

SUMMARY REPORT

APEC ENERGY POLICY ROUNDTABLE

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APEC 2011 USA

21 ECONOMIES FOR THE 21ST CENTURY

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“Realizing APEC's Economic Growth through Sound Energy Policy” 2011 APEC Energy Policy Roundtable Report

Since the APEC Leaders last met in November 2010, the global economic and energy landscapes have been rocked by a succession of powerful forces. The Arab Spring in the Middle East and North Africa led to a moderate drop in physical supplies of oil and a far greater impact on oil price volatility, and Japan suffered from a devastating tsunami and nuclear disaster that left the country scrambling to meet its electricity needs. As a result of the Fukushima disaster, Germany made a decided shift away from nuclear power, with a number of Asian economies launching reviews of their own nuclear plans and safety arrangements. These events occurred against the backdrop of rapidly rising energy demand in tandem with Asia's steady economic growth despite the global recession.

World leaders have noted that much of the history of the 21st century will be written in Asia. The APEC region is facing a watershed moment in its development, largely defined by staggering economic growth projections. This is confirmed by estimates from the United Nations Economic and Social Commission for Asia and the Pacific placing Asia-Pacific economies' average GDP increase at 7.3% in 2011, which makes the region the fastest growing in the world. The International Energy Agency estimates that developing Asia could account for 70% of all global energy demand growth through 2035.

The region's diverse energy and economic circumstances, coupled with fast-paced economic growth, translates into a need for unprecedented new investments in traditional and non-traditional energy supplies, infrastructure, and technology, while taking into consideration the challenges of scalability and the difficulties of technological breakthroughs that will be required to advance alternatives. Now more than ever, energy security—the capacity to reliably meet energy demand—in a region with diverse energy, geological, and economic circumstances is a key issue. Heightened energy security concerns are mostly derived from the shared goal of supporting the region's sustainable economic growth. Short-term challenges require prompt, coordinated responses to sudden changes in supply and demand, while long-term energy security rests largely on timely investments to ensure future energy supplies that support corresponding economic development and environmental needs.

In this context, collaboration between the public and private sectors is crucial to successfully realize these important, yet challenging, common goals. To this end, United States Under Secretary of State Robert Hormats sponsored the APEC Energy Policy Roundtable, held in San Francisco, California on September 12. This meeting, organized by the APEC 2011 USA Host Committee and the National Center for APEC, brought together approximately one hundred key stakeholders from the APEC region's public and private sectors. Together, they sought to identify promising and practical solutions for the region's energy and economic challenges.

APEC: A Diverse Region with Common Goals

Investment in new supplies, innovative technology and applications, mechanisms for improving energy efficiency, and collaboration are all important aspects of shaping the region's secure energy future to support APEC's swift economic expansion, and strong leadership in each economy provides a critical foundation. "As a prerequisite to ensuring sustainable economic growth, each government needs to adequately provide energy for the country," stated **Minister Darwin Saleh, Ministry of Energy and Mineral Resources, Indonesia**, and leaders in each economy should adopt the most effective policies given their situation, keeping in mind that regional energy collaboration is an essential factor of a economy's energy security. Increased collaboration among APEC economies, through mechanisms such as public-private partnerships and information-sharing on commercially viable technologies, offers support for the common goal of sustainable growth while mitigating environmental impacts that individual economies might not be able to draw on otherwise.

"APEC economies need to work together to promote energy security and ensure access to other natural sources. An essential aspect for energy and resource security is working toward greater source diversification," declared **Under Secretary of State Robert Hormats**. In order to meet growth in energy demand and address concerns of high energy prices, price volatility, and supply disruptions in the oil market, APEC economies must pursue all available energy sources—including natural gas, nuclear, coal, hydroelectric, and renewables—while taking into consideration scalability, cost, and each economy's unique situation. Variables that impact energy choices include natural endowment, geography, and market and regulatory structures.

Among the regional energy options, coal is the most extensively used source, but has a much larger carbon footprint than other energy resources, making it commonly referred to as "dirty." However,

Masaki Takahashi, Senior Power Engineer, World Bank, explained that we should move away from describing energy sources as “clean,” “dirty,” “cheap,” and “expensive,” because the price and emissions will vary depending on what technologies and regulatory frameworks are in place. For instance, the region will continue to need reliable coal supplies to fuel its booming electricity needs, but coal must be used more efficiently, using cleaner burning technologies and employing carbon capture and storage when practical. And while renewable energy resources are emerging as a critical player in cleaner energy options, their scalability remains limited and can vary greatly depending on an economy’s natural endowment.

Adapting updated technology can also be applied to the safe development and utilization of nuclear power. Despite the uncertainty generated by the tragedy in Japan, **John Hamre, President, Center for Strategic and International Studies**, stressed that “Japan should stay in the nuclear business,” and should continue to lead the region in nuclear power use and technological development, as it will be a critical component of the region’s future energy needs. **Chee Hong Tat, Chief Executive, Singapore Energy Market Authority**, said that nuclear power was an option which some ASEAN countries were considering. He suggested that countries in ASEAN should enhance their cooperation on nuclear energy and safety, and work with dialogue partners and international organizations such as the International Atomic Energy Agency.

Of all the primary energy sources, natural gas is perhaps poised to play the most important new role in the region, as it is abundant, relatively lower-carbon, cost-effective, efficient, and has a variety of uses. APEC economies have an opportunity to rapidly boost the use of natural gas production by investing in new transportation infrastructure and utilizing new technologies such as advances in hydraulic fracturing and offshore drilling.

Such new technologies are a significant accelerator for achieving greater energy security through diversification. Policy mechanisms should support the development and deployment of new, viable technologies while not picking winners. As **Bryan Hannegan, Vice President for Environment and Renewables, Electric Power Research Institute**, noted, “By varying technologies, you can vary the energy mix.”

A Blueprint for Integrating New Technology

The global economic recession has slowed short-term energy demand but at the same time has constrained investments in much-needed new technology, infrastructure, and supply development. These are all vital factors that contribute to successfully meeting the Asia-Pacific's energy needs and economic growth goals. Economies should employ new, advanced technologies to help diversify energy supplies, improve energy efficiency, and reduce costs. "Different regions will use different technology pieces to get the job done, based on what is available to them," explained **Bryan Hannegan**.

As **Blair Comley, Secretary of the Australian Department of Climate Change and Energy Efficiency**, stated, "Technology is key to decoupling economic growth from emissions growth." Australia's per capita emissions in 2005 were the highest in the developed world, and the Australian government has committed to reducing carbon emissions by at least 5 percent from 2000 levels by 2020 irrespective of what other countries do and by up to 15 or 25 percent depending on the scale of global action. By pricing carbon, encouraging innovation in clean energy, improving energy efficiency and creating opportunities on the land, the Australian government is pursuing a combination of policy and market solutions suited for Australia's own conditions to achieve its emissions reduction target.

In order to promote greater technology penetration, APEC economies should eliminate barriers such as nationalist standards that restrict trade in new renewable energy technologies. Not only does this slow progress and reduce market efficiency, it significantly raises the costs of technology development and deployment. To maximize prospects for new technology, strong legal frameworks to protect intellectual property rights are vital to boost innovative investment in new technology development and use.

Energy Investment and Infrastructure: A Solid Foundation for a Secure Energy Future

To meet future demand sustainably, policymakers must recognize the importance of planning ahead. Technology choices and infrastructure decisions made today will impact the region's power sector and economy for decades to come. Given the magnitude of projected future demand, investment in the energy sector and development and deployment of new technologies is critical. "We ask that governments make good decisions and we prefer really that the markets make the decisions," said **George Kirkland, Vice Chairman of the Board and Executive Vice President of Upstream & Gas, Chevron**. He emphasized that the scale of the energy business is often underestimated, and thus makes the investment climate for energy source development all the more important for meeting future energy needs.

“Infrastructure to deliver energy supplies and connect countries within the region is critical and something that is often not taken into account,” noted **David Pumphrey, Deputy Director and Senior Fellow, Energy and National Security Program, Center for Strategic and International Studies**. Governments need to forge partnerships for energy security and diversification. Meanwhile, companies seek stable and transparent fiscal regimes before investing. Clarity of terms of investment and regulatory regimes for private-public partnerships is particularly needed to help strengthen the environment for innovation-led growth.

Secretary Jose Rene D. Almendras, Department of Energy, The Philippines, explained how his government is promoting private sector participation within the public-private partnership framework to help develop new technologies for cleaner fuels. “APEC has a major role in making sure that fuel and technology can flow across the economies,” he said.

The private sector is a major actor in effectively identifying, developing, and utilizing commercially viable technologies. “Private companies are on the cutting edge of energy technology, and they will lead the way to finding sustainable solutions,” stated **Under Secretary Hormats**. He added that APEC economies should help encourage development and deployment of these technological opportunities through appropriate price signals. Market prices that allow for a return on investment are also necessary for encouraging private investment in the energy system.

In the renewable energy debate, near-term issues revolve around reasonable prices and fiscal costs. APEC economies should use limited and targeted subsidies to promote the necessary investment for better integration of renewable energy sources. These subsidies should only be used in the short-term to boost renewable energy’s competitiveness in the energy market. As an example, Chinese Taipei is ranked sixth globally and second in Asia in green energy competitiveness according to the Institute for Management Development’s World Competitiveness Yearbook, and **Minister Yen Shiang Shih, Ministry of Economic Affairs, Chinese Taipei**, explained that progressive policies and technology innovation have helped to increase low-carbon energy and decrease environmentally degrading emissions. “Incentives need to be kept for a minimum period of time for sustainability,” he added.

Energy Efficiency: The Other Energy Source

“There is a cheap, reliable, scalable, and accessible source of energy – it is called efficiency,” proclaimed **Mikkal Herberg, Research Director, Energy Security Program, The National Bureau of Asian Research**, during his rapporteur report, and delegates overwhelmingly agreed that improved energy efficiency is vital to strengthening regional energy supplies. Energy production growth is straining to meet rising demand in part due to widespread energy inefficiency, which means that there is a broad scope on the demand side of the energy equation to close the chronic gap between supply and demand. **Yukari Yamashita, Director, Global Environment & Sustainable Development Unit, The Institute of Energy Economics, Japan**, pointed out that Japan, already one of the most energy-efficient countries in the world, has made greater gains after the Fukushima disaster through its national power conservation drive, known as *setsuden*.

As illustrated by Japan’s *setsuden*, government and industry both play important roles in creating a more energy efficient economy. **Under Secretary Hormats** cited the United States’ recent approach to encouraging energy efficiency: applying more stringent efficiency standards and offering incentives for increased energy-saving measures. The private sector can independently take steps to advance energy efficiency, as these measures sustain green economic growth and even help boost profits. **Pat Dawson, President, Asia-Pacific, The Dow Chemical Company**, offered an insightful example: Dow has spent \$1 billion over the past 15 years and returned over \$10 billion on improving energy efficiency.

Increasing demand-side efficiency through appropriate energy policies and regulations can slow the sharp rise in demand and help make energy more affordable. Therefore, by working together, governments and industry can pursue greater energy efficiency on both sides of the equation relatively easily. “Efficiency is the best way toward energy security,” **Secretary Steven Chu, U.S. Department of Energy**, concluded.

Building Momentum for Regional Collaboration

Advancing energy efficiency offers a key example of how cooperation across governments, industry, and sectors can support regional energy and economic security. **Secretary Chu** commented, “How can you and representatives of your economies position yourselves to be in the best position for this future? One of the founding principles is through mutual cooperation and sharing best practices and technologies.”

George Kirkland stressed that regional collaboration and market integration are always good for enterprise because industry can build on larger and more integrated markets. Cooperation to strengthen regional energy infrastructure and promote joint development of common fuel energy sources will help the region meet its overall economic goals. Such efforts also boost supply access and reduce the cost of new energy supplies. **Chee Hong Tat** shared that ASEAN has a long-term goal of an ASEAN Power Grid to distribute facilities between participating countries, as well as a Trans-ASEAN Gas Pipeline to allow countries in the region to tap into common energy sources. “ASEAN countries would benefit from having mutual energy security,” he explained.

As Russia assumes the chair for APEC 2012, **Talyat Aliev, Deputy Director, International Department, Ministry of Energy, The Russian Federation**, stated that the focus will remain on ensuring energy supply stability to meet growing energy demand through international cooperation. He also cited Russia’s strategy to help enhance energy supply security by quadrupling its energy resource exports to the Asia-Pacific.

Other areas of cooperation include joint resource development, effective standards, smart regulation, intellectual property protection, appropriate pricing structures, joint technology research and development, and transportation. “In the case of some developing countries, such as Indonesia, energy policy should also engage the steady growth of energy consumption in the transport sector – due to an increasing number of private vehicles. To that end, cooperation in developing efficient mass transport system would contribute to enhancing energy security in the APEC region,” stated **Minister Darwin Saleh**.

APEC stakeholders concurred that it would behoove all their leaderships to actively promote greater cooperation in these areas. As a result, they stand to accelerate the transition to a secure, economical, and sustainable energy mix that is most appropriate for each economy’s individual needs. **Under Secretary Hormats** emphasized this key point: APEC economies must view energy cooperation as a key opportunity to further economic growth and energy security. “None of us should see energy competition as a zero-sum game.”

FURTHER THOUGHT: QUESTIONS FOR THE CEO SUMMIT

Building on the 2011 APEC Energy Policy Roundtable discussion, questions remain as to how the region will sustainably meet its economic and energy goals. The 2011 APEC CEO Summit in Hawaii will offer an opportunity to explore market and policy solutions in depth.

The following questions emerged for ongoing consideration:

- In what areas can increased collaboration significantly impact and improve the effort to increase energy supplies?
- What impacts are new technologies having on energy supplies and energy efficiencies? How can APEC economies help promote and augment innovative technology development and greater cross-border sharing?
- How can policymakers and industry work together to help diversify energy sources?
- What measures can APEC economies take to build support for strengthening market framework and transparency for greater integration of efficient, economical technology and energy supplies?

FEATURED SPEAKERS

- Talyat Aliev, *Deputy Director, International Department, Ministry of Energy, The Russian Federation*
- Secretary Jose Rene D. Almendras, *Department of Energy, The Philippines*
- Secretary Steven Chu, *Department of Energy, United States*
- Secretary Blair Comley, *Department of Climate Change and Energy Efficiency, Australia*
- Pat Dawson, *The Dow Chemical Company, United States*
- John Hamre, *Center for Strategic and International Studies, United States*
- Brian Hannegan, *Electric Power Research Institute, United States*
- Mikkal Herberg, *The National Bureau of Asian Research, United States*
- Under Secretary of State Robert Hormats, *Department of State, United States*
- George Kirkland, *Chevron, United States*
- David Pumphrey, *Center for Strategic and International Studies, United States*
- Minister Darwin Saleh, *Ministry of Energy and Mineral Resources, Indonesia*
- Minister Yen-Hiang Shih, *Ministry of Economic Affairs, Chinese Taipei*
- Masaki Takahashi, *World Bank*
- Chee Hong Tat, *Singapore Energy Market Authority*
- Yukari Yamashita, *The Institute of Energy Economics, Japan*



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