

Regional Energy Trade Workshop
8-9 September 2014
Auditorium A & B
ADB Headquarters, Manila

Overview:

The rationale for regional cooperation and trade in energy cannot be further emphasized in the context of uneven distribution of energy resources across countries, continuous depletion of conventional, non-renewable energy and increasing demand for energy to fuel economic growth. This is further brought to fore when developmental and social objectives are aimed for: where energy security of one country can be addressed by power exchange with another; where access to electricity and modern fuel can be met by electricity outside the borders of one's own; and, when there is economic sense to import rather than to produce the energy within one's own system.

Geography, energy resource endowments and economic benefits lay the ground for cooperation and trade in energy. The challenge yet remains on how to bring this to fruition, sustain it and spread the benefits across all players.

In the Asian region, regional cooperation and trade in energy are in various states of development, agreement and establishment. This seminar will draw what lessons to be learned from those who have been successful in putting up the physical infrastructure, establishing the policy and regulatory environment and setting up the market mechanism for regional energy trade. ADB developing member countries (DMCs) must be able to acquire these lessons, share their own good and bad cases in their attempts or successes in regional energy trade and go back to their respective countries armed and more equipped with the tools to make energy trade in their regions work.

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Agenda:

8 September 2014 – Day 1

8:30-9:00	Registration
9:00-9:15	<p>Welcome Remarks</p> <p><i>Bindu Lohani</i>, Vice-President, Knowledge Management and Sustainable Development, Asian Development Bank (ADB)</p>
9:15-10:35	<p>Why trade energy and power? (Opening panel discussion, 10 minutes per speaker)</p>
9:15-9:30	<ul style="list-style-type: none"> • <i>“The energy security imperative”</i> <i>Aiming Zhou</i>, Senior Energy Specialist, Sustainable Infrastructure Division, Asian Development Bank (ADB)
9:30-9:45	<ul style="list-style-type: none"> • <i>“Diversifying Global Energy Markets”</i> <i>Carlos Fernandez Alvarez</i>, Senior Energy Analyst (Coal), International Energy Agency (IEA)
9:45-10:00	<ul style="list-style-type: none"> • <i>“The Asian Energy Highway”</i> <i>Sergey Tulinov</i>, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)

10:00-10:35	Q & A
10:35-10:50	Coffee Break
10:50-11:00	Group Photo
11:00-12:00	Session 1: The lay of the land: assessing the supply, demand and the opportunities for energy and power trade
	<p><u>Key Questions:</u></p> <p><i>The drivers for regional energy trade have long been established. It would be high time to emphasize what the opportunities are both for exporters and importers. This session explores the market for regional power trade in the three main sub-regions in Asia: Central Asia (and West Asia), Greater Mekong Sub-region, and South Asia. The discussion focuses on the following:</i></p> <ul style="list-style-type: none"> • <i>What is the supply situation in each country of the sub-regions, in terms of energy resource, installed capacity and network infrastructure?</i> • <i>What is the energy and power demand for each country in the sub-regions?</i> • <i>Have there been shortfalls in demand and supply? How have these been met?</i>
	<p>Facilitator:</p> <ul style="list-style-type: none"> • <i>Anthony Jude, Chair, Energy Committee, and Senior Advisor and Practice Leader (Energy), Regional and Sustainable Development Department (RSDD), ADB</i> <p>Presentations: (15 minutes per speaker)</p>
11:00-11:15	<ul style="list-style-type: none"> • <i>“Energy resources, power system structure and capacity in Central Asia”</i> <i>Jim Liston, Principal Energy Specialist, Energy Division, Central and West Asia Department, Asian Development Bank (ADB)</i>
11:15-11:30	<ul style="list-style-type: none"> • <i>“Energy resources, power system structure and capacity in the Greater Mekong Sub region”</i> <i>Duy-Thanh Bui, Senior Energy Economist, Energy Division, Southeast Asia Department, Asian Development Bank (ADB)</i>
11:30-11:45	<ul style="list-style-type: none"> • <i>“Energy resources, power system structure and capacity in South Asia”</i> <i>Priyantha Wijayatunga, Principal Energy Specialist, Energy Division, South Asia Department, Asian Development Bank (ADB)</i>
11:45-12:00	Q & A
12:00-14:00	Lunch
14:00-15:30	Session 2: Building the network: the physical and technical requirements for regional energy trade and implications for financing

Key Questions:

This session will draw out the current state of physical infrastructure in the different sub-regions in Asia; determine the technical and investment requirements to build the regional backbone to support regional energy trade. The session will seek to address the following:

- *What are the gas pipeline requirements for each sub-region? What are the routes being considered?*
- *What is the state of transmission systems in each country?*
- *How have systems been designed for each country?*
- *How can countries transition from having a domestic-oriented network system to a regional network?*
- *What are the technical implications for shifting to regional markets?*
- *What are the implications for financing and investments for reorienting the system for regional trade?*
- *How can short-term (construction of new lines/rehabilitation of existing lines for domestic reliability of supply) objectives of countries be aligned strategically to the long-term goal of setting up a system that is poised for regional power trade?*

Facilitator:

- *Sohail Hasnie, Principal Energy Specialist, Energy Division, Southeast Asia Regional Department, ADB*

Presentations:

14:00-14:20

- ***“ASEAN Power Grids Interconnection Projects for Energy Efficiency and Security of Supply”***

Syaiful Bakhri Ibrahim, Secretary in Charge, HAPUA Secretariat, Indonesia

14:20-14:40

- ***“The Central Asia Power Grid”***

Joellyn Murphy, Director, Tetra Tech Corporation, USA

14:40-15:00

- ***“The South Asia Energy Ring/SRETS Follow on Actions”***

P. N. Fernando, Advisor, SASEC Transmission Master Plan, India

15:00-15:30

Q & A

15:30-15:45

Coffee Break

15:45-17:00

Session 3: Enabling markets, technical and regulatory harmonization – Case studies

Key Questions:

Common rules and norms are required at the regional level for energy trade to work, varying country contexts and policy environments, notwithstanding. These include

technical (operation of the interconnected transmission systems), economic (operation of markets) and legal (agreed procedures and mechanisms to settle disputes).¹The discussion will address the following:

- *Why it pays to move towards harmonizing one’s own system with regional energy trade requirements?*
- *What are the characteristics of a common regulatory framework for regional markets?*
- *Is a regional regulator needed?*
- *What are the common elements of legal agreements in regional energy trade?*
- *How are the costs, risks and benefits appropriated fairly in regional markets?*
- *How can incentives be built to foster deeper cooperation, efficient behaviour and market competition?*
- *What are the main elements for a regional grid code, performance standards, and dispatch rules that foster competition, efficient dispatch and fair pricing?*

Facilitator:

- *Seethapathy Chander, Special Senior Advisor, Infrastructure and Public-Private Partnership, Office of the Vice-Pres. Knowledge Management and Sustainable Development, ADB*

Presentations:

15:45-16:00	<ul style="list-style-type: none"> • <i>“Learning from Nam Theun 2”</i> <i>Christine Genalin Uy, Investment Specialist, Infrastructure Finance Division 2, Private Sector Operations Department, Asian Development Bank (ADB)</i>
16:00-16:15	<ul style="list-style-type: none"> • <i>“India energy/power cooperation with its neighbors: Nepal, Bhutan and Bangladesh”</i> <i>Ravinder, Regional Advisor on Energy, Central Electricity Authority, India</i>
16:15-16:30	<ul style="list-style-type: none"> • <i>“The PRC energy/power cooperation in GMS</i> <i>Zhong Xiaotao, Section Chief, Planning Department, China Southern Grid</i> <i>Zhou Jian, Deputy Director, System Operation Division, China Southern Grid</i>
16:30-17:00	Q & A
17:30-19:00	Cocktails (EDR)

9 September – Day 2

9:00-10:30 **Session 4: Regional electricity spot markets: design, organization, and operation**

¹ World Bank, Energy Sector Management Assistance Program (ESMAP) Briefing Note 0004/10 “Regional Power Sector Integration – Lessons from Global Case Studies and a Literature Review”, p. 23, June 2010.

Key Questions:

Electricity spot markets help facilitate power trade and determine the price that could be said to be approaching the marginal cost of producing power (assuming the market is perfectly competitive). To fully maximize the market rules and foster competitive pricing, there are a few things to have in mind. This session will cover the following:

- What is the appropriate structure and governance for the wholesale spot market?
- What are the prospective transactions that have implication for the appropriate organization of the spot market?
- What are the myriad market models or structures that help foster efficient behaviour, competition and which is appropriate for developing country settings?
- How will a regional regulatory board be established to address regulatory issues?
- How can collusion be avoided in regional electricity spot markets?
- What are the major issues in operation/implementation of spot markets: congestion, transmission capacity, and the critical role of the market operator?

Facilitator:

- *Anthony Jude*, Senior Advisor conc. Practice Leader (Energy), Regional and Sustainable Development Department, ADB

Presentations:

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| 9:00-9:20 | <ul style="list-style-type: none">• <i>“20 years experienc from the Nordic electricity market”</i>
<i>Per Christer Lund</i>, Principal Consultant, Clean Technology Center, DNV GL Singapore |
| 9:20-9:40 | <ul style="list-style-type: none">• <i>“West Kalimantan Power Grid Strengthening Project”</i>
<i>Sohail Hasnie</i>, Principal Energy Specialist, Energy Division, Southeast Asia Regional Department, ADB |
| 9:40-10:00 | <ul style="list-style-type: none">• <i>“The West African Power Pool Experience”</i>
<i>Thierno Bah</i>, Principal Energy Specialist, Energy, Environment and Climate Change Department, African Development Bank |

10:00-10:30 **Q & A**

10:30-11:00 Coffee Break

11:00-12:00 **Session 5: Visit to the Philippine Wholesale Electricity Spot Market (WESM)**

Key Questions:

The WESM is the first wholesale electricity market established in an ADB DMC. It was established following the restructuring and deregulation of the Philippine power

industry in 2001. Thirteen years hence, participants shall learn how the market has operated, whether or not it has achieved the objective of fostering competition, brought retail prices down or made the operation of the Philippine power system more efficient.

Specific Instructions:

- *Participants are requested to assemble outside the Auditorium. They will be guided on foot to the WESM located around the corner from ADB Headquarters.*
- *Participants will be divided into groups: one to observe how trading takes place while the other group will listen to the presentation by WESM; these groups will trade places as soon as the sessions finish.*

Presentation:

11:00-11:40
11:40-12:00

- **WESM, “The Design and Operation of WESM”**
Site visit

12:00-14:00 Lunch Break /Site visit continued

14:00-15:30 **Session 6: Getting regional energy and power trade right: agreements, rules and institutions**

Key Questions:

The economics is sound, the financing could be worked out and the technical issues could be resolved. Is politics in the way? How can this be overcome for countries to see the big picture and reap the collective economic benefits from regional cooperation and trade in energy and power? What are the brass tacks for regional energy and power trade to work

- *What institutions are needed to facilitate trade? Is a regional regulator warranted?*
- *What are the critical agreements to be passed? What are essential elements in these agreements (power purchase agreements, supply agreements)?*
- *Is there an objective way to arrive at a price for power and energy in regional trade?*

Facilitator:

- *Rune Stroem , Director, Energy Division, Central and West Asia Regional Department, ADB*

Presentations:

14:00-14:15

- **“Turkmenistan-Afghanistan-Pakistan-India Natural Gas Pipeline”**
Chin Choon Fong, Senior Advisor (Public-Private Partnership), Office of the

14:15-14:30	Director General, Central and West Asia Department, Asian Development Bank <ul style="list-style-type: none"> • “Baku-Tbilisi-Ceyhan Oil Pipeline” <i>Archil Mamatelashvili</i>, Deputy CEO, Chief Risk Officer, JSC TBC Bank, Georgia
14:30-14:45	<ul style="list-style-type: none"> • “PRC-Turkmenistan Natural Gas Pipeline” <i>Ran Ze</i>, Department Manager, Research and Strategic Development Department, China Energy Net Consulting Co. Ltd.
15:00-15:30	Q & A
15:30-16:00	Closing Remarks
	<i>Ma. Carmela D. Locsin</i> , Director-General, RSDD, ADB