categories in W/120 make the sector less of a candidate for commitments and negotiations. Unless the definitional issues are settled, no meaningful negotiations on the sector can proceed.

Recently, the Secretariat Note on Energy Services, issued by the Council for Trade in Services of the World Trade Organization (S/C/W/311, 12 January 2010) identified three main energy services activities: (a) services incidental to mining; (b) services incidental to energy distribution (CPC 887); and (c) transportation of fuel.

¹ Definition of “energy services” in the “Communication from the United States: Energy Services,” S/CSS/W/24, Council for Trade in Services, World Trade Organization, 18 December 2000.

- (a) Services incidental to mining. These services include: (i) services rendered on a fee or contract basis at oil and gas fields (e.g., drilling services, derrick building, repair and dismantling services); (ii) oil and gas well casings cementing services (CPC 883), but excluding mineral prospecting services, oil and gas field exploration and geophysical (e.g., seismic); (iii) and geological surveying services that are covered by engineering-related scientific and technical consulting services (CPC 8675); and (iv) site preparation work for mining, including tunnelling, overburden removal and other development and preparation work of mineral properties and sites (CPC 5115), but excluding construction services incidental to oil and gas mining which are classified under CPC 88300;²
- (b) Services incidental to energy distribution (CPC 887), referring to: (i) transmission and distribution services on a fee or contract basis of electricity, gaseous fuels and steam and hot water to households, and industrial, commercial and other users, but excluding transport services via pipeline on a fee or contract for petroleum and natural gas; and
- (c) Transportation of fuels, specifically: (i) transportation via pipeline of crude or refined petroleum and petroleum products and of natural gas (CPC 7131); and (ii) transportation of coal slurry (covered under “Transportation of other goods”, CPC 7139).

It must be emphasised that the activities detailed above refer to “services incidental to” production activities such as mining and manufacturing. Production itself is normally not considered a service, and is therefore outside the scope of AFAS. However, when the production is for a fee or on a contract basis, i.e., on account of a third party, such activity is classified a service. Thus, the same activity is treated differently depending on whether it is carried out by a contractor or by a manufacturer – the former is a service, the latter not. The decisive factor of whether to consider an activity as a service or as production is the ownership of the raw material that is processed, treated or transformed. The activity undertaken by a manufacturer that owns the raw material is a production, whereas that by a contractor on account of another producer is a service.

If the activity is not production for a fee or contract, how does one distinguish mining from services incidental to it? After extensive consideration of this difficult question, the WTO members offered the following specific activities as examples of services incidental to mining:

² The explicit exclusion of services incidental to mining oil and gas is meant to delineate similar activities that are undertaken for coal mining. Thus, CPC 883 is understood to cover the former, while CPC 5113 covers the latter.

“On land site preparation, on land rig installation, drilling, drilling bits services, casing and tubular services, mud engineering and supply, solids control, fishing and downhole special operations, well-site geology and drilling control, core taking, well testing, wireline services, supply and operation of completion fluids (brines), supply and installation of completion devices, cementing (pressure pumping), stimulation services (fracturing and pressure pumping), work over and well-repair services, plugging and abandoning of wells.”³

Similarly, apart from transmission and distribution for a fee or contract, CPC 887 covers incidental activities such as central network control services, and power management and monitoring services. It is not clear, however, if transmission and distribution per se are covered by CPC 887, but the general view is that they are covered.

In addition to the above subsectors, the following activities, to the extent that they are critical to the energy supply chain, are considered to be energy-related services:

- (a) Construction work for long-distance pipelines and power lines;
- (b) Wholesale trade services of solid, liquid and gaseous fuels, and related products;
- (c) Retail sale of fuel oil, bottled gas, coal and wood;
- (d) Bulk storage services of liquids or gases;
- (e) Engineering design services for oil and gas recovery procedures;
- (f) Construction, installation and/or maintenance of drilling equipment, pumping stations, treating and storage facilities and other oil field facilities;
- (g) Geological, geophysical and other scientific prospecting services;
- (h) Testing and analysis services of the chemical and biological properties of soil and minerals;
- (i) Management consulting services;
- (j) Services related to management consulting.

This broad list of activities reflects the thinking that most activities in the energy supply chain should be regarded as energy services. Such comprehensiveness, however, poses a conceptual problem that many of the activities regarded as energy-related are lumped with other services that are non-energy. For example, construction work for dams, long-distance pipelines and power lines is classified under the broad heading of “construction work for civil engineering (CPC 513). Similarly, wholesale trade services of solid, liquid and gaseous fuels are indistinguishable from other wholesaling activities under the subclass CPC 622, and broadly labelled as “wholesale trade services”. In this sense, it becomes nearly impossible to delineate the boundaries of energy services using

³ WTO Secretariat Note, pp. 11-12.

the CPC. Nonetheless, the United Nations classification system provides a useful starting list of activities that may be covered.

In addition, the CPC has not helped to resolve several definitional issues. A lingering debate is whether electricity is a good or service. One view maintains that generated power is a commodity produced through a process of transforming fuels into electrons. A contrary view underscores, however, the services-like characteristics of electricity – non-storable and must be consumed as it is produced. This debate has far-reaching implications since it determines which agreement (hence discipline) applies to the activity. If treated as a good, either the ASEAN Trade in Goods Agreement (ATIGA) or the General Agreement on Tariffs and Trade (GATT) applies; if services, it is subject to AFAS or General Agreement on Trade in Services (GATS) discipline.

Whether ATIGA or AFAS applies to electric power generation matters significantly to the growing community of independent power producers (IPPs). The rules of ATIGA apply to goods manufactured, not to producers, whereas the disciplines of AFAS are enforced on the producers. If electricity were considered a good, then IPPs cannot demand the market access and national treatment that are only granted under AFAS.

There is no final word yet on the issue but most WTO members appear to share the view that electricity is a commodity, hence generation of electricity falls outside the GATS discipline, but transmission and distribution of electricity are services. The recent dispute over Canada's feed-in-tariff programme, which was viewed as violation of Canada's obligations under GATT 1994, suggests a leaning towards the commodity interpretation of electricity.⁴

The foregoing conceptual conundrum is not confined to electricity; it also applies to oil refining, gas liquefaction and re-gasification.⁵ Again, it matters whether these activities are viewed as production or services in determining the rights and obligations of suppliers.

The issue is confounded further by the liberality afforded to members in scheduling their commitments under AFAS. In general, ASEAN members follow the CPC, but may choose not to do so. Indonesia, for example, adopted the classification that

⁴ See WT/DS412/10 and WT/DS426/9.

⁵ Although contending views exist on the classification of these activities, three versions of the CPC, including the latest, have categorised regasification and liquefaction as services. Specifically, these activities are labelled "liquefaction and re-gasification of natural gas for transportation" under Division 67 of "supporting transportation services".

it proposed to the WTO body in 2001 (revised in 2004), which included activities bordering on production and services. Indonesia's insistence on adopting its own classification reflects its view that a wider coverage but more disaggregated classification can capture the multifarious services involved in all stages of energy production. Moreover, a more detailed listing may be able to elicit more commitments, as it is easier for a member State to omit certain activities or specify reservations in its schedule.

In the Indonesian classification system, energy services are grouped into five subclasses: upstream activity; downstream activity; energy commercialisation; professional services; and other energy services. Upstream services comprise activities related to exploration and development of renewable and nonrenewable energy sources. Downstream services pertain to energy transformation, transportation and distribution. Energy commercialisation services consist of wholesale and retail supply of energy and commission's agent services. Professional services cover specialised supply services, human resources training and development services. Finally, "other energy services" comprises a gamut of activities not included in the four other subclasses.

The Indonesian system includes activities that fall under the same CPC classes as those in the WTO classification. For example, among the upstream activities is the "exploration, drilling and sampling services", which falls under "services incidental to mining" (CPC 88300). However, the coverage of the Indonesian system is more expansive. Specifically, "other energy services" include research and development (R&D) activities in resource exploration, petroleum, material and conservation technologies as well as environmental protection services, which are not found in the latter (WTO, 2004).

B. Specific commitments on energy services in AFAS

1. Main energy services

If the commitments in AFAS are any indication, the path towards energy market integration appears to be long and arduous. At this stage, only a handful of ASEAN members are willing to liberalise their main energy services sector (table 1). The list includes energy services identified by WTO from the CPC as well as those that have no specific CPC codes but are distinctly energy-related.

Table 1. Commitments undertaken by ASEAN members on main energy services

Type of service	CPC No.	No. of ASEAN members
Services incidental to mining:		
Services rendered on a fee or contract basis at oil and gas fields	883	0
Site preparation work for mining	5,115	0
Services incidental to energy distribution	887	3
Services incidental to energy manufacturing (including electricity)	-	1
Services related to energy supply	-	1
Services related to power generation	-	1
Transportation via pipeline of crude or refined petroleum and petroleum products and of natural gas	7,131	2
Transportation of other goods (including coal slurry)	7,139	1

The foregoing facts attest to the scarcity of commitments in main energy services. None of the ASEAN members made a commitment to liberalise services incidental to mining. Only four members (Cambodia, Indonesia, Myanmar and the Philippines) have undertaken commitments in services incidental to energy distribution, only two (Cambodia and Philippines) have committed to liberalising transportation of crude or refined petroleum via pipeline and only one member (Cambodia) has scheduled transportation of coal slurry. On the other hand, Myanmar and the Philippines have scheduled commitments in sectors not identified in the CPC – specifically for services related to energy manufacturing as well as services related to energy supply and power generation.

Two of the three ASEAN members that have scheduled services incidental to energy distribution have much narrower commitments than the full coverage of CPC 887. Cambodia, in particular, specified that it is committing only to “consultancy services related to the transmission and distribution on a fee or contract basis of electricity, gaseous fuels and steam and hot water to household, industrial, commercial and other users.” Similarly, Indonesia stipulated that its commitment covered only “consultancy services related to the operation of power plants and networks. In contrast, without limiting its commitment, the Philippines clarified its understanding of CPC 887 coverage as “energy distribution networks such as pipelines for transmission, distribution and supply of natural gas, and power transmission and distribution systems.”

Following two major market reforms in 1998 and 2001 – oil deregulation and electricity market restructuring, respectively – the Philippines emerged with the deepest commitments in energy services among the ASEAN members. Thus, the Philippines committed to liberalising the operations of oil terminals, depot and refinery as well as the exploration and development of oil and gas, geothermal and coal. The Philippines’ AFAS schedule also indicates that it permits the construction and operation of power plants under a build-operate-transfer scheme. However, in practice, the Philippines’ policies are even more liberal than its schedule of commitments indicates. Under the law that restructured the Philippines’ electricity market, foreign entities are not limited to constructing and operating power plants under a build-operate-transfer scheme; instead, they can do so on their own account.⁶

It may seem that Myanmar’s commitments are broader and deeper than that of the Philippines because the former country is committed to energy manufacturing, not just supply and power generation. Yet this is doubtful because of the ambiguity in Myanmar’s schedule. Other than stipulating that energy manufacturing includes electricity, Myanmar provided no further information on which activities it meant to cover. Is generation of electricity or the production of any energy covered by such a commitment? The former appears to be suggested by the inclusion of electricity. Since the sector is not found in the CPC, the lack of information on its coverage somewhat undermines the usefulness of the commitment in attracting foreign suppliers and investors. Worse, it renders Myanmar vulnerable to future disputes on potential breaches of its commitment.

2. Energy-related services

In contrast to the limited commitments in main energy services, ASEAN members appear more inclined to undertake commitments in services that may be considered energy-related. However, it is difficult to ascribe such liberality to their pursuit for energy market integration since the sectors involved are too broad in scope, so that energy-related activities are just among many that they cover. Thus, the commitment on engineering services, for example, may have been propelled by other considerations such as promoting labour mobility, without regard to its possible contribution to energy market integration. Nonetheless, since engineering services are important to the energy supply chain, the commitment is still considered as contributing to the goals of the ASEAN energy market integration (AEMI).

An inventory of ASEAN members’ commitments in energy-related services sectors is presented in table 2. Most of these sectors – management consulting, for example – can hardly be identified as energy services because of their very wide scope. A

⁶ In fact, since the Government of the Philippines is no longer allowed to build its own power plants, the build-operate-transfer scheme referred to in the schedule no longer applies.

commitment to such a sector is nonetheless counted as commitment on energy-related services unless the scope of commitment is delimited. If the schedule is written plainly for wholesale trade services (CPC 622), for example, it is presumed to apply to wholesale trade services of solid, liquid and gaseous fuel, unless otherwise stipulated. However, where the commitment is identified for a non-energy activity, e.g., wholesale trade services of food, beverages and tobacco, it is considered to apply only to the activity identified and to nothing else; therefore, it is not counted as an energy services commitment.

Table 2. Commitments undertaken by ASEAN members on energy-related services

Commitment	CPC No.	No. of ASEAN members
Engineering services	8672	10
Integrated engineering services	8673	8
Management consulting services	865	9
Services related to management consulting	866	8
Technical testing and analysis services	8676	8
Related scientific and technical consulting services	8675	4
Maintenance and repair of equipment	8861-8866	3
Construction work for civil engineering	513	9
Rental services related to equipment for construction or demolition of building or civil engineering works with operator	518	8
Commission agents' services	621	6
Wholesale trade services	622	4
Retailing services	632	4
Retail sales of motor fuel	613	2
Maritime transport – freight transportation	7212	10
Rail transport services – freight transportation	7112	4
Internal waterways transport – freight transportation	7222	3
Road transport services – freight transportation	7123	8
Services auxiliary to all modes of transport – storage and warehousing	7422	8
Liquefaction and gasification only for coal	884	1
Business services on subsurface surveying services	86752	2
Surface surveying services	86753	1
Skills training services (not classified under education services and educational institution) related to alternative energy production, on a fee or contract basis	97090	1

There appears to be convergence of commitments in 10 of the 22 energy-related services. Indeed, all ASEAN members undertook commitments in engineering services and maritime transport for freight transportation. Except for one or two ASEAN members, most committed to the liberalisation of integrated engineering services,

management consulting services, services-related management consulting, technical testing and analysis services, construction work for civil engineering, renting services related to equipment for construction or demolition of buildings or civil engineering works, road transport for freight transportation and services auxiliary to all modes of transport – storage and warehousing.

All of the foregoing services contribute ultimately and significantly to the production and distribution of energy. The liberalisation of maritime transport for freight, as a case in point, is relevant in transporting bulk liquids or gases in special tankers. Likewise, the liberalisation of services auxiliary to all modes of transport is seen to facilitate bulk storage and warehousing of liquids and gases. To this end, enforcing the market access and national treatment obligations of those who undertook commitments in these sectors is a significant step towards the attainment of an integrated energy market.

C. Comparison of commitments in energy and non-energy services

The scheduling of several energy and energy-related services in AFAS is indeed a positive sign, even if such commitments were motivated by other goals unrelated to energy market integration. It bears asking however whether the commitments in energy services are more or less liberal than those taken in non-energy sectors.

To benchmark energy services commitments the horizontal commitments – i.e., the limitations on market access and national treatment that apply to all sectors included in the schedule – are used as a reference. When a sector is exempted from the horizontal commitments, the commitment to that sector is considered more liberal compared to those undertaken in other sectors. On the other hand, the stipulation of additional limitation renders the commitment to the sector more restrictive. Where the horizontal commitment is “unbound”, a definite limitation makes the commitment to the sector more liberal. However, if the horizontal limitation is defined, an “unbound” entry implies that the commitment is more circumscribed.

With the exception of Singapore, ASEAN members inserted some form of restrictions on establishing commercial presence (mode 3) in their horizontal schedules, such as a requirement for prior approval (the Lao People’s Democratic Republic and Myanmar), obligation to provide training to locals (Cambodia), a specific form of establishment (Indonesia), and a cap on foreign equity (Indonesia, Malaysia, the Philippines and Thailand). The horizontal commitments are much more constrained with regard to movement of services providers (mode 4), as almost all ASEAN members

would only commit to allowing entry and temporary stay to intra-corporate transferees at the level of managers, executives and specialists.⁷

Tables 3 and 4 show where commitments on energy services are more liberal than those taken on non-energy services based on limitations in market access under modes 3 and 4, respectively. Under mode 3, commitments by Brunei Darussalam and Cambodia are generally less restrictive in energy than in non-energy services, while the opposite applies to Malaysia and the Philippines. Overall, 51 per cent of scheduled energy services sectors contain more restrictive provisions under mode 3; and only about 33 per cent are less restrictive. Under mode 4, only 6 of 129 scheduled energy services (5 per cent) have less restrictive provisions while the number of sectors with more restrictive provisions is just as many as under mode 3, i.e., 66 of 129 (51 per cent).

⁷ See the annex for horizontal commitments in market access under modes 3 and 4.

Table 3. Comparison of commitments in energy and non-energy services : Limitations on market access, Mode 3

Type of services	CPC	BRU	CAM	INA	LAO	MAL	MYA	PHL	SGP	THA	VNM
Engineering services	8672	Yellow	Yellow	Red	Red	Red	Red	Red	Red	Red	Yellow
Integrated engineering services	8673	Yellow	Yellow	Red	Red	Red	Red	Red	Red	Red	Yellow
Management consulting services	865	Yellow	Yellow	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Yellow
Services related to management consulting	866	Yellow	Yellow	Yellow	White	Red	Red	Red	Light Green	Yellow	Yellow
Technical testing and analysis services	8676	Yellow	Yellow	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Red
Services incidental to mining	883	Yellow	Yellow	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Yellow
Services incidental to energy distribution	887	Yellow	Yellow	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Yellow
Related scientific and technical consulting services	8675	Yellow	Yellow	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Yellow
Maintenance and repair of equipment	8861-8866	Yellow	Yellow	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Yellow
Construction work for civil engineering	513	Yellow	Yellow	Red	Light Green	Red	Red	Red	Light Green	Yellow	Yellow
Renting services related to equipment for construction or demolition of building or civil engineering works with operator	518	Yellow	Yellow	Red	Light Green	Red	Red	Red	Light Green	Yellow	Yellow
Commission agents' services	621	Yellow	Yellow	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Red
Wholesale trade services	622	Yellow	Yellow	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Red
Wholesale trade services of electricity, town gas, steam and hot water		Yellow	Yellow	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Red
Retailing services	632	Yellow	Yellow	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Red
Retail sales of motor fuel	613	Yellow	Yellow	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Red
Retailing services of electricity, town gas, steam and hot water		Yellow	Yellow	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Red
Maritime transport – freight transportation	7212	Yellow	Red	Red	Yellow	Red	Red	Red	Red	Red	Red
Rail transport services – freight transportation	7112	Yellow	Red	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Red
Internal waterways transport –	7222	Yellow	Red	Light Green	Light Green	Red	Red	Red	Light Green	Yellow	Red

Type of services	CPC	BRU	CAM	INA	LAO	MAL	MYA	PHL	SGP	THA	VNM
freight transportation											
Road transport services – freight transportation	7123		Yellow	Green		Red		Red	Red	Red	Red
Pipeline transport – transportation of fuel	7131		Red					Red			
Transportation of other goods	7139										
Services auxiliary to all modes of transport – storage and warehouse	7422	Yellow	Red	Green		Red	Red	Red		Yellow	
Liquefaction and gasification only for coal	884			Green							
Business services on subsurface surveying services	86752			Green		Red					
Surface surveying services	86753					Red					
Services related to supply of energy								Red			
Services related to power generation								Red			
Skills training services (not classified under education services and educational institution) related to alternative energy production, on a fee or contract basis	97090					Red					

Note: Colour legend – yellow = less restrictive, green = equally restrictive, red = more restrictive.

Table 4. Comparison of commitments in energy and non-energy services: Limitations on market access, Mode 4

Type of services	CPC	BRU	CAM	INA	LAO	MAL	MYA	PHL	SGP	THA	VNM
Engineering services	8672	Red	Green	Green	Red	Red	Red	Green	Red	Red	Red
Integrated engineering services	8673	Red	Green	Green	Red	Red	Red	Green	Red	Red	Red
Management consulting services	865	Green	Green	Red	Red	Red	Red	Red	Red	Red	Green
Services related to management consulting	866	Green	Green	Red	Red	Green	Red	Red	Red	Red	Green
Technical testing and analysis services	8676	Green	Green	Red	Red	Yellow	Red	Red	Red	Green	Green
Services incidental to mining	883	Green	Green	Green	Red	Red	Red	Red	Red	Red	Red
Services incidental to energy distribution	887	Green	Green	Red	Red	Red	Red	Red	Red	Red	Red
Related scientific and technical consulting services	8675	Green	Green	Green	Red	Red	Red	Red	Red	Red	Green
Maintenance and repair of equipment	8861-8866	Green	Green	Green	Red	Red	Red	Red	Red	Red	Red
Construction work for civil engineering	513	Green	Green	Green	Red	Red	Red	Red	Red	Red	Red
Renting services related to equipment for construction or demolition of building or civil engineering works with operator	518	Green	Green	Green	Red	Red	Red	Red	Red	Red	Red
Commission agents' services	621	Green	Green	Green	Red	Red	Red	Red	Red	Red	Green
Wholesale trade services	622	Green	Green	Green	Red	Yellow	Red	Red	Red	Red	Green
Wholesale trade services of electricity, town gas, steam and hot water		Green	Green	Green	Red	Yellow	Red	Red	Red	Red	Green
Retailing services	632	Green	Green	Green	Red	Yellow	Red	Red	Red	Red	Green
Retail sales of motor fuel	613	Green	Green	Green	Red	Red	Red	Red	Red	Red	Red
Retailing services of electricity, town gas, steam and hot water		Green	Green	Green	Red	Yellow	Red	Red	Red	Red	Green
Maritime transport – freight transportation	7212	Yellow	Green	Green	Red	Red	Red	Red	Red	Red	Green
Rail transport services – freight transportation	7112	Green	Green	Green	Red	Red	Red	Red	Red	Red	Green
Internal waterways transport – freight transportation	7222	Green	Green	Green	Red	Red	Red	Red	Red	Red	Green

Type of services	CPC	BRU	CAM	INA	LAO	MAL	MYA	PHL	SGP	THA	VNM
Road transport services – freight transportation	7123										
Pipeline transport – transportation of fuel	7131										
Transportation of other goods	7139										
Services auxiliary to all modes of transport – storage and warehouse	7422										
Liquefaction and gasification only for coal	884										
Business services on subsurface surveying services	86752										
Surface surveying services	86753										
Services related to supply of energy											
Services related to power generation											
Skills training services (not classified under education services and educational institution) related to alternative energy production, on a fee or contract basis	97090										

Note: Colour legend – yellow = less restrictive, green = equally restrictive, red = more restrictive.

D. Barriers to trade and investment in energy services

As in the other services markets, foreign suppliers face various forms of restrictions on trade and investment that may be classified broadly as either limitations on market access and national treatment, or distortive and discriminatory regulations. The former are included in the schedules of commitments and include:

- (a) Direct restriction on foreign service suppliers providing services across borders;
- (b) Cross-border restrictions on entry of equipment and tools needed for production or maintenance service;
- (c) Establishment restrictions, i.e., caps on foreign ownership, requirements to enter into joint venture with local suppliers;
- (d) Restrictions on mergers and acquisitions;
- (e) Restrictions on deployment of foreign executives, technicians and other specialists;
- (f) Restrictions on temporary entry of skilled people and managers, often in terms of unclear or discriminatory rules for multiple-entry visas and for the period that temporary workers may stay in the country.

The other set of restrictions related to regulation are not included in the commitment schedules, yet their impact on trade and investment are often more profound. They include:

- (a) Cumbersome and opaque licensing procedures applied to energy service providers;
- (b) Regulatory uncertainty and lack of transparency in decision-making;
- (c) Application of mandatory renewable portfolio standards to the extent that they favour local products from specific regions and countries, and exclude, de facto, imports from eligibility;
- (d) Discriminatory access to essential facilities such as transmission and distribution systems.

The individual schedules of commitments in AFAS identify the limitations on market access and national treatment that ASEAN members maintain on the sectors they have committed to liberalising. In energy services, these limitations are mostly found in mode 3 (commercial presence) and mode 4 (presence of natural persons). Table 5 summarises these restrictions.

Table 5. Types of barriers to trade and investment in energy services

Type of services	CPC	BRU	CAM	INA	LAO	MAL	MYA	PHL	SGP	THA	VNM
Engineering services	8672	1,3,4,5	4, 5	3, 4, 5	3, 4, 5	3, 4, 5, 6	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5	4, 5
Integrated engineering services	8673	1,3,4,5	4, 5	3, 4, 5	3, 4, 5	3, 4, 5, 6	3, 4, 5		3, 4, 5		4, 5
Management consulting services	865	3,4,5	4, 5	3, 4, 5	3, 4, 5	3, 4, 5, 6		3, 4, 5	4, 5	4, 5	4, 5
Services related to management consulting	866		4, 5	4, 5		3, 4, 5, 6		3, 4, 5	4, 5	4, 5	4, 5
Technical testing and analysis services	8676	3,4,5	4, 5	3, 4, 5		3, 4, 5, 6		3, 4, 5	4, 5	4, 5	3, 4, 5
Services incidental to mining	883										
Services incidental to energy distribution	887		4, 5	3, 4, 5			3, 4, 5	3, 4, 5			
Related scientific and technical consulting services	8675	3,4,5	4, 5							4, 5	4, 5
Maintenance and repair of equipment	8861-8866	3,4,5		3, 4, 5				3, 4, 5			
Construction work for civil engineering	513	3,4,5	4, 5	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5		4, 5	4, 5
Renting services related to equipment for construction or demolition of building or civil engineering works with operator	518	3,4,5	4, 5	3, 4, 5	3, 4, 5		3, 4, 5	3, 4, 5		4, 5	4, 5
Commission agents' services	621		4, 5				3, 4, 5	3, 4, 5	4, 5	4, 5	3, 4, 5
Wholesale trade services	622					3, 4, 5, 6	3, 4, 5		4, 5		3, 4, 5
Wholesale trade services of electricity, town gas, steam and hot water											
Retailing services	632					3, 4, 5, 6	3, 4, 5				3, 4, 5
Retail sales of motor fuel	613		4, 5					3, 4, 5		4, 5	
Retailing services of electricity, town gas, steam and hot water											
Maritime transport – freight transportation	7212	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5
Rail transport services – freight transportation	7112	3, 4, 5		3, 4, 5				3, 4, 5			3, 4, 5
Internal waterways transport –	7222			3, 4, 5	3, 4, 5						3, 4, 5

Type of services	CPC	BRU	CAM	INA	LAO	MAL	MYA	PHL	SGP	THA	VNM
freight transportation											
Road transport services – freight transportation	7123		4, 5	3, 4, 5	3, 4, 5	3, 4, 5, 6		3, 4, 5	4, 5	3, 4, 5	3, 4, 5
Pipeline transport – transportation of fuel	7131		1, 3, 4, 5					3, 4, 5			
Transportation of other goods	7139		1, 3, 4, 5								
Services auxiliary to all modes of transport – storage and warehouse	7422	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5	3, 4, 5, 6	3, 4, 5	3, 4, 5		4, 5	3, 4, 5
Liquefaction and gasification only for coal	884			3, 4, 5							
Business services on subsurface surveying services	86752			3, 4, 5		3, 4, 5, 6					
Surface surveying services	86753					3, 4, 5, 6					
Services related to supply of energy								3, 4, 5			
Services related to power generation								3, 4, 5			
Skills training services (not classified under education services and educational institution) related to alternative energy production, on a fee or contract basis	97090										3, 4, 5

Legend: 1 = cross-border restrictions on foreign service suppliers; 2 = cross-border restrictions on entry of equipment and tools needed for production or maintenance services; 3 = establishment restrictions, e.g., caps on foreign ownership, registrations requirements, terms of joint venture agreements with local suppliers; 4 = restrictions on deployment of foreign executives; 5 = restrictions on temporary entry of skilled personnel; 6 = restrictions on mergers and acquisition.

E. Motivation for liberalising energy services

Considering the paucity of current commitments to liberalise energy services, the crucial question is whether market integration in energy is at all plausible. What would motivate ASEAN economies to implement policy reforms, or even restructure their individual markets, in order to ensure a free flow of energy services in the region? At least four factors may spur them to work towards liberalisation.

Foremost is energy security – the rationale for APAEC at the onset. This incentive may appear relevant only to Singapore, Thailand and the Philippines for now. As shown in table 6, only these three economies produce less than their consumption of primary energy, thus having a self-sufficiency index of less than 1. Of the three, Singapore is the only ASEAN member without an indigenous supply. The Philippines and Thailand have domestic sources, but those cover only three-fifths of their respective energy requirements. In the case of Thailand, its natural gas reserves – which have been its main source of fuel for electricity generation – are projected to last for only one more decade (*Energy Tribune*, 2014).

Table 6. Primary energy production and consumption of selected ASEAN members, 2009-2030^a

Country	Primary energy production (Mtoe)			Primary energy consumption (Mtoe)			Energy self-sufficiency ^b		
	2009	2020	2030	2009	2020	2030	2009	2020	2030
Brunei Darussalam	18.8	17.1	13.8	3.1	3.1	3.1	6.1	5.5	4.5
Indonesia	355.7	409.7	505.7	202.0	259.2	428.9	1.8	1.6	1.2
Malaysia	90.0	96.3	93.4	66.8	83.0	101.9	1.3	1.2	0.9
Philippines	24.3	29.1	28.9	38.8	52.1	70.1	0.6	0.6	0.4
Singapore	0.0	0.1	0.1	18.5	27.2	29.8	0.0	0.0	0.0
Thailand	61.7	70.3	80.9	103.3	141.2	201.9	0.6	0.5	0.4
Viet Nam	78.9	100.1	116.1	64.0	99.8	153.9	1.2	1.0	0.8
Total	629.4	722.7	838.9	496.5	665.6	989.6	1.3	1.1	0.8

Source: Asia Pacific Energy Centre, 2013.

^a Data for Cambodia, Lao People's Democratic Republic and Myanmar are unavailable.

^b Energy self-sufficiency refers to the ratio of production and consumption of primary energy.

As the indigenous supply of energy dwindles and demand grows with increasing economic activity and population, however, only two economies – Brunei Darussalam and Indonesia – are expected to remain self-sufficient until 2030. All other ASEAN members could have become dependent on imported energy by then.

This rather bleak prognosis underscores the value of APAEC and provides the rationale for extending the scope of co-operation beyond constructing trans-regional infrastructures. Therefore the current plan of action (2010-2015) elicits co-operation

among ASEAN members in finding new sources of energy, including tapping renewable energy sources. A free flow of energy services would complement such an initiative.

Nonetheless, three ASEAN members – Brunei Darussalam, Indonesia and Malaysia – are still enjoying energy surpluses, as shown in table 6. Indonesia, for example, needs a market for nearly half of its energy production, which cannot be absorbed by its domestic market. This provides further motivation for market integration.

There are, of course, bigger markets for energy outside ASEAN, most notably China and India. However, there are also mutual gains from intra-ASEAN energy trade to consider, which could render supplying energy to another ASEAN member more rewarding than supplying another economy outside the region. The bilateral agreement between China and Viet Nam on electricity trade presents yet another reason for opting for regional trade. Under the present terms of the agreement, Viet Nam buys electricity from China at a rate three times higher than is offered by local producers (VN Business, 2014). Clearly, Viet Nam could secure a better deal in the region.

A third rationale for seeking energy market integration is consistent with the ASEAN vision of shared prosperity. More investment creates employment and wealth. This is true for most sectors, but the returns are even greater for energy because of its strong externalities to other sectors. Thus, removing restrictions such as foreign equity caps and limitations on movement of professionals would stimulate investments, which, in turn, could enhance production efficiency through greater market competition, facilitate technology transfer and skills upgrading, and increase capital stock, not only in energy but in other sectors as well.

Most AMCs have practically opened up their energy sector to foreign investments, as shown in table 7. Only the Philippines and Malaysia still maintain strict limits on foreign entry in the exploration and development of oil and gas resources, and in electricity transmission and distribution.⁸

⁸ The Constitution of the Philippines (available at www.lawphil.net/consti/cons1987.html; accessed 5 September 2014) imposes a 40 per cent cap on foreign equity in establishments engaged in exploration, development and utilisation of natural resources and operation of public utilities, but it allows the Government to enter into financial and technical assistance agreements that would involve entry of foreign firms in the same proscribed activities. This has effectively allowed the entry of foreign firms in petroleum and mineral exploration.

**Table 7. Percentage of foreign equity allowed in the energy sector
(Unit: Percentage)**

	Oil and gas	Electric power generation - biomass	Electric power generation – solar	Electric power generation – wind	Electric power transmission	Electric power distribution
Brunei Darussalam	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Cambodia	100	100	100	100	100	100
Indonesia	95	95	95	95	95	95
Lao PDR	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Malaysia	49	49	49	49	0	49
Myanmar	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Philippines	40	100	100	100	40	40
Singapore	100	100	100	100	100	100
Thailand	100	100	100	100	100	100
Viet Nam	100	100	100	100	0	0

Source: Investing across borders (World Bank Database, 2012b).

A fourth reason for energy market integration is the battle against energy poverty, which continues to afflict a significant proportion of the population in some ASEAN member economies. As is evident in table 8, Cambodia, Myanmar and the Lao People’s Democratic Republic stand to benefit from regional trade in electricity, given the low rates of electrification and huge disparity in electricity access of urban and rural population in those economies.

Among the ASEAN economies, Cambodia has the least electrification coverage at 31 per cent as well as the worst urban-rural disparity in access, 91 per cent versus 16 per cent, respectively. While electricity trade arrangements do exist among economies in the Mekong region, they are mainly bilateral. A regional trade arrangement is therefore expected to bring more benefits to participants due to economies of scale and scope.

Table 8. Electricity access in ASEAN, 2010

Country	Population without electricity (in millions)	Electrification rate (%)	Urban electrification rate (%)	Rural electrification rate (%)
Brunei Darussalam	0.0	100	100	99
Cambodia	10.0	31	91	16
Indonesia	63.0	73	94	56
Lao PDR	2.2	63	88	51
Malaysia	0.2	99	100	98
Myanmar	26.0	49	89	28
Philippines	16.0	83	94	73
Singapore	0.0	100	100	100
Thailand	8.0	88	98	82
Viet Nam	2.0	98	100	97

Source: International Energy Agency, 2012.

F. Towards an Energy Services Agreement

The limited commitments in AFAS and the presence of numerous barriers to energy trade and investment do not provide sufficient reason for abandoning the goal of energy market integration. In addition to the motivation discussed in the previous section, the establishment of AEC in 2015 can be expected to boost the various initiatives to increase regional connectivity, including those related to energy. However,, it may be useful to establish a new agreement that formally articulates the AEC's desire to introduce energy market integration – beginning with energy services.

What would comprise an ASEAN energy services agreement? There are at least three fundamental elements: (a) a strategic plan to remove, to a large extent, impediments to the free flow of energy services; (b) mutual recognition agreements (MRAs) specifically for professionals engaged in energy and energy-related services; and (c) the adoption of a common regulatory framework to govern energy services. How each of these components can be achieved is explored below.

1. Elimination of barriers to trade and investment

The AFAS provides the framework for removing impediments to the free flow of energy services. Following the GATS format, AFAS prescribes progressive improvement in market access and uniform application of national treatment to services suppliers in ASEAN members. As the ASEAN members have resolved through AFAS to surpass the commitments they have made under GATS – known as the GATS-Plus principle – an

initiative to liberalise energy services presents them with an avenue to meet such a goal. Therefore, as none of the ASEAN members undertook energy-related commitments through the GATS during the Uruguay Round, asking them to include commitments in AFAS on energy services should not, on the surface, present much difficulty.

Similarly to GATS, AFAS has adopted an approach that not only firmly enforces disciplines but also provides significant latitude on ASEAN members. Disciplines on market access and national treatment bind an ASEAN member only for sectors specifically listed in its schedule. Despite a sector's inclusion in the schedule, ASEAN members are not constrained to immediately liberalise since they can make reservations and limitations on their commitments on the condition that these are clearly spelled out in each member's schedule. Thus the scheduling of a sector serves primarily as a signal of intent to liberalise in the future. It is also a means of credibly binding existing levels of market liberalisation and regulatory regimes to prevent policy reversals and backsliding. Considering the fact that APAEC has been on the ASEAN agenda since 1999, the intention to liberalise, even at some future date, can be sensibly expected of all ASEAN members.

However, some ASEAN members might still hold back from scheduling commitments despite this arrangement. A plausible source of hesitation is the uncertainty as to which sectors are covered. That has been partially addressed by a recent WTO Secretariat Note clarifying the scope of energy services. Nonetheless, several issues remain unresolved and need to be settled through an agreement. Among these issues is the classification system defining the scope and boundaries of energy services negotiations. Should ASEAN adapt the WTO or Indonesian taxonomy? At what level of sectoral disaggregation do countries expect to make their commitments? How will electric power generation be treated – a good or service?

A more perplexing issue, however, is whether negotiations should be undertaken on energy services or on the activity to which a particular energy service is bundled. The transportation of fuels is a case in point. Opinion differs on whether the liberalisation of energy-related shipping services is within the purview of energy services or maritime transport negotiation. The same conundrum applies to retail services of fuel. Is it proper to exclude it from the generic retail services negotiation? Many of the energy services are bundled with other activities, which could pose potential problems in delineating the scope of negotiations.

However, an energy services agreement similar to AFAS may still evolve, in which ASEAN members agree to progressive liberalisation, based on well-defined targets

and timelines, while respecting national policy objectives and differences in the levels of economic development.

To rally support for a separate agreement on energy services, the negotiations must follow the protocols in AFAS. Specifically, two principles should be observed in the negotiations, i.e., the ASEAN Minus X formula and allowance for flexibility.

Liberalisation through the ASEAN Minus X formula means that those ASEAN members that are ready to liberalise can proceed while others may follow at a later date. Under this principle, two or more ASEAN members may proceed with the agreed services sector liberalisation without having to extend the concessions to non-participating member States. The latter may choose to participate when ready. This negotiating stance has already proved that it can serve the liberalisation agenda well while preserving harmony in the region.

Given the differences in economic development and readiness for market liberalisation of ASEAN members, it is also essential to afford them the same flexibilities applied in AFAS. Members unable to meet the timeline and parameters of liberalisation at a particular round of negotiations are given the opportunity to catch up in succeeding rounds. They may also opt for liberalisation of sectors outside of the agreed list as substitutes for those in the list. Thus, while the targets for liberalisation are specific and firm, some degree of deviation is allowed to a member who is not yet ready to comply.

In setting the schedule of liberalisation, a similar approach to that taken in forging the series of AFAS packages may be followed. Specifically, liberalisation could begin in common services subsectors or those in which four or more ASEAN members have made commitments under GATS or previous AFAS packages. As noted in section C of this paper, the majority of ASEAN members have made commitments in 10 of 22 energy-related services:

- (a) Engineering services;
- (b) Integrated engineering services;
- (c) Management consulting services;
- (d) Services related to management consulting;
- (e) Technical testing and analytical services;
- (f) Construction work for civil engineering;
- (g) Rental services related to equipment for construction or demolition of buildings or civil engineering works;
- (h) Maritime transport – freight transportation;
- (i) Road transport for freight transportation; and
- (j) Services auxiliary to all modes of transport – storage and warehousing.

These sectors could be considered priority for liberalisation, albeit none of which are classified as main energy services. It is preferable to include some main energy services among the priority list. The timeline for other subsectors may be set later.

2. Mutual recognition agreements

As for any other services, unimpeded movement of professionals across ASEAN members is essential to the delivery of energy services. A number of energy services can only be practically delivered through mode 4 (e.g., construction management services for power plants, and survey and exploration services for renewable energy). Yet some of these services are even more restrictively regulated compared to non-energy related services, as discussed in section D.

The ASEAN response to the need to ease the movement of services providers is mutual recognition of authorisation, licensing or professional certification. MRAs have been forged for engineering (2005), nursing (2006), architecture (2007), and accountancy, and medical and dental practices (2009). In addition, the framework arrangement for mutual recognition of surveying qualifications was concluded in 2007. These agreements are currently at various stages of implementation.

To advance the agenda of energy services liberalisation, the conclusion of MRAs for other professionals is essential, including integrated engineering services (CPC 8673) and technical testing and analysis services (CPC 8676), among others. This may require building on existing agreements such as the MRA on engineering services (which in its current form is limited to CPC 8672) and the framework agreement on surveying qualifications. However, the effectiveness of MRAs in liberalising mode 4 has still to be established. Indeed, there is general acceptance that mode 4 has seen the least progress in ASEAN in terms of liberalisation planning compared with other modes.

For this reason, other channels of liberalisation are worth exploring. Relaxing visa terms and conditions, examination requirements and other regulations governing the practice of professions may have more direct impact than embarking on long negotiations for MRAs.

3. Common regulatory framework

The peculiar characteristics of network services require additional disciplines, apart those applied to other sectors, to ensure meaningful liberalisation. This stems from the recognition that network services are more vulnerable to market failures (externalities and information asymmetry, for example) compared to other services. Thus, in energy

services negotiations at WTO, the development of a reference paper or an annex in GATS, akin to those developed for telecommunications, accountancy and financial services, has been proposed.

As telecommunications and energy services share many common market features – a complex structure that has both monopolistic and competitive segments – the Telecommunications Reference Paper is a useful guide for developing a similar instrument for energy services. The intention is to set up a common regulatory framework to ensure that unfettered exercise of market power does not frustrate the gains that can be reaped from removing trade and investment barriers. At least four principles must be reflected in the reference paper, to which all ASEAN members are expected to subscribe: (a) non-discriminatory access to essential facilities by third-party suppliers; (b) safeguards against abuses of dominant position; (c) market transparency; and (d) an independent regulation.

Several forms of infrastructure may be considered “essential” or “a bottleneck” in energy networks as these facilities are too costly to duplicate, yet access is indispensable for supplying the market. They include electric power transmission, and oil and gas pipelines – the subject of APAEC. Depending on market conditions, oil and gas storage facilities and liquefied natural gas terminals can also be considered essential facilities. Those in control of these facilities wield significant market power to thwart competition. Hence, the right of a third party to access these facilities on a non-discriminatory basis must be securely entrenched in regulation.

However, exercising market power extends beyond outright refusal of access by competitors to essential facilities. Access can be effectively denied through overpricing, withholding information about the facilities or simply delaying the grant of access. Moreover, a dominant supplier⁹ may cross-subsidize a competitive business segment with income from the monopolistic segment so as to dowse competitors in the former. As To these and other potential anti-competitive practices of dominant suppliers, a Member State committing to liberalising energy services is obliged to put in place a body of regulations averting these practices.

In addition to competitive safeguards, regulators are also expected to be transparent in their governance. It is not enough that laws and regulations are publicly available; they must be also be drafted after adequate consultations with stakeholders. The regulator is also responsible for ensuring that basic market information, such as prices and capacity of essential facilities, are accessible to all market participants.

⁹ Referred to as “major supplier” in the Telecommunications Reference Paper.

Finally, a commitment to liberalise is as much of an obligation as a commitment to regulate the sector prudently. The role of an independent regulator is indispensable in the efficient operations of energy networks. Regulators must not only fend off rent-seeking from private services suppliers, but also political interference, which is bound to be copious in any regime owing to the public's sensitivity to prices of most energy goods and services.

Annex

Horizontal commitments on market access in AFAS

	Mode 3	Mode 4
Brunei Darussalam	Unbound for measures concerning foreign equity or interest in companies established or wishing to establish a commercial presence unless otherwise specified in the specific commitments.	Unbound except for measures concerning the entry and temporary presence of intra-corporate transferees at the level of managers, executives and specialists. Entry for these intra-corporate transferees is limited to a three year period that may be extended for up to two additional years for a total term not to exceed five years.
Cambodia	Investors, seeking incentives under the provisions of the Law on Investment, shall have the obligation to provide adequate and consistent training to Cambodian staff, including for promotion to senior positions.	Unbound except for measures concerning the entry and temporary stay of a natural person who falls in one of the following categories: (a) business visitors: entry visa for business visitors shall be valid for a period of 90 days for an initial stay of 30 days, which may be extended; (b) intra-corporate transferees: temporary residency and work permit is required for the natural persons in the categories defined under intra-corporate transferees. Such permits are issued for two years and may be renewed annually up to maximum of total five years.
Indonesia	Commercial presence of the foreign service provider(s) may be in the form of joint venture and/or representative office, unless mentioned otherwise. Joint venture should meet the following requirements: (a) should be in the form of Limited Liability Enterprise (<i>Perseroan Terbatas/PT</i>); and (b) not more than 49 per cent of the capital share of the Limited Liability Enterprise (<i>Perseroan Terbatas/PT</i>), may be owned by foreign partner(s).	Subject to Indonesian Labour and Immigration Laws and Regulations, only directors, managers and technical experts/advisors, unless mentioned. The entry and temporary stay of business visitors are permitted for a period of 60 days and could be extended for a maximum of 120 days. Intra-corporate transferees are allowed to stay for two years and could be extended for a maximum two times subject to two years extension each time. Managers and technical experts are allowed entry based on an economic needs test.
Lao People's Democratic	Commercial presence of foreign service suppliers can be in the following form: a joint venture with one or more	Foreigners who work in the Lao People's Democratic Republic shall be subject to the law on Promotion and Management of

	Mode 3	Mode 4
Republic	domestic Lao investors; a wholly foreign-owned enterprise; and a branch or representative office. The commercial presence of foreign service supplier shall be subject to approval of the concerned competent authority and of licensing by the Foreign Investment Management Committee of the Lao People's Democratic Republic.	Foreign Investment in the Lao People's Democratic Republic and the regulations on immigration. However, foreign enterprises have the right to employ skilled and expert foreign personnel when necessary and with the approval of the competent authority of the Government of the Lao People's Democratic Republic. Foreign investors/service suppliers have an obligation to upgrade the skills of their Lao employees, through such techniques as training in the Lao People's Democratic Republic or abroad.
Malaysia	The following acquisition of assets or interests in Malaysian companies and businesses, mergers or takeovers require approval: (a) acquisition of voting rights by any single foreign interest or associated group of 15 per cent or more, or an aggregate foreign interest of 30 per cent or more, or exceeding RM 5 million in value; (b) any proposed acquisition of any assets or interests by any means which will result in ownership or control passing to foreign interest; and (c) control of Malaysian corporations through any form of joint-venture agreement, management agreement, technical assistance agreement or other arrangements. Approval is normally granted. However it may be denied in circumstances where the proposed investment conflicts with the interest of the State.	Unbound except for measures affecting the entry and temporary stay of natural persons defined in the schedule. Entry and stay of natural persons defined in the schedule shall not exceed a total of five years. For business visitors, the period of stay shall not exceed a total of 90 days.
Myanmar	Commercial presence of foreign service suppliers and/or providers are permitted in accordance with Myanmar Companies Act 1914, Partnership Act 1932, Special Company Act (1950), Union of Myanmar Foreign Investment Law (1988), Union of Myanmar Citizens' Investment Law (1994). Under these laws (a) 100 per cent foreign investment or (b) a joint venture with a Myanmar citizen or enterprise with a minimum of 35 per cent equity is permitted. The form of incorporation can be sole proprietorship, partnership or limited company. The	Subject to the Union of Myanmar Foreign Investment Law, Myanmar Immigration (Emergency Provisions) Act 947, The Foreigners Act 1846, The Registration of Foreigners Act 1940, The Registration of Foreigners Rules 1948 and Immigration rules and regulations, management level is allowed to stay up to one year and may be extendable there on subject to the approval of concerned agencies.

	Mode 3	Mode 4
	proposed investment may be refused subject to such implications as financial arrangements, security risk involved and compliance with existing conditions.	
Philippines	In activities expressly reserved by law to citizens of the Philippines (i.e., foreign equity is limited to a minority share), the participation of foreign investors in the governing body of any corporation engaged in activities expressly reserved to citizens of the Philippines by law shall be limited to the proportionate share of foreign capital of such entities. All executive and managing officers must be citizens of the Philippines.	Non-resident aliens may be admitted to the Philippines for the supply of a service after a determination of the non-availability of a person in the Philippines who is competent, able and willing, at the time of application, to perform the services for which the alien is desired.
Singapore		Presence of natural persons unbound, except for intra-corporate transferees at the level of managers, executives and specialists. Entry for these intra-corporate transferees is limited to a two year period that may be extended for up to three additional years each time for a total term not exceeding eight years.
Thailand	Commercial presence in sectors or subsectors in this schedule is permitted only through limited liability company which is registered in Thailand or the other type of legal entity as specified in the sector-specific commitments of which the company is incorporated and registered, pursuant to Thai laws and regulations and will have to meet one of the following condition as indicated in the sector-specific commitments: (a) foreign equity participation must not exceed 70 per cent of the registered capital and shall only operate through joint-venture with a juridical person of Thai national; or (b) foreign equity participation must not exceed 51 per cent of the registered capital and shall only operate through joint-venture with a juridical person of Thai national; or (c) foreign equity participation must not exceed 49 per cent of the registered capital and the number of foreign shareholders must be less than	Temporary movement of natural persons is unbound except in the following categories: (a) business visitors will be permitted for an initial period of not more than 90 days and may be extended for a further period of not more than one year; (b) intra-corporate transferees are permitted to stay up to a one year period and may be extended for a further three terms of not more than one year each.

	Mode 3	Mode 4
	half of the total number of shareholders of the company concerned.	
Viet Nam	<p>None, except: (a) unless otherwise specified in the schedule, foreign enterprises are allowed to establish commercial presence in Viet Nam in the form of business co-operation contract, joint venture enterprise, 100 per cent foreign-invested enterprise; (b) representative offices of foreign service suppliers are permitted to be established in Viet Nam, but they shall not engage in any direct profit-making activities; and (c) unless otherwise indicated in each specific sector or sub-sector of this Schedule, the establishment of branches is unbound. The conditions of ownership, operation and juridical form and scope of activities as set out in the respective licences or other form of approval establishing or authorising the operation or supply of services by an existing foreign service supplier shall not be made more restrictive than they exist.</p>	<p>Unbound, except measures relating to entry and temporary stay of natural persons who fall in one of the following categories: (a) intra-corporate transferees shall be granted entry and a stay permit for an initial period of three years which may be extended subject to the term of operation of those entities in Viet Nam; (b) other personnel at the level of managers, executives and specialists, who cannot be substituted by Vietnamese and who are employed outside Viet Nam's territory by a foreign enterprise which has established a commercial presence in the territory of Viet Nam with a view to participating in the foreign enterprise's activities in Viet Nam, shall be granted entry and a stay permit in conformity with the term of the concerned employment contract or for an initial period of three years whichever is shorter, which may be extended subject to the employment contract between them and the commercial presence; and (c) services sales persons, persons responsible for setting up a commercial presence and contractual services suppliers are permitted to stay up to 90 days. For intra-corporate transferees, at least 20 per cent of the total number of managers, executives and specialists shall be Vietnamese nationals. However, a minimum of three non-Vietnamese managers, executives and specialists shall be permitted per enterprise.</p>

References

- APEC Services Trade Access Requirements (STAR) Database. Available at www.servicetradeforum.org/Home.aspx (accessed 10 September 2014)
- Asia Pacific Energy Centre (2013). *APEC Energy Demand and Supply Outlook*, 5th Edition. Tokyo. Available at http://publications.apec.org/publication-detail.php?pub_id=1389.
- ASEAN Centre for Energy (undated). “ASEAN Plan of Action for Energy Cooperation, 2010-2015”. Jakarta.
- Constitution of Thailand. Available at www.asianlii.org/th/legis/const/2007/ (accessed 10 September 2014).
- Department of Energy, the Philippines. Fifth Philippine Energy Contracting Round. Available at www.doe.gov.ph/pecr5/?view=featured (accessed 5 September 2014).
- Energy Tribune* (2014), “Running Out of Gas: Thailand’s Growing Energy Dilemma”, March 22, 2013. <http://www.energytribune.com/75236/running-out-of-gas-thailands-growing-energy-dilemma> (accessed September 10, 2014).
- Evans, P. C. (2003). “Strengthening WTO Member Commitments in Energy Services: Problems and Prospects,” in *Domestic Regulation and Service Trade Liberalization*, edited by A. Mattoo and P. Sauve, World Bank and Oxford University Press.
- International Energy Agency (2012), *World Energy Outlook 2012*. OECD/IEA, Paris.
- Statutes of the Philippines. Republic Acts 7042, 9513, 4726, and 7652. Available at www.lawphil.net (accessed 5 September 2014).
- Statutes of Thailand. 1999 Foreign Business Act, 2013 Foreign Business Act Amendments, 1978 Working of Aliens Act, 1979 Thailand Condominium Act. Available at www.thailawforum.com (accessed 10 September 2014).
- VN Business (2014), “Vietnamese power sector risks dependence on China”. Available at www.vnbusiness.com.vn/economy/2520-vietnamese-power-sector-risks-dependence-on-china.html (accessed 28 December 2014).
- World Bank (2012a), “Services Trade Restrictiveness Index 2012”. <http://iresearch.worldbank.org/servicetrade/aboutData.htm> (accessed September 5, 2014).
- World Bank (2012b), “Investing across borders” (World Bank Database, 2012 update)”. <http://iab.worldbank.org/data/fdi-2012-data> (accessed on September 5, 2014).
- WTO Committee on Specific Commitments (2004) “Communications from Indonesia: Proposal on Classification of Energy Services,” S/CSC/W/42/Rev.1/Corr.1, 25 November.
- WTO Council for Trade in Services (2010). “Energy Services: Background Note by the Secretariat,” S/C/W311, 12 January.