



Day 2: Identifying the business opportunities: Resources and technologies

Financing tomorrow's energy

Energy experts told delegates at the Daegu 2013 Congress on 15 October that financial markets must change to ensure energy investments.

Seethapathy Chander, Director General of Regional Sustainable Development Department (RSDD) at the Asian Development Bank, said, "The problem with Asian capital is that people prefer to park it in Europe and the US." He added that "We need help from established companies and governments to make [investment] happen."



Seethapathy Chander

Director General of RSDD, ADB

An expert panel agreed that governments need to be more careful in designing long-term sustainable energy policies without relying heavily on energy tariffs. One of the "major risk to renewables is retroactive changes in government policy, changing

tariffs and wiping millions off balance sheets," said Guy Turner, Chief Economist & Director of Commodity Research, BNEF, UK.

The future energy landscape will be governed by security and stability issues linked to the energy self-sufficiency of the US due to the shale gas boom. Turner explained that if the cost of MENA gas supplies changes because of political turmoil, it could have massive implications for European energy policy, removing the prospect of cheap gas supplies far into the 21st century.

Turner also said that Korea was an example showing that a shortage of energy resources does not dictate economic success, rather "the most important resource is intellectual capital." The IMF predicts that Korea's income will be one of the highest per head by 2030. Turner expressed his belief that Korea's technology expertise could be exchanged for energy resources as an example of the markets working.

Shale gas and oil: Is it just a bubble?

The shale gas and oil boom has been an incredible phenomenon and has the potential to transform the oil and gas industry, the World Energy Congress was told on 15 October.

Gérard Mestrallet, the Chairman & CEO of French utility company GDF Suez, said that he disagreed with suggestions that some of the claims regarding its future prospects need to be tempered because of geological and economic

constraints, the possibility of over-estimated reserves, and the environmental, and health impact of drilling. He thought that, despite some uncertainties, the shale "revolution" is a game changer that has started in North America and will affect the global energy landscape in emerging markets and Europe. "This has been a real revolution for the energy landscape and also for the world economy," he said.

The US energy sector has seen a major shift to natural gas in the power sector, where the share of natural gas has doubled since 2000 from 15 per cent to 30 per cent, Mestrallet said. "The US has become the world's leading natural gas producer. For the first time in six decades, the country is a net exporter of petroleum products and will soon be an energy exporter." "The phenomenon has affected the entire economy by boosting the US global competitiveness" with the creation of jobs and lower electricity costs for industry, he added. Technological progress, meanwhile, has reduced the environmental impact of exploitation.

The vast market changes in the US are affecting developing countries, where energy consumption goes hand-in-hand with fast economic growth, Mestrallet noted. Over the next 20 years, 90 per cent of global energy demand will come from non-OECD countries, meaning that emerging markets will need to tap into all types of energy sources – coal, renewables, and natural gas. Gas, however, could be the largest contributor for the new energy needs of emerging countries by 2035, he said. "The development of domestic, unconventional gas resources in the emerging world could speed up this trend in the coming years, and the exportation of LNG from the US directed towards Asia surely will."

Mestrallet ended on a grimmer note for European energy policy, which he contended has "failed on all three of its objectives," the environment, price and competitiveness, and security of supply. On the environmental side, the arrival of low-priced US coal and conventional gas has caused a rise in CO₂ emissions. Meanwhile, the CO₂ market has proven inefficient "as current market prices show," he said. The second failure is the price and competitiveness of energy. Electricity prices are rising in Europe while they decline in the US, "a significant competitive gap with respect to the US," he said. The shutting down of gas-fired power plants has jeopardised the final objective, security of supply,



Gérard Mestrallet
Chairman & CEO,
GDF Suez

he added. Mestrallet lamented that the plants “failed” to break even in a market in which renewable electricity, wind and photovoltaics (PVs) continue to grow through subsidies “regardless of the market need.” “On the other hand, Europe is still hesitating about actively searching for its own unconventional oil and gas resources, which perhaps could be a part of the solution,” he concluded.

Natural gas markets and geopolitics: A map in transition

Panel participants said on 15 October that shale gas is a significant game changer, particularly in North America, but those in Asia who hope it will transform energy pricing are unlikely to be satisfied because the pace and scale of the shale gas revolution in North America will be difficult to replicate.

China has vast deposits and shale gas will be developed in other countries, such as Algeria. “Natural gas is the fuel of the 21st Century,” said Abdelhamid Zerguine, CEO of the country’s largest oil and gas company, Sonatrach. However, “the pace and scale of what we see in North America will not and probably cannot be replicated anywhere else,” said Martin Houston, COO & Executive Director of BG Group.

Jean-Marie Dauger, Senior Executive Vice President of GDF Suez, listed several special conditions that had made the North American shale gas boom possible, including a “unique” system of property rights, an established world-class oil service industry, and a huge capital market. “It is very unlikely that anywhere else in the world all these conditions will be met,” he said.

Jang Seok-hyo, President & CEO of KOGAS, expressed the hope that the shale gas development can help Asian buyers. “We do not want to pay the extra cost under the so-called Asia premium,” he said, referring to the current system under which Korea, Japan, and other Asian countries are locked into long-term contracts that tie the prices they pay to higher oil prices.

Houston noted that “only one project is in construction to export LNG from the US,” adding that oil will continue to dominate Asia’s energy supply. That’s not necessarily a bad thing, he suggested, because “oil has provided long-term stability” in the energy market – while gas prices will have



Abdelhamid Zerguine
CEO, Sonatrach

to rise in coming years to reflect the investment needs of explorers and producers. “North America is not going to be a price setter,” added Russell Girling, President & CEO of pipeline company TransCanada.

Eurasia: Partnerships to unlock its full potential

Central Asia offers vast potential for energy procurement, but challenges lie ahead for the region’s nations as well as the foreign players that are needed to develop energy resources, which could produce around three per cent of global energy needs, the World Energy Congress was told on 15 October.

The area offers resources that include coal, natural gas, and hydroelectric power, said Davood Manzoor, Iran’s Deputy Minister of Economic Affairs and Finance. It’s time for all interested parties to create a framework that enables natural resource development to begin, he noted.

“Cooperation and collaboration is of the essence,” says Selahattin Hakman, Group President of Energy at Turkey’s Sabanci Holding. The Eurasian region has a long history of international trade and concurs that a “liberalized competitive market” should be created. He said this would attract investment and foster partnerships with firms in the gas and electric sectors.

However, significant obstacles remain in exploiting these resources and delivering them to export markets. As a solution, Jeong Chang-seok, the Executive Vice President at Korea National Oil Corp. (KNOC), said his nation should strike mutually beneficial agreements with such countries as Uzbekistan and Kazakhstan. He proposed a pact in which South Korea would develop these countries’ infrastructure in return for access to their natural resources.

Almassadam Satkaliyev, the Chairman of Kazakhstan’s Samruk Energy, said his country welcomes more foreign investment. As an example of the type of cooperation envisioned, he cited the construction of a trans-regional pipeline that will deliver natural gas to China.



Almassadam Satkaliyev
Chairman,
Samruk Energy

Clean energy without borders

In order to achieve the UN goal of universal access to electricity by 2030, there must be movement toward

eliminating border restrictions that prevent clean energy technologies from reaching those who need them most. International and national efforts are “absolutely critical,” said Christiana Figueres, Executive Secretary of the UNFCCC. “The quality of energy determines quality of life.” To bring down access barriers, Figueres urged real changes in government and institutional energy policies. That could start with eliminating high tariffs on green technologies in developing countries.



Christiana Figueres
Executive Secretary,
UNFCCC

Reducing border barriers not only increases the opportunity for energy consumption, but also creates jobs in the field of energy production. Economic prosperity cannot be achieved without taking energy concerns seriously, said Kandeh Yumkella, Special Representative to the UN Secretary General & CEO of SE4ALL. The low cost of labour in developing countries makes them ideal locations for the manufacturing of solar panels or other green technologies, he explained. But, progress just doesn’t stop with job creation, Yumkella said. “All UN Millennium Development Goals cannot be achieved without having energy as our goal.”

Funding the delivery of clean energy to the developing world will depend on many innovations, said Jim Rogers, Chairman of Duke Energy in the US. Looking from a business perspective, Rogers explained challenges can be met by mixing three sources of funding: public funding through organisations like USAID, charitable contributions, and “impact investment” or institutional loans that get projects off the ground and eventually pay back the investor. Partnerships with local utility companies also need to be fostered to ensure that electricity reaches those in the most remote regions. There remains “much work to do to bring resources together to make it happen,” Rogers added.

Energy industry has as many opportunities as challenges

Thanks in part to the emergence of new business models and services, the energy industry has as many opportunities as challenges, Fulvio Conti, CEO & General Manager of Italy’s Enel, told the World Energy Congress on 15 October. “The world doesn’t look round anymore. It doesn’t look flat, either,” he said. Rather, it’s a triangle or square with an axis that represents a changing global industry: North American

shale gas and oil, the growth of renewable energies, the need for energy efficiency, and coal and other fossil fuels. “Innovation is becoming the real factor of the future development of our industry,” he said.

Conti took a holistic approach, finding “elements of truth” in the World Energy Congress’s two global energy scenarios through 2050, known as the “Jazz” and “Symphony” Scenarios. “Jazz” has a focus on energy equity with priority given to achieving individual access and affordability of energy through economic growth. “Symphony” has a focus on achieving environmental sustainability through internationally coordinated policies and practices.

Urging the diversification of energy sources, Conti said, “We should maintain a much broader portfolio of technologies based on a simple fact: that we still don’t know which will be the one winning, which one the world will be using.” “There will not be a single moment that will answer all of our prayers,” he added. “Instead, we will need to rely on a very valid mix of options to ensure that today, as well as tomorrow, the lights are on and that people can move from one place to another lightly and affordably.” Conti warned, however, against excessive and arbitrary government interventions in the industry, urging clear and reasonable regulations.

Liu Zhenya, Chairman of the State Grid Corporation of China (SGCC), the country’s biggest power supplier called for a “third industrial revolution” based on pillars of modern networks and information technology (IT), new energies, distributed generation, and strong and smart grids. He said there was a need for an emphasis on green energy and regional integration to solve the challenges of global supply, reliability, efficiency, and the environment. “The world’s energy is heading towards an efficient, clean, low carbon future,” he noted, adding that wind and solar will become some of its primary sources.

East Asia accounts for 28 per cent of the world’s primary energy consumption, he said. Due to growing demand, he looked at the benefits of a hypothetical ultra-high voltage (UHV) electricity super-grid between Asia and Europe, and one in East Asia, to help deliver clean energy around the world. China has invested US\$3.5 billion in the world’s longest UHV power line, part of an effort to alleviate the costs of power transmission and to deliver large quantities of power across long distances. □



Fulvio Conti
CEO & General
Manager, Enel