



**Asia-Pacific  
Economic Cooperation**

# **Report on the APEC Training Seminar on Trade in Energy Services**

**APEC Group on Services  
December 2008**



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Economic Cooperation**

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APEC Training Seminar on Trade in Energy Services**

**Makati City, Philippines, 21-23 July 2008**

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December 2008**

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# I SUMMARY REPORT ON PROCEEDINGS

## **Introduction**

The APEC training seminar on Trade in Energy Services was held on July 21 to 23, 2008 in Makati City, the Philippines . It was attended by 2 representatives each from Peru, Malaysia and Thailand ; 32 government officials and 4 private sector representatives from the Philippines. The training seminar succeeded in its objective to familiarize APEC government officials and private sector representatives with the issues relevant to international trade in energy services and to help build their capacity to successfully participate in future negotiations in the WTO and in Free Trade Agreements/ Regional Trade Agreements in this sector.

APEC economies include both exporters and importers of energy services who stand to benefit from rules-based international trade in energy services. Maximizing these benefits requires their negotiators' understanding of WTO/GATS rules; familiarity with the status of negotiations and negotiating proposals on energy services and their impact on their countries development objectives in the energy sector. Many APEC developing economies had just recently embarked on structural policy reform involving the liberalization and privatization of their energy sectors. They continue to grapple with the challenge of attracting private investment and creating efficient markets on the one hand; and enhancing access to energy and energy services by their populations on the other.

The training curriculum was grouped into 3 themes, namely:

- Theme 1: Development Objectives, Types and Potential for International Trade and Investment on Energy Services;
- Theme 2: The Institutional Framework for an International Agreement on Trade in Energy Services;
- Theme 3: Possible Elements of a Prospective International Agreement on Trade in Energy Services

The training seminar was opened by Assistant Secretary Ramon Vicente T. Kabigting of the Philippine Department of Trade and Industry who is also APEC Deputy Senior Official for the Philippines.

## **Proceedings**

### **Theme 1**

The resource persons for Theme 1 were Mr Alberto Gabriele from the United Nations Development Program's Trade Negotiations and Commercial Diplomacy Branch and Dr Francisco Viray, President of the Energy Council of the Philippines and former Philippine Secretary of Energy. Mr Gabriele covered the *Development Objectives of APEC Economies in the Energy Services Sector* and the *Potential for International Trade and Investment in Energy Services, Modes of Supply and Barriers to International Trade*. Dr Viray talked on the *Types of Energy Goods and Services Under Alternative Classifications*.

The participants discussed the objectives of APEC economies in the energy services sector and noted the huge opportunities for international trade and investment created by the liberalization of the energy sector particularly by the restructuring of the electric power industry. To facilitate the identification of these trade opportunities, they were briefed on the core and non-core energy services in the upstream and downstream energy value chain including on the possible gray areas in classification such as that of electricity.

## **Theme 2**

The discussions focused on the relationship between the domestic institutional framework for energy and GATS. The lead speakers were Mr Massimo Geloso Grosso from the Trade and Agriculture Directorate of the Organization for Economic Co-operation and Development , on the *Regulatory Principles in Electricity Infrastructure Service*; Ms Edna Espos from the University of the Philippines, on *Services Related to Production and Generation of Energy*; and Mr Alberto Gabriele, on *Anti-Competitive Business Practices That Affect International Trade in Energy Services*.

The liberalization of the energy sector and the restructuring of the electric power industry were followed by re-regulation to create market competition and to achieve public policy objectives such as universal access to electricity and protection of the environment. The participants reviewed these rules and regulations and examined how such rules and anti-competitive business practices could act as barriers to international trade. They then examined their consistency with GATS including its provisions that are relevant to developmental and public policy objectives. The resource speakers briefed the participants on the progress of the liberalization and regulatory policies implemented by the European Union on trade in energy services and on the on-going bilateral and regional initiatives to cooperate on competition issues.

Representatives from Malaysia, Peru, the Philippines and Thailand presented an overview on energy services in their economies. Their presentations covered the importance of energy services in the achievement of their development goals, the institutional framework , and their objectives for negotiating international agreements on trade in energy services.

## **Theme 3**

The topics under this theme were designed to familiarize participants with the key negotiating elements on trade in energy services such as the negotiating objectives, general and specific commitments, classification issues, among others. The resource speakers were Mr William Derbyshire of the Economic Consulting Associates who covered *Services Related to Production and Generation of Energy* and Mr Massimo Geloso Grosso who spoke on *Network Infrastructure Services*.

Participants were divided into negotiating groups and tasked to formulate their proposed negotiating strategies. The group proposals were presented in a workshop that served as the culminating activity for this training seminar.

## **Future Capacity-Building Requirements**

This training seminar served as an introduction to many of the participants to negotiations on trade in energy services and even to GATS. For those who were already involved in WTO/FTA negotiations, it was an opportunity to review the whole range of inter-related issues and to evaluate their future negotiating strategies in this context. The responses to the evaluation question regarding possible training subjects in the future reflected these. The participants indicated their preference for more in-depth discussion of the same subjects covered in this training course ; case studies of successful negotiations on energy services at the bilateral, multilateral and regional levels; and related topics such as environment services.

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## II PROGRAMME



## APEC Training Seminar on Trade in Energy Services

AIM Conference Center Manila,

Makati City, Philippines

21-23 July 2008

### Programme

Moderator: Ms. Edna A. Espos,  
University of the Philippines, Training Adviser

<b>Day 1 – Monday 21 July 2008</b>	
8:00-8:30 am	Registration
8:30-8:45 am	Opening Remarks  Assistant Secretary Ramon Vicente T. Kabigting APEC Deputy Senior Official for the Philippines Department of Trade and Industry
	<b>Theme 1: Development Objectives; Types and Potential for International Trade and Investment on Energy Services</b>
8:45-10:00 am	Part I Development Objectives of APEC Economies in the Energy Services Sector  Speaker/Lecturer: Mr. Alberto Gabrielle, UNCTAD Trade Negotiations and Commercial Diplomacy Branch (TNCDB) Division on International Trade in Goods and Services and Commodities (DITC) United Nations Conference on Trade and Development (UNCTAD)
10:00-10:15 am	Coffee Break
10:15 am -12:00 pm	Part II: Potential for International Trade and Investment in Energy Services; Modes of Supply and Barriers to International Trade  A Trade and Investment Potential of Energy Services 1 By energy sources and sub-sectors 2 Trade and Investment Flows Among APEC Economies: WTO members  B Modes of Supply C Trade Barriers  Speaker/Lecturer: Mr. Alberto Gabriele, UNCTAD
12:00-1:30 pm	Lunch Break

1:30-2:30 pm	<p>Part III: Types of Energy Goods and Services Under Alternative Classifications</p> <ul style="list-style-type: none"> <li>• Upstream and Downstream Sectors</li> <li>• Core and Non-Core Energy Goods and Services</li> <li>• Goods and Services from the Commercial/Business Perspectives</li> <li>• Energy Related Environment Services</li> </ul> <p>Speaker/Lecturer: Dr. Francisco L. Viray President, Energy Council of the Philippines</p>
	<p><b>Theme 2: The Institutional Framework for an International Agreement on Trade in Energy Services</b></p>
2:00-3:00 pm	<p>Part I Domestic Institutional Framework (including laws and regulations that affect international trade)</p> <p>A Regulatory Principles in Electricity Infrastructure Services</p> <p>Speaker/Lecturer: Mr. Massimo Geloso Grosso Trade and Agriculture Directorate Organisation for Economic Co-operation and Development (OECD)</p>
3:00-3:30 pm	<p>Coffee Break</p>
3:30-4:00 pm	<p>Part II</p> <p>B Services Related to Production and Generation of Energy</p> <p>Speaker: Ms. Edna Espos University of the Philippines</p>
4:30-5:15 pm	<p>Part III Anti-Competitive Business Practices That Affect International Trade in Energy Services</p> <p>A Anti-competitive business practices in the energy services sector B The role of domestic competition laws C The role of coordination among domestic competition authorities in     1. International trade in energy services</p> <p>Speaker: Mr. Alberto Gabrielle, UNCTAD</p>

**Day 2 – Tuesday, 22 July 2008**

9:00-10:20 am	<p>Part IV Economy Presentations</p> <ul style="list-style-type: none"><li>- Energy Services in APEC Economies</li><li>- Relevant Domestic Regulations and Priorities</li><li>- Objectives for Considering International Agreement on Trade in Energy Services</li></ul> <p>Presentations from Peru, Thailand, and Mexico</p>
10:20-10:40 am	Coffee Break
	<b>Theme 3: Possible Elements of a Prospective International Agreement on Trade in Energy Services</b>
10:40-12:00 am	<p>Part I Services Related to Production and Generation of Energy (except network infrastructure)</p> <p>Speaker/Lecturer : Mr. William Derbyshire Economic Consulting Associates, UK</p>
12:00-1:30 pm	Lunch Break
1:30-3:00 pm	Continuation of Part I
3:00-3:20 pm	Coffee Break
3:20- 4:00 pm	<p>Part II Network Infrastructure Services</p> <p>Speaker/Lecturer: Mr. Massimo Geloso Grosso, OECD</p>
4:00-5:00 pm	<p>Preparations for Day 3's workshop on Negotiating Strategies</p> <p>Moderator: Ms. Edna Espos</p>

**Day 3 – Wednesday, 23 July 2008**

9:00-11:30 am	<p>Negotiating Strategies for Energy Services</p> <p>Participants will formulate their group negotiating strategies to be presented and discussed in the afternoon session. The negotiating strategies are expected to provide draft templates that will enable APEC economies, particularly the developing economies to maximize the benefits from the negotiations.</p>
11:30-1:00 pm	<p>Lunch Break</p>
1:00-3:30 pm	<p>Presentation and Discussion of Group Negotiating Strategies</p>
3:30-3:45 pm	<p>Coffee Break</p>
3:45-4:45 pm	<p>Continuation of Presentation and Discussion of Group Negotiating Strategies</p>
4:45-5:00 pm	<p>Summary and Conclusions by the moderator</p>
5:00 pm	<p>Closing Remarks</p>

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### **III OPENING REMARKS**

**Opening Remarks of  
Assistant Secretary Ramon Vicente T. Kabisigting  
Department of Trade and Industry  
at the APEC Training Seminar on Trade in Energy Services  
AIM Conference Center Manila  
21-23 July 2008**

Good morning. I am very happy to welcome all participants to this APEC Training Seminar on Trade in Energy Services.

I am grateful to everyone who has worked with us to make this project possible. I would like to extend my special thanks and welcome to former Department of Energy Secretary Dr. Francisco Viray for agreeing to work with us as a speaker and to the rest of our impressive line-up of speakers and moderator:

- Mr. Massimo Geloso-Grosso, of the OECD;
- Mr. Alberto Gabrielle of the UNCTAD;
- Mr. William Derbyshire of the Economic Consulting Associates, UK;
- Ms. Edna Espos of the University of the Philippines and former director of the BITR.

I would like to say welcome and “Mabuhay” to our APEC participants from Mexico, Malaysia, Thailand and Peru, who is our co-sponsor in this project.

Let me also say “Magandang Umaga” to our local participants from the different government agencies, the private sector and the academe.

We will tackle at this training seminar a range of complex, multifaceted, and inter-connected industries under the heading of “energy services.” The energy industry is essential in our lives, our economies as perhaps any other. In trade, any company that moves goods or people needs energy.

In recent months, consumers, industries, economies are smarting from the increases in fuel prices. This seminar will not attempt to answer the reasons for the price pressure, thankfully or fortunately for our speakers.

As we all know by now, energy is one of the most important drivers of economic development. The APEC region alone accounts for around 60% of world energy demand, its combined annual consumption of energy exceeding its annual domestic production. Access to modern and sustainable energy is therefore very important to sustain the APEC economies.

Recognizing the importance of trade and investment in the energy sector, APEC Ministers last year agreed to undertake an APEC Energy Trade and Investment Study to identify all existing barriers to energy trade and investment in the APEC region. In September, a roundtable meeting will be held in Australia to develop a plan of action to address these trade and investment impediments.

In the past years, APEC has also started to intensify work on structural reform. This August in fact APEC will have the first meeting of Ministers Responsible for Structural Reform. The energy sector is probably one of the most critical industries which have undergone the most prolific reform in the past decades. It would be very interesting to see APEC's agenda on structural reform super-imposed on energy discussions. What are the experiences of economies which have increased competition, de-monopolized or deregulated in the energy sector? Indeed, reform is re-shaping the foundations of the energy sector, opening the way to the delivery and cross-border trade of a growing number of energy services.

The program we have prepared for the next three days reflects the many crucial and complex issues in energy our economies face. We will attempt to cover the development objectives of APEC economies in the energy services sector; the modes of supply and barriers to international trade; the types of energy goods and services under alternative classifications; the regulation and anti-competitive business practices; and some possible elements of an international agreement on trade in energy services.

Last year, when the Project Team was deep in the planning and preparation of this project, we sent a copy of the draft agenda to the WTO energy specialists and invited their comments. One official said that the agenda was timely but too ambitious. Indeed, it was our intent to have a broad and ambitious agenda.

With this project we want to take advantage of all possibilities for insights, learnings and discussions on critical energy services issues. Through this seminar, we hope that we will be able to enhance our understanding and analysis, including in topics and projects where further work on trade in energy can be pursued.

We want policymakers, beyond the departments and ministries of energy to benefit from this project. That is why I am happy to learn that we have representatives from the private sector and the academe. We want all participants, delegates and speakers alike, to share and learn as we tackle the policy issues in energy services. With this, I encourage you all to participate actively in the seminar.

Again, let me say Mabuhay and welcome to all our participants. I hope you will find this seminar very useful.

Thank you very much.

## **IV PRESENTATIONS OF RESOURCE SPEAKERS**



1 *Development Objectives of  
APEC Economies in the  
Energy Services Sector*

## **DEVELOPMENT OBJECTIVES**

### **A Development Objectives of APEC economies in the Energy Services Sector**

### **B Present trends**

***Alberto Gabriele***

*Trade Negotiations and Commercial Diplomacy Branch (TNCDB)*

*Division on International Trade in Goods and Services and  
Commodities (DITC)*

*United Nations Conference on Trade and Development (UNCTAD)*

### **A Development Objectives of APEC economies in the Energy Services Sector**

- **Introduction**
- **Energy in APEC countries**
  
- **A 1 Priorities and Objectives of APEC developing economies**
- **A 2 Priorities and objectives of APEC developed economies**
- **A 3 Common/shared objectives**

**Introduction : Energy is vital for both economic and human development**

- Energy availability is a key prerequisite for industrialization and economic growth
- Energy is essential to deliver services for basic human needs such as clean water, health, shelter

The energy divide

- **One billion** people living in developed countries consume almost **60%** of total world energy supply
- **Five billion** people living in developing countries consume the remaining 40%
- **More than two billion** people in poor rural areas lack access to electricity

Energy availability is a key feature of developed countries' economic structure

- Since the times of the Industrial Revolution, **primary energy consumption** has increased more than a **hundredfold**
- Industrialized countries use between 150 and 350 gigajoules per person each year
- More and more of this is in the form of electricity - generated through burning oil and gas
- Electricity is a primary factor that allowed these countries to develop their economies.

Lack of energy is a crucial cause of non/underdevelopment

- **The African** continent makes up 13% of the world population but **only 35% of the people have access to commercial energy** such as coal, gas, uranium and petroleum products
- **Less than 10% have access to electricity**
- The situation is **broadly similar** in poor rural areas of **Asian and Latin American APEC countries** (some of which are fast-growing nationwide), where hundreds of millions of people live.

Access to energy key for poverty reduction

Energy contribute to **reducing poverty**

- **increasing productivity**
- expanding the **diversity**
- **upgrading quality of products** produced in less developed countries
- **Lack of access** to reliable energy sources is a **severe impediment** to sustainable **economic growth and human development**

Poverty also conflicts with the environment

- **Lack** of economic and technological **development** coupled with **population growth** is also **not sustainable**
- The **lack of access** to modern and sustainable **energy** is a major cause of **environmental degradation** in the developing world
- Both in urban and rural areas, the **poor are increasingly forced to deplete** natural resources, **pollute** and **destroy the environment** in order to try to survive
- In vast African and Latin American rural areas increasing man/land ratios and decreasing soil productivity cause **desertification and deforestation**
- The use of **inferior fuels** (such as charcoal, crop residues and cow dung) is estimated to account for 1/4 of world's energy consumption and **¾ of all energy used by developing countries' households**
- Urban areas in **China** lose about 20% of potential economic output due to negative effects on human health of dirty energy use (WB)
- In **India**, **indoor air pollution** from dirty fuels causes 2 million premature deaths/year

Energy and the environment :  
a delicate balance

- Most presently-existing forms of energy (both advanced and traditional) harm the environment
- Lack of energy is a major cause of poverty and poverty-related environment destruction
- Policy-makers at the national and international levels must walk a fine line

ENERGY IN APEC COUNTRIES:  
BASIC FACTS

**APEC countries weight heavily in world energy markets**

- are **net energy importers**
- account for **60% of world energy demand**
- **APEC energy imports projected to almost double** between 2000 and 2020
- Most APEC energy generation is **thermal**
  
- Investment needs in the next 20 years estimated at US\$3.4-4.4 trillion to US\$4.4 trillion
  
- A large part of the funding to be mobilized from private and international financial resources

ENERGY IN APEC COUNTRIES:  
BASIC FACTS II

- **Some APEC member economies are also the largest coal producers in the world**
- **Energy-efficient exploitation of mining is a key policy goal**
- The **APEC Energy Working Group (EWG)** launched in 1990, seeks to maximize the energy sector's contribution to the region's economic and social well-being, while mitigating the environmental effects of energy supply and use

Total primary energy supply

	1990		2000		2005	
	Mtoe*	%	Mtoe*	%	Mtoe*	%
China	654	<b>17.4</b>	905	18.6	1545	<b>26.8</b>
Japan	432	11.5	509	10.5	517	9
Other East Asia	150	5.1	285	5.9	339	5.9
SE Asia	139	<b>3.7</b>	285	5.9	368	<b>6.4</b>
Oceania	104	2.8	129	2.7	141	2.5
Canada	209	5.6	250	5.2	273	4.7
US	1928	<b>51.2</b>	2312	47.5	2355	<b>40.9</b>
LA	146	3.9	187	3.8	205	3.8
<b>APEC 20</b>	<b>3764</b>		<b>4863</b>		<b>5758</b>	

\*Millions of tonnes of oil equivalent

TRANSFORMATION :

Refining of petroleum products (Mtoe)

	1990	2000	2005
China	<b>107</b>	<b>198</b>	<b>284</b>
Japan	178	216	213
Other East Asia	62	165	178
SE Asia	108	152	166
Oceania	37	44	41
Canada	87	97	106
US	<b>755</b>	<b>851</b>	<b>877</b>
LA	81	84	90
<b>APEC 20</b>	<b>1417</b>	<b>1806</b>	<b>1954</b>

TRANSFORMATION :

Electric Power Generation (TWh\*)

	1990	2000	2005
China	<b>621</b>	<b>1353</b>	<b>2498</b>
Japan	834	1072	1153
Other East Asia	221	481	655
SE Asia	156	469	495
Oceania	189	272	298
Canada	482	606	628
US	<b>3219</b>	<b>4052</b>	<b>4168</b>
LA	156	264	313
<b>APEC 20</b>	<b>5878</b>	<b>8472</b>	<b>10207</b>

\*Terawatt hours



TOTAL FINAL ENERGY CONSUMPTION (Mtoe)

	1990	2000	2005
China	<b>490</b>	<b>635</b>	<b>905</b>
Japan	305	360	354
Other East Asia	102	193	220
SE Asia	89	174	223
Oceania	68	86	90
Canada	160	190	201
US	<b>1306</b>	<b>1566</b>	<b>1602</b>
LA	106	129	139
APEC 20	<b>2621</b>	<b>3756</b>	<b>4154</b>

Primary Energy Supply Outlook  
Mtoe

	2010	2020	2030
China	<b>1777</b>	<b>2345</b>	<b>3096</b>
Other East Asia	921	1057	1152
SE Asia	575	802	1066
Oceania	151	181	212
US	<b>2659</b>	<b>2985</b>	<b>3318</b>
Other Americas	512	613	720
Russia	671	723	769
APEC 21	<b>7265</b>	<b>8706</b>	<b>10333</b>

OUTLOOK TO 2030  
Total primary energy balance

- APEC energy balance will **tighten** as
- **Demand** grows at **2% per year**
- **Supply** grows at **1.5% per year**
- **APEC region to become a net importer**
- **Oil imports to increase from 36% of total oil demand (2002) to 52% (2030)**

OUTLOOK TO 2030  
Energy intensity and diversity

- Energy intensity to drop 40% (major efficiency gains in China, Russia, US)
- Energy diversity to increase in most countries
- Yet average to drop slightly due to China's weight

## OUTLOOK TO 2030 OIL

- **Import dependence to raise** from 36% (2002) to 44% (2030)
- Indonesia, Malaysia, Papua New Guinea, Vietnam to become net importers
- **Unconventional oil sources** (oil sands, oil shale, improved oil recovery) to become more important
- Increased refining and capacity/cracking required
- **More rigorous** environmental regulations, fuel standards to lead to larger hydrotreatment capacity

## OUTLOOK TO 2030 COAL

- **Demand to more than double** to 3366 Mtoe by 2030
- Growing at 2.8% p.y., fastest rate of all fossil fuels (cost, availability)
- **In the near term, even faster growth mainly due to China**
- In the longer term, faster growth in the **US** (cleaner technologies)
- **Coal resources in strong demand, temporary regional shortages likely**

## OUTLOOK TO 2030 Natural Gas

- Demand to reach 2050 Mtoe by 2020, growing at 1.8% (less than average)
- Yet supply to grow only 0.7% and regional pipeline trade to decline (i.e. Canada-US)
- **APEC to become net importer by 2015**
- LNG to increase its relevance
- **APEC governments' role crucial in establishing a favorable policy and institutional framework**
- investment in natural gas fostered
- suppliers and consumers encouraged to make the necessary commitments for long-term supply contracts

## OUTLOOK TO 2030 Nuclear

- **Expansion of capacity likely especially in China**
- Also in Vietnam since 2015
- Share in total primary energy demand stable (6%), in electricity to decline slightly (to 14%)
- Constrained by public fears over security
- **Governments to foster R&D for improving technology**

## OUTLOOK TO 2030 Investment

- Investment required up to 2030 between 6 and 7.5 USD trillion (**0.7% of GDP**)
- Most (4.8 trillion, 60%) in **electricity**
- **Investment requirements highest in China** (2.3 trillion), followed by the US (1.7 trillion)
- **Financing requirements might be problematic** in some **developing** APEC countries

## A 1 Priorities and Objectives of APEC **developing** economies

- **Energy is central** to achieving the interrelated **economic, social and environmental aims** of **sustainable human development**
- **Energy services**
- Play a **crucial role in providing efficient access** to energy
- Constitute the **value added in the energy chain**, from exploration to consumption

## Access and business

**Developing countries** strive to

- achieve more reliable and efficient **access to energy**
- obtaining a **greater share of the energy business**

- **Both goals, in turn, requires access to**

- Knowledge
- Expertise
- Technology
- Managerial know-how

## Developing countries as importers of energy services

- **Developing country energy producers** are major **importers of traditional energy services** such as
  - services related to oil and gas
  - exploration, wells and pipelines building
  - drilling services
  - derrick erection
- **Additional emerging services** include those related to **greenhouse gas emissions reductions and trading of emission rights**
- Provision of these services
  - increasingly **sophisticated and technology-intensive**
  - (often) **beyond developing country capacity**

Developing countries have made **few commitments** in this sub-sector in their **GATS schedules**. They thus still maintain the **flexibility to liberalize** where this is deemed most **consistent with domestic energy policy objectives** seek important **reciprocal concessions**

## Understanding reform experiences

- **Few developing countries have implemented structural reforms** in the energy sector
- Most have **not developed** those **emerging energy services** that emanate from **breaking up** of integrated energy systems and the introduction of **competition**, especially in the **gas and electricity** segments
- The **design of effective domestic energy policies** would be promoted by a **better understanding of the experiences** of countries that implemented **reforms** aimed at promoting the emergence of competitive energy markets

Yet

- **Understanding is not aping !**

## Energy services strategies in developing countries: 3 key areas

- **Ensure efficient access to energy** by **all** segments of the population
- **Strengthen their competitive position** in the **supply of energy services** at the various stages of the energy chain
- **Negotiate strategically consistent commitments and additional provisions** in the **multilateral negotiations** on trade in services

## **A 2 Priorities and Objectives of APEC **developed** economies**

In the **short term, business as usual**

- Maintain and widen **access to energy sources**
- **Negotiate** with developing countries to **increase access** to their **markets** for energy services

Medium and long term

- **Save energy**
- **Shift resources** towards **energy- and energy services-related R&D**, striving to develop **new, clean and sustainable forms of energy**
- **Allow developing countries an increased access to energy** (both in **absolute and relative terms**) to
- Foster **demand for imports**
- **Fight environment degradation** stemming from **poverty and underdevelopment**
- Preserve **world peace**



### **A 3 Common objectives of developing and developed countries**

#### **The world is in bad shape**

- **Present trends in energy consumption in rich countries are neither economically nor environmentally sustainable** in the medium/long term
- Barring presently unforeseeable amazing technological breakthroughs, an **extension of now-industrialized energy consumption pattern to the bulk of the developing world is also not feasible**
- An indefinite (**unplanned-uncoordinated-unreformed**) **continuation of the presently-existing market-oriented worldwide mode of production is neither possible nor auspicious**
- Still, billions of people are mired in abject poverty

#### **Auspicious directions of change**

- **Plan internationally a rational, environment-friendly and sustainable world system of producing and distributing energy in the long run, reducing (but not eliminating) the relative role of markets**
- **Transfer energy and other resources** from fostering luxury consumption in rich countries to
- **Basic consumption** in poor countries
- **Environment protection**
- **R&D**
- **APEC** could start to **move in this direction** at **macro-regional level**

**B PRESENT TRENDS** C. Hoyos, FT July 9, 2008 i

All around the world ... **oil-rich governments are reasserting... ownership as they squeeze international energy groups**, raising taxes and royalties and taking a bigger share of projects

C. Hoyos, FT July 9, 2008 ii

- **Oil production growth is slipping** as many national oil companies prove themselves ill-equipped to manage the industries of which they are increasingly in control
- The **lack of growth means Opec's share of the market is projected to rise from 40 per cent to 50-60 per cent, shifting money and influence from western countries to oil exporters in the Middle East, Latin America and Africa**
- But even national oil companies within Opec are not investing as much as international oil companies
- This **lack of investment means oil prices are generally forecast to stay high** unless a recession drastically erodes demand in large parts of the world

## **B PRESENT TRENDS**

### **The rise and fall of market fundamentalism**

- The **period between the late 1980s and the mid-1990s** was characterized by
  - Final crisis and the subsequent **fall of the Soviet Union** and its Warsaw pact bloc
  - **Worldwide hegemony of Washington Consensus**

1990s: the boom of private investment in developing countries' energy infrastructure

- The **overall world context was favorable to a boom in FDI flows from developed to developing countries**
- Largely **spurred by privatization processes**
- **By 1990** it became apparent that **developing countries' financing needs for the coming decade would be very high**, and that these **huge sums would not be available from public treasuries**
- During the **1990s**, in fact, **private investment in infrastructure projects in developing countries** reached over **US\$ 680 billion**, out of which almost **US\$ 200 billion** was accounted for by **electricity** and **US\$ 33 billion** for **natural gas**. About **half** of these infrastructural investments were carried out in **Latin America**, and about **one third in Asia**

## The technological omnipotence fallacy i

This period also witnessed a **peak** in the **relative role of technology and institutions** (i.e., non-material, man-made, reproduceable resources) in **determining each country's hierarchical power ranking worldwide**

- As well as, correspondently, a **nadir in the West's degree of dependency on non Western energy exporters** (epythomized by **Russia's lack of national self-determination**)
- These trends led many observers to foresee a **permanent technology-based worldwide hegemony of advanced western countries**, leading eventually to a full independization of global economic growth from its material base

## The technological omnipotence fallacy ii

**Conversely, now ( medium-run trend)**

- The role of **knowledge-based, non-material endowments decreases** vis a vis that of **material, nature-based endowments**
- **Direct (militarily-supported) control on energy resources rises again as a key element of economic and geopolitical strength**

## M&A and Vertical Integration

- **M&A increasingly popular**
- **Convergence mergers** natural gas/ electricity
- **Persistence** and even **reappearance** of **vertical integration** show it is **at least partly efficient**
- Firms use it as a risk management strategy
  
- Increasing market power
- Competition authorities' task difficult
- Yet competition authorities should try to minimize abuses

## Long term contracts

- **To some extent efficient**
- **Preferred in large bilateral agreements especially since 2000 (Russia, etc)**

## XXI CENTURY: THE RETURN OF THE STATE

Many believed that the near- universal neoliberal trend would last forever (see Fukuyama's end of history) or at least for a long historical period

- In fact, it **proved short-lived** (less than a decade) and **peaked around the turn of the millennium**

## THE RETURN OF THE STATE i

Since **late 1990s-early 2000s**, broad **economic and political trends worldwide changed markedly** Sufficient to observe that **two new phenomena** emerged, which were **partly independent and partly intertwined** with each other

- **US power ebbed** due to reasons which were
- **partly subjective** (ie **overstretching as a reaction to 9-11**)
- **partly objective** (i.e. **structural contradictions** looming in the **US economy** finally gave way to a **crisis** of still **unknown magnitude and length**)
- **New powers** of very uneven strength and nature **emerged or re-emerged** (the most important of course being **China and Putin's Russia**)

### The return of the state iii

The **present hystorical period** is crucially characterized by **2 interrelated trends**

- A **large-scale revamping** of the **role of the State in the economy**
- Made possible by the restoration and strengthening of the national state
- The **economic, (geo)political**, and (to some extent) military **raise/recovery** of **Russia** and of other **medium-sized developing energy exporters** (i.e. Venezuela)

### Energy is **suitable for state intervention**

- **Structural characteristics** of the sector (quasi-natural monopoly etc) that make energy **suitable for state intervention**, usually via **powerful SOEs**
- in **spite of fast tech progress**, inevitable **trend** of market-oriented economies worldwide (developed and developing) towards an **ever-increasing demand for a set of ultimately finite commodities (ie oil, gas, and other non-renewable sources of energy)**
- as a result, **energy prices are increasing** and this trend is probably bound to persist also in the **long run**

### **Developing energy exporters' states have cash**

Enhanced state control on energy resources and high international energy prices mean that **many developing energy exporters are now awash in cash**

- Thus can pay their debt and/or to **finance** bilaterally or via new regional and multilateral agreements with **state actors in energy-importing countries**
- **Both energy exporting and energy importing developing** countries are **less financially dependent** on traditionally Western-dominated institutions such as the **IMF, the WB** , and **large private financial institutions**

### National states as key players

After a period of worldwide market-oriented reforms and multilateral trade liberalization

- **Nation-states and large SOEs** are **increasingly becoming protagonists** in the world market for energy services
- Preferred tools are bilateral and plurilateral **multi-billion long-term energy trade agreements**
- **SOEs' inefficiencies and relatively low propensity to invest, coupled by national states' own interest, tend to slow down energy production and keep prices up**



2 *Potential for International Trade and  
Investment on Energy Services,  
Modes of Supply & Barriers to  
International Trade*

# Potential for International Trade and Investment on Energy Services Modes of Supply, and Barriers to International Trade\*

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*United Nations Conference on Trade and Development (UNCTAD)*

\* This presentation is largely based on Zarrilli S., International Trade in Energy Services and the Developing Countries, in Zarrilli S. (ed), 2003, Energy and Environmental Services - Negotiating Objectives and Development Priorities, UNCTAD, Geneva, pp.23-69

## CONTENT

### **1 The energy sector**

- Energy and energy markets
- Services and the energy chain
- Sectoral markets of energy and energy services

### **• 2. International trade in energy services**

- 2.1. Modes of trading in energy services
- 2.2. Trade barriers
- 2.3. Energy services and GATS

## 1 The energy sector

### 1.1. Energy and energy markets

- Energy is a crucial to key driver of economic development and the largest business in the world economy, with a turnover of about 2 trillion a year
- The World Energy Council has estimated that global investment in energy between 1990 and 2020 will total some US\$ 30 trillion at 1992 prices
- Energy availability is a necessary condition for eradicating poverty and improving human welfare.

### Inequalities in access to energy

About **one billion people** in the **industrialized countries consume nearly 60 per cent** of the total energy supply, whereas the **five billion people** living in developing countries consume the remaining 40 per cent

- The **productivity of one third** of the world's people is hampered by lack of access to commercial energy
- **another third suffers economic hardship** and insecurity due to unreliable energy supplies<sup>[1]</sup>
- **At least 2 billion people**, mainly in the **rural** areas of poor countries, **lack access to electricity**
- In some African countries the electrification rate is as low as 2-3 per cent.

[1] United Nations Development Programme, United Nations Department of Economic and Social Affairs, World Energy Council, *World Energy Assessment: Energy and the Challenge of Sustainability*, New York, 2000, p. 3.

## The cost of lacking access to energy i

The **lack of access to modern and sustainable energy** is a **major cause of environmental degradation** and a major obstacle to sustainable development

- The use of **inferior fuels** – ( example charcoal, crop residues and cow dung)
- accounts for around **1/4 of the world's total energy consumption**
- **3/4 of all energy used by households in developing countries**
- usually damages human health and the environment

[

## The cost of lacking access to energy ii

Non-commercial energy

- **2 %** of energy consumption in **industrialized** countries
- **30 % in developing countries**
- In some low-income developing countries, **traditional biomass accounts for 90 %** or more of total energy

## Markets for energy services

- Traditionally, governments worldwide have considered the sector both a **natural monopoly** and one which was **too crucial to be left to market forces**
- Since the 1980s, many countries have unbundled vertically integrated utilities
- In many cases, the **ownership/management** of formerly State-owned energy facilities have also been **transferred to the private sector.**

## ENERGY SUPPLY WORLD

	PRODUCTION	EXPORTS	IMPORTS
OIL(mt)	3936	2178	2258
GAS ( Mm3 )	2976552	884494	872992
COAL(Hard Mt)	5370	815	819
	PRODUCTION	INSTALLED CAPACITY	COUNTRY
		GW	GW
NUCLEAR (TWh)	2768	368	US (98)
HYDRO TWh	2994	836	China (108)

Source IEA 2008 (data refer to 2005-6)

## ENERGY SUPPLY MAJOR COUNTRIES

### Crude oil

Producers	Mt	%	Exporters	Mt	Importers	Mt
<b>S. Arabia</b>	<b>507</b>	<b>12.9</b>	<b>S. Arabia</b>	<b>364</b>	<b>US</b>	<b>582</b>
<b>Russia</b>	<b>477</b>	<b>12.1</b>	<b>Russia</b>	<b>253</b>	<b>Japan</b>	<b>213</b>
<b>US</b>	<b>310</b>	<b>7.9</b>	<b>Iran</b>	<b>132</b>	<b>China</b>	<b>127</b>
Iran	216	5.5	Nigeria	119	Korea	115
China	184	4.7	Norway	115	Germany	112
World	3936			2178		2258

## ENERGY SUPPLY MAJOR COUNTRIES

### Natural gas (Mm3000)

Producers	%	Exporters	Mm3000	Importers	Mm3000
Russia	22	Russia	203	US	119
US	17.6	Canada	102	Germany	94
Canada	6.4	Norway	86	Japan	89
Iran	3.3	Algeria	64	Italy	77
Norway	3.1	Netherlands	55	Ukraine	50

### 3 *Energy Goods & Services*

# Energy Goods & Services

Francisco L. Viray, PhD

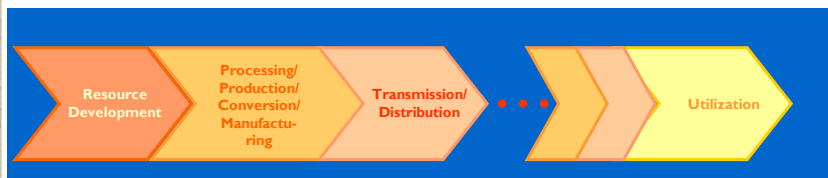
Lecture delivered for:

APEC Training Seminar on Trade in Energy Services

July 21, 2008

AIM Conference Center, Makati City

## Value Chain



### “Primary Energy” Goods:

- Oil
- Natural gas
- Coal
- Uranium
- Water (hydro)
- Geothermal steam

### “Primary Energy” but not as Goods:

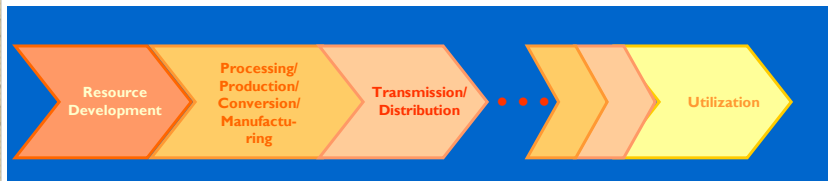
- Solar
- Wind
- Ocean

### “Secondary Energy (?)” Goods:

- Bio-based fuel
  - ✓ Solid
  - ✓ Liquid
  - ✓ Gas
- Electricity



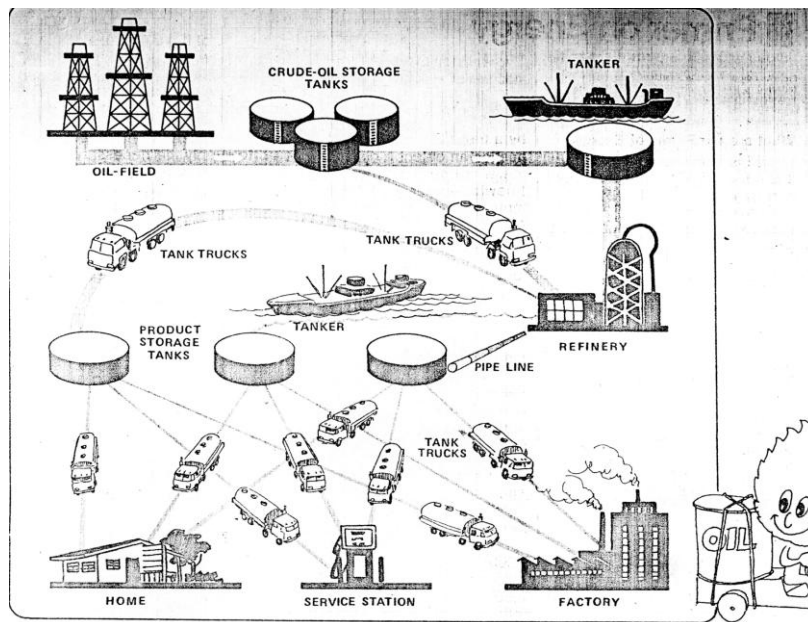
## Value Chain

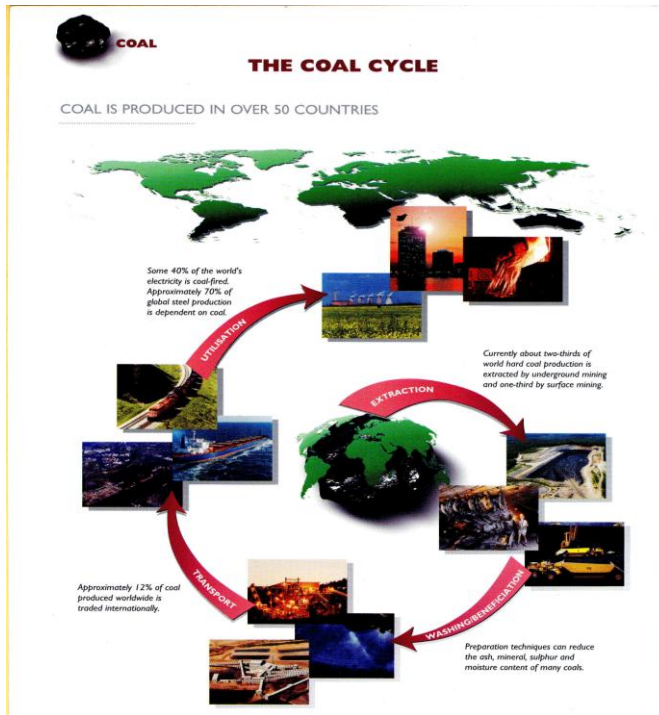


Activities that directly handle the “energy” as a Good:

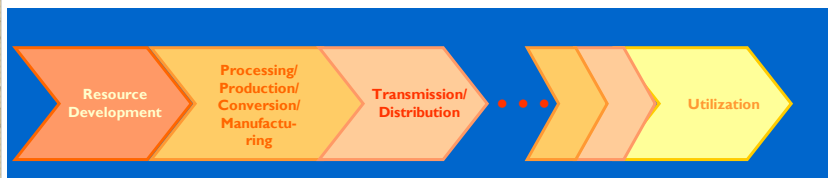
- Mining/Extraction/Production
- Processing – coal preparation (washing/beneficiation), refining, enrichment, liquefaction, gasification, compression
- Refining
- Energy conversion – electricity generation
- Storage
- Transportation/shipping
- Distribution
- Retailing

## Crude Oil Value Chain





## Value Chain



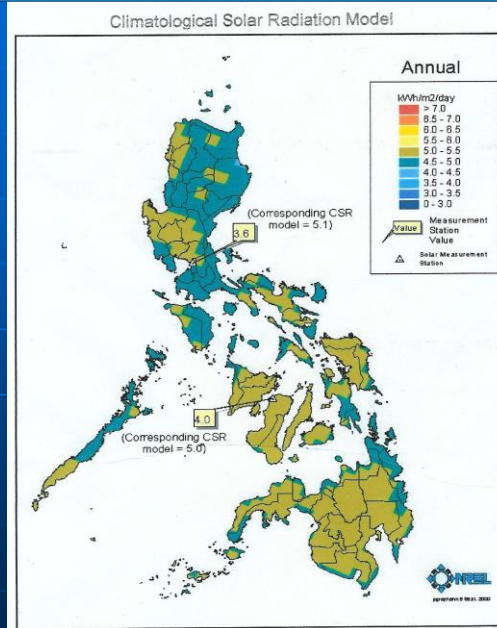
Activities that facilitate/support “direct” activities:

- Resource identification/assessments

Source: Philippines DOE

## Solar Energy Resource

Solar radiation nationwide – an annual average of 5.0 Wh/m<sup>2</sup>/day



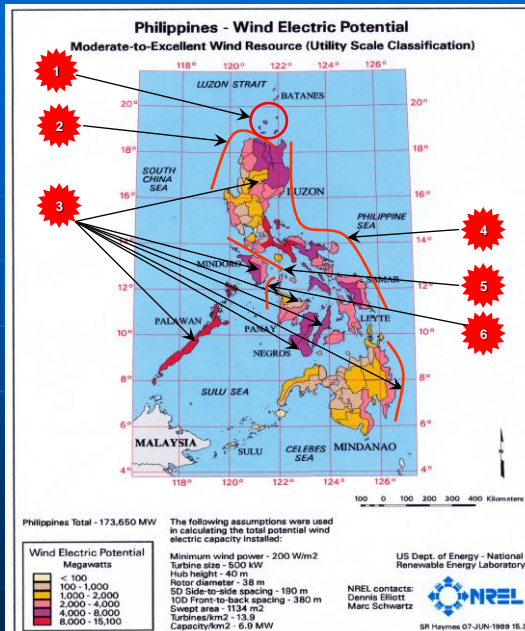
Source: Philippines DOE

## Wind Energy Resource

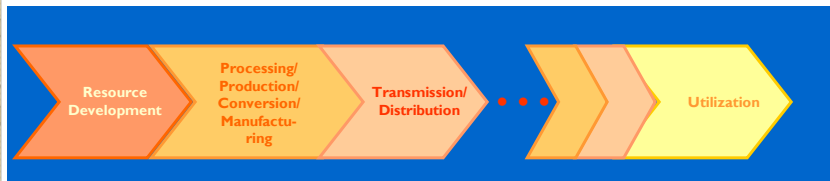
Over 10,000 km<sup>2</sup> with 76,600 MW of potential capacity

### 6 Identified Regions

1. Batanes and Babuyan Island
2. Northwest tip of Luzon (Ilocos Norte)
3. Higher interior terrain of Luzon, Mindoro, Samar, Leyte, Panay, Negros, Cebu, Palawan, Eastern Mindanao and adjacent islands
4. Well-exposed east-facing coastal locations from Northern Luzon southward to Samar
5. The wind corridors between Luzon and Mindoro (including Lubang Island)
6. Between Mindoro and Panay (including the Semirara & Cuyo Island)



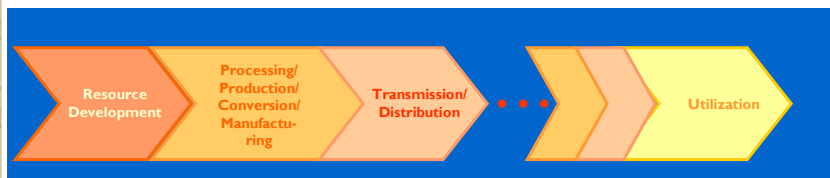
## Value Chain



### Activities that facilitate/support “direct” activities:

- Resource identification/assessments
- Geological exploration
- Drilling
- Site development
- Well development

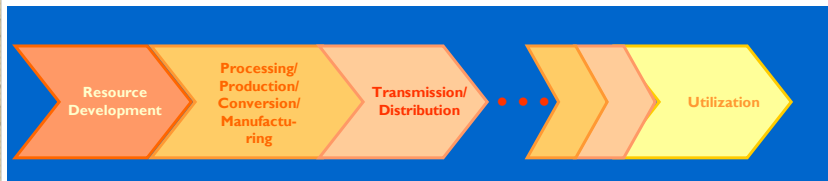
## Value Chain



### Activities that facilitate/support “direct” activities:

- Financing
- Engineering Design
- Procurement
- Construction – civil works, electromechanical, I&C, safety
- Environmental – EIA, trading of emission rights, GHG reductions, waste handling/treatment/disposal, pollution control & monitoring
- Project management
- R&D
- Consultancy
- Computer services - BPOs

## Value Chain



### Activities that facilitate/support “direct” activities:

- Operation & Maintenance
- General Management
- Marketing/Trading
- Administrative accounting
- Decommissioning
- Remediation of contaminated areas and facilities

## Upstream Services

- Exploration
  - Geology (Field, desk and computer-aided investigations)
  - Geophysics (Seismic, magnetic, gravity and electromagnetic techniques – covering data acquisition, processing and interpretation)
  - Geochemistry (Field, laboratory, and computer-aided investigations)
  - Remote Sensing (Satellite image acquisition, processing and interpretation)
  - Paleontology (note: for determination of age of rocks and their depositional environment)



## Upstream Services

- Exploration
  - Petrography (note: for determination of mineral composition of rocks using microscopy)
  - Technical Software Rental
  - Well Engineering and Planning
  - Site Survey (High Resolution Seismic Survey)
  - Navigation Services



## Upstream Services

- Exploration
  - Drilling
    - Drilling Rig Rental
    - Drilling Professionals Consultancy
    - Well Site Geology
    - Borehole Logging and Surveys
    - Mud Logging
    - Well Cementing
    - Well Testing
    - Diving and Remote Operated Vehicles
    - Inspection Services
    - Directional Drilling Services
    - Other Equipment Rental (wellhead, gas detectors, etc.)
    - Meteorology
    - Transportation (Fixed Wing, Helicopter, Boats)
    - Medical and Allied Services
    - Skilled and Unskilled Labor



## Upstream Services

- Exploration
  - Petrophysics (analysis of core properties and fluid content)
  - Wireline Log Interpretation Services
  - Reserves Estimation (Probabilistic and Deterministic)
  - Economic Evaluation
  - Reservoir Engineering and Evaluation
  - Farmout and Promotion Agency Services



## Upstream Services

- Development
  - Financing
  - Facilities Engineering Design
  - Facilities Fabrication/Construction (e.g. Platform, subsea completion equipment, pipeline, process equipment, camps and housing)
  - Facilities Installation and Commissioning
  - Facilities and Equipment Rental (for example: Floating Production, Storage and Offloading (FPSO) facility for a subsea completion)
  - Engineering Supervision and Technical Audit
  - Drilling Services for Development Wells as in Drilling above



## Upstream Services

- Production
  - Production Engineering
  - Safety Engineering
  - Enhanced Oil Recovery
  - Oil Delivery Services
  - Other services in common with Drilling above e.g. Transportation, Meteorology, Medical and Allied services, Labor



## Upstream Services

- General Services
  - Environmental Studies
  - Communications (Field to Base)
  - Community Liaison
  - Legal Services
  - Insurance
  - Logistics
  - Accounting
  - Security
  - Data Base Administration and Maintenance
  - Data Storage and Warehousing
  - Personnel Recruitment and Deployment
  - Plotting and Printing Services



## 4 *Energy Services & the GATS*



## Energy services and the GATS

APEC Training Seminar on Trade in Energy Services  
Manila, 21-23 July 2008

Massimo Geloso Grosso  
Trade and Agriculture Directorate, OECD



### Overview

- **Defining energy services**
- **The GATS and energy services**
- **The complementing role of GATS**
- **Implications of GATS when commitments have *not* been made**
- **Implications of GATS when commitments have been made**
- **Article VI current disciplines**
- **The Article VI.4 mandate**



## Defining energy services

- Identification issues reflected at the international level with several attempts to provide a modern definition of the sector
- WTO negotiating proposals cover the whole chain of energy activities
- Offers two approaches:

**Separate section on energy**  
Final schedule or relevant sectors?

**Energy-related categories in W/120**  
Business services, construction, transport



## The GATS and energy services

- **Limited progress to date**
  - Energy the least committed sector
- **Key concern relates to the potential effects of the GATS on regulatory autonomy**
  - Intensified by the fact that the GATS is a relatively young and unfinished agreement
- **In light of their importance and highly regulated nature governments are understandably cautious**
- **The Agreement can affect the regulatory conduct in some areas of energy services**
  - Affords WTO Members wide flexibility to tailor obligations to national policy objectives



5 *Domestic Institutional Framework:  
Services Related to the Production  
& Generation of Energy*

**APEC TRAINING SEMINAR  
ON TRADE IN ENERGY SERVICES  
21-23 July 2008, Manila**

**The Institutional Framework for an International  
Agreement on Trade in Energy Services**  
*-Services Related to the Production  
and Generation of Energy-*

**Edna A. Espos**

1

**OIL AND GAS FIELD SERVICES**

2

## **SERVICE CATEGORIES**

### **(1) Drilling**

- includes provision of expertise, land and sea rigs, other specialized equipment.
- By contract – day-rate, footage, turnkey

### **(2) Support Services**

- Seismic imaging and analysis @ exploration and evaluation phase; offshore support activities and measurement; artificial lifting and well estimation services post-drilling for recovery of oil and gas

3

## **FIRM TYPES**

### **(1) Large, integrated companies**

- Manage field services projects
- Schlumberger (France), Halliburton (US), Baker Hughes (US)
- 30% of global upstream revenue

### **(2) Small and medium sized firms**

- Specialized services (geological, geophysical and prospecting)
- Transocean, (US), Nabors Industries (US) ; 2001 revenue \$2.8 B and \$2.1B

4

## **CONSUMERS**

Oil and gas exploration and production (E&P) cos.

- Major integrated cos (Exxon Mobil, Royal Dutch/Shell, Total)
- National oil cos (Saudi Aramco, Kuwait Petroleum, National Iranian Oil Company, Petroleos de Venezuela)
- Independents (Burlington)

5

## **DEMAND CHARACTERISTICS**

- Dependent on capital spending of E&P companies
- Dependent on relative maturity of oil and gas wells

## **INTERNATIONAL TRADE**

- Approximately over \$100 Billion in 2001 for global upstream services
- Cross-border supply (mode 1) small proportion only
- Commercial presence (mode 3) dominated by affiliate sales due to long production cycle, regional concentration

6



## **COUNTRY POLICIES**

- State control over rights to natural resources
- Contracting for exploration and production

7

## **TYPES OF CONTRACTS**

### **(1) Concession**

- Widely used in countries with competitive oil and gas exploration markets
- Earlier, LT contracts with exclusive exploitation rights over large areas. Recently, valid only for well-defined geographic area and specific period
- Concessionaire relinquish rights upon expiry
- Independent bids or joint ventures or consortium
- Concessioner operates and manages exploration/development process and investments
- Concessioner pays government royalties and taxes on production, income and/or profits. Royalties often based on sliding scale production level

8

## **TYPES OF CONTRACTS**

### **(2) Production Sharing Agreement or Contract**

- Joint venture with private sector- preferred by countries with national oil companies
- Government manages/control resource development
- Concessionaire is operator
- 3 basic elements: cost recovery; production split between government and contractor; taxes
- Government share of production equal to equity investment; gets tax revenues, royalties

9

## **TYPES OF CONTRACTS**

### **(3) Service Contract**

- In countries where private sector investment prohibited (Kuwait, Mexico, Phil)
- Method to acquire expertise of foreign oil production companies
- Company hired to perform specific or range of services, e.g.; from drilling to development of oil and gas fields
- May have features of production sharing contract where contractor provides up-front investment capital to be compensated from production earnings

10

## 6 *Anti-Competitive Business Practices*

# **Anti-Competitive Business Practices That Affect International Trade in Energy Services**

Alberto Gabriele

## **1 Anti-Competitive Business in the Energy Services Sector**

- Anti-competitive business practices in the energy services sector
- The role of national competition laws
- The role of coordination among national competition authorities in international trade of energy services

## Anti competitive practices in the EU

- Even in the EU, the **success of energy services liberalization is at best a qualified one**
- Anti-competitive practices are rife
- The **EU Energy Sector Inquiry\*** focused on identifying **areas where competition is not yet functioning well**, which need to be addressed the most rapidly in order for liberalisation to bear fruit
- As the EU is very advanced in the process of liberalization, the **problems** identified in this document are **common-** to varying degrees - to most other developed and developing countries

\* European Commission, "Competition at National and International Levels: Energy", document presented to the Intergovernmental Group of Experts on Competition Law and Policy, Geneva, 17-19 July 2007

## Key critical areas of anti-competitive practices

- **Market concentration/market power**
- **Vertical foreclosure** ( inadequate unbundling of network and supply)
- **Lack of market integration** (including lack of regulatory oversight for cross border issues)
- **Lack of transparency**
- **Price formation**

## Market concentration

- At the wholesale level, gas and electricity **markets remain national** in scope
- **Maintain the high level of concentration** of the pre-liberalisation period
- **Allowings operators to exercise market power**

## Market concentration i: Gas

- **Wholesale gas trade has been slow to develop**
- **Incumbents remain dominant** on their traditional markets, by largely **controlling up-stream gas imports and/or domestic gas production**
- Incumbents **trade only a small proportion** of their gas on gas exchanges (“hubs”)
- With **little new entry** in retail markets, customer choice is limited and competitive pressure is constrained
- **The overall picture for potential new entrants is one of dependency on vertically integrated incumbents** for services throughout the supply chain.

## Market concentration ii Electricity

- Electricity trading is **more developed** than gas trading
- Yet, sales on wholesale electricity markets generally reflect the **high** level of **concentration** in electricity generation
  - Generators exercise market power by **raising prices**
  - **Forward markets show less concentration than spot markets, yet** buyers depend on few suppliers with long positions (i.e. who generate more than they resell)
  - Incumbent electricity companies **can withdraw certain types of generation capacity and dispatch more expensive generation in order to increase electricity wholesale price level**
  - **Concentration** levels, even in the less concentrated markets, **surge at peak hours. Yet, Even in off-peak hours markets remain highly concentrated**
  - **Long-term contracts** and reserve requirements **can reinforce concentration** levels in certain markets
  - The **existing level of interconnection capacity is not sufficient** to significantly reduce this concentration

## Vertical foreclosure

- The **current level of unbundling of network and supply interests has negative repercussions on market functioning and on incentives to invest in networks**
- **A major obstacle to new entry and a threat to security of supply**
  - **Access to network infrastructure is essential for new entry** into energy markets. However **new entrants often lack effective access to networks** (and other infrastructure, like storage and LNG terminals in gas markets) despite the existing provisions on unbundling.
  - **The operators of the network/infrastructure tend to discriminate in favor of their own affiliates**
  - **Operational and investment decisions are not taken in the interest of network/infrastructure operations, but on the basis of the supply interests of the integrated company** (including grid connection for competing power plants), **jeopardizing security of supply**

### Vertical foreclosure ii

- Current **unbundling requirements do not require separate ownership of the network**
- **Leaving ample opportunity for quasi- monopolistic behaviour**
- The EU considers that **ownership unbundling is the most effective way to** ensure that network operators treat all users equally and have investment incentives not distorted by supply interests

### Vertical foreclosure iii

- Another form of vertical foreclosure was found to exist by way of the **integration of generation/imports and supply interests** within the same group
- Reducing **incentives for incumbents to trade on wholesale markets** and leading to **sub-optimal levels of liquidity**
- **Long-term supply contracts between gas producers and incumbent importers makes it very difficult for new entrants to access gas on the upstream markets**
- **Similarly, electricity generation assets are in the hand of a few incumbent suppliers or are indirectly controlled by them on the basis of long-term power purchase agreements (PPAs)** giving the incumbents control over the essential input into the wholesale markets
- **Low levels of liquidity are an entry barrier to both gas and electricity markets**
- **Yet long term contracts are in many way efficient and are preferred in large bilateral agreements especially since 2000**



### Market integration

- Cross-border sales do **not** currently impose any significant **competitive constraint** on the **dominance of incumbent national companies**
- Incumbents rarely enter other national markets as competitors
- **Insufficient or unavailable cross-border capacity and different market designs hamper market integration**

### Market integration ii

- **For gas, available capacity on cross-border import pipelines is limited. New entrants are unable** to secure transit capacity on key routes and entry capacity into new markets
- **In electricity, integration is hampered by insufficient interconnector capacity and a lack of adequate incentives** to invest in additional capacity to eliminate long established bottlenecks
- Improving access to existing interconnectors requires better methods of congestion management. However, better use of capacity is often **not in the interest of vertically integrated network operators!**

## Market integration ii

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## Transparency ii

- **To ensure a level playing field, all market participants require information to be made available on an equal footing and in a timely manner**
- At present there is an **information asymmetry** between the **vertically integrated incumbents and their competitors**
- **Improved transparency would minimise risks for new market players and so reduce entry barriers** and improve trust in the wholesale markets and confidence in price signals
- It **needs to be ensured that no collusion** takes place on the basis of the published information and, although commercial confidentiality is important, this should not be allowed to undermine effective transparency by being given too wide an interpretation.

## Price formation

- **More effective and transparent** price formation is needed in order to deliver the full advantages of market opening to consumers
- **Many users have limited trust in the price formation mechanisms**
- **Regulated supply tariffs below market prices discourage new entry**

## Price formation ii gas

- **Gas import contracts** use price indices that are linked to oil derivatives (e.g. light fuel or heavy fuel) and **prices**, therefore, **closely follow developments in oil markets**
- This linkage results in **wholesale prices that fail to react to changes in the supply and demand** for gas, which is **damaging to security of supply**
- **No clear trend towards more market based pricing mechanisms can be observed in long-term import contracts !**
- **Ensuring liquidity is crucial** to improving confidence in price formation on gas hubs, which will allow for a relaxation of the linkage to oil.

### Price formation iii electricity

- **Electricity price formation is complex.** Increases in the price of primary fuels have certainly played a role in recent electricity price developments, especially in marginal plants
- **However, this does not appear to fully explain the recent price rises**
- In several Member States, **regulated tariffs have generated adverse effects for the development of competitive markets**, since they have been **set at very low levels** compared to market prices and cover a large part of the market, thereby effectively leading to **re-regulation**
- Similarly, in several Member States, special measures to reduce electricity bills for energy intensive industries have been considered. Such schemes must be compatible with antitrust and State aid rules

### 2 Regulation issues

- **Effective economic regulation is a crucial institutional variable** in the introduction of competition into electricity and gas sectors
- To **regulate third party access** to the monopoly segments of the supply chain
- To **establish wholesale markets and other financial intermediaries** both for short-term (spot markets) and for future electricity and gas delivery periods.
- Supply and demand expected to set prices and enable trade between upstream and downstream actors

## Electricity is special

- **Electricity** has an unusual set of **physical and economic attributes** that significantly **complicate** the task of successfully **replacing hierarchies** (vertical and horizontal integration) with **decentralized market mechanisms**

## Electricity is special ii

- Cannot be stored economically
- demand must be cleared with "just-in-time" production from generating capacity continuously at every location on the network
- **Network congestion and nonstorability may limit significantly** the geographic expanse of **competition** by constraining the ability of remote suppliers to compete, further **enhancing market power problems**
- **Creating a set of complete markets** that operate this quickly at so many locations without creating market power problems **is a significant challenge**

### Electricity is special iii

- Very **low short-run demand elasticity**
- **supply elasticity** also **very low** inelastic at high demand levels as capacity constraints are approached
- **spot electricity prices are inherently very volatile** and unusually susceptible to the creation of **opportunities** for suppliers to **exercise market power** unilaterally

### Electricity and gas i

- **The electricity and natural gas markets are increasingly interconnected** because of growing demand for natural gas as the preferred fuel for power
- **Natural gas** is seen as having a vital role to play in generating **cleaner energy** because natural gas power plants are more efficient and pollute less than coal-fired plants

### Electricity and gas ii

- Electricity supply has for many years been regarded as a sector best run as a **public natural monopoly**
- **The heavy capital investments** associated with traditional generation technologies and supply infrastructure reinforced the notion of a natural monopoly service.
- In the late 1980s and early 1990s, this perception **changed. The drivers of this change were technical developments in generation technologies**, growing reliance on **markets, financing needs and country-specific requirements**

### Electricity and gas iii

- As with electricity, **the natural gas sector has traditionally been dominated by state-owned vertically integrated monopolies** with a monopoly buyer or producer
- Since pipeline construction requires long lead times and **large investments, vertical integration was the preferred model** because of the need to develop costly gas transportation networks and secure long-term economic relationships with external suppliers
- The natural gas industry is now globalizing as demand expands and new technologies allow creative new ways of customizing products and services

### Electricity and gas iv

- Reforms in the electricity sector, combined with developments associated with **technology and globalization in natural gas markets**
- Exerted pressure for **parallel reforms to be undertaken in natural gas markets**
- A **central element** for many countries with respect to the **liberalization** of natural gas is the development of **interconnections to facilitate imports and inter-country trade**

### DNCs' power supply structures

- **Most DNCs have vertically integrated monopolies**
- However, there is a loose correlation between GDPPC and degree of de-monopolization/diversification of the power supply structure
- Most APEC DNCs are vertically integrated monopolists + IPPs



The standard reform package:  
5 elements

- **Unbundling the incumbent monopoly**
- **Privatization**
- **Wholesale competition**
- **Retail competition**
- Regulated or negotiated **third party access**
- to transmission and distribution in the case of electricity
- to transportation (pipelines) and storage in the case of the natural gas industry

## Competition

Competition in the **network segments** of the supply chain **cannot work** because it **would require duplication of the network**

However, **regulatory reforms** can be expected to

- **Allow all producers and retail suppliers equal access transportation networks, thereby increasing the potential for competition** by giving retail customers an opportunity to choose their supplier
- **Facilitate competition among generators** to produce the cheapest electricity and natural gas
- **Encourage retail suppliers to compete for the custom of final consumers.**
- **Allow customers to have a choice of suppliers**
- Thus, reformers usually aim at
- **separating natural monopoly transportation segments from other potentially contestable elements**
- **establishing regulated third party access** to transportation networks

## Uneven results

- Energy sectors in the various countries that have instituted reforms exhibit a **wide range of structures**
- **Countries may have reformed only parts** of the supply chain (usually power generation) or **have chosen to maintain a degree of vertical integration**
- **They may or may not have private sector participation or employ a mix of State and private sector ownership**
- **Differences** may also have arisen depending on **whether or not a country imports energy**, on **country size and** on whether a country had a **centralized or federal system** of Government
- **Much of Asia** (Bangladesh, China, India, Indonesia, Malaysia, Nepal, Pakistan, Philippines, Republic of Korea, Thailand and Viet Nam) followed the **independent power producer model (IPP) driven by foreign Investment**

## Lessons from energy reforms i

- Electricity reform proved **easier** to implement in countries with relatively **larger power systems and higher** levels of per capita income (in Latin America and Eastern Europe)
- **Conversely, unbundling and other competition-enhancing reforms might not be advisable, or even feasible**
  - **small power systems**
  - **very small poor countries**
  - **countries with undeveloped institutional capacity and weak economic conditions**
- A **sequenced approach is less risky and more sustainable** than a single-stage process for reforming power markets in developing countries.

## Lessons from energy reforms ii

- It is evident from the market structures exhibited by electricity and natural gas industries that there is **still much room for the exploitation of market power**
- The exploitation of **market power erodes the expected benefits** to consumers from the introduction of competition
- **Significant market power problems often remain after competition has** been introduced into previously regulated industries

Several years after embarking on the liberalization of electricity and natural gas markets, the **EC admits that competition still does not exist in many Member States** and that it is highly **questionable** that natural gas and electricity **prices are the result of a truly competitive process rather than the outcome of decisions by companies with market power**

## Regulation is difficult

- **The rules and regulations that are relied upon for the operation of energy markets are complex and require constant surveillance**
- Getting competition and economic regulation right is a **major challenge to even the most developed economies**
- Design flaws have necessitated correction (UK)

## The reappearance of vertical integration

**There is no consensus on how to treat vertical integration in energy markets** but there is perhaps more support in the empirical literature for **various efficiency motivations of vertical integration**

- It is a commonly held view that the persistence of vertical integration provides proof of its **efficiency**
- Generating companies can use **vertical integration** (through mergers or contracts) as a **risk management strategy** to offset profit losses and **coordinate investments**
- Whilst **recognizing the advantages** of vertical integration for energy companies, **competition authorities should guard against companies using vertical integration to control markets**
- **NOT SO EASY**

## Competition in gas

- Demand for natural gas is more responsive to price spikes
- Yet **long-term contracts and take-or-pay obligations** can **limit access to natural gas supplies** and related transportation and storage **infrastructure** where they are in force
- Harming **competition**

7 *Network Services & Regulation:  
the Case of Energy*



## **Network services and regulation: the case of energy**

APEC Training Seminar on Trade in Energy Services  
Manila, 21-23 July 2008

Massimo Geloso Grosso  
Trade and Agriculture Directorate, OECD



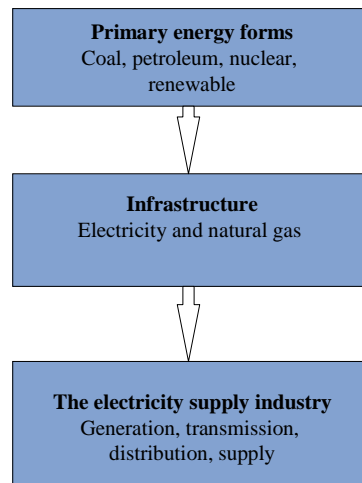
### **Overview**

- **Characteristics of energy**
- **Energy sectors**
- **Electricity provision**
- **Structural reforms**
- **Regulatory concerns**
- **Tariff regulation**
- **Regulating to improve access**
- **Meeting service standards**
- **Regulatory institutions**

## Characteristics of energy

- Traditionally the energy sector has not distinguished between goods and services
- Partly explained by the market structure of the sector
- More recently privatisation and introduction of competition
  - Separation of energy-related economic activities
  - Better distinction between goods and services
- Growing demand for alternative sources
  - Increasing oil prices
  - Enhanced public sensitivity to environmental problems

## Energy sectors



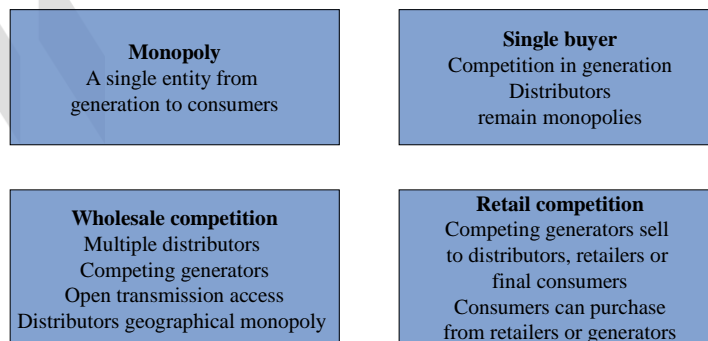


## Electricity provision

- **Historically electricity has been mainly provided by governments**
  - Ensure socially equitable access
  - *Natural monopoly* characteristics
- **More recently changes in provision have led to stronger presence of the private sector**
  - Increase investment
  - Improve infrastructure performance
  - Introduce competition where feasible



## Structural reforms





8 *Possible Elements of a Prospective International Agreement in Energy Services: Services Related to Production & Generation of Energy*

# **APEC TRAINING SEMINAR – TRADE IN ENERGY SERVICES**

**Services Related to  
Production and Generation of  
Energy**

**William Derbyshire**  
Manila, 22 July 2008

**ECONOMIC CONSULTING ASSOCIATES LIMITED**  
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www.eca-uk.com

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## **CONTENTS**

- Session purpose**
- 1. Objectives**
  - 2. Classification of services**
  - 3. General obligations**
  - 4. Specific commitments**
  - 5. Developing countries**
- Issues for discussion**



## SESSION PURPOSE

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### PURPOSE

- **This session sets out the issues that agreements on international energy trade need to consider**
- **Not all the issues discussed will be required in all agreements – they may be covered in other agreements or may not be relevant**

4



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## **FOCUS**

- **The session's focus is on electricity trade – but the recommendations are also relevant to gas in particular**
- **Within electricity, the session focuses on electricity generation – the development of network infrastructure is covered in a separate presentation**

5



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## OVERVIEW

- 1 Objectives**
  - what is the purpose of trade in energy services?
- 2 Classification**
  - what types of energy services exist?
- 3 General obligations**
  - what are general obligations under GATS?
- 4 Specific commitments**
  - what specific commitments related to production and generation are required?
- 5 Developing countries**
  - what specific issues arise in developing countries?

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# 1. OBJECTIVES



# 1. OBJECTIVES



## WHY TRADE?

- **International trade offers benefits to importers and exporters**
- **Importers receive**
  - access to a wider range of goods and services at lower cost
  - increased competitive pressures in domestic markets
  - potential technological spill-over benefits
- **Exporters receive**
  - increased revenues and profits from the opportunity to sell abroad
  - access to larger markets, allowing economies of scale to be realised

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## BENEFITS OF ELECTRICITY TRADE

- **Static benefits**—making better use of existing resources by
  - Substituting expensive domestic generation with cheaper imports
  - sharing reserves across countries
  - increasing competitive pressures on generators and reducing their market power
- **Dynamic benefits**—lowering future costs by optimising investments by
  - investing in lower-cost generating capacity in neighbouring countries
  - reducing reserve margins as a result of sharing reserves across countries
- **Environmental benefits**—displacing domestic thermal power with imported cleaner energy

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**AGREEMENT  
T  
OBJECTIVE  
S**

- **The objective for any international agreement should be to maximise these potential benefits, by liberalising trade, while recognising the constraints**
  
- **These constraints may include**
  - **security of supply—imports may be less dependable than domestic supplies**
  - **environmental policies—such as the promotion of renewable energy**
  - **social concerns—such as subsidies to particular customer groups or obligations to supply rural areas**
  - **conservation of natural resources—such as limits on the use of some fuels**
  - **safety and quality standards**





## 2. CLASSIFICATION

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### CONTENTS

- What is classification?
- What are the issues?
- What classifications currently apply?
- What classifications should we use?
- What types of trade exist?

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## WHAT IS CLASSIFICATION?

- Classification relates to the process of defining 'energy services'
- The only agreement on definitions appears to be that there is no agreement!
- As an example of the problems
  - oil is a 'good' under WTO classifications
  - 'services incidental to mining, rendered on a fee or contract basis at oil or gas fields' are a 'service' (W/120)
- If I own the oil and produce it myself, it is a good. If I pay someone to produce it, does it become a service?

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## WHAT DO ENERGY SERVICES INCLUDE?

- Exploration & development
- Drilling & extraction
- Construction & engineering
- Production
- Processing
- Refining
- Generation
- Transportation
- Transmission & distribution network asset management
- Transmission & distribution system operation
- Energy market operation
- Storage
- Marketing and retail
- Energy brokers
- Metering, billing and collections
- Energy efficiency service providers

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**IS A  
SPECIFIC  
CLASSIFICA  
-TION  
REQUIRED?**

- **Do energy services need to be classified, or can they be covered under relevant sectors?**
  - eg, electricity transmission under transport services
  
- **There are a number of problems with this**
  - the energy sector mixes goods and services— in large part due to its traditional structure (where a vertically-integrated utility delivers a good)
  - governments may be reluctant to open up individual activities on the grounds they are not a service
  - some governments have required classification to precede further commitments in energy services



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## INDUSTRY STRUCTURE AND CLASSIFICATION

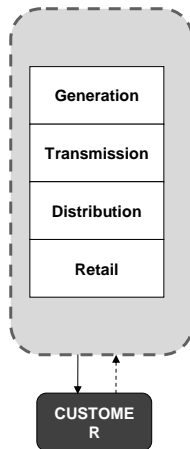
- **Vertically integrated electricity utility**
  - generation, transmission, distribution and marketing (retail) are all undertaken internally
  - electricity is the end-product (a good?)
- **Unbundled electricity industry**
  - generation, transmission, distribution, system operation and retail are all undertaken by differing firms
  - all are potentially services, provided on a fee or contract basis

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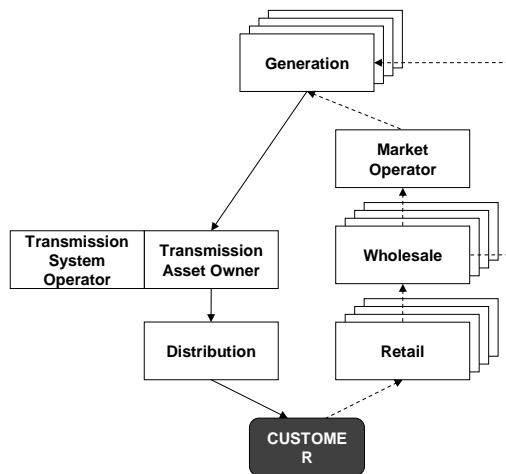


## INDUSTRY STRUCTURES COMPARED

### VERTICALLY INTEGRATED



### UNBUNDLED



← Energy flows  
 ←... Money flows

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## CORE AND NON-CORE SERVICES

- **Core services are those indispensable to the energy supply chain**
  - eg, provision of electricity transmission services is core
  
- **Non-core services are other services**
  - eg, engineering or construction services
  - these are supporting services, that are generally not specific to the energy sector

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## SOURCE – NEUTRALIT Y

- **Should classifications be source-neutral?**
  - eg, provision of transmission services is treated the same, regardless of whether it is electricity or gas
  
- **Is this always possible?**
  - frequency regulation is an electricity-specific service
  - compression is a gas-specific service

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## TECHNOLOGY-NEUTRALITY

- **Are commitments technology-neutral?**
  - eg, do all electricity generators have equal rights of market access?
- **This has significant implications for**
  - security of supply – can governments impose restrictions on use of some fuels or imported fuels?
  - renewable energy generation – can governments impose quotas or discriminate in favour of renewable generation?

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## WHAT ARE CURRENT WTO CLASSIFICATIONS?

- **WTO *Services Sectoral Classification List* (W/120) doesn't specifically define 'energy services'**
- **Many services are covered under horizontal (cross-sector) categories**
  - eg, construction, consulting, engineering
- **Three specific energy-related sub-sectors are listed**
  - “services incidental to mining, rendered on a fee or contract basis at oil and gas fields”
  - “services incidental to energy distribution”
  - “transportation via pipeline of crude or refined petroleum and petroleum products and of natural gas”

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## **CLASSIFICATION IN THE ENERGY CHARTER TREATY**

- **The Energy Charter Treaty is a multi-lateral agreement covering energy trade between Europe and the Former Soviet Union (+ Japan and USA)**
- **Discussions on defining ‘energy services’ as part of the Treaty were abandoned following failure to reach agreement**
- **Instead, the Treaty limits itself to**
  - **‘energy materials and products’ – including oil, coal, gas, electricity**
  - **‘energy-related equipment’**
- **These are defined using the Harmonised System of the World Customs Organisation**

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## **USA PROPOSALS**

- **The USA, in a 2000 communication, proposed a detailed classification of energy services**
- **This includes**
  - **resource identification and development**
  - **provision of O&M services on a fee or contract basis**
  - **operation of energy sources (eg, gas fields) or production-related activities (eg, power generation)**
  - **transmission and distribution of energy**
  - **storage of energy**
  - **management (balancing) of wholesale supply and demand**
  - **energy trading**
  - **energy management and efficiency**

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**PRODUCTION AND GENERATION**

▪ **This session focuses on production and generation as an energy service**

▪ **But the boundaries remain unclear**

- **oil and solid fuels (eg, coal) are accepted as goods – these are easily stored and traded**
- **gas and electricity require access to dedicated transportation networks and (for gas) storage facilities—are these goods or services?**
- **electricity generation may involve transforming primary energy (eg, gas / coal) into secondary energy (electricity)—is this providing a service or producing a good?**
- **does generation include the activity of trading the resulting electricity?**



**WORKING DEFINITION**

▪ **For this session, we propose to focus on production services, including the sale of the resulting products**

▪ **We exclude oil and coal production as being covered under trade in goods**

▪ **This gives us the following working definition of production and generation energy services**

- *production activities such as electricity generation or liquefaction and regasification of natural gas*
- *trading and brokering of the associated electricity or natural gas*

▪ **Network infrastructure services are addressed in a separate session**





**WHAT DOES  
THIS MEAN  
IN  
PRACTICE?**

- **This session focuses on trade in electricity (although many of the points remain relevant to gas)**
- **Using our working definition, many forms of trade remain possible**

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**GATS  
TRADE  
MODES**

- **Cross-border supply (Mode 1)**
  - service flows from one Member's territory to another Member's territory
- **Consumption abroad (Mode 2)**
  - service consumer moves to into another Member's territory
- **Commercial presence (Mode 3)**
  - service supplier of one Member establishes a presence in another Member's territory to provide a service
- **Presence of natural persons (Mode 4)**
  - persons of one Member enter another Member's territory to supply a service

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## ENERGY SERVICES MODES

- **Primary interest is Modes 1 and 3**
  - Mode 1 represents cross-border trade of energy services
  - Mode 3 represents entry into another country's energy market
- **Modes 2 and 4 may occur, but of less specific relevance**
  - unlikely to be energy-specific elements to these

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## TYOLOGY OF CROSS-BORDER ELECTRICITY TRADE

- **Type I: Bilateral trade between neighbours**
  - Sub-type I(i): utility to utility transfers
  - Sub-type I(ii): dedicated trade from new projects
- **Type II: Bilateral trade via a transit country**
- **Type III: Trade among synchronised systems**
- **Type IV: Multilateral trade within a common market mechanism**

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**BILATERAL  
TRANSFERS**  
**Utility-to-  
utility**  
*Type I(i)*

- **Common world-wide**
- **May take a variety of forms**
  - energy exchanges on an opportunity basis
  - long-term import / export contracts
  - sharing of reserves
- **Need for international agreements is limited, unless dedicated assets are involved**
  - regulatory and financial risks are low
  - participants do not generally face significant market risk
  - participants operate and control their respective systems
  - Government approvals may still be required
- ***Is there any 'energy service' being provided?***

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**BILATERAL  
TRADE**  
**Dedicated  
projects**  
*Type I(ii)*

- **A generation project located in one country supplies electricity to purchasers located in a second country**
- **Typically, the project is dedicated to export purposes, with accompanying dedicated inter-connection assets**
- **Sales are made under long-term contracts**
- **The Nam Theun 2 hydro plant in Lao PDR is one example**
- **Energy services being provided include**
  - electricity generation
  - potentially, electricity wholesale activities

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**BILATERAL  
TRADE  
Transit  
*Type II***

- A utility or generator located in one country supplies electricity to purchasers located in a second country, using the transmission network of a third country
- Typically, supplies will be under medium to long-term contracts
- This type of trade takes place in a number of regions internationally—eg, Southern Africa
- Energy services being provided include
  - electricity generation
  - transmission of electricity
  - system operation
  - potentially, electricity wholesale activities

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**BILATERAL  
TRADE  
Synchronise  
d systems  
*Type III***

- Generators are able to supply purchasers located in other countries, including where transit is required
- Sales may be made on a spot basis or under termed contracts
- System operators are responsible for balancing supply and demand across the synchronised systems
- Energy services being provided include
  - electricity generation
  - transmission of electricity
  - system operation
  - balancing and ancillary services
  - potentially, electricity wholesale activities

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**BILATERAL  
TRADE**  
**Common  
market**  
*Type IV*

- **A single (or a series of linked) energy markets operates**
- **Generators can sell to purchasers located in any participating country**
- **Sales may be made on a spot basis or under termed contracts**
- **System operators are responsible for balancing supply and demand across the synchronised systems**
- **The best examples are probably NordPool and the All-Island Market – but other EU markets are beginning to reach this level**

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**BILATERAL  
TRADE**  
**Common  
market**  
*Type IV*

- **Energy services being provided include**
  - **electricity generation**
  - **transmission of electricity**
  - **wholesale market operation**
  - **system operation**
  - **balancing and ancillary services**
  - **potentially, electricity wholesale activities**

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## OUR FOCUS

- For the purposes of this session, we focus on energy services trade taking place under types II and III cross-border trade (GATS Mode 1)
  - Type I(i) cross-border trade does not involve obvious trade in energy services
  - Type I(ii) cross-border trade involves some trade in energy services, but of a very limited nature
  - Type IV cross-border trade appears a long way off in most APEC countries
- We also look at Mode 3 services trade
- The session focuses largely on the services of
  - electricity generation
  - wholesale of electricity

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## 3. GENERAL OBLIGATIONS

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## V ECONOMY PRESENTATIONS

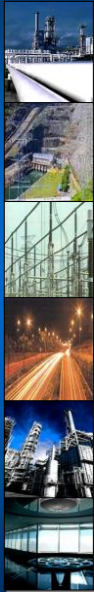




# ***ECONOMY REPORT: MALAYSIA ENERGY SECTOR***

APEC Training Seminar on Trade in Energy Services  
AIM Conference Centre, Makati City, Philippines  
21-23 July 2008

## **CONTENT**



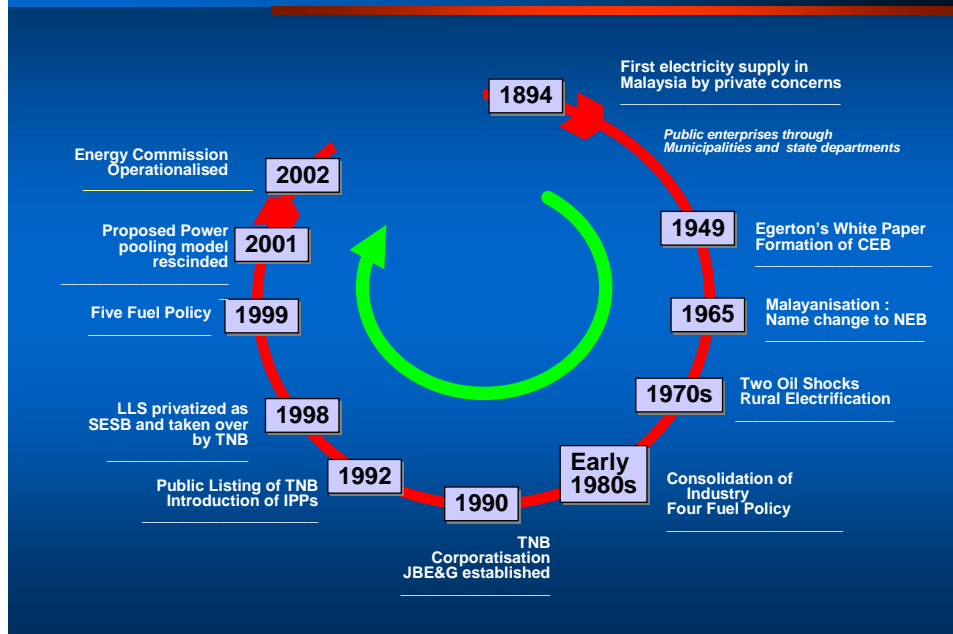
- 1. Malaysia's Energy Policy**
- 2. Malaysia's Electricity Industry**
- 3. Renewable Energy & Energy Efficiency**
- 4. Oil and Gas Industry**

## POLICIES RELATED TO ENERGY

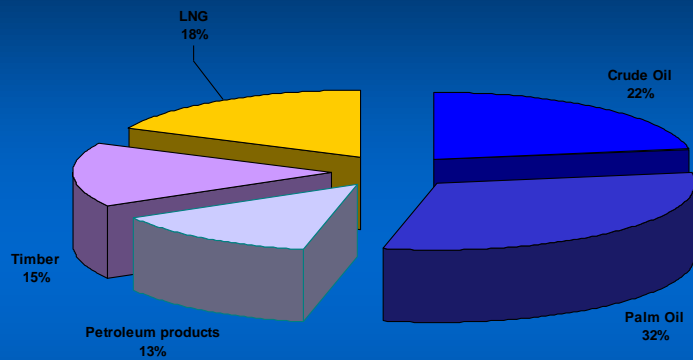


- Vested on PETRONAS the exclusive rights to explore, develop and produce petroleum resources of Malaysia
- To regulate downstream oil & gas industry via the Petroleum Regulations 1974
- To ensure adequacy, security and cost-effectiveness of energy supply
  - To promote efficient utilization of energy
  - To minimize negative environmental impacts in the energy supply chain
- To prolong lifespan of Malaysia's oil reserves for future security & stability of oil supply
- To pursue balanced utilization of oil, gas, hydro and coal
- Renewable Energy included as the "fifth fuel" in energy supply mix

## EVOLUTION OF THE MALAYSIAN ELECTRICITY SUPPLY INDUSTRY



## EXPORT EARNINGS 2007 (MAJOR PRIMARY COMMODITIES)



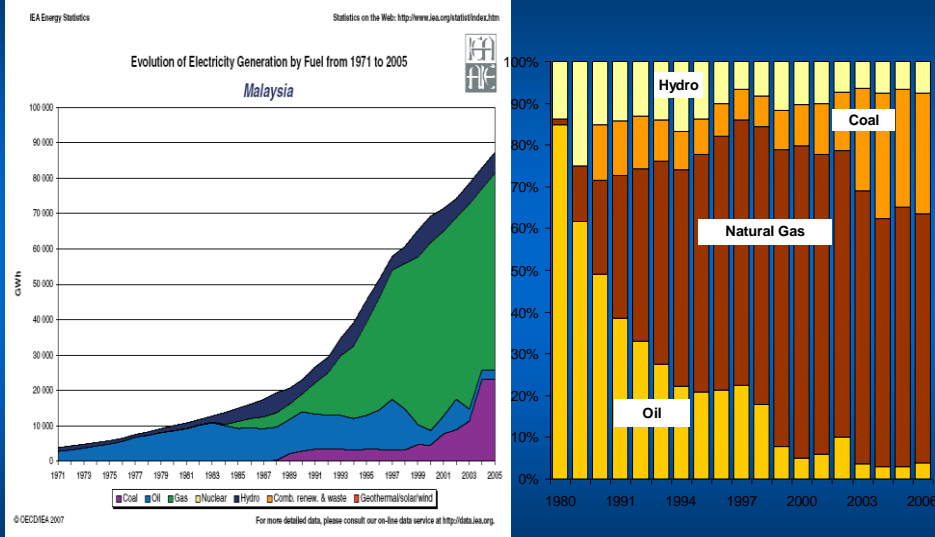
- Export from major primary commodities = RM 147.1 billion
- Total export = RM 617.23 billion
- 12.6% (RM 78 billion) of export is derived from oil and gas

## FUEL MIX IN ELECTRICITY GENERATION (%)

YEAR	OIL	COAL	GAS	HYDRO	OTHERS	TOTAL (GIGAWATTHOUR)
1990	41.9	13.8	26.2	17.8	0.3	22,768
1995	11.0	9.7	67.8	11.3	0.2	41,813
2000*	4.2	8.8	77.0	10.0	0.0	69,280
2005*	2.2	21.8	70.2	5.5	0.3	94,299

\*Source: 9<sup>th</sup> Malaysia Plan Report

## GENERATION MIX: oil to gas dependency



## STAGES IN THE PRIVATISATION OF THE ELECTRICITY INDUSTRY

- ✓ The Generation stage of the electricity sector has already been deregulated /privatized since 1992 with the introduction of independent power producers (IPPs).
- ✓ Competition has helped to reap further efficiency gains and relieve the financial burden of the Government.

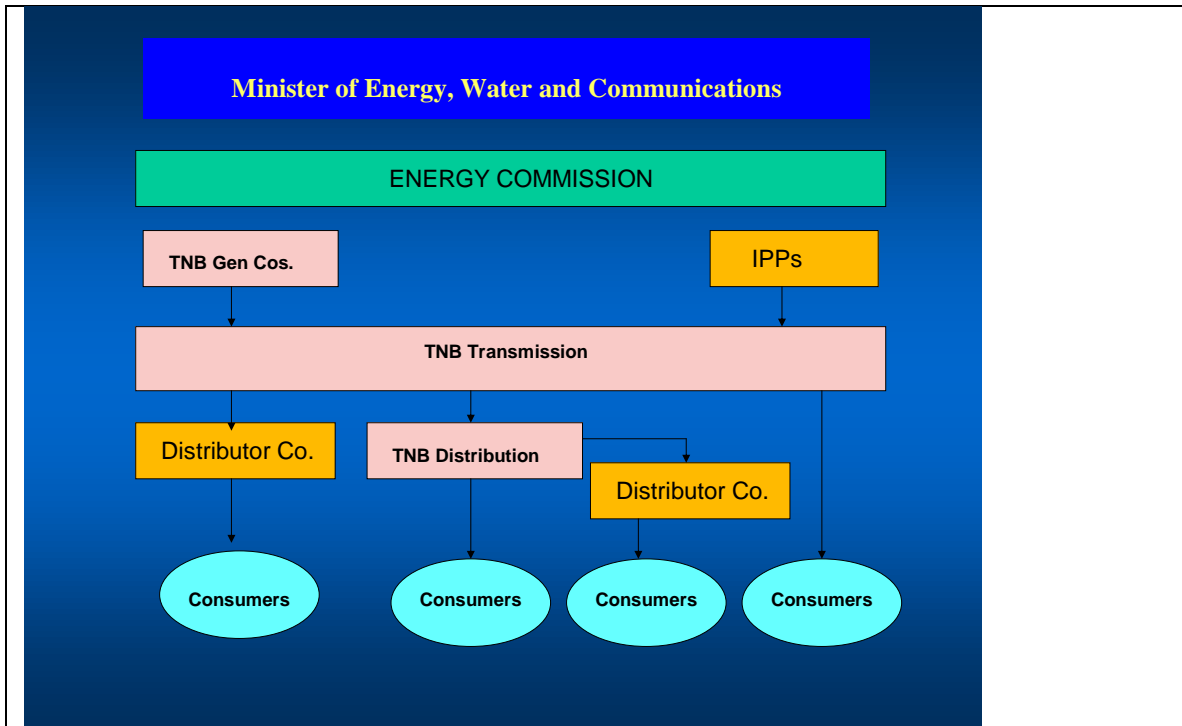
## STAGES IN THE PRIVATISATION OF THE ELECTRICITY INDUSTRY (Cont)

- ✓ At the moment, there are 23 IPPs in operation and they contribute to about 73 % of the grid-connected electricity output while the balance are contributed by the utilities i.e Tenaga Nasional Berhad, Sabah Electricity Sdn . Bhd. and Sarawak Electricity Supply Corporation .

## INSTALLED CAPACITY, PEAK DEMAND AND RESERVE MARGIN

GENERATION BY SYSTEM	ACCUMULATED INSTALLED CAPACITY (MW)	PEAK DEMAND (MW)	RESERVE MARGIN %
PENINSULAR	TNB 6346.0	14,007 (21 May 2008)	41.6%
	IPP 13491.0		
	<b>TOTAL 19,837.MW</b>		
SABAH	SESB 354.0	645.0	23.0%
	IPP 439.4		
	<b>TOTAL 793.4MW</b>		
SARAWAK	SESCo 549.0	834 (2007)	16.2%
	IPP 420.0		
	<b>TOTAL 969.0MW</b>		
<b>TOTAL</b>	<b>21,599.4 MW</b>	<b>15,486MW</b>	<b>39.5%</b>

Jun 2008



## FORMATION OF THE ENERGY COMMISSION

- Established under the Energy Commission Act 2001 on May 2001.
- Responsible for the setting up and implementation of an effective regulatory framework to facilitate the electricity supply industry and the gas supply industry (reticulation) and enforcing the energy supply laws.



# Energy Services in Peru

July, 2008



## Energy policy in Peru

- The energy policy in Peru is developed according to the following main guidelines:
  - Diversification of the energy matrix to ensure the reliable and opportune supply of the energy demand, in order to guarantee the sustainable development of the country.
  - Promote the private investment in the energy sector with clear and stable rules.
  - Foster and execute the works for energizing rural and isolated zones of the country to extend the demand coverage and improve the standards of living of the population.
  - Foster the efficient use of energy.
  - Promote the regional energy integration.

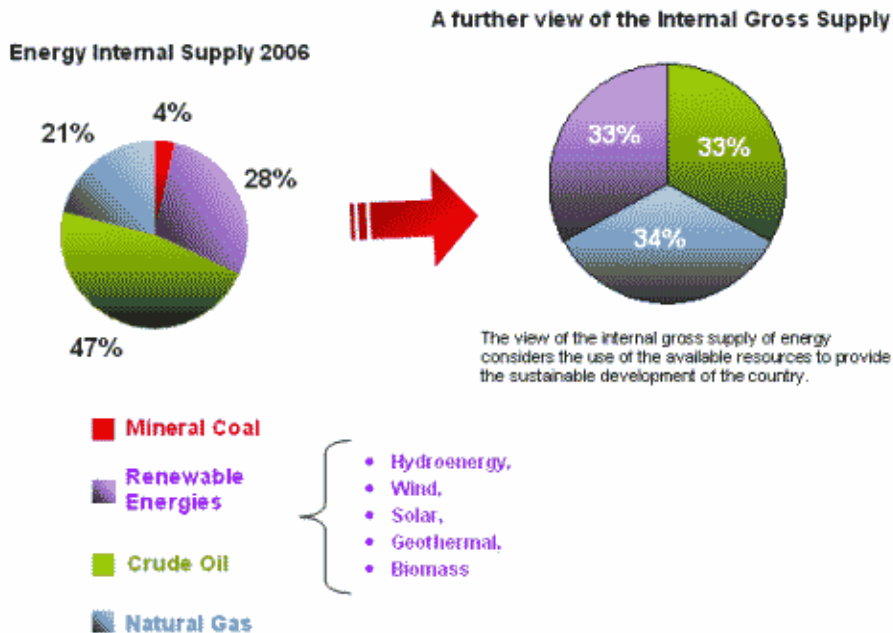






## Policy and Regulation Bodies in the Energy Sector

- **Ministry of Energy and Mines:** in charge of setting energy policies, regulations and granting of concessions.
- **The Energy and Mining Investment Supervisory Body (OSINERGMIN):**
  - OSINERGMIN is created by means of Law N° 26734 in 1996. Is a decentralized public organism with administrative, functional, technical, economic and financial autonomy.
  - In charge of supervising and evaluating the accomplishment of the legal and technical dispositions in the sub sectors of electricity and hydrocarbons.
  - In charge of fixing generation, transmission and distribution tariffs and the tariff adjustment conditions for the end consumers.
  - In charge of disputes mediation between concessionaries and solution of claims from users of the services that it regulates.

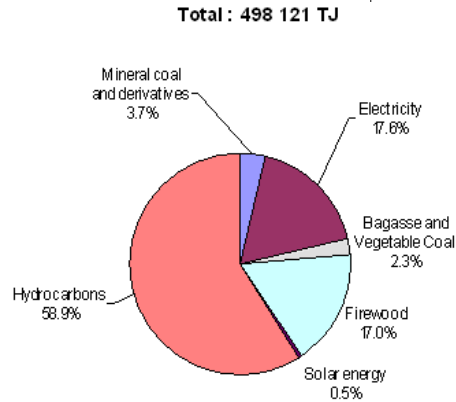


## Energy Consumption Matrix



- Final consumption per product**

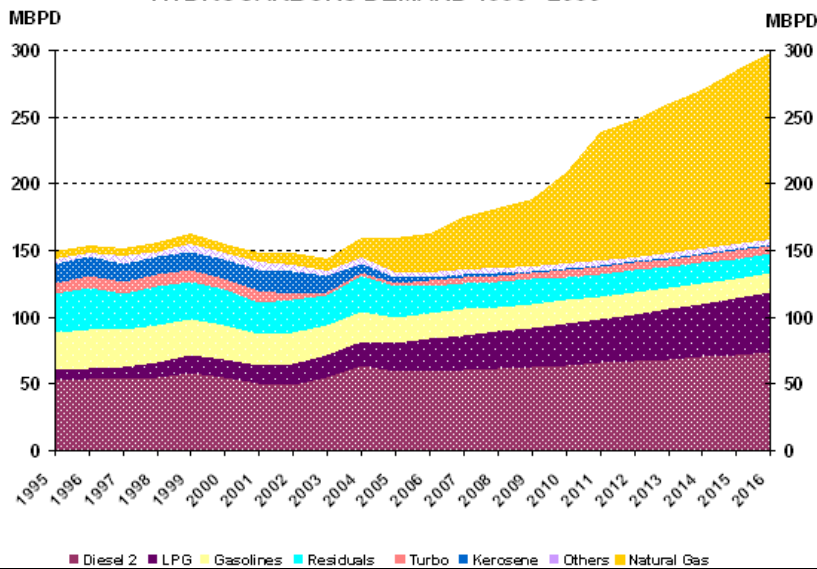
In final energy consumption the year 2006 amounted to 498 121 TJ. Hydrocarbons constitute the source which is consumed the most (59%), followed with electricity (17,6%) and firewood (17%) and in lesser proportion coal, bagasse, cattle dung, and others.



## Hydrocarbons Demand



HYDROCARBONS DEMAND 1995 - 2006





## ELECTRICITY SECTOR



### Early History in the Electricity Sector

- 1955 – 1972: Private initiative (Law 12378)
- 1972: the military government nationalized the electricity industry, creating ELECTROPERU (Peru Electric Company)
  - Low investment in infrastructure
  - in 1990 electricity coverage was 45%
- 1992: Structural reform process
  - Introduction of private operators
  - In 2007 electricity coverage was 80%



## Regulatory Reform in the Electricity Sector

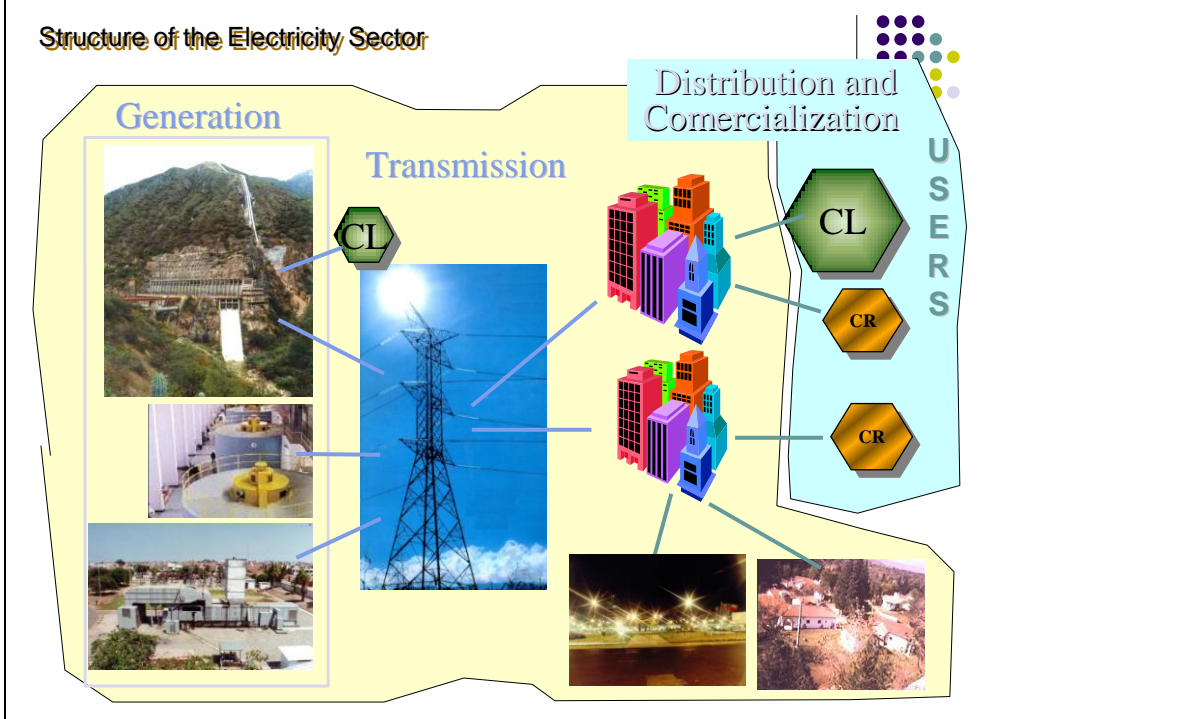
- Main objective: Promote economic efficiency and protect consumers from abuse of market position and non-competitive practices.
- The power sector completely unbundled into separate generation, transmission, distribution and retail markets.
- Privatization of more than 60% of state owned assets.
- Pool system (COES), with participation of private and public operators.
- Wholesale market with bilateral long term contracts.
- Cap-prices established for customers in the regulated market.
- Busbar electricity prices established every six months for distributors, considering penalties for losses in the transmission process.
- Regulated and non-regulated market prices cannot differ in more than 10%.
- Annual interconnection fees for generators, covering investment, operation and maintenance costs of transmission.
- Tariffs for final users adding value added in distribution, considering investment, maintenance, operation and other costs related to distribution.



## Regulatory competition framework

- Creation of an independent regulator (OSINERGMIN) in charge of supervising electric concessions and tariffs for regulated consumers.
- Pre-merger control in charge of the competition agency.
- To regulate potential abusive behavior of firms, mainly explained by increasing control over firms operating in generation, transmission and distribution.
- Restrictions on cross-ownership, enforced horizontally across generators and vertically across the three components of the production cycle.
- Firms with high market power, operating in any of the electrical activities, need the approval of the Free Competition Commission (FCC) to increase their control over the system. Restrictions may be imposed on the transaction.
- Control over a firm operating in the system can be increased through purchase of stocks, special management agreements, or increasing the number of members appointed to the board of directors.

## Structure of the Electricity Sector



## Electricity – Main Indicators

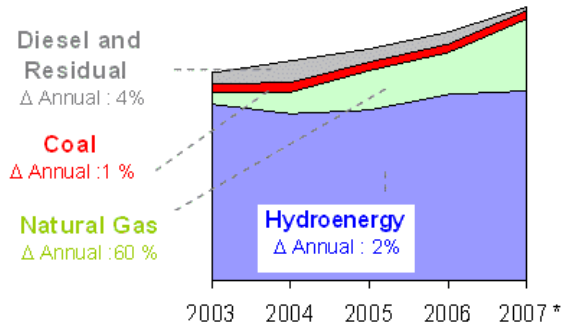
Electricity coverage	: 80 %	Transmission Lines : 220 kV ( 5.677.km )	
Consumption per capita	: 943KW.h/inhab	138 kV ( 3.636.km )	
Power Installed	: 7 059 MW	Sales to final client :	
Hydroelectrical	(46 %)	Energy	24 621 GW.h
Thermoelectrical	(54 %)	Bills	1 825 Million US\$
Production	: 29 857 GW.h	Number of users	: 4,35 Million
Hydroelectrical	(65%)	Distribution losses	: 8,1 %
Thermoelectrical	(35%)		

\* Preliminary information

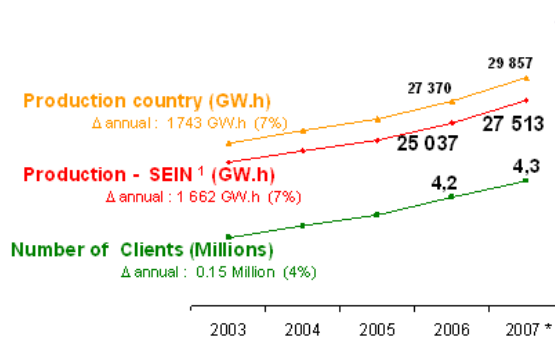
## Energy Matrix Evolution – Electricity Generation



- In the last 5 years, the energy production matrix has changed favourable to the use of the natural gas because of its clean nature with an annual growth of 60%



## Electricity and Final Customers Evolution



\* Preliminary information

- Production average grow at country level and at SEIN level is 7% per year. This growth is equivalent to the electric energy demand.
- The number of clients has grown in average of 4%, due to the tendency of the massive clients with demand of less than 1 kW, who are more than 4 million in quantity.



The Government of the  
Philippine Republic



# THE PHILIPPINE ENERGY SERVICES



Director Salvador M. Salire, Jr.  
Department of Energy

The Government of the  
Philippine Republic



## What are Energy Services?

- Required in each step of the energy process from the location of the potential energy sources to its distribution to final consumer.

### What is needed?

- Financial resources
- Technologies
- Human resources
- Organization and management





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## Energy Services in the Philippines

### “Traditional Services”

- Upstream (Exploration)
- Transportation of Energy (Pipeline)
- Downstream (Delivery of energy to the final consumer)

### “Emerging Services”

- Operation of power pool (WESM)
- Energy trading and brokering
- Energy management (ESCOs)
- Greenhouse gas emissions reductions and trading of emissions rights (PNOC, Northwind)



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## Issues for consideration

- The energy sector is a chain of interrelated activities but the classification is fragmented and non-exhaustive
- The energy services are not listed as a separate category
  - *WTO Services Sectoral Classification Lists (W/120)*
  - *UN Provisional Central Product Classification (UNCPC)*



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## Plurilateral Request in Energy Services

- The first collective request on energy services was initiated by the EC with the following interested Members: Australia, Canada, Japan, Norway, Kingdom of Saudi Arabia, Republic of Korea, Taiwan, Penghu, Kinmen and Matsu, Singapore and the U.S.
- The Philippines and 22 other Members have received this collective request
- Such request was presented and discussed during the plurilateral meeting on energy services held in Geneva in April 2006.



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## Plurilateral Request in Energy Services

- Following are the energy services included in the collective request, which constitute interrelated set of activities
  - Engineering & integrated engineering services (CPC 8672-8673)
  - Management consulting services and services related to management consulting (CPC 865-866)
  - Technical testing and analysis services (CPC 8676 – partial)
  - Services incidental to mining (CPC 883) and site preparation work for mining (CPC 5115)
  - Related scientific and technical consulting services (CPC 8675 – partial)



# Country Profile Energy Services in Thailand

Department of Trade Negotiations  
Ministry of Commerce  
Thailand

## Overview of Energy in Thailand

- Overall importer of energy such as crude oil, coal, electricity.
- Exporter of natural gas but during the past 3 years domestic consumption of natural gas has tremendously increased.
- Sufficient electricity but has regional exchange with Lao and Malaysia
- Small importer of Coal and Lignite

## Overview of Energy in Thailand

2004



Production (per day)	Usage (per day)
96 barrel	846 barrel
2106 (ft <sup>3</sup> )	279(ft <sup>3</sup> )
118.4(gigawatt)	106.1(gigawatt)
18.9 (tons)	17.9(tons)

## Recent Energy Issues in Thailand (cont)

- **Oil Crisis** From 2004, price of gasoline (benzene and diesel) has increased 400%.
  - Automobiles shifted towards lower quality of gasoline such as lower octane rate (95 to 91)
  - Later, automobiles shifted towards ethanol 10% (Gasohol)
  - Thailand has ethanol 20% (E20) and in the process of using E85 within a few years

## Recent Energy Issues in Thailand (cont)

- Attempt to privatize EGAT (Electricity Generating Authority of Thailand)
  - The Thai government attempted to privatize (corporatize) EGAT by selling stocks in the equity market
  - However, the process was blocked with the verdict of the administrative court.

## Recent Energy Issues in Thailand (cont)

- Gas and Natural Gas is in the predicament
  - As a result of high oil price, automobiles shifted towards LPG which is also used for cooking despite lack of government support.
  - The government could not increase the price of LPG as planned.
  - NGV is monopolized by PTT (Petroleum Authority of Thailand) and is not sufficient for consumers

## **VI      WORKSHOP PRESENTATIONS**





## PROPOSAL FOR NEGOTIATION ON TRADE IN ELECTRICITY SERVICES

### COMMUNICATION FROM MALAYSIA Negotiating Proposal on Energy Services

The following communication has been received from the delegation of Malaysia with the request that it be circulated to the Members of the Council for Trade in Services

1. Malaysia reserves the right to modify this proposal at any time. This proposal does not affect Malaysia's position on other service sectors, nor any future offer on this or other sectors.

#### A. INTRODUCTION

2. Malaysia submits this negotiating proposal to propose extensive consultations concerning the provision of services related to the supply of electricity industry.

3. With the aspiration towards improving access into the relevant sectors and industries and for reciprocal response from member economies

4. Malaysia desires to contribute towards mutually beneficial cooperation and exchanges between nations in trade in energy services, efficiency of energy usage, renewable energy and sustainability of energy resources and economic development

5. Malaysia recognizes the importance of having a definite, unambiguous and agreeable terminology for energy services in order for its significant application under the WTO.

## NEGOTIATING PROPOSAL

- A. General Objectives

- increase capacity of electricity supply while improving efficiency and cost effectiveness through competition in generation and distribution/retail activities
- affordable electricity supply made more accessible to as many people as possible
- improvement in living standards
- ensuring quality of electricity supply for the commercial and industrial sectors
- transfer of advanced and environmental friendly technologies and development of skills and expertise
- enhancing overall economic growth, development and generating domestic and foreign investment

- B. Conditions

- entry and stay of personnel subject to legal and qualifications requirements
- equipment and tools in accordance to safety and technical expectations
- business and licensing compliance under regulatory framework

## NEGOTIATING PRINCIPLES

### BASIC CONSIDERATIONS

- ownership of, rights of access to and use of natural resources of energy are not to be addressed
- right to regulate the supply of energy services within sovereign territory and jurisdiction of the country in accordance with policy objectives

### SEPARATE ANNEX FOR ENERGY SERVICES?

- Clarity and accuracy
- Comprehensive

## CLASSIFICATION OF CORE ENERGY SERVICES

### Downstream

Consultancy and technical services for design, construction, operation and maintenance of energy facilities and networks

- Design and construction of facilities and networks to produce, transform and supply energy
- Operation, management and maintenance of energy networks, equipment and facilities including transportation, transmission and distribution of energy
- Environmental related services for the energy industry
- Energy consulting services- as per 8250



**APEC TRAINING SEMINAR ON TRADE IN ENERGY SERVICES**  
**WORKSHOP ON NEGOTIATING STRATEGIES**

**Communication from Peru**  
**“Energy Services, Market Access and Regulations”**

**A. General Statement**

Peru submits this negotiating proposal as an initial contribution to the discussions on energy services within the framework of APEC Training Seminar on trade in Energy services.

The new technologies introduced in recent years together with world economic and trade growth have increased the importance of the energy sector, including the core and non core services in the field of energy. Along with this growth the importance of environmental sustainability has been pointed out.

Despite such economic importance of energy services, there does not exist an energy-specific division in W/120, the classification list for scheduling commitments under GATS, and there have been very few commitments made by member Countries that can be clearly defined as energy services. In addition, there has not been any interest to develop specific disciplines or regulatory rules for energy sector.

According to the mentioned above, Peru considers that the liberalization of energy services and a set of specific regulatory obligations (including competition and environmental rules) are needed to develop the sector in an market oriented way with due considerations to environmental concerns around the world because of the global warming.

Based on this general statement, Peru presents the following proposals, request and offer.

**B. Negotiating Principles**

Peru reaffirm the importance of market access obligations (national treatment, market access and most favored treatment) and also of regulatory obligations (such as, domestic regulation, transparency, monopolies and exclusive service suppliers, business practices, transfers of payments, among others) as well as other general obligations under GATS (increasing participation of developing countries, economic integration, restrictions to safeguard the balance of payments, general exceptions, among others).

However, Peru considers that it is necessary to enhance the development of an specific regulatory framework for energy services as a complement to current market access, regulatory and general obligations under GATS. These obligations should include:

- Anti-competitive safeguard
- Specific transparency obligations
- Interconnection obligations
- Technology neutrality (under certain conditions and exceptions)

- Unbundling
- Universal service and expansion to rural zones
- Environmental standards
- Specific standards for cross-border supply of energy services
- Independency of the regulatory body

### **C. Classification**

Peru submits the following proposal for classification purposes (S/CSS/W/3500). The intention of this document is contribute and facilitate the assumption of commitments in core energy services and non core services related with energy.

#### **A. SERVICES RELATED TO EXPLORATION AND PRODUCTION**

Services incidental to mining (CPC 883)

**Related scientific and technical consulting services** (CPC 8675)

**Construction and related engineering services** (CPC 511 and CPC 513)

#### **B. SERVICES RELATED TO THE CONSTRUCTION OF FACILITIES**

##### **- Construction of energy facilities**

Construction work for civil engineering (CPC 513)

For long distance pipelines, communication and power lines (cables) (CPC 51340)

For local pipelines and cables; ancillary works (CPC 51350)

For constructions for mining and manufacturing (CPC 51360)

##### ***- Installation and assembly work***

Installation and assembly work (CPC 516)

#### **C. SERVICES RELATED TO NETWORKS**

##### **- Operation of transportation/transmission and distribution facilities**

Services incidental to energy distribution (including operation of transmission/distribution of electricity) (CPC 887 and others sectors non included elsewhere)

Transportation of petroleum and natural gas (CPC 71310)

#### **D. STORAGE SERVICES**

- Bulk storage services of liquids or gases (CPC 74220)

#### **E. SERVICES FOR THE SUPPLY OF ENERGY.**

##### ***- Wholesale of energy products:***

- Wholesale trade services of solid, liquid and gaseous fuels and related products (CPC 62271)

- Wholesale trade services of electricity

*- Retail sale of energy products: Retail sale of fuel oil, bottled gas, coal and wood (CPC 63297)*

*- Trading of energy products*

*- Brokering of energy products*

#### **F. SERVICES FOR THE FINAL USE**

*- Energy audit: Production management consulting services (CPC 86505)*

*- Energy management: Production management consulting services (CPC 86505)*

#### **D. Identify sectors/sub-sectors (all or specific)**

Peru is willing to commit the following sectors, including their sub-sectors according to the classification proposal submitted previously **(S/CSS/W/3500)**.

- a. Services related to exploration and production
- b. Services related to the construction of facilities
- c. Services related to networks
- d. Storage services

#### **E. Specific requests**

Request from Peru to Chile and Ecuador

This request includes services that are listed under the negotiating proposal of Peru (S/CSS/W/350). The work on the classification of these services is still underway. For this reason, some activities therefore lack reference to CPC. Peru wishes to underline the significant contribution of an appropriate use of energy for the promotion of sustainable development. Peru requests that this area is committed as follows:

#### **B. SERVICES RELATED TO EXPLORATION AND PRODUCTION**

##### **Services incidental to mining (CPC 883)**

##### **Peru's Request:**

-Mode 3: Take full commitments under MA and NT

-Mode 4: Commit as referred to in the section "Horizontal commitments".

##### **Engineering and integrated engineering services (CPC 8672 and 8673)**

##### **Peru's Request:**

-Mode 3: Take full commitments under MA and NT

-Mode 4: Commit as referred to in the section "Horizontal commitments".

## **Related scientific and technical consulting services (CPC 8675)**

### **Peru's Request:**

- Mode 3: Take full commitments under MA and NT
- Mode 4: Commit as referred to in the section "Horizontal commitments".

## **B. CONSTRUCTION AND RELATED ENGINEERING SERVICES (SERVICES RELATED TO THE CONSTRUCTION OF FACILITIES)**

### **B.1 Construction of energy facilities**

Construction work for civil engineering (CPC 513), exclusively:

- For long distance pipelines, communication and power lines (cables) (CPC 51340)
- For local pipelines and cables; ancillary works (CPC 51350)
- For constructions for mining and manufacturing (CPC 51360)

### **Peru's Request:**

- Mode 1: Take full commitments under MA and NT
- Mode 3: Take full commitments under MA and NT
- Mode 4: Commit as referred to in the section "Horizontal commitments".

### ***B.2 Installation and assembly work***

Installation and assembly work (CPC 516)

### **Peru's Request:**

- Mode 3: Take full commitments under MA and NT
- Mode 4: Commit as referred to in the section "Horizontal commitments".

### **B.3 Others (CPC 511)**

### **Peru's Request:**

- Mode 3: Take full commitments under MA and NT
- Mode 4: Commit as referred to in the section "Horizontal commitments".

## **C. SERVICES RELATED TO NETWORKS**

### **C.1 Operation of transportation/transmission and distribution facilities**

Services incidental to energy distribution (including operation of transmission/distribution of electricity) (CPC 887 and others sectors non included elsewhere)

### **Peru's Request:**

- Mode 1: Take full commitments under MA and NT
- Mode 3: Take full commitments under MA and NT
- Mode 4: Commit as referred to in the section "Horizontal commitments"

Pipeline Transport (Transportation of petroleum and natural gas (CPC 71310))

### **Peru's Request:**



- Mode 1: Take full commitments under MA and NT
- Modes 3: Take commitments full commitments under MA and NT
- Mode 4: Commit as referred to in the section "Horizontal commitments".

**D. STORAGE SERVICES**

Bulk storage services of liquids or gases (CPC 74220)

**Peru's Request:**

- Mode 1: take full commitments under MA and NT in bordering zones.
- Mode 3: Take full commitments, i.e. schedule "none" under MA and NT.
- Mode 4: Commit as referred to in the section "Horizontal commitments".

F. Multilateral offers in energy services

<b>A.- SERVICES RELATED TO EXPLORATION AND PRODUCTION</b>		
Services incidental to mining (CPC 883)	1) Unbound 2) Unbound 3) None 4) unbound except as committed in the horizontal section	1) Unbound 2) Unbound 3) None 4) unbound except as committed in the horizontal section
Related scientific and technical consulting services (CPC 8675)	1) Unbound 2) Unbound 3) None 4) unbound except as committed in the horizontal section	1) Unbound 2) Unbound 3) None 4) unbound except as committed in the horizontal section
Construction and related engineering services (CPC 511 and CPC 513)	1) Unbound 2) Unbound 3) None 4) unbound except as committed in the horizontal section	1) Unbound 2) Unbound 3) None 4) unbound except as committed in the horizontal section
<b>B. CONSTRUCTION AND RELATED ENGINEERING SERVICES (SERVICES RELATED TO THE CONSTRUCTION OF FACILITIES)</b>		
B.1 Construction of energy facilities		

Construction work for civil engineering (CPC 513), exclusively: For long distance pipelines, communication and power lines (cables) (CPC 51340) For local pipelines and cables; ancillary works (CPC 51350) For constructions for mining and manufacturing (CPC 51360)	1) None 2) Unbound 3) None 4) unbound except as committed in the horizontal section	1) None 2) Unbound 3) None 4) unbound except as committed in the horizontal section
B.2 Installation and assembly work - Installation and assembly work (CPC 516)	1) Unbound 2) Unbound 3) None 4) unbound except as committed in the horizontal section	1) Unbound 2) Unbound 3) None 4) unbound except as committed in the horizontal section
B.3 Others (CPC 511)	1) Unbound 2) Unbound 3) None 4) unbound except as committed in the horizontal section	1) Unbound 2) Unbound 3) None 4) unbound except as committed in the horizontal section
<b>C. SERVICES RELATED TO NETWORKS</b>		
C.1 Operation of transportation/transmission and distribution facilities		
Services incidental to energy distribution (including operation of transmission/distribution of electricity) (CPC 887 and others sectors non included elsewhere)	1) None 2) Unbound 3) None 4) unbound except as committed in the horizontal section	1) None 2) Unbound 3) None 4) unbound except as committed in the horizontal section
Pipeline Transport (Transportation of petroleum and natural gas (CPC 71310))	1) None 2) Unbound 3) None 4) unbound except as committed in the horizontal section	1) None 2) Unbound 3) None 4) unbound except as committed in the horizontal section
<b>D. STORAGE SERVICES</b>		

Bulk storage services of liquids or gases (CPC 74220)	1) None 2) Unbound 3) None 4) unbound except as committed in the horizontal section	1) None 2) Unbound 3) None 4) unbound except as committed in the horizontal section
--	--	---

G. Response to plurilateral request (received previously)

The Republic of Peru is pleased to answer the collective request on Energy services by the following interested Members: Australia, Canada, the European Communities, Japan, Norway, The Kingdom of Saudi Arabia, Republic of Korea, Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu, Singapore, the United States.

The Republic of Peru shares the objective of aforementioned Members for liberalization on Energy services, while recognizing that current MTN.S/W/120 classification is not enough clear to make commitments in this field.

Regarding the sectorial coverage requested, Peru is willing to commit energy services included in the collective request that we have received, but we believe that the classification of Energy services is an issue to be addressed by all members first. In this sense, please refer to the classification proposal submitted by Peru in its proposal (S/CSS/W/3500). This classification proposal considers almost all the services included in the collective request

Peru is willing to assume commitments following the classification submitted in our proposal (S/CSS/W/3500), under the condition that the mentioned interested members improve substantially its commitments on mode 4 (including strong and ambitious commitments for independent professionals and technicians and contractual service suppliers).

Under the assumption that requesting Members improve substantially its commitments on mode 4, Peru will commit the following sectors, including their sub-sectors according to the classification proposal submitted previously (S/CSS/W/3500):

- a. Services related to exploration and production
- b. Services related to the construction of facilities
- c. Services related to networks
- d. Storage services

4 *Philippines-Group 1*



## WORKSHOP ON NEGOTIATING STRATEGIES

# GROUP 1 (G1)

23 July 2008

Francis Dolor, EDC  
Nenito Jariel, Jr., DOE  
Bienvenido Manalac, NPC  
Cristina Paulino, DENR  
Neil Pesa, DOE  
Maria Teresita Semana-Santiago, BOI

1



## I. NEGOTIATING PROPOSALS

### A. STATEMENT OF GENERAL INTEREST (DOE ACT 1992)



- (a) to ensure a continuous, adequate, and economic supply of energy with the end in view of ultimately achieving self-reliance in the country's energy requirements through the integrated and intensive exploration, production, management, and development of the country's indigenous energy resources, and through the judicious conservation, renewal and efficient utilization of energy to keep pace with the country's growth and economic development and taking into consideration the active participation of the private sector in the various areas of energy resource development; and
- (b) to rationalize, integrate, and coordinate the various programs of the Government towards self-sufficiency and enhanced productivity in power and energy without sacrificing ecological concerns.

2

## I. NEGOTIATING PROPOSALS

### B. NEGOTIATING PRINCIPLES

- Investments
- Energy security
- Access to technology
- Opportunities to render energy services
- Adherence to the sustainable development principles



## I. NEGOTIATING PROPOSALS

### C. CLASSIFICATIONS

*The energy activities/services shall be classified as upstream or downstream*

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>■ Upstream –services for discovering and developing energy resources (e.g. Exploration, Development, Production, General Services, etc.)</li> </ul> | <ul style="list-style-type: none"> <li>■ Downstream – services for design, construction, operation and maintenance of energy facilities and networks</li> </ul> |
|--|---|

**D. IDENTIFY SECTOR/SUB-SECTORS**  
 (Source: Dr. Viray's presentation)



## I. NEGOTIATING PROPOSALS

### E. COMMITMENTS / RESERVATIONS

#### *Horizontal/Specific Commitments*

We are committed to give what is allowable under the Philippine law (e.g. Investment Code, PD87, PD1442, etc.).



## I. NEGOTIATING PROPOSALS

### E. COMMITMENTS / RESERVATIONS

#### *Specific Commitments*

- Energy Services
  - At least 60% Filipino equity participation for Geothermal and Coal Exploration
  - 100% for oil and gas

## 4 *Philippines-Group 2*



<i>Sector/subsector</i>	<i>Limitations on Market Access</i>	<i>Limitations on National Treatment</i>	<i>Additional Commitments</i>
<p><i>Oil and Gas Exploration and Development</i></p>	<p>1) <i>Unbound*</i></p> <p>2) <i>Unbound</i></p> <p>3) <i>Up to 40 percent foreign equity participation is allowed.</i></p> <p><i>Limitations listed in the horizontal section shall also apply.</i></p> <p>4) <i>Employment of foreign professionals:</i></p> <p>Upon recommendation of the concerned Professional Regulatory Board (PRB), the Professional Regulation Commission (PRC) may approve registration of and authorize issuance of certificate of registration/license and professional identification card with or without examination to a foreigner who is registered under the laws of his state/country and whose certificate of registration issued therein has not been suspended/revoked: provided,</p> <p>A. That the requirements for registration/ licensing in said foreign state/country are substantially the same as</p>	<p>1) <i>Unbound*</i></p> <p>2) <i>Unbound</i></p> <p>3) <i>None</i></p> <p>4) <i>Unbound</i></p>	

<i>Sector/subsector</i>	<i>Limitations on Market Access</i>	<i>Limitations on National Treatment</i>	<i>Additional Commitments</i>
	<p>those required/contemplated by laws of the Philippines and that the laws of such foreign state/country allow citizens of the Philippines to practice the profession on the same basis and grant the same privileges as those enjoyed by subjects or citizens of such foreign country/state: provided, further,</p> <p>B. That the Commission may, upon recommendation of the Board concerned, authorize the issuance of a certification/license or special temporary permit to:</p> <ul style="list-style-type: none"> <li>a. Foreign professionals who desire to practice their professions in the country under reciprocity and other international agreements;</li> <li>b. Consultants in foreign funded, joint-venture or foreign assisted projects of the Government; or</li> <li>c. Employees of Philippine/foreign private firms/institutions pursuant</li> </ul>		

<i>Sector/subsector</i>	<i>Limitations on Market Access</i>	<i>Limitations on National Treatment</i>	<i>Additional Commitments</i>
	<p>to law, or health professionals engaged in humanitarian mission for a limited period of time: provided, finally,</p> <p>C. That agencies/organizations/ individuals whether public or private, who secure the services of a foreign professional authorized by law to practice in the Philippines for reasons aforementioned shall be responsible for securing a special permit from the PRC and the Department of Labor and Employment (DOLE) pursuant to PRC and DOLE rules.</p> <p><i>Limitations listed in the horizontal section shall also apply.</i></p>		
<i>Geothermal Exploration and Development</i>	<p>1) <i>Unbound*</i></p> <p>2) <i>Unbound</i></p> <p>3) <i>Up to 20 percent foreign equity participation is allowed.</i></p> <p><i>Limitations listed in the horizontal section shall also apply.</i></p>	<p>1) <i>Unbound*</i></p> <p>2) <i>Unbound</i></p> <p>3) <i>None</i></p>	

<i>Sector/subsector</i>	<i>Limitations on Market Access</i>	<i>Limitations on National Treatment</i>	<i>Additional Commitments</i>
	<p data-bbox="558 337 869 391">4) <i>Employment of foreign professionals:</i></p> <p data-bbox="598 444 989 898">Upon recommendation of the concerned Professional Regulatory Board (PRB), the Professional Regulation Commission (PRC) may approve registration of and authorize issuance of certificate of registration/license and professional identification card with or without examination to a foreigner who is registered under the laws of his state/country and whose certificate of registration issued therein has not been suspended/revoked: provided,</p> <p data-bbox="598 964 999 1354">A. That the requirements for registration/ licensing in said foreign state/country are substantially the same as those required/contemplated by laws of the Philippines and that the laws of such foreign state/country allow citizens of the Philippines to practice the profession on the same basis and grant the same privileges as those enjoyed by subjects or citizens of such foreign</p>	<p data-bbox="1037 337 1188 362">4) <i>Unbound</i></p>	

<i>Sector/subsector</i>	<i>Limitations on Market Access</i>	<i>Limitations on National Treatment</i>	<i>Additional Commitments</i>
	<p>country/state: provided, further,</p> <p>B. That the Commission may, upon recommendation of the Board concerned, authorize the issuance of a certification/license or special temporary permit to:</p> <ul style="list-style-type: none"> <li>a. Foreign professionals who desire to practice their professions in the country under reciprocity and other international agreements;</li> <li>b. Consultants in foreign funded, joint-venture or foreign assisted projects of the Government; or</li> <li>c. Employees of Philippine/foreign private firms/institutions pursuant to law, or health professionals engaged in humanitarian mission for a limited period of time: provided, finally,</li> </ul> <p>C. That agencies/organizations/ individuals whether public or private, who secure the</p>		

<i>Sector/subsector</i>	<i>Limitations on Market Access</i>	<i>Limitations on National Treatment</i>	<i>Additional Commitments</i>
	<p>services of a foreign professional authorized by law to practice in the Philippines for reasons aforementioned shall be responsible for securing a special permit from the PRC and the Department of Labor and Employment (DOLE) pursuant to PRC and DOLE rules.</p> <p><i>Limitations listed in the horizontal section shall also apply.</i></p>		
<i>Services Related to Power Generation</i>			
<i>Construction and operation of power plants (as provided under the BOT scheme)</i>			
<i>Construction of Power Plants</i>	<ol style="list-style-type: none"> <li>1) <i>Unbound*</i></li> <li>2) <i>None</i></li> <li>3) <i>Up to 40 percent foreign equity is allowed under the BOT scheme. However, a Special Contractor's License is required to undertake construction activities.</i></li> </ol> <p><i>Limitations in the horizontal section shall also apply.</i></p>	<ol style="list-style-type: none"> <li>1) <i>Unbound*</i></li> <li>2) <i>None</i></li> <li>3) <i>A Contractor's License (Regular or Special) issued by the PCAB is required to undertake construction activities. The Regular Contractor's License is reserved for, and issued only to, Filipino sole proprietorships or partnerships/corporations with at least 60 Filipino equity and duly organized and existing under and by virtue of</i></li> </ol>	

<i>Sector/subsector</i>	<i>Limitations on Market Access</i>	<i>Limitations on National Treatment</i>	<i>Additional Commitments</i>
	4) <i>Unbound</i>	Philippine laws. A Special Contractor's License may be given to foreign companies on a project-to-project basis such as BOT.  4) <i>Unbound</i>	
<i>Operation of Power Plants</i>	1) <i>Unbound*</i> 2) <i>None</i> 3) <i>Up to 40 percent foreign equity is allowed.</i>  <i>Limitations in the horizontal section shall also apply.</i> 4) <i>Unbound</i>	1) <i>Unbound</i> 2) <i>None</i> 3) <i>None</i>  4) <i>Unbound</i>	

5 *Philippines – Group 4*





# APEC Training on Energy Services

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## Group 3 – Philippines

### Members:

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## I. Negotiating Proposals

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### A. Statement of General Interest/Negotiating Objectives and Conditions

The inclusion of energy services in the negotiations will have to be focused on the development of the developing countries' domestic capacities through greater access to new technologies, coupled with the promotion of a sustainable environment.



## I. Negotiating Proposals

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### B. Separate Annex on Energy Services

YES...

- for purposes of defining gray areas in the classification, scope and definition of energy services



## I. Negotiating Proposals

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### C. Classification

- Core Energy Services
  - Upstream Energy Services
  - Downstream Energy Services
- Non-Core Energy Services
  - Upstream Energy Services
  - Downstream Energy Services



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**Council for Trade in Services  
Special Sessions**

(00-0000)

**COMMUNICATION FROM THAILAND**

Energy Services

**I. Introduction**

1. Thailand presents this proposal with the intention that energy services should be included in the discussion for the negotiation on trade in services, given the important of energy services for economic activities
2. Thailand views that securing an efficient and stable supply of energy is of great importance for achieving economic and social development. In addition, in order to pursue economic growth, it is of prime importance to increase the efficiency of providing energy services as well as other services
3. Competitive provision of energy services helps ensure that energy consumers have access to efficiently produced, market priced, and reliable energy. The availability of varied sources of energy at competitive price, including access to supplies transmitted cross-border, contributes to a nation's ability to compete in the world market place. Competitive conditions in a nation's energy services markets enhance the competitiveness of domestic energy consumer as well as incentives for foreign investors to invest in both energy services and energy consuming sectors. They also can benefit residential consumers and social services, as well as employment, through the beneficial impact on energy dependent services and manufacturing sectors.
4. The opening up of markets resulting from the negotiations should help to increase the energy supply capacities of all Members, in particular developing countries. These negotiations should ensure that energy services are made accessible to as many people as possible in order to substantially improve their standard of living and to promote the economic growth of the developing countries.

**II. Negotiating Principles**

5. All Member Countries should consider negotiating on market access and national treatment to the greatest possible extent.
6. Regarding rule-making in the energy services sector under the GATS, in order to address the issue of public interests such as preservation of energy security and supply reliability, environment preservation, and the maintenance of universal service and public safety, Member Countries should reserve their own rights to adopt those

regulatory measures which are transparent, competition neutral and not more burdensome than necessary.

7. In a large number of countries, including Thailand, natural resources are held in trust for the public. Thailand proposes the negotiation not to address the issue of ownership of natural resources.

8. In the negotiation on basic telecommunications, WTO members recognized the need for specific additional commitments related to a highly regulated sector that was undergoing deregulation. With this consideration in mind, a similar paper on energy services might be developed and adopted on a plurilateral basis that would address for instance:

- Transparency in formulation and implementation of rules, regulations and technical standards
- Non-discriminatory third party access to and interconnections with energy networks

### **III Classification of Energy Services**

9. It is clear that the Service Classification List (document W/120) does not accurately reflect the full range of existing services in the energy sector. Thailand, therefore, proposes the following approach to the classification of energy services

10. The energy service classification should contain the following elements.

- **Explicitly mentioned Energy Services in W/120**  
(Services incidental to mining, Services incidental to Energy Distribution, and Pipeline transportation of fuel)
- **Core Energy Services** namely wholesale sales, transportation, (transmission and distribution of electricity, pipeline transportation and transmission of heat), retail services of energy including service activities that are specially provided for development and redevelopment of energy resources, construction and operation of energy facility, design and operation of energy networks.<sup>1</sup>

11. Although it is possible to discuss “non-core” energy services such as energy related engineering and construction services, it would be effective to undertake a separate discussion of “core” and “non core” elements in order to simplify discussion and avoid confusion.

12. Regarding energy resource production that could be considered as goods production (mining, refining, power generation, and re-gasification), these activities that are not clearly regarded as services by all Member Countries should be outside the scope of GATS and the services negotiation.

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<sup>1</sup> Refer to Attachment A on Energy Sector of the U.S. proposal on energy services.

## W, THAILAND – SCHEDULE OF SPECIFIC COMMITMENTS

Modes of supply:      1)      Cross-border supply      2)      Consumption abroad      3)      Commercial presence      4)      Presence of natural persons

Sector or Sub-sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
<b>I. HORIZONTAL COMMITMENTS</b>			
ALL SECTORS INCLUDED IN THIS SCHEDULE	<p>3) Unless otherwise specified <b>at the sector-specific level</b>, commercial presence in sectors or subsectors in this schedule is permitted only through a limited liability company which is registered in Thailand and which meets the following conditions:</p> <p>(a) Foreign equity participation must not exceed 49 per cent of the registered capital; and</p> <p>(b) The number of foreign shareholders must be less than half of the total number of shareholders of the company concerned.</p>	<p>3) Unless otherwise specified at the sector-specific level, for commercial entity incorporated pursuant to Thailand's laws and regulations with foreign equity participation not exceeding 49 percent of the registered capital: <b>None</b></p>	

Modes of supply: 1) Cross-border supply 2) Consumption abroad 3) Commercial presence 4) Presence of natural persons

Sector or Sub-sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
	4) Unless otherwise specified <b>at the sector-specific level</b> , temporary movement of natural persons is <u>unbound except</u> in the following categories. I. Business Visitors II. Intra-corporate Transferees (ICT) III. Contractual Service Suppliers (CSS)	4) Unbound, except as provided in the MA column <b>Contractual Service Suppliers :</b> <b>Unbound</b>	

## THAILAND – SCHEDULE OF SPECIFIC COMMITMENTS

Modes of supply:      1)      Cross-border supply      2)      Consumption abroad      3)      Commercial presence      4)      Presence of natural persons

Sector or Sub-sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
<b>II. SECTOR SPECIFIC COMMITMENTS</b>			
<b>1. BUSINESS SERVICES</b>			
<b>A. <u>Professional Services</u></b>			
(e) Engineering services (CPC 86721 to 86727 +86729)	1) Unbound 2) None 3) None 4) (a) As indicated in the horizontal section (b) Unbound for civil engineer	1) Unbound 2) None 3) None 4) Unbound, except as provided in the horizontal section	
<b>F. <u>Other Business Services</u></b>			
(c) General management consulting services (CPC 86501)	1) None 2) None 3) None 4) As indicated in the horizontal section	1) None 2) None 3) None 4) Unbound, except as provided in the horizontal section	
(e) Technical testing and analysis services (CPC 86761+86769)	1) Unbound 2) None 3) None other than that indicated in the horizontal section 4) As indicated in the horizontal section	1) Unbound 2) None 3) No limitations as long as foreign equity participation does not exceed 49 per cent None 4) None Unbound, except as provided in the horizontal section	



Modes of supply: 1) Cross-border supply 2) Consumption abroad 3) Commercial presence 4) Presence of natural persons

Sector or Sub-sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
(h) Services incidental to mining at oil and gas fields	1) Unbound 2) None 3) None 4) (a) As indicated in the horizontal section (b) Unbound for civil engineer	1) Unbound 2) None 3) None 4) Unbound, except as provided in the horizontal section	
(m) Related scientific and technical consulting services (CPC 8675)  - Oil and gas exploration and production (part of CPC 8675)	1) Unbound 2) None 3) None 4) (a) Entry of contractual service suppliers will be subject to the approval of the Petroleum Committee required in Petroleum Act, otherwise as indicated in the horizontal section (b) Unbound for civil engineer	1) Unbound 2) None 3) None 4) Unbound, except as provided in the horizontal section	
<b>3. CONSTRUCTION AND RELATED ENGINEERING SERVICES</b>			
B. Construction Work for Civil Engineering (CPC 51310+51320+51330+51340+51350+51360+51371+51372+51390)	1) Unbound 2) None 3) None 4) (a) As indicated in the horizontal section (b) Unbound for civil engineer	1) Unbound 2) None 3) None 4) Unbound, except as provided in the horizontal section	

Modes of supply: 1) Cross-border supply 2) Consumption abroad 3) Commercial presence 4) Presence of natural persons

Sector or Sub-sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
C. Installation Work (CPC 51610+51620 +51630+51641+51642 +51643+51644+51649 +51650+51660+51691+ 51699)	1) Unbound 2) None 3) None 4) (a) As indicated in the horizontal section (b) Unbound for civil engineer	1) Unbound 2) None 3) None 4) Unbound, except as provided in the horizontal section	
<b>4. DISTRIBUTION SERVICES</b>  A. Commission Agents' Services (CPC 62111 to 62118)  C. Retailing services Retail sales of motor fuel and fuel oil (CPC 61300 and part of CPC 63297)  <b>11. TRANSPORT SERVICES</b>	1) Unbound 2) None 3) None 4) Unbound  1) Unbound 2) None 3) None 4) As indicated in the horizontal section	1) Unbound 2) None 3) None 4) Unbound  1) Unbound 2) None 3) None 4) Unbound, except as provided in the horizontal section	

Modes of supply: 1) Cross-border supply 2) Consumption abroad 3) Commercial presence 4) Presence of natural persons

Sector or Sub-sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
<p>F. <u>Road Transport Services</u>  <u>Other non-scheduled passenger transportation</u></p> <p>(b) Freight transportation only for frozen or refrigerated goods, bulk liquids or gases and containerized freight (CPC 71231 to 71233)</p>	<p>1) Unbound                  2) None                  3) In addition to that indicated in the horizontal section, not less than half of the board of directors of the company must have Thai nationality                  4) As indicated in the horizontal section</p>	<p>1) Unbound                  2) None                  3) None                  4) Unbound, except as provided in the horizontal section</p>	

Modes of supply:      1)      Cross-border supply      2)      Consumption abroad      3)      Commercial presence      4)      Presence of natural persons

<b>Sector or Sub-sector</b>	<b>Limitations on Market Access</b>	<b>Limitations on National Treatment</b>	<b>Additional Commitments</b>
<b>H. <u>Services Auxiliary to All Modes of Transport</u></b>  (b) Storage and warehousing services (CPC 742)	1) Unbound 2) None 3) None 4) As indicated in the horizontal section	1) Unbound 2) None 3) None 4) Unbound, except as provided in the horizontal section	

**THAILAND – SCHEDULE OF SPECIFIC COMMITMENTS  
(RESPONSE TO PLURILATERAL REQUESTS)**

Modes of supply:      1)      Cross-border supply      2)      Consumption abroad      3)      Commercial presence      4)      Presence of natural persons

Sector or Sub-sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
<b>II. SECTOR SPECIFIC COMMITMENTS</b>			
<p>1. BUSINESS SERVICES</p> <p>A. <u>Professional Services</u></p> <p>(e) Engineering services (CPC 86721 to 86727 +86729)</p> <p><b>F. Other Business Services</b></p>	<p>1) Unbound</p> <p>2) None</p> <p>3) None</p> <p>4) (a) As indicated in the horizontal section (b) Unbound for civil engineer</p>	<p>1) Unbound</p> <p>2) None</p> <p>3) None</p> <p>4) Unbound, except as provided in the horizontal section</p>	

(c) General management consulting services (CPC 86501)	<ol style="list-style-type: none"> <li>1) None</li> <li>2) None</li> <li>3) None other than that indicated in the horizontal section</li> <li>4) (a) As indicated in the horizontal section (b) Unbound for legal and auditing consultants</li> </ol>	<ol style="list-style-type: none"> <li>1) None</li> <li>2) None</li> <li>3) No limitations as long as foreign equity participation does not exceed 49 per cent None</li> <li>4) None Unbound, except as provided in the horizontal section</li> </ol>
(e) Technical testing and analysis services (CPC 86761+86769)	<ol style="list-style-type: none"> <li>1) Unbound</li> <li>2) None</li> <li>3) None other than that indicated in the horizontal section</li> <li>4) As indicated in the horizontal section</li> </ol>	<ol style="list-style-type: none"> <li>1) Unbound</li> <li>2) None</li> <li>3) No limitations as long as foreign equity participation does not exceed 49 per cent None</li> <li>4) None Unbound, except as provided in the horizontal section</li> </ol>
(h) Services incidental to mining at oil and gas fields	<ol style="list-style-type: none"> <li>1) Unbound</li> <li>2) None</li> <li>3) None</li> <li>4) (a) As indicated in the horizontal section (b) Unbound for civil engineer</li> </ol>	<ol style="list-style-type: none"> <li>1) Unbound</li> <li>2) None</li> <li>3) None</li> <li>4) Unbound, except as provided in the horizontal section</li> </ol>
(m) Related scientific and technical consulting services (CPC 8675)  - Oil and gas exploration and production (part of CPC 8675)	<ol style="list-style-type: none"> <li>1) Unbound</li> <li>2) None</li> <li>3) None</li> <li>4) (a) Entry of contractual service suppliers will be subject to the approval of the Petroleum Committee required in Petroleum Act, otherwise as indicated in the horizontal section (b) Unbound for civil engineer</li> </ol>	<ol style="list-style-type: none"> <li>1) Unbound</li> <li>2) None</li> <li>3) None</li> <li>4) Unbound, except as provided in the horizontal section</li> </ol>

**3. CONSTRUCTION AND RELATED ENGINEERING SERVICES**

B. Construction Work for Civil Engineering (CPC 51310+51320 +51330+51340+51350 +51360+51371+51372 +51390)

- 1) Unbound
- 2) None
- 3) None other than that indicated in the horizontal section
- 4) (a) As indicated in the horizontal section  
(b) Unbound for civil engineer

- 1) Unbound
- 2) None
- 3) No limitations as long as foreign equity participation does not exceed 49 per cent  
None
- 4) None Unbound, except as provided in the horizontal section

**4. DISTRIBUTION SERVICES**

C. Retailing services

Retail sales of motor fuel and fuel oil (CPC 61300 and part of CPC 63297)

- 1) Unbound
- 2) None
- 3) None
- 4) As indicated in the horizontal section

- 1) Unbound
- 2) None
- 3) None
- 4) Unbound, except as provided in the horizontal section

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**Participants:**

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