

Industry Agenda

World Economic Forum on East Asia Energy and Infrastructure Private Meeting

Metro Manila, Philippines 21 May 2014

July 2014



© World Economic Forum
2013 - All rights reserved.

No part of this publication may be reproduced or transmitted in any form or by any means, including photocopying and recording, or by any information storage and retrieval system.

The views expressed are those of certain participants in the discussion and do not necessarily reflect the views of all participants or of the World Economic Forum.

REF 310714

Contents

3	Introduction
4	Global Strategic Infrastructure: East Asia context
4	Session Description
4	Key Issues
4	Synopsis
8	List of Participants
10	Industrial Internet in the Infrastructure and Energy Sectors
14	Regional Energy Dynamics
17	Investing in East Asia
18	Contact Information

Introduction

As one of the economically fastest-growing regions in the world, the Association of South-East Asian Nations (ASEAN) is a year away from achieving a common market through the ASEAN Economic Community, which will comprise 600 million people and have a combined GDP of nearly \$2 trillion. Fresh demand in Europe and the United States, along with recently concluded trade agreements, is expected to boost production and consumption in East Asia. Almost all of the 10 ASEAN economies are expecting growth above 5% in 2014.

The region's fast growth will be sustained only with the strategic infrastructure in place. Attracting sufficient investment is a significant part of the issue and, given the context of the region, the energy sector will play a critical role in developing the overall economy. The region's move towards an ASEAN Economic Community in 2015 further underlines the need for strong collaboration by stakeholders on accelerating infrastructure development. If successful, this will present unparalleled opportunities for investment and growth.

In this context, the 23rd World Economic Forum on East Asia was held in Metro Manila, Philippines. On this occasion, the Forum's Infrastructure, Energy, ICT and Investor Industry communities hosted an Energy & Infrastructure Private Meeting for industry executives, policy-makers and experts from East Asia. Focusing on the most critical regional themes and issues, the sessions were characterized by public-private debates and discussions on collaborative actions on infrastructure in East Asia.

Global Strategic Infrastructure: East Asia Context

Session Description

Infrastructure is significantly needed in Asia: investment of \$730 billion in infrastructure is needed every year until 2020 to meet the growing demands in the region, as estimated by Asian Development Bank. In Asia, outside of China and India, ASEAN countries have the greatest need for infrastructure development, and many governments are making efforts to bridge the supply-demand gap. President Aquino of the Philippines, for example, has launched an ambitious plan to improve the country's inadequate infrastructure and to double infrastructure spending by 2016. However, financing may be only part of the issue. Many obstacles exist throughout the infrastructure lifecycle, from project selection to delivery to maintenance. If insufficiently addressed, these issues impede the realization of many critical projects or do not adequately provide their intended value to society.

This session brought together representatives from infrastructure and related industries, as well as governments and multilateral development banks, to identify the main bottlenecks in delivering infrastructure and what would be the practical actions to take for better delivery. Discussions were based on the Forum's Global Strategic Infrastructure Initiative and addressed the following dimensions:

1. What are the strategic infrastructure opportunities and challenges in East Asia?
2. What are the key obstacles to accelerating the delivery of required infrastructure and adapting the strategic infrastructure best practices?
3. What key improvements need to be made? What are the leading countries and sectors in East Asia in terms of strategic infrastructure maturity and what can be learned from them?

Welcoming Remarks by

Stephen P. Groff, Vice-President, Operations 2, Asian Development Bank, Manila; Global Agenda Council on South-East Asia

Alex Wong, Senior Director, Head of Centre for Global Industries and Head of Basic & Infrastructure Industries, World Economic Forum

Special Guests

Joseph Emilio Abaya, Secretary of Transportation and Communications of the Philippines

Cesar V. Purisima, Secretary of Finance of the Philippines

Table Hosts

Danny Lizares, Managing Director, The Abraaj Group, Philippines

Takeshi Yokota, Executive Officer; Corporate Vice-President; Vice-President, Transmission and Distribution Systems Division, Toshiba Corporation, Japan



01: Participants of the session Global Strategic Infrastructure: East Asia Context



02: Stephen P. Groff, Vice-President, Operations 2, Asian Development Bank, Metro Manila, Philippines

Jeffrey Chua, Senior Partner and Managing Director, The Boston Consulting Group, Singapore
Todd Lauchlan, Country Head, Indonesia, Jones Lang LaSalle, Indonesia

Rapporteurs

Takashi Tsutsui, Member of the Board, Executive Officer and Executive Vice-President, LIXIL Group, Japan
Sandra Wu Wen-Hsiu, Chairperson and Chief Executive Officer, Kokusai Kogyo, Japan; Global Agenda Council on Infrastructure

Moderated by

Kevin Lu, Distinguished Fellow, INSEAD, Singapore; Young Global Leader; Global Agenda Council on China

Key Issues

- The robust economic growth in South-East Asia has to be complemented by increased infrastructure investment – in particular, private investment is still very low, at around 0.4% of GDP.
- To foster private sector participation through public-private partnerships (PPPs), the right institutional capacity and investors' trust in good governance are key. Starting with small, successful projects might help to create a positive track record in the region.
- To fully tap the growth potential in South-East Asia, regional connectivity must be developed further. A single entity representing the government's side in PPPs might increase project attractiveness to investors.
- Leaders from the public and the private sector welcome the creation of a regional business working group to boost infrastructure development in South-East Asia.

Synopsis

A modern infrastructure base is crucial for development in South-East Asia – to compete with other countries and regions of the world, be resilient to dangers, and cope with the emerging population in the region. South-East Asia has experienced robust economic growth over the past years; however, the growth did not fully transfer into adequate infrastructure investment. In particular, a lack of private investment remains.

Overall, annual infrastructure investment in the region appears healthy at around 7% of GDP, but private capital as a component of this amount is very low, approximately 0.4% of GDP. This compares poorly with, for example, Latin America, where some 2.6% of GDP is invested in infrastructure but with around 1.6% coming from the private sector. The explanation is that the Asian financial crisis, which swept the region in 1997, led to a dramatic tapering of private sector investment, plummeting from around \$38 billion in 1997 to under \$10 billion in the following two years, according to the World Bank. This decline has never fully reversed, reaching only slightly below \$25 billion in 2010.

There is consensus between private sector and government leaders that infrastructure development is vital to service the needs of business, tourism and the population; as growth continues, the lack of investment will only become more acute. What are the barriers and what are the solutions to overcome them?

Participants discussed public-private partnerships, which are often far from real partnerships. As a result, PPPs have been dubbed – by cynical elements of the Philippines media, for example – as mere “PowerPoint Presentations”. For PPPs to be genuine partnerships, they must involve a complex negotiation process between parties before a balance is achieved between public interest, which governments are mandated to protect, and a reasonable return on investment, which the private sector has to ensure.

Having the right institutional capacity in place for those complex processes is a challenge for countries in South-East Asia. The subtlety of PPP negotiation processes is made even more complex by the often large number of stakeholders involved: end users of the asset, the private sector and government, and even different departments within one government – as many as 50 or 100 stakeholders might be included.

Consequently, transparency and an effective regulatory environment are key factors – besides expected return on investment, it is ultimately the private sector's trust in good governance that makes a PPP attractive to investors. It is vital that governments enact legislation to protect agreements over the lifetime of assets, which will be operated over several decades.

Building trust is not a simple task, but one highly effective method for governments is to build a track record of successful PPPs that have already been realized or are underway. To this end, it is suggested to start with small projects and to ensure the success of them before moving to more ambitious ones.

Another challenge for the region is the lack of projects that are bankable. Generally speaking, there is no shortage of capital (from venture and insurance funds, for example), but while the private sector shows interest in the sector, it is wary of risk. The ASEAN Infrastructure Fund, which the Asian Development Bank and ASEAN set up, may be one answer, but it is still nascent. It is also noteworthy that the region has huge savings; and yet, to a very large extent, they are tied up in low-yielding treasury securities in the US rather than being invested in assets in the region. A way to tap intraregional savings is still to be found.

Regional coordination was discussed as a mechanism to create bankability and to make projects more attractive to investors. A single entity representing the government side within a PPP greatly enhances a project's risk profile. A private sector investor with a transport project that goes from Myanmar to Thailand, for instance, appreciates a single point of contact. Such continuity is long overdue. The same holds true for the structure of financing. Different kinds of debt, from senior debt to mezzanine and equity, may be available, but require overall coordination of the financing.

Regional connectivity (e.g., cross-country transportation infrastructure) generally needs to be further developed to realize the growth potential in South-East Asia and beyond. The greater Mekong subregion, for example, represents many opportunities for connecting countries to improve value chains, productivity chains and trade. The dismantling of non-tariff barriers in the region was cited as a much needed action that would benefit all stakeholders.

In addition, resilience of infrastructure is of utmost importance for South-East Asia, given the region's exposure to weather extremes and frequent natural disasters. The need for resilient physical infrastructure, especially for water supply, power and communication, was evident during recent events in Japan and the Philippines.



01



02

Besides physical infrastructure, other factors such as strict building codes are required for resilience. New building codes must be enforced, which will require addressing the challenge of how to finance housing under such codes. Additional resilience can be achieved by establishing early warning systems in response to disasters and managing the safety of people in case of an event.

The role of governments to overcome the challenges is critical. In the past, business tended to think of the government's role as a provider of infrastructure only. Now, the business community increasingly looks at government as a facilitator rather than a provider. This facilitation role can be either from a policy perspective or simply as a coordinator. In either case, private sector involvement at an early stage of a project's life is crucial, as is working closely with honest brokers such as the Asian Development Bank and the World Bank.

For the past three years, the World Economic Forum has been committed to strategic infrastructure on a global level – creating a knowledge report series that covers project origination, project delivery, operation and maintenance, as well as how to engage with investors. The initiative was implemented successfully in Africa to accelerate infrastructure development in light of specific regional challenges, and regional engagement is now being considered in other continents. The Forum plans to initiate a South-East Asia initiative to disseminate the collected global best practices more broadly across the region. This discussion has served as a starting point – leaders from both the public and the private sector welcomed the creation of a regional business working group to boost infrastructure development in South-East Asia.



03



04

01: Participants of the session Global Strategic Infrastructure: East Asia Context

02: William Crichton, President and Chief Executive Officer, LIXIL Asia Pacific, Singapore

03: Participants of the session Global Strategic Infrastructure: East Asia Context

04: Cesar V. Purisima, Secretary of Finance, Department of Finance of the Philippines



01



02



03

01: Joseph Emilio Abaya, Secretary of Transportation and Communications, Department of Transportation and Communications of the Philippines, Philippines

02: Johan De Villiers, Regional Division Head, Power Systems, South Asia, ABB, Singapore; A Nithyanand, Chief Commercial and Business Development Officer, GRM Group, India

03: Participants of the session Global Strategic Infrastructure: East Asia Context

04: Sandra Wu Wen-Hsiu, Chairperson and Chief Executive Officer, Kokusai Kogyo Co. Ltd, Japan

05: Takeshi Yokota, Executive Officer; Corporate Vice-President; Vice-President, Transmission and Distribution Systems Division, Toshiba Corporation, Japan



04



05

List of Participants

Industry Partners

Johan de Villiers	Regional Division Head, Power Systems, South Asia	ABB	Singapore
Andrew Thomson	Managing Director	Acciona	Australia
Hans-Martin Aerts	Head, Infrastructure, Asia	APG Asset Management	Hong Kong SAR
Melody Boone Meyer	President, Chevron Asia Pacific Exploration and Production Company	Chevron Corporation	Singapore
Nurhayati Abdullah	Country Manager, DHL Express Philippines	DHL Philippines	Philippines
Yasmin Aladad Khan	Senior Vice-President, South-East Asia and South Asia	DHLExpress Asia Pacific	Singapore
David Vaughn	Director of Business Continuity and Disaster Management Solutions	Fluor Corporation	USA
A Nithyanand	Chief Commercial and Business Development Officer	GRM Group	India
Kiyooki Iigaya	Chief Executive, Asia	Hitachi Ltd	Singapore
Todd Lauchlan	Country Head, Indonesia	Jones Lang LaSalle	Indonesia
Sandra Wu Wen-Hsiu	Chairperson and Chief Executive Officer	Kokusai Kogyo Co. Ltd	Japan
Satoshi Hijikata	President	Kokusai Kogyo Co. Ltd	Japan
William Crichton	President and Chief Executive Officer	LIXIL Asia Pacific	Singapore
Takashi Tsutsui	Member of the Board; Executive Officer; Executive Vice-President	LIXIL Group Corporation	Japan
Felino M. Bernardo	Country General Manager	LIXIL Philippines	Philippines
Toru Moriyama	Executive Vice-President and Regional Chief Executive Officer, Asia and Oceania	Mitsubishi Corporation	Singapore
David Jansen	Chairman, PwC Global Growth Markets Center	PwC	USA
Fabia Cristina Tetteroo-Bueno	Country Manager and General Manager, Lighting	Royal Philips	Philippines
Dhruv Bhalla	Vice-President, Corporate Strategy and Planning	SREI Infrastructure Finance Limited	India
Danny Lizares	Managing Director	The Abraaj Group	Philippines
Roberto Batungbacal	President, Dow Philippines	The Dow Chemical Company	Philippines
Vorapong Vorasuntharasoith	Regional Government Affairs Director, South-East Asia	The Dow Chemical Company	Thailand
Fumio Otani	Corporate Representative, Asia; Managing Director, Toshiba Asia Pacific	Toshiba Corporation	Singapore
Takeshi Yokota	Executive Officer; Corporate Vice-President; Vice-President, Transmission and Distribution Systems Division	Toshiba Corporation	Japan

Amrita Pai	Head, Corporate Communications and CSR	Welspun Energy Ltd	India
Raghunath Mahapatra	Head, Strategy	Welspun Energy Ltd	India

From Government, International Organizations, and Academia

Ramesh Subramaniam	Deputy Director-General, Southeast Asia Department	Asian Development Bank	Manila
Stephen P. Groff	Vice-President, Operations 2	Asian Development Bank	Manila
James Nugent	Director General, South East Asia	Asian Development Bank	Manila
Elizabeth Hausler Strand	Founder and Chief Executive Officer	Build Change	USA
Dan Runde	William A. Schreyer Chair and Director, Project on Prosperity and Development	Center for Strategic and International Studies (CSIS)	USA
Cesar V. Purisima	Secretary of Finance of the Philippines		
Joseph Emilio Abaya	Secretary of Transportation and Communications of the Philippines		
Kevin Lu	Distinguished Fellow	INSEAD	Singapore

Project Adviser

Jeffrey Chua	Senior Partner and Managing Director	The Boston Consulting Group (BCG)	Singapore
--------------	--------------------------------------	-----------------------------------	-----------

From the World Economic Forum

Alex Wong	Senior Director, Head of Centre for Global Industries and Head of Basic & Infrastructure Industries	World Economic Forum	Switzerland
Alice Heathcote	Senior Community Manager	World Economic Forum	Switzerland

Industrial Internet in the Infrastructure and Energy Sectors

Key Issues

- What are the enablers that support the development of the Industrial Internet in the infrastructure and energy sectors?
- What are inhibitors that restrict the development of the Industrial Internet in the infrastructure and energy sectors?
- What are some of the steps to accelerate the adoption of the Industrial Internet in the infrastructure and energy sectors?

Synopsis

The Information Technology Industry team has launched an initiative on the Industrial Internet. The team along with the Energy Industry team hosted a session at the World Economic Forum on East Asia, the project's first meeting introducing the topic. The session is one in a series of workshops that will explore business, government and social impacts and opportunities as well as enablers and inhibitors of the Industrial Internet.

More devices than ever are connected to the internet. This increased connectivity coupled with the increased number of sensors embedded into everyday devices means more data collected from more places than ever before. Everyone is collecting data but often without understanding its value and putting it to use; data by itself is meaningless. Advanced analytics are now allowing people to extract insights and take advantage of big data to capture new levels of productivity and reduce inefficiencies. For some time now, this network of physical devices has been termed the "Internet of Things". It is now expanding to include manufacturing equipment, energy grids and healthcare devices (e.g. jet engines, gas turbines and CT scanners), creating a new network called the "Industrial Internet".

The Industrial Internet provides four main capabilities:

- **Tracking**, to determine where resources and equipment are located in real-time. With this capability, companies can mobilize people from the correct location. Industrial companies can track equipment and increase employee productivity.
- **Optimizing** the use of resources based on monitored activities, which may involve re-planning or changes to the business process. By tracking its delivery trucks, UPS determined that left turns take a lot of time due to higher wait time at intersections and modified its routes so that all trucks only went straight or made right turns. The change saved UPS \$96 million in fuel per year and significantly reduced idle time as well.
- **Predicting** an event based on available data and being prepared to correctly respond before the event occurs. The ability to forecast equipment failure can save companies money. When a plane engine fails, it costs the airline both time and money. Having data to predict when the engine will fail allows the airline to procure spare parts and hire crew to fix the issue before it happens. This not only saves time and money, but increases safety as well.



01

01: Participants of the Industrial Internet session

- Intelligent systems and machines have enough information and **actuate** autonomously. Actuation may take the form of direct controls, for example as in the case of robots that are able to sense what needs to be done, or autonomous vehicles. It can also take the form of indirect controls, such as automatic ordering of a part when the system detects the need for a replacement.

Industrial data in infrastructure and energy is different when compared with data in other sectors (e.g. government, financial services, retail, etc.). Its creation and use are faster and involve critical safety considerations unlike those in other sectors. The Industrial Internet connects machines, advanced software analytics and people in a way where real-time data is collected, equipment use and uptime are optimized, and waste can be removed from infrastructure and energy. There is a world of possibilities.

The Industrial Internet can be applied to address energy issues currently faced within the East Asia region. Electricity is market driven in the Philippines and energy efficiency is a key factor in securing energy for the country. Real-time data is required for prediction of energy demand. If the utilities provider cannot predict usage, then it will not be able to manage its demand and maintain accurate levels in its reserves, which could potentially lead to a blackout. Given the Philippines' archipelago structure, it cannot import power from other countries unless wireless transmission is invented.

The energy industry is segmented across the country and operations are based on individual areas. The Industrial Internet can be used to develop a smart grid system, which previously has been only a dream for the Philippines; a new initiative has been implemented by the government to develop a smart grid for the country. This would enable real-time data collection and visibility for all areas to efficiently manage energy use and predict events before they occur.



01: Alyssa Fitzpatrick, Senior Vice President, Global Partner Organization, CA Technologies, USA

02: David Nanayakkara, Regional President, Asia-Pacific, Brightstar Corp., Australia; Han Willem Kotterman, Executive Director, Strategy and Business Development, Telstra International Group, Hong Kong

03: Mitsuhiko Shimizu, Head, General Manager, Hitachi Asia, Philippines

Today, the Industrial Internet is in its early stages. The objective of the session was to envision what the infrastructure and energy sectors would look like with the Industrial Internet, and to identify key enablers, inhibitors and tactical near-term recommendations to accelerate the growth and adoption of the Industrial Internet.

Participants identified that significant investment into infrastructure will be required since connectivity is not ubiquitous and the adoption of technology would promote the development of the Industrial Internet. Leaders from the infrastructure and energy industries and government are required to change business models and policies to foster the Industrial Internet. Raising awareness of the value of information produced and allowing for transparency in data sharing would act as key enablers as well. Some even believed that deregulation could promote development and allow people to openly and proactively share advice.

The lack of global connectivity and capabilities and the different national and industry standards across regions inhibited the growth of the Industrial Internet. There is an abundance of information and a lack of knowledge to prioritize where value can be extracted for the infrastructure and energy sectors. Labour force adaptation to new technologies and newly required skills within these sectors may also inhibit the growth of the Industrial Internet. Participants indicated that there would be a high upfront cost in investment. They highlighted security and privacy risks associated with the Industrial Internet, and that further investigation would be required into the risk of the whole system collapsing when everything is connected.

The participants discussed tactical next steps to enable the development of the Industrial Internet within the infrastructure and energy sectors. A few near-term recommendations were identified for potential consideration by all stakeholders in the region:

1. Conduct case studies to understand where investments within infrastructure and energy need to be made and what the returns will be.
2. Develop a methodology for each country to understand its capabilities on a readiness spectrum and actions required to establish readiness.
3. Implement projects within infrastructure and energy on a smaller scale, potentially through trial and error and then scaling.
4. Enable community learning by bringing together stakeholders and discussing lessons learned.
5. Develop infrastructure to increase connectivity.



01



02



03

01: Carlos Jericho L. Petilla, Secretary of Energy, Department of Energy of the Philippines

02: Jeffrey Chua, Managing Director, South-East Asia, Temasek Holdings, Singapore

03: Adaire Fox-Martin, President, Asia-Pacific Japan, SAP Asia Private Limited, Singapore



01



02



03



04

01: Fabia Cristina Tetteroo-Bueno, Country Manager and General Manager, Lighting, Royal Philips, Philippines

02: Edy Liongosari, Managing Director, Accenture Technology Labs, San Francisco, CA, USA

03: Harry Singh, Vice President, Global Banking and Financial Markets, Asia-Pacific, Middle East & Africa, BT, Singapore

04: Jose Victor Emmanuel De Dios, Chief Executive Officer, GE, Philippines

Regional Energy Dynamics

Key Issues

- Growing demand is the most important energy story emerging from South-East Asia: regional demand is projected to grow 80% by 2035, and supply and demand will keep “chasing each other” in years to come.
- Both liquefied natural gas (LNG) and pipeline natural gas are expected to grow substantially in East Asia. There are ample resources, but questions remain on incentives to develop domestic gas in many countries and whether a regional gas hub will be established.
- The region has been spotty in embracing energy efficiency, an area that offers great opportunity if better standards are put in place, notably if done consistently across the region.
- Renewable energy is growing fast from a low base and can provide a good hedge for rising gas and oil prices. However, the “soft costs” for renewables in East Asia are high compared to Europe and the US, and the support schemes are not equally effective in all countries.
- China is taking serious action to fight pollution, balancing the speed and the costs of the clean-up. Coal demand is expected to peak in 2020, and gas, renewables and nuclear are growing fast.
- ASEAN’s reliance on energy subsidies continues to distort energy markets, put a drag on public finances and on efficient use of energy.
- The Philippines has phased out energy subsidies and has privatized the electricity sector. Given fast economic growth, supply will need to grow. The country is pushing ahead with natural gas and developing renewables, while being mindful of total costs to consumers and taking a long-term view.
- Increased regional connectedness on energy is important. Commercial entities and soft collaboration on standards, etc., are likely to play a bigger role than regional gas and electricity grid interconnections in the near future.



01: Participants of the Regional Energy Dynamics session



02: Carlos Jericho L. Petilla, Secretary of Energy, Department of Energy of the Philippines

03: Melody Boone Meyer, President, Chevron Asia Pacific Exploration and Production Company, Chevron Corporation, Singapore



Synopsis

With energy demand expected to grow by up to 80% by 2035 for the region, South-East Asian nations face pressures in terms of energy security, costs and sustainability. Continued strong economic growth and further expansion of access to energy underpins this energy demand growth, which is currently not expected to be offset by energy efficiency gains.

Countries vary considerably in their energy resources and their capacity to develop these resources, so there will be different solutions for different countries. The World Economic Forum's Global Energy Architecture Performance Index demonstrates that there is significant room for improvement, and that there are differences in how well the energy systems of countries in the region deliver on energy security and access, sustainability and contribution to economic growth.

Natural gas supplies are growing and there are abundant resources to develop, with domestic natural gas typically being the cheapest option. However, enabling regulation is not always present and is the key to bringing more domestic gas to market. LNG is playing a growing role in the region's energy mix, as LNG ports come online in Thailand, Malaysia, China and other nations. Nevertheless, today's national

gas markets in the region are largely distinct. There are question marks on the speed and cost of new, large-scale LNG developments in East Asia, which will be important for how gas markets in the region will evolve.

China is expected to have double-digit growth in natural gas supplies in the coming years with strong government backing, as illustrated by the recent China-Russia gas agreement, for instance. The fighting of pollution is driving a crucial policy and investment shift in China's energy sector. Coal demand is still growing but is expected to peak around 2020. Alternatives such as renewables, nuclear and gas are expanding fast. The Chinese government is seeking to balance the cost and speed of the environmental clean-up.

China and South Korea offer power models for economic growth in the region, but their growth trajectory involved using environmentally detrimental energy sources to fuel development, resulting in costly clean-up efforts. ASEAN's developing nations could avoid the pitfalls of these clean-up challenges by embracing more energy-efficient and less coal-dependent growth models.

The Philippines represents a unique experience in the region, given its

energy privatization efforts more than a decade ago and the fact that it is an island nation. Generation, transmission and distribution are market driven with several independent power producers. Given fast economic growth, supply is chasing demand. The Philippines is pushing ahead with natural gas and developing renewables, while being mindful of total costs to consumers and taking a long-term view. It is one of few countries in ASEAN without energy subsidies. The trade-off is that its electricity costs are among the highest regionally. However, power imports and exports are not a solution, and power costs are still lower than in Hawaii, probably the best comparison, according to one participant.

Energy subsidies present a challenge to many nations in the region: government-sponsored reductions of energy prices distort market incentives and often delay improvements in energy efficiency. Once subsidies are established, dismantling them is often difficult politically.

Advancing renewable energy remains a priority for the region to meet demand and contain environmental impact, but ASEAN has been patchy in terms of implementing renewable-friendly policies. The "soft costs" of renewable projects – such as bureaucratic red tape and regulatory costs – render some



01: Sulaiman Ababtain, President, Aramco Asia, Saudi Aramco, People's Republic of China

02: Lin Boqiang, Director, China Center for Energy Economics Research, Xiamen University, People's Republic of China



03: Johan De Villiers, Regional Division Head, Power Systems, South Asia, ABB, Singapore



solar projects much more expensive to implement in South-East Asia than in parts of Europe, for example. Additionally, projections for renewable energy's contribution to the region's overall energy mix continue to be quite modest, while participants agreed there is a significant opportunity. Renewables can provide a hedge against rising fossil fuel costs.

Improving efficiency is one of the most promising ways that ASEAN can meet the region's growing energy demands. Industry, transportation and consumer goods are areas that could see the largest gains in efficiency-related

improvements, with figures as high as 50% for some sectors, based on available technology. The region has examples of nations such as Australia that have improved efficiency in order to lower consumption. However, better efficiency standards are clearly needed, alongside more awareness and education of citizens.

Companies are introducing new business models in the efficiency area, and more harmonized and regularly updated standards in the ASEAN economic area could provide a boost, if put in place. Without standards, nations face the risk of becoming a dumping ground for inefficient technologies and

products that other nations have already phased out.

Increased regional energy connectedness will also be important, but the reality today is that most interconnectors for electricity and gas remain distant in time. Experience in Europe shows that connecting infrastructure across borders takes time, and often the softer collaboration on issues like standards can move faster. Commercial entities can do a lot in terms of regional energy integration, provided the business case is attractive.



01



02



03



04



05

01: Kim Dong Kwan, Managing Director, Hanwha Group, Republic of Korea

02: Harjit Gill, Chief Executive Officer, ASEAN and Pacific, Royal Philips, Singapore

03: Anthony Jude, Senior Advisor and Practice Leader (Energy) Regional and Sustainable Development Department, Asian Development Bank, Metro Manila, Philippines

04: Yoshihiro Aburatani, Corporate Vice-President; General Manager, Thermal and Hydro Power Systems and Services Division, Toshiba Corporation, Japan

05: Andrew Thomson, Managing Director, Acciona, Australia

Investing in East Asia

Key Issues

- Geopolitical tensions in the South China Sea and among Asian countries are continuing to raise concerns regarding investment and business in the region, with differing views on the likelihood of a “tail end” catastrophic event.
- The US Federal Reserve’s tapering is impacting Asian markets but unlikely to cause the significant capital flight seen in the late 1990s.
- Infrastructure is one of the most pressing needs for economic growth, particularly to connect the ASEAN region and provide the fundamental building blocks for an ASEAN Economic Community.

Synopsis

In 2050, close to 7 billion of the 9 billion people in the world will live in Asia, the Middle East and East Africa. This trend is driving the focus of trade from the Indian Ocean and the Western Pacific to the South China Sea, with the countries along its coasts representing the new strategic core for world trade. The South China Sea is increasingly the main area of focus for world powers and business, and tensions are currently rising.

This has understandably heightened concerns of business leaders regarding the possibility of a tail risk calamity, and the difficulty of quantifying current geopolitical risks in the region. A view was also expressed that while tensions are rising, the economies of all countries in Asia are now so inextricably linked and interdependent that governments will be forced to find solutions to current geopolitical tensions. Moreover, these risks cannot be isolated, particularly from the point of view of an investor. Anything that happens in Asia will have tremendous impact on the rest of the world.

The Philippines’ economy, the fastest-growing in Asia in 2013, was discussed in detail, particularly its current monetary policy environment. In the past two years, inflation averaged at the lower end of the central bank’s annual target range of 3.0% to 5.0%. This year, the bank expects inflation to average above 4%. The Philippines current account is continuing to run a surplus and the economy is likely to grow by more than 6% this year, which means there is less spare capacity in the economy.

The Government of the Philippines has raised revenues by plugging the holes in the tax system and attacking corruption in tax collection agencies. This has helped reduce the country’s budget deficit, lowered its borrowing expenses and freed up funds for social initiatives. International credit agencies have recognized the change, and in 2013 the Philippine’s sovereign debt became investment grade status for the first time. Ultimately, if the Philippines is to sustain its growth momentum, the government must address investors’ concerns over the country’s poor infrastructure, high power costs and inconsistency in policy.

The implications of the US Federal Reserve’s tapering of its massive stimulus were discussed. In the Philippines, the peso fell approximately 8% over the past year, and foreign fund flows to local assets decreased. Certain Asian nations have recently raised rates to fight inflation and stem an outflow of foreign capital, sparked by bets that US interest rates will rise this year.

However, the chance of a huge capital outflow from Asia was viewed as slim, and the raising of rates by the US Federal Reserve is a “tug-of-war” of positives and negatives for emerging economies in Asia. The tighter financial conditions are somewhat negative for emerging economies, yet emerging economies stand to benefit from a rebound in advanced economies, particularly that of the United States.

Governments in the region were urged to address the growing income inequality, noting that it can make economic growth less sustainable. Several mechanisms for addressing this issue were mentioned, such as cash transfers, but were not discussed or debated in detail. It was noted that the tax structures of countries in Asia are somewhat regressive – relying more on value-added tax than income tax.

Infrastructure was repeatedly highlighted as one of the most pressing issues for investment, not just within countries, but infrastructure to connect the ASEAN region and to truly realize the vision of an ASEAN Economic Community. Government funds should be used strategically, to “crowd in” funds from the private sector. Urbanization and the rapid rise of the middle class have significant implications for the type of infrastructure required. By 2030, the middle class population of Asia will be around 50%, and about two thirds will live in cities. The infrastructure demands of the future, particularly in sectors such as air travel and connectivity, will be very different from in the past.

Contact Information

Alex Wong

Senior Director

Head of Centre for Global Industries and Head of Basic & Infrastructure Industries

World Economic Forum

Tel.: +41 (0)22 869 1460

Fax: +41 (0)22 786 2744

Email: alex.wong@weforum.org

Pedro Rodrigues de Almeida

Director

Head, Infrastructure & Urban Development Industries

World Economic Forum

Tel.: +41 (0)22 869 3613

Fax: +41 (0)22 786 2744

Email: pedro.rodriguesdealmeida@weforum.org

Alice Heathcote

Senior Community Manager, Investors Industries

World Economic Forum

Tel.: +1 (212) 703-2357

Fax: +1 (646) 472-9159

Email: alice.heathcote@weforum.org

Bjarne Steffen

Project Manager, Strategic Infrastructure

World Economic Forum

Tel.: +41 (0)22 869 3577

Fax: +41 (0)22 786 2744

Email: bjarne.steffen@weforum.org

Katerina Korcakova

Team Coordinator, Basic and Infrastructure Industries

World Economic Forum

Tel.: +41 (0)22 869 3596

Fax: +41 (0)22 786 2744

Email: katerina.korcakova@weforum.org



COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

The World Economic Forum is an international institution committed to improving the state of the world through public-private cooperation in the spirit of global citizenship. It engages with business, political, academic and other leaders of society to shape global, regional and industry agendas.

Incorporated as a not-for-profit foundation in 1971 and headquartered in Geneva, Switzerland, the Forum is independent, impartial and not tied to any interests. It cooperates closely with all leading international organizations.

World Economic Forum
91–93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland

Tel.: +41 (0) 22 869 1212
Fax: +41 (0) 22 786 2744

contact@weforum.org
www.weforum.org