



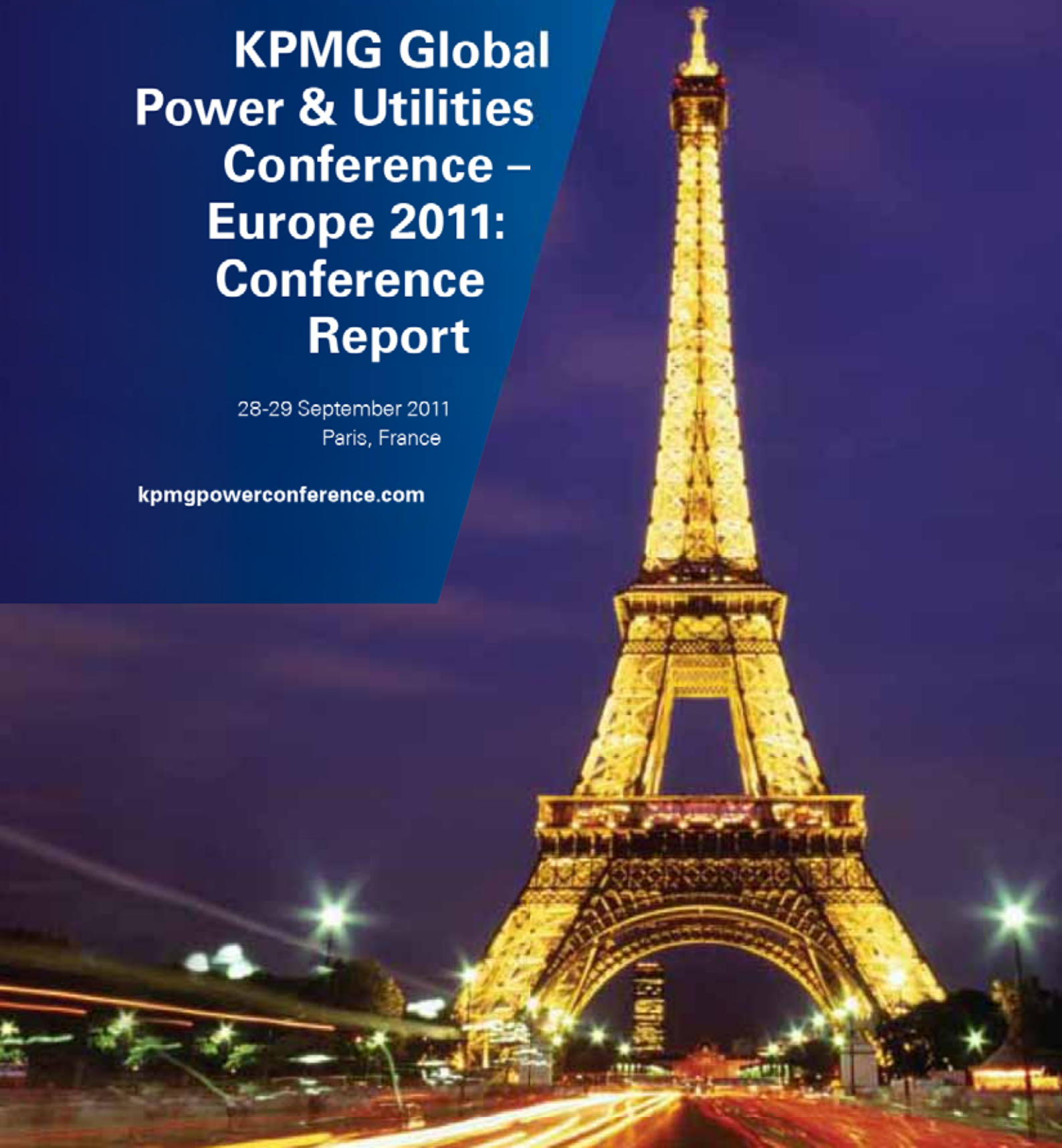
cutting through complexity

KPMG GLOBAL ENERGY INSTITUTE

KPMG Global Power & Utilities Conference – Europe 2011: Conference Report

28-29 September 2011
Paris, France

kpmgpowerconference.com







Introduction

Dear Reader,

It is with great pleasure that I present to you this summary of the first annual KPMG Global Power & Utilities Conference – Europe, KPMG's flagship industry event, held in Paris, France on 28-29 September 2011.

With over 40 distinguished speakers, addressing delegates via keynote presentations, 7 issue-focused plenary roundtable discussions, and 4 parallel sessions, the conference provided a truly extensive overview of the key strategic, financial, environmental and risk related issues that are driving change in today's power and utilities sector.

As recounted in the following pages, among the topics addressed included managing the world's burgeoning demand for power, regulation's impact on network and generation project financing, intelligent frameworks to promote power sector decarbonization, the role of nuclear power in a low-carbon energy policy post-Fukushima, and the prospects for power-sector financing in Europe.

Paralleling an agenda featuring globally relevant topics, we were also proud to host a global audience of 258 delegates representing 6 continents and 39 countries, ensuring that both onstage and offstage discussions benefitted from international experience and best-practices.

I would like to take this opportunity again to thank all the speakers who took part in the conference, not only for giving us their time, but also for sharing with us their insight and perspectives and helping to foster an extremely insightful 1 ½ days.

I am pleased to inform you that preparations for the 2012 KPMG Global Power & Utilities Conference are already in motion and I encourage you to join us for this event, as we build on the discussions held in 2011 and continue our dialogue on the drivers that are shaping the management agenda for the power needs of tomorrow.

Sincerely,



Péter Kiss
Global Head of KPMG's Power
& Utilities Practice

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Keynote
Speaker

Challenges Ahead for Global Energy Markets

Edmond Alphandéry

Chairman of the Board of Directors, CNP Assurances; Former Minister of the Economy, France; Former President, EDF; and Member of the Board, GDF SUEZ

To meet the world's expected energy demands in the next 25 years is estimated to require some USD 33,000 billion in investment, an *"absolutely huge"* figure, stated keynote speaker Edmond Alphandéry, chairman of CNP Assurances, during his opening keynote address during the KPMG Global Power & Utilities Conference – Europe. In doing so, he clearly framed one of the key challenges being addressed during the conference – namely the need to keep pace with a power demand that is expected to grow exponentially in the near future.

This investment would severely test both the financial sector and the abilities of the various regulatory regimes in place to provide the security needed to attract sufficient funding.

On the supply side, he warned that pressure on fossil fuel resources will not go away, particularly with fears that, according to some estimates, oil reserves could run out by the end of this century. Coal and natural gas – most particularly, if the promise of shale gas is realized – will continue to play significant roles in the global generation mix, he said.

Nuclear generation, despite the shock of the Fukushima accident in Japan, will also have an increasing impact.

"Several countries, mainly in Europe, have already decided to revise down their nuclear programs. However, in the context of rising concern about energy security, rapidly growing demand, climate change and local pollution, it seems unlikely that emerging countries will downsize their plans in nuclear generation," he said.

Renewables will *"clearly"* have a strong role in the future energy mix, particularly hydro-power, which, though accounting for 80% of total global renewable capacity, still holds enormous possibilities, with only one-third of all potential currently exploited.

The former president of EDF was, however, more cautious on the future of wind and solar generation, noting *"structural problems, currently insufficient competitiveness and intermittence in their production, and their reliance on political decisions and environmental policies."*

He noted, however, that the cost of solar energy has been dropping *"dramatically"* in recent years, and that innovation and industrialization, along with the increasing price of fossil fuels are set to make these renewable sources more competitive.

Reflecting on the elements of a sustainable energy mix, Mr Alphandéry also addressed the threat of climate change, and the need to include social costs into the price of energy.

Citing the IEA base scenario that energy-related CO₂ emissions will increase by a *"staggering"* 21% between now and 2035, resulting in a rise in temperature of some 3.5 degrees C (compared to the 2 degrees of the Copenhagen

objectives) he denounced current trends as *"absolutely not bearable."*

"When we go for a drive in our car, are we sure we are paying [for gas] at its true value?" he asked. Logically, he reasoned, it is necessary to include the full external cost to the environment.

Mr Alphandéry believes that the full, social price of fuels should be included in, say, auto fuels, to be paid by the final consumer. *"And then consumption would be gradually reduced to the point where the environment can regenerate by itself,"* he said.

Noting that this idea had originally been suggested by a British economist, he advocated a *"floating gas, or carbon tax, which puts a floor on the selling price of fossil energy."*

This floor should be increased every year by an agreed percentage, to give consumers predictability.

Such reform *"would have many beneficial effects, including supporting research into renewable energy and investments, but most importantly it would also create a long-term incentive for consumers to reduce their fossil energy consumption,"* he declared.



Keynote
Speaker

Nuclear Technology in a Changing World: Have We Reached a Turning Point?

Mohamed ElBaradei

Director General, International Atomic Energy Agency (IAEA)
1997-2009 and Nobel Peace Prize Laureate

Will the nuclear accident in Fukushima, Japan, in March 2011 become a turning point for nuclear power? Will it cause other countries to follow the example of Germany, and move to abandon nuclear power as a source of electricity generation?

In short – though with certain reservations – this cannot be concluded, according to Mohamed ElBaradei, former Director General of the International Atomic Energy Agency (IAEA) from 1997-2009.

Certainly the world remains shocked by the devastation in Japan, but as the Nobel Peace Prize Laureate pointed out, the Fukushima nuclear reactors shut down after the original earthquake, as per safety protocol, and it was the tsunami which caused the overheating and resulted in the disaster.

Lessons, certainly, should be learned from Fukushima;

“Fukushima proved that the worst case scenarios on which the planners made their assumptions were not worse case enough. In other words, the reactors should be located and designed, not just for the unexpected, but for the seemingly impossible,” he said.

But given the projected demand for electricity worldwide, plus fears over energy security and CO₂ emissions, many countries have little choice.

“Demand will also be fuelled by continuing growth in world population, which the UN expects to reach 8.2 billion by 2030. As things stand at present, nuclear looks like the only viable alternative that can reliably deliver the power needed to sustain economic growth,” he said.

Further, nuclear technology is constantly improving. *“The Fukushima reactors were over 40 years old, and therefore may have lacked safety features such as better fire protection and additional feed-water systems of modern reactors,”* he noted.

But for Mr ElBaradei, the real answer to future safety of nuclear power lies in improved national and international supervision.

“In the case of Fukushima it is probably too soon to draw many firm conclusions, but...it seems clear that the relationship between government regulators and the nuclear plant operators in Japan was too close for comfort,” he said.

Regulators must be independent, and must have the power to shut down plants whenever this is deemed necessary.

“I believe that we need a comprehensive safety review of all reactors in the world – military and civilian. Any that do not meet the most modern safety requirements and which

cannot be retrofitted and upgraded quickly should be shut down,” he said.

But regulation should go more international, with the IAEA expanding its role, including cross-border, peer-review inspections, all made according to IAEA safety standards, which should be binding.

“Not all countries would like this. But...like nuclear weapon proliferation, nuclear safety also has implications for their neighbors, so countries should accept that it is not unreasonable for their neighbors to take an interest in how safe their nuclear reactors are,” he said.

The IAEA should also become a focal point for global emergency response, ideally with communication links to every nuclear power plant worldwide, so that the information is shared as quickly as possible between experts.

“If the risks of nuclear technology are to be considered acceptable by public opinion we must continue, and make the global nuclear safety regime more comprehensive and more robust,” he said, before concluding: *“[Finally] I would return to the question; Have we reached a turning point? My answer is yes, we have reached a turning point in that Fukushima has taught us that we must take [nuclear] safety to the next level.”*



Keynote
Speaker

Sustained Power – Energizing a Low-Carbon Economy

Yvo de Boer

Special Global Advisor, Climate Change and Sustainability, KPMG, and Former Executive Secretary, United Nations Framework Convention on Climate Change (UNFCCC)

At one point during his address, Yvo de Boer, having been in Liverpool the previous day, invoked the Beatles: “Am I the fool on the hill or is there really an appetite for change?” he asked rhetorically.

Mr de Boer, who is KPMG’s Special Global Adviser on Climate Change and Sustainability, warned of the dangers of complacency and called for a revival of awareness over future energy usage and the resultant increase in global warming – along with a level playing field for renewable energy sources.

“The political focus, certainly in this part of the world, is entirely on the economic and financial crisis, and climate change is off the agenda. But does that also mean that climate as an issue is gone?” he asked.

Citing an IEA prediction that energy consumption will rise by some 40% by 2030, he warned that any “business as usual” scenario will lead to a global temperature increase of up to 6 degrees Celsius, predominantly caused by fossil fuel emissions.

Despite the lack of a binding global framework, there is evidence of pressure to reduce energy use, to enhance resource efficiency and recycling, to improve energy security, find substitutes for oil, and to increase the share played by renewables. More than 80 countries, most particularly Germany, China and Brazil, have made huge efforts to reduce greenhouse gases or at least encourage renewables, he said.

Indeed, the commitments made by the 80 plus countries, which account for more than 85% of global energy-related CO₂ emissions, are about four or five times the reduced emissions that would be achieved by merely applying the Kyoto protocol.

So far, so good, but with fossil fuels expected to account for 80% of the projected additional energy demand to 2030, it is not enough.

Mr de Boer accepts that renewable sources, given current technology levels, often need subsidies to reach the market, but noted that fossil fuel subsidies worldwide in 2009 amounted to USD 320 billion.

“This is over ten times as much as subsidies for renewables, clearly distorting competition. I know that subsidies are not created in order to harm the environment, but nonetheless, this is a very serious concern,” he emphasized.

The EU, which is working towards a common grid, currently pays 2.5% of its annual GDP to import energy from elsewhere. An integrated EU energy market would increase GDP by 0.6 – 0.8%, generate 5 million more jobs by 2020, and would save each consumer EUR 100 per year, he argued.



What then, should be done?

Mr de Boer advocates a package of measures, including harmonized and predictable regulations, new financial tools to spread risk, simplified permitting for new transmission lines, and more flexible power systems that allow for a variety of local power sources and also improved demand side management.

“Currently, we are seeing much disinvestment because of lack of finance for clean technology. The financial mechanisms needed for clean energy success are clearly complex, and not helped by the issues of upfront costs and risks,” he said.

“If we want to remain within the Copenhagen Accord, clearly, very much more is needed. In all of this, we are not passive bystanders. We have the knowledge and the ability to be change agents. And I hope we will be just that,” he concluded.

Keynote
Speaker

Fusion Energy – Power Generation of the Future

Osamu Motojima
Director-General, ITER Organization

A safe and inexhaustible supply of energy for mankind seems the stuff of dreams, yet that is just what Osamu Motojima promised to bring to reality in his address to conference delegates.

Mr Motojima is Director-General of ITER Organization, which implements a multi-national project being built in southern France. The project aims to create a nuclear fusion reactor in which the elements of deuterium and tritium fuse under controlled conditions to release extraordinary amounts of usable energy.

“This is what happens at the core of the sun. It is like bringing the sun to Cadarache [the location of the ITER project in France],” he said.

“We will inject 50MW, and we will get out 500MW as a result of the DT [deuterium-tritium, both isotopes of hydrogen] fusion reaction. In other words, ITER is a power amplifier. But

it is an experimental reactor, and therefore is very expensive. The next stage will be a demonstration reactor, and that will be a money amplifier,” he said.

To get this fusion reaction underway requires extraordinary high temperatures of 100 – 150 million degrees Celsius, and to achieve this requires extraordinary technology, skills, and funding.

The seven ITER consortium members - China, the EU, India, Japan, Korea, Russia and the USA – represent 34 countries, make up 50% of the world’s population, and about 80% of global GDP. Together, they will contribute up to EUR 12.8 billion, the estimated total construction costs, although this will largely take the form of in-kind contributions.

For example, the EU and Japan will coordinate work on the so-called toroidal coils, which will contain 80,000km of super-conducting strands of niobium-tin (Nb3Sn), China will supply the correction coils, and the central solenoid will be the responsibility of the USA.

Most parts will be made in the home countries, and shipped to France for final integration, although some components are so vast they have to be fabricated on site.

According to plans, the EU will take a 45% stake in the construction costs, with the other members having 9% each.

Although the timetable has been hit by delays – not least due to earthquakes in Japan – the plan is that construction should be complete by November 2020.

Mr Motojima stressed the safety aspects of the fusion reactor.

“A Fukushima-like accident can never occur, as ITER does not utilize uranium or plutonium [as in a conventional fission reactor]. High level radioactive waste can never be produced, and the fusion process is intrinsically safe, as any disturbance will stop the plasma. Therefore a runaway reaction, or core meltdown is impossible; it’s an automatic advantage,” he stressed.

And although strict measures must be taken to ensure humans do not ingest tritium, which is radioactive, even in the worst case scenario, such as a fire in the tritium plant, the radioactive impact on the surrounding population would be 1000 times less than natural background radiation, he said.

Nonetheless, the general public has not been educated about the differences from a safety standpoint between fission and fusion reactors, he lamented.

“It’s not easy to explain the difference between fusion and fission, so we need to expend more effort. We have to explain this repeatedly to obtain the understanding of the public,” he said.



Keynote
Speaker

The Energy Challenge and the Russian Paradigm

Dominique Fache

Country Manager for Russia and Commonwealth of Independent States (CIS), Enel;
Chairman of the Board, Enel OGK-5; Founder, Club de Nice – Energie et Géopolitique

For anyone unaware of the investment needs in the energy sector in Russia today, Dominique Fache opened his address with a little anecdote. *“The [power] equipment found in the Urals dates back to 1934 and has not seen any investment for twenty years. The equipment is getting older and older and more than 60% should be decommissioned today,”* he said.

Mr Fache, Country Manager for Russia and CIS for Enel, the Italian energy group, has twenty years of experience living and working in the country and he warns that the fixed assets are not just old – energy companies are faced with a *“double gap”*, as the tariff system inherited from the Soviet times are insufficient to justify renewal.

True, there is a mechanism to guarantee a return on new investment – but that does not apply to modernization of existing assets.

“New blocks are 10% of the problem, and modernization is 90% of the problem,” he says.

The tariff system is complicated and skewed, with household prices cheaper than industrial tariffs – again a result of the Soviet era.

The pricing system results in huge inefficiencies – energy intensity in Russia is about four times that of Canada or Finland.

“If you plot energy intensity against tariffs [for different countries], you find that the countries with low energy intensities have high tariffs. In other words, if you want to fight this energy intensity, you have to raise the tariffs. It’s politically sensitive and not very nice, but there is no other way,” he says.

Under such tariff and ownership conditions, renewables, he says, are going nowhere.

Enel has invested more than EUR 4 billion in the last five years in Russia, working in consortia in electricity generation, in distribution and in gas.

At the heart of the operation, Enel has 56% of OGK-5, a power company with four big plants, three gas fired and a coal-fired operation which is *“probably”* the largest in Russia, he said. OGK-5 has opened two new combined cycle units recently, in the Urals and in southern Russia.

But, Russia, which saw something of a privatization drive in the electricity market three years ago, under Anatoly Chubais is now in reverse.

“One question that I can openly discuss [is that] the portion of the power generation sector belonging to the state is getting bigger and bigger. Today, through the big state companies, two-thirds of generation is in the hands of the government,” he said.



What of the future? Russia needs roughly USD 500 billion in energy investment, he said, citing a 2010 KPMG report*.

“We have to think about the future and reform. We are at the cross roads. We desperately need a new Chubais – somebody, somehow has to come with a second wave of reform; if not, stagnation will remain,” he said.

There is also potential for geo-political conflict.

“In French we have a saying: cherchez la femme (‘look for the woman’); in Russia, in the energy sector, we say cherchez le pipe (‘look for the pipe’),” referring to the fact that energy problems underpin many political disputes in the country.

Then there is Siberia. *“Look at Siberia. In Siberia and the Far East, you have everything; the potential of the Arctic, the potential of the big rivers, coal, gas, and you have the demands of China. I think for the next 40-50 years, Siberia is going to become the new challenge,”* he concluded.

*Think BRIC! Key considerations for investors targeting the power sectors of the world’s largest emerging economies

Keynote
Speaker

Gas Power Generation Perspectives in Europe

Denis Fedorov

Chief Executive Officer, Gazprom Energcholding

Given its price, abundance of supply, flexibility and many other beneficial characteristics, natural gas is well placed to become the preferred option for a significant number of new generation projects across the European continent in the coming decade stated Denis Fedorov, Chief Executive Officer, Gazprom Energcholding

Affordable energy is crucial for the economies of Europe, yet, despite attempts to curb price rises by liberalizing the European electricity markets, electricity prices have been rising above the rate of inflation, he stressed.

"In 2005-2011 the growth of annual average electricity prices was typically double that of the consumer price index. In Germany, where the annual inflation rate has averaged a mere 2% for the last six years, electricity prices have jumped by 4.7% per annum," Mr Fedorov said.

With widespread concerns about climate change and the need for clean, efficient energy sources, it is understandable that Europe in general, and Germany in particular, should emphasize the importance of alternative power sources such as solar and wind, yet alternative energy is expensive, and this drive has been one of the factors that has fuelled the growth in prices, he noted.

Furthermore, the pressure on prices will not go away, given the increasing demand for the world's limited energy resources.

"Between 2010 – 2020, a period when significant number of ageing conventional power plants need replacement, consumption in Europe alone is forecast to rise by 15%, to over 3,700TWh. This means we are talking of producing an additional 500TWh, annually," he said.

Meanwhile, concerns about nuclear power safety post-Fukushima has resulted in several countries turning against further nuclear development.

"Germany has decided to close nine nuclear power plants by 2022. These currently represent 23% of the country's total capacity, and produce 170TWh of base load electricity," he pointed out.

Given these huge capacity renewal needs, it is almost inevitable that gas will increase its share in generation in Europe.

"Gas-fired plants are clean, efficient, and flexible in terms of its ability to respond to load variations. It is also cheap – new gas-fired capacity starts at around EUR 500 per kilowatt. This compares to coal, which starts at about EUR 1,200 per kilowatt, and renewables, which have an indicative price of EUR 1,300 per kilowatt once subsidies are included," he said.

Granted, the gas price is more dependent on world trends than locally controlled coal prices, but coal carries a greater environmental penalty, he noted.



Otherwise, gas carries few risks. *"There is no fear of any monopoly situation. Gas represents only 23% of primary energy used for generation across Europe – a lower share than both nuclear and coal. In Germany it is only 13%, and a mere 5% in France. Even in 2020, we do not expect gas to provide more than 30% of electricity generation,"* he said.

Gazprom, which has a proven record of reliability as a corporate energy partner, is financially strong, with a net income margin of 27% – far higher than the large utilities of Western Europe – minimal debt and cash assets of EUR 11 billion. It also has wide experience in generation, its 37GW of installed capacity making it the largest player in Russia and a Top 8 place in Europe.

"Gas will play an increasing role in the European generation, and we at Gazprom intend to expand into this market. We have proven that integrated companies can provide smooth, cost-effective operations, cutting out the middle traders and providing power at predictable prices. Our presence will enhance the European energy market – it will increase, not decrease, competition," Mr Fedorov concluded.

Keynote
Speaker

Outlook for the South African Energy Sector – Our Journey Towards 2030

Nelisiwe Magubane

Director General, Department of Energy in the Republic of South Africa

Renewable sources feature strongly in South African plans to roughly double generation capacity from the current 44,000MW to around 80,000MW in the next two decades, Nelisiwe Magubane, Director General, Department of Energy, Republic of South Africa, informed conference delegates.

“To ensure the security of supply, we have planned, for the next 20 years, for [developments using] an appropriate energy mix, while taking account of the climate change,” she said.

Based on what the government calls its *“Integrated Resource Plan 2010-2030”* (IRP2010) South Africa intends to ensure electricity demand is met across the country in the *“most cost-effective manner,”* after factoring investment costs, diversity and security of supply, job creation, climate change and sustainable development.

According to the current version of the IRP, renewables will make up almost 42% of new generation capacity, comprising 8,400MW of wind, a second 8,400MW of photo-voltaic, and 1,000MW of Concentrated Solar Power (CSP).

If realized, the IRP will transform South Africa’s electricity sector; the country currently boasts annual consumption of some 275TWh, worth USD 7.8 billion – and is 94% coal-based.

But far from concentrating on renewables alone, the IRP envisages an equally ambitious expansion of nuclear capacity, with 9,600MW being added to the current 1,930MW installed at the country’s single nuclear plant.

These targets were only decided after experts assessed various scenarios, including the possibility of phasing out nuclear altogether.

“We went through extensive public consultations and learned that it’s very easy to find yourself in the renewable energy versus nuclear debate. It’s very divisive, and ultimately, we need them both. We looked at a scenario without nuclear, and discovered that if you remove nuclear, your carbon footprint rises quite dramatically. You need nuclear to support renewable generation,” Ms Magubane said.

The IRP also sees additional 6,300MW of coal-fired capacity, 2,400MW of combined-cycle gas turbines and 3,900MW of open-cycle gas turbines for peak loads.

To achieve this massive expansion, South Africa is making plans to attract private investors to set up Independent Power Producers (IPPs), and avoid financial, know-how and competitive constraints.

But can the country, where the sector is largely dominated by the state-owned Eskom – a vertically-integrated generator-grid-distributor that currently accounts for 97% of domestic generation – create the stable market conditions to assure potential investors of a level playing field?

Ms Magubane is optimistic and determined that this can be achieved, adding *“We are going to create an Independent System Operator [arrangement] that is fair and transparent for both IPPs and Eskom.”*

The Director General was also keen to assuage doubts over South Africa’s ability to pay for the developments. South Africa is the 25th largest economy globally, and has solid economic growth – with expansion expected at around 3.7% this year, she said.

Parts of the planned developments are already underway. South Africa began the bidding process for about 3,725MW of renewables, including 1,800MW of wind, at the end of July 2011.

“We have received about 250 registered bidders so far, and we are looking at 3,000 clarification questions, to respond before the closing date for the first phase, on 4 November 2011. If the first phase is not oversubscribed, we can accept more bids in the second phase, which is expected to close on 5 March, 2012,” she said.



Roundtable Discussion

Theme 1: Strategic Growth

Strategies for Meeting the World's Growing Power Demand



With nearly half of the current European generating capacity to be replaced by 2030, requiring investments in the range of EUR 30-50 billion, the power industry and its suppliers face *"a unique opportunity to build a low-carbon generation mix."* Benjamin Fremaux, Senior Executive Vice President, Strategy, Mergers and Acquisitions, for AREVA, argued during the first panel session.

But with renewables reliant on *"substantial public support,"* and major uncertainties over the use of carbon capture, Fremaux said nuclear must remain a favorite for future, cost-effective, base load generation.

Alan Svoboda, Executive Director Sales and Trading, CEZ Group, also highlighted the challenges surrounding investment into renewables noting, *"the more you invest into renewables, the more you exploit [in the form of feed-in tariffs] the expected returns on existing conventional assets, and the more that you take away appetite of investors into new conventional assets,"* he argued.

Regulatory impact and uncertainty are key defining factors behind generation and network related investments in the Baltics, as well as much of Europe, noted Sandor Liive, Chairman of Eesti Energia.

"Electricity prices are generally too low to justify investment into generation, especially due to the huge uncertainties over the price of CO₂. What kind of long-term investment can companies make if we don't know if in ten years the cost of CO₂ is zero or EUR 40 per tonne?" he said.

Estonia's solution to this dilemma is a power plant, currently under construction, fired by both oil-shale and biomass.

"It's like buying an option to hedge against the CO₂ price. If it's high, we can use up to 50% biomass. If [low], we can use more fossil fuel," he said.

But can renewables have a role *"filling the [generation] gap?"* challenged moderator Wilfrid Lauriano Do Rego of KPMG in France.

For Hubert Labourdette, General Manager, Assystem Engineering and Managing Director, N Triple A, that depends on the country.

"In Norway we don't have to fill the gap; they have 100% of capability in energy," he said.

Elsewhere, a better policy would be to reduce the gap before needing to fill it.

"To reduce the gap means [introducing] a strong, energy-efficiency action plan...including smart management systems, able to manage customer demand in line with production," he added.

Certainly renewables will have their place, but the tendency will be away from de-centralized production, such as solar panels on buildings, to large-scale projects like the off-shore wind programs in France – despite their complexity, Mr Labourdette said.

Fine on paper, but fact is, renewables and smart grids will not be enough to fill the gap, countered Mr Fremaux.



"Denmark has the highest share of wind in Europe; 30% of their mix is renewables, but their CO₂ intensity is nearly 70% higher than the European average, because the rest of the mix is fossils. It will be the same for Germany, with fossils, not only filling the gap, but also for back-up supply," he argued.

Guaranteed feed-in tariffs for renewables carry further risks, as the Czech Republic is finding out, noted Mr Svoboda.

"Last year the tariffs for new investments were so attractive that in just twelve months the Czech Republic became the global leader in terms of photo-voltaic per capita. The money committed to this amounts to investments into four new nuclear power plants! Get the regulatory framework wrong for twelve months, and you can be paying the bill for the next 20 years," he said.

Moderator:

Wilfrid Lauriano Do Rego,
National Head of Energy,
Chemicals and Pharmaceuticals,
KPMG in France

Panel Participants:

Ignacio Estella, Director of Business Origination, Iberdrola

Benjamin Fremaux, Senior Executive Vice President,
Strategy, Mergers and Acquisitions, AREVA

Hubert Labourdette, General Manager, Assystem Engineering
and Managing Director, N Triple A

Sándor Liive, Chairman of the Board, Eesti Energia

Alan Svoboda, Executive Director Sales and Trading, CEZ Group

Roundtable Discussion

Theme 2: Role of Regulation

Role and Competences of Regulation in Liberalized Energy Markets



When Alistair Buchanan, became CEO of Ofgem, the UK energy regulator, the job was relatively uncluttered. *“The core competences were independence of mind, and ability for regulatory economics,”* he said. *“Now we are hiring global energy specialists, top lawyers, senior environmental economists, consumer specialists, European specialists and communication specialists! We want people to communicate, because energy and climate change are so central to UK policy,”* he says.

In the past two years, Ofgem has been made responsible for sustainability and future consumers; recently it gained more powers over enforcement and appeals, and now it has to find the middle ground between affordability, security of supply and sustainability.

“We have a statutory responsibility with all three of those elements. We are no longer markets-leave-alone, we are markets within a framework,” he said.

Customers are increasingly concerned about prices and performance – and often believe the regulator has super powers.

“GBP 200 billion has to be found by 2020 to rebuild the system, and people want assurances that utilities are not raising prices to take more profit. They turn to Ofgem for assurance regarding this.”

In light of current economic instabilities and the growing demand for energy Csaba Kovács, the panel moderator and Director with KPMG in Hungary, posed the question: *„Do we require de-regulation or reregulation of energy markets?”*

Rafael Gómez-Elvira González, director of European Affairs of the Spanish National Energy Commission and Joint Coordinator of the electricity and gas regional initiatives in ACER, says this is *“a very complex question.”*

“At national level the ideal is to have less regulation, although national energy regulators have more powers because of the third package of directives. But we are seeing more regulation at a European level,” he said. Forthcoming EU cross-border legislation will improve the management of all inter-connections across European borders through the so-called framework guidelines and network codes. This EU regulation will be pivotal in achieving the

Internal Energy Market in EU. *“These regulations will be binding on EU states and will allow for an efficient use of the limited cross border capacity. In this context, he also addressed some regional and cross-regional projects aiming to integrate forward, day-ahead and intraday national markets.”*

A new EU regulation on market integrity and transparency has been recently approved by both the Council and the European Parliament. ACER, the Agency for Cooperation of Energy Regulators, will have a crucial role in monitoring all transactions, with close co-operation with national authorities. *“These are tremendous steps forward in setting up a European framework for transparency,”* he said.

Related to competition at the retail level, after almost two decades of liberalization process, now it is time for liberalized energy markets to deliver real benefits to EU consumers.

Future EU regulatory concepts seem to have taken ideas from the Norwegian experience, which has had an electricity market since 1992, noted Tor Inge Akselsen, senior vice-President for international affairs at Statnett, the state-owned grid.



“We’ve had growing regulation in Norway for 20 years. What is coming up in the EU looks very good. ACER should make the European market function better,” he said.

In Mr Akselsen’s analysis, the national markets are not big enough to create competition, particularly when national champions are in the mix.

“To challenge the champions and to make the international market function better you must have regulation,” he said.

Regulation is taking on a new role from the concept of the mid-1990s, when the message was *“competition where possible, and regulation only where*

necessary. This slogan is no longer valid. We’ve moved away from that,” said Ulrich Rust, head of cartel and regulatory issues at RWE.

But while it is important for regulators to learn, for example, from the flaws in financial regulation that helped create the global crisis, it is simply not fitting to transfer all ideas.

The regulatory model has to undergo a radical transformation to accommodate the de-carbonization agenda, said Laszlo Varro, head of the gas, coal and power division at the IEA.

“We need a comprehensive transformation of the networks because we need to bring in new electricity

production, off-shore wind and other sources. And on the distribution level we need smart grids,” he said.

He also warned that guaranteed feed-in tariffs distort markets.

“The feed-in tariffs were mostly initiated by ministries that have the promotion of renewables on their agenda. These policies have been very effective, rolling out large scale renewable production. [But] we need to ensure that the further growth takes place in a market framework, and preserve the efficiency gains originating from competition during the de-carbonization phase,” he said.

Moderator:

Csaba Kovács, Director, Energy & Utilities Business Advisory Practice, KPMG in Hungary

Panel Participants:

Alistair Buchanan CBE, Chief Executive, Ofgem

Tor Inge Akselsen, Senior Vice President for International Public Affairs, Statnett

Dr. Laszlo Varro, Head of Gas, Coal and Power Division, International Energy Agency (IEA)

Dr. Ulrich Rust, Head of Cartel and Regulatory Issues, RWE

Rafael Gómez-Elvira González, Director – European Affairs, Spanish National Energy Commission (CNE) and Joint Coordinator of the Electricity & Gas Regional Initiative, Agency for the Cooperation of Energy Regulators (ACER)

Roundtable Discussion

Theme 3: Global Sustainability

What Sort of Enabling Framework Will the Power Sector Need to Make the Significant Investments Required to Decarbonize Itself?



Opening the roundtable discussion, Yvo de Boer, who is KPMG's Special Global Advisor on Climate Change and Sustainability, posed the following question to the panelists: *"Where are we on the politics of climate change? Has it stalled or is it moving?"*

Two years ago, BC Hydro in Canada did a citizens' poll, and found climate change was at the top of the agenda.

"Citizens want clean energy. But the most recent poll stated that customers consider keeping the price of electricity low to be equally important as generating clean energy; whereas two years ago, our customers were far more concerned about clean energy and preventing climate change. The cost of electricity is of escalating concern to our customers, but clean energy is still important. Given the state of the global economy, this research isn't surprising," said Dan Doyle, Chair of BC Hydro.

The province of British Columbia has introduced a carbon tax, and derives an impressive 93% of its energy from renewables, but Mr Doyle does not

see such enthusiasm for green energy across Canada. *"Nationally, other provinces just aren't blessed with our hydroelectric infrastructure, so other jurisdictions aren't able to move as easily in the same renewable direction,"* he argued.

It is a similar story on the other side of the planet, in Australia. True, the minority Labor government has introduced legislation to implement a carbon tax, but national politics are very difficult, says Paul Simshauser, head of corporate affairs at AGL Energy. Seeing that the focus globally has shifted to price, politicians are now weary to support relatively expensive sources of power generation.

The deep split has also had an adverse effect on lending. *"Since the financial crisis, the tenor for debt around the rest of the world has lengthened to thirteen years, and the spread above official rates is round about 240 basis points. But in Australia the tenor has actually shrunk, to seven years maximum, and the spreads being applied have elevated to about 350 –*

400 basis points," Mr Simshauser said.

And the cause? *"You can only put that down to us having one of the most ferocious debates of any country in the world right now around putting a price on carbon,"* he said.

Political debate is also causing uncertainties in the UK as it goes through another review of its regulatory and tariff system said Keith Anderson, Chief Corporate Officer at ScottishPower.

"The big trick for the UK government is how to take the mechanisms used for renewables and also give nuclear access to it, because there is a big political will to see the redevelopment of nuclear as part of the de-carbonisation of the UK. The problem we have is we're taking a long time to implement the new system; the longer you do that, the more you risk slowing down the investment," he said.

The UK needs GBP 200 – 300 billion in investment over the next 10-15 years in nuclear, gas and wind capacity, plus the grid.



"If you are looking at a sector where you think a change of government will trigger another review... you layer that on top of a whole lot of process uncertainty, and it starts to make people question, are they going to invest in the UK?" Mr Anderson said.

Similar to Canada and Australia, Alain Bucaille, senior advisor to the chief executive officer at AREVA, also sees the concern about the economy overriding that of climate change. Climate will be back on the agenda, but only *"when the financial crisis is passed"* he noted.

Until then, Mr Bucaille urges the industry not to remove climate change from the agenda and to focus itself on the largest emitters of CO₂. In doing so a balanced discussion must be fostered, warning that the public is focusing far too much on electricity and missing out on the huge emissions resulting from, for example, transport.

"Electricity is a part of the problem, but it's only [responsible for] 40% of CO₂ emissions. If you have three million cars, or one million people taking a trans – Atlantic flight every thirty years, – it's already so much in terms of CO₂ emissions [and a main driver for climate change]," he said. "Therefore we need

to face up to the realities: as long we don't aim at less 200 g CO₂/KWh for electricity and less than 80 g CO₂/Km for cars, we speak about dreams or illusions."

Moderator:

Yvo de Boer, Special Global Advisor, Climate Change and Sustainability, KPMG

Panel Participants:

Professor Paul Simshauser, Chief Economist & Group Head of Corporate Affairs, AGL Energy

Keith Anderson, Chief Corporate Officer, ScottishPower

Dan Doyle OBC, Chairman, BC Hydro

Alain Bucaille, Senior Advisor to the Chief Executive Officer, AREVA

Roundtable Discussion

Theme 4: Nuclear Focus

The Role of Nuclear Power in a Low Carbon Energy Policy Post Fukushima



Until the early part of this year the nuclear renaissance was a reality, and many countries were enthusiastically looking to expand their nuclear power generation capacity. The dreadful events at the Fukushima nuclear power plant, though, have turned some countries, most notably Germany, away from nuclear power, and made the public in many countries more wary.

One obvious question is; has regulation failed, and is there a need for stricter international regulation?

The basic principle is that it is a national responsibility to regulate nuclear safety, and should be looked at individually. In the case of Japan, there was an international regulatory review a few years ago which identified some basic weak points in the system.

The Japanese, for example, had opted for US regulatory standards when constructing the plants, which did not take tsunamis into account. It should be remembered that the nuclear units at Fukushima survived the earthquake undamaged, but it was the tsunami that followed that led to the disaster.

Further, the Japanese regulatory system is such that it does not encourage development of national regulations, which is why tsunamis were overlooked.

The Three-mile Island event in the USA in 1979, was a wake-up call of the industry, resulting in a serious review of regulation by the industry itself, leading to significant improvements to regulatory effectiveness. Likewise, Fukushima has prompted the industry to revisit this and reflect on the areas of improvement.

Among the other lessons, Fukushima also highlighted a need for better coordination of standards and their enforcement and much better emergency response preparations, including back-up systems to eliminate the risk of prolonged power cuts at nuclear plants.

Fukushima also revealed the dangers of over-reliance on tools such as probabilistic safety analysis (PSA), which, while a wonderful tool, can lead to complacency.

Better crisis management is another lesson to be learned from Fukushima, where reporting contained both disinformation and misinformation

and was catapulted very quickly by the media into the consciousness of the global public, harming the overall perception of nuclear power.

Studies in the USA revealed that vast number of the TV-watching public totally misunderstood that of the 25,000 plus dead and missing in the catastrophe, none were linked to the nuclear aspects of the catastrophe. As a result, public support for nuclear power in the US tumbled from a 60% plus level to 40%, although it has since recovered to above 50%.

Education is seen as vital in this regard, helping the public to differentiate between the facts and disinformation.

The public also needs to see more international scrutiny, and the nuclear industry could learn from the culture of aviation, where international standards are applied as the legal norm.

But despite the dreadful events in Fukushima, the industry is not seeing large-scale withdrawals from the nuclear sector (the recent Spanish election has seen the new government support new nuclear build in their country) with the principal exception being Germany. Almost all countries that had plans remain committed to



nuclear developments, albeit with possible delays for additional testing and financial constraints.

Certainly a renewed emphasis on safety features, stress tests and emergency training will add a little to the cost of nuclear generation, but analysis has revealed the impact should be marginal in terms of euro per megawatt-hour.

One reasonably conservative analysis estimates the nuclear generation facilities globally will expand from the 380GW capacity today to around 580GW by 2030.

The same driving forces remain, people need reliable, affordable power – and increasingly more of it and carbon concerns have not subsided.

But while most energy professionals know that because of both cost and grid stability no electricity system can rely 100% on renewables, what the nuclear industry has not done well is to communicate this to the layman.

To a large extent the public view solar, and especially wind, as a comprehensive energy source, and the industry has to consider information campaigns aimed at explaining that no grid can solely rely on solar and wind 100% of the time and that affordable, base load power units are essential for modern living.

Nuclear needs to be championed, not as the solution, but as an essential part of the energy mix.

Moderator:

Dr. Timothy Stone CBE,
Chairman of KPMG's Global
Infrastructure Practice

Panel Participants:

Jukka Laaksonen, Director General, Radiation and Nuclear Safety Authority (STUK), Finland and Chairman, Western European Nuclear Regulators' Association (WENRA)

Luc Oursel, Chairman of the Executive Board and Member of the Executive Committee, AREVA

Dr. Aris S. Candris, President and CEO, Westinghouse Electric Company

Hugh MacDiarmid, President and CEO, Atomic Energy of Canada Limited (AECL)

Roundtable Discussion

Theme 5: CFO Agenda

Financial Fundamentals and Shareholder Value in a Volatile Market



With regulators under pressure from politicians to squeeze margins in the electricity supply chain can the private, integrated electricity company model that has emerged in Western Europe survive? And does such a utility have the skills sets for its modern role?

Thus did Nick Horler, Chairman of the ENR Advisory Board, KPMG, kick off the discussion on Financial Fundamentals and Shareholder Value in a Volatile Market during the KPMG Global Power & Utilities Conference – Europe.

“We’ve heard a lot about growth in renewables, in infrastructure, the need to change generation sets; we’ve heard about fantastic GDP growth opportunities in other parts of the world. It leaves me thinking; as a CEO, managing an integrated energy portfolio is, can I do everything?” he said.

For Mr Horler, the level of investment that needs to go into all these activities makes the whole concept questionable in terms of shareholder return.

“I think it will put so much strain on the balance sheets of these integrated companies, particular if forced to invest in regulated returns in low growth economies. [Meanwhile] they see the high growth opportunities in developing countries, I think this will lead to a revision in these portfolios,” he said.

For Pierre Aubouin, CFO of AREVA, times have certainly changed from a decade ago. *“Today, investors are much more focused on resilience, on the ability of companies to resist any change in their environment, and the first and foremost metric is the ability to withstand a credit crunch or change in returns,”* he argued.

But after a hectic 12 months, during which the German government changed its position twice on the issue of phasing out nuclear power, Ingo-Peter Voigt, senior vice-president at Energie Baden-Württemberg (EnBW), lined up more closely with Mr Horler.

“In Germany, over roughly a decade, all utilities have positioned themselves as integrated utilities, as high investment grade credits, strong single A arena. [As a result of the decisions around nuclear power], from a financing perspective, we have lost a huge proportion of our profitability,” he said.

For Mr Voigt too, political machinations and taxation changes has raised the question; is it feasible to maintain an integrated position for the future, especially in view of the *“great challenges we are all facing, for example the investment requirements,”* he said.

Indeed, for a country like Germany, where political stability and predictability had been the norm, recent decisions on energy policy have raised profound questions.

“Even in those elements where you have got regulation, where you think, especially in Western Europe, that you have got stability in the regulatory regime, you can be forced and faced with huge changes,” he said.



„So is it time to divest the retail side of utilities?” asked Klaas Wagenaar, Partner, KPMG in the Netherlands, and the panel’s moderator.

Not for Mr Aubouin, who argued: *“I see two reasons [why not]. First, the returns on pure power retailing are not sufficient, and it is a very narrow slice of the added value, and the risk for utilities is therefore to be squeezed by the regulator. Conversely, being present in both production and retailing allow power utilities to influence the regulatory pricing scheme, which is a key lever to structure the funding of long*

term investments in production assets, such as nuclear power plants.”

Hubert Chiwara, Finance Director, Zimbabwe Power Company, however, has faced far more basic cash-flow challenges – due to a weak currency and customer non-payment.

“Cash is key to our environment. We had a situation when our currency could not [support investment] for our power stations, as most of our equipment is imported. But now the economy has been dollarized, we have been able to rehabilitate power stations,” he said.

Meanwhile, on the retail side, the company is turning increasingly to pre-paid meters. *“Customer non-payment is providing a serious hurdle for power suppliers in the Africa”* he said. Adding *“developments in technology though, such as smart meters, are providing a viable solution to address this issue and to ensure funding for continued investment.”*

Moderator:

Klaas Wagenaar,
Partner, KPMG in the Netherlands

Panel Participants:

Hubert Chiwara, Finance Director, Zimbabwe Power Company

Pierre Aubouin, CFO, AREVA

Ingo-Peter Voigt, Senior Vice President Finance and Investor Relations,
Energie Baden-Württemberg (EnBW)

Nick Horler, Chairman of the ENR Advisory Board, KPMG

Roundtable Discussion

Theme 6: Financing New Investments

Prospects for Power Sector Financing in Europe



Given that the European Union's energy goals for 2020 stipulate a 20% cut in both greenhouse gas emissions and energy consumption, plus brings renewables to the 20% threshold, Simon Brooks CB, Vice President at the European Investment Bank (EIB), stresses the importance of energy savings projects.

"What gets left out of things is the importance of savings. Energy efficiency is the poor relation of so much of the financial discussion, but there are huge opportunities that can be done in central-east Europe," he said, setting the scene for the roundtable discussion on the prospects for power sector financing in Europe.

Hence the EIB, as a policy-driven bank, has re-orientated itself towards climate action and energy security. *"Lending related to climate change projects in 2010 was over EUR 20 billion, 25-30% of our total lending, with about EUR 5.5 billion specifically for renewable projects"* he adds.

Increasingly, Mr Brooks said, the EIB will be *"keeping ourselves in the 'harder-to-do projects' such as off-shore wind rather than on-shore,"* or for example, alternative renewables, in part because of the reluctance of the private sector to take on such risk.

KPMG partner Darryl Murphy, as moderator, asked the panel to clarify the state of the banking sector, given the implications of Basel III and the potentially acute liquidity crisis.

While the overall consensus was that there is still cash available and good deals will still obtain financing, Ed Wilson, Head of Renewable Energy Finance at Lloyds Banking Group, noted that the tenor of loans for the energy sector, at 15-20 years, does pose liquidity issues, most particularly with Basel III looming.

"The last couple of years, I suspect the banks have enjoyed the cross-sales income coming from interest rates and inflation type hedging, which arguably has been cross-subsidizing some of that long-term liquidity in capital. Basel III will affect that. My gut feel is that it's not going to be particularly pleasant, and I think we're going to see a change in the funding model going forward," he said.

Given the uncertainty in the markets, does project finance have a role in terms of new investments going forward?

For Andreas Ufer, Senior Director and Global Head Power Renewables Water, KfW IPEX Bank, it certainly does, even if the market mood has dipped dramatically since the middle of the year. While there are not too many new fossil-fueled plants in the pipeline, in particular in Europe, interest in renewables remains.

"You can see a lot of projects, whether off-shore in the UK or Germany, whether it's CSP, on-shore wind, or the big PV farms – [while] these are mainly all IPPs and not too many utilities – there is a role where banks have played a role and will play a role," he said.

As for Basel III, *"Yes, it will bind more capital, and so have some costs on it. But this will not be the end of project finance,"* he argued.

So should governments be worried about a lack of finance, or more the terms governing the finance that is available?



"It's a combination of both." said Dominik Thumfart, Managing Director – Co-Head, Infrastructure & Renewable Energy Finance, Asset Finance & Leasing, Deutsche Bank London.

"We banks find ourselves in the same situation as the utilities: we need transparency and stability, and that element is missing to a fair degree right now in legislation in various European countries," he said.

This is one factor that casts doubt on the ability of some countries to really implement their EU 2020 targets, certainly in the power segment.

"When we talk about financing, it's very obvious there is a huge gap. A 2010 KPMG study put project financing [needs] at EUR 16.5 billion in Europe [but] a lot of projects simply don't get done because the economics, or the risk/return profile do not stack up," he said.

The power finance sector needs *"a continuous widening of finance sources,"* he said, most particularly, the project bond market, currently dead, needs to be revived, he said.

Moderator:

Darryl Murphy,
Partner, KPMG Global Infrastructure

Panel Participants:

Simon Brooks CB, Vice President, European Investment Bank (EIB)

Andrew Jameson, General Manager for Structured Finance,
Bank of Tokyo Mitsubishi

Andreas Ufer, Senior Director and Global Head Power Renewables Water,
KfW IPEX Bank

Dr. Dominik Thumfart, Managing Director – Co-Head, Infrastructure &
Renewable Energy Finance, Asset Finance & Leasing, Deutsche Bank London

Ed Wilson, Head of Renewable Energy Finance, Lloyds Banking Group

Roundtable Discussion

Theme 7: Utilities of the Future

Smart Grid / Smart Metering – Data Driven Transformation



The smart-meter has become the term almost synonymous with future energy systems. But without coupling up to the necessary smart-systems and machinery, you can “forget smart meters,” Thijs Aarten, Chief Executive Officer, Kerna, a global services provider, argued in his keynote address.

“Smart-meters are only the tip of the iceberg. What’s really important is what is behind them. Micro CHPs, solar panels, heat pumps, smart appliances, a dish washer that will switch on when there is an abundance of solar electricity,” said Mr Aarten, whose company is involved in more than 100 smart-grid projects.

Can smart-energy systems, coupled with renewable energy sources, be made to work, and at an affordable price? For Mr Aarten, there is no question – they can – although there remain many technical and social issues to be overcome.

But the key issue to developing smart-grids lies not in technical, but in getting the customer on-board, understanding the energy-saving possibilities from the very start.

“It’s because we do not engage and involve the consumer appropriately in the beginning of the project.” he said.

If any country has pioneered the way to prove sustainable energy can be made to work it is Denmark – that at least is message of Michael Arentsen, Chief Consultant with the Danish Energy Association, which represents about 70 Danish utilities.

Due to a political decision in 1983, Denmark rejected nuclear power, and this laid the basis for renewables to take off.

“In the past 10 years we have reached 20-30% renewable generation, largely from wind. We are a net exporter of electricity. We have reached this while meeting and coping with the challenge of balancing the Danish system, which is strongly integrated to the Nordic market,” he said.

SAP, which has been creating software for utilities since 1988, observes developments intently, says Stefan Engelhardt, head of the utilities business unit.

Utilities are undergoing a “paradigm shifts” regarding power production:

“consumption has to follow production, and not the other way around,” he says.

This “simple message” is profound. *“We need a lot of technology and processes to create the smart-grid that allows the balancing of the demand and supply sides,”* he says.

Creating software for customers who are in both the liberalized and regulated markets, while simultaneously unbundling the markets, for example, to accommodate the micro-generators, is something of “a major challenge...with many questions still to be answered,” he says.

Moderating the discussion, Mark Powell of KPMG in the UK, posed the question “How can we expect smart-grids to impact the retail level, and what actions are utilities currently taking in light of this?”

Peter Franklin, director of Enstra Consulting, responded by describing the modern, western home, in 2026: *“We’ve had smart metering roll-outs, so your home is pretty intelligent. It will recognize you, provide health checks and a smart intruder alarm. It will also manage your micro-generation, and decide when to buy electricity,”* he said.



This gives utilities in retail the potential to expand outwards. *“At the moment it is only about energy; in 2026 it will include energy services, micro-generation, storage, and home services.”*

“Will utilities embrace the fact that we are going to live in a home services world, and become much more consumer focused, providing a whole range of products and services?”

“Or will the home services providers integrate back into energy, possibly becoming energy supply brokers, and switching consumers between the best priced suppliers, even becoming energy suppliers themselves?” Mr Franklin asked

As the CEO of Altibox, a Norwegian telecommunications company with 250,000 customers, Leif Aarthur Ims admitted listeners *“may wonder why I’m here?”*

The answer is simple. *“I’m owned by Lyse Energy, one of the larger Norwegian power utilities, with 130,000 customers,”* he said.

Lyse is a strong believer in the convergence between energy and telecoms, transforming itself from a single purpose power company towards a multi-purpose utility in the past decade.

“Ten years back, Lyse had an annual turnover of USD 200 million; now it’s five times that, and the telco turnover

is more than the energy business was back then,” he says.

The company has recently launched three smart projects; smart-energy, smart-health and smart-region [such as alarm services].

It has particularly high hopes for smart-energy, but Mr Aarthur Ims says the launch must be well prepared.

“This [push] might really complicate the situation for the end user. It’s really important to have the right skills, such IT competence, as we move to introduce these new services.”

Moderator:

Mark Powell,
National Head of Power & Utilities,
KPMG in the United Kingdom

Panel Participants:

Michael Arentsen, Chief Consultant, Danish Energy Association

Thijs Aarten, Chief Executive Officer, Kema

Dr. Stefan Engelhardt, Head of Business Unit, Utilities at SAP

Peter Franklin, Director, Enstra Consulting

Leif Aarthur Ims, Chief Executive Officer, Altibox

KPMG Panel Moderators



Strategic Growth: Wilfrid Lauriano Do Rego, National Head of Energy, Chemicals and Pharmaceuticals, KPMG in France



Role of Regulation: Csaba Kovács, Director, Energy & Utilities Business Advisory Practice, KPMG in Hungary



Global Sustainability: Yvo de Boer, Special Global Advisor, Climate Change and Sustainability, KPMG



Nuclear Focus: Dr. Timothy Stone CBE, Chairman of KPMG's Global Infrastructure Practice



CFO Agenda: Klaas Wagenaar, Partner, KPMG in the Netherlands



Financing New Investments: Darryl Murphy, Partner, KPMG Global Infrastructure



Utilities of the Future: Mark Powell, National Head of Power & Utilities, KPMG in the United Kingdom

The Conference in Pictures



Peter Kiss, Global Head of KPMG's Power & Utilities Practice & Jay Nirsimloo, Chief Executive Officer, KPMG in France



Jacques-Francois Lethu, Head of Energy & Natural Resources Audit Services, KPMG in France, and conference co-host



Parallel Sessions:
Financial Reporting for Utilities, Quo Vadis?



Parallel Sessions:
Tax Issues for Utilities – Energizing the Green Agenda



Parallel Sessions:
Capital Projects Risk Management



Parallel Sessions: South Africa – Opportunities in the Continent's Key Power Challenges



Cocktail reception during the conference

About KPMG Global Power & Utilities Practice

KPMG's vision: We aim to maintain our position as a leading advisor to the power and utilities sector by continuously developing strategic thought leadership and practical strategies that help our firms' clients meet their challenges. Our industry-leading initiatives include KPMG's Global Energy Institute, KPMG's Global Energy Conference in Houston and KPMG's Power & Utilities Conferences.

KPMG's reputation: Through our firms' national practices and KPMG's Power & Utilities Centers of Excellence, we constantly strive to provide services of the highest quality and the best available advice to clients around the world.

KPMG's commitment: Our understanding of the demands and challenges power and utilities

companies face enables our firms to develop services, methodologies and original thinking that specifically address the needs of this sector. We look at industry challenges from multiple angles, pooling our knowledge and resources to develop holistic services that are designed to fit our firms' clients' ever-changing requirements.

Power & Utilities Centers of Excellence

KPMG member firms offer global connectivity. We have 12 dedicated Power & Utilities Centers of Excellence in key locations around the world, working as one global network. They are a direct response to the rapidly evolving power and utilities sector and the specific challenges that this is placing on industry players.

Located in Budapest, Calgary, Dallas, Essen, Hong Kong, Johannesburg, London, Melbourne, Moscow, Paris, Sao Paulo, and Tokyo, the centers work with our member firms in supporting

companies in the upstream, downstream and service industries around the world, helping them to anticipate and meet their business challenges.

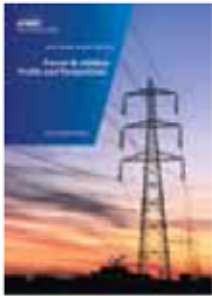
In each center, there are professionals with practical, in-depth power and utilities experience. They draw on our wider global network of power and utilities practitioners to provide clients with immediate access to the latest industry knowledge, skills, resources and technical developments.

Our Centers of Excellence also enable our firms to transfer knowledge and information globally, quickly and openly. With regular calls and effective communications tools, we share observations and insights, debate new emerging issues and discuss what is on our clients' management agendas. The centers also produce regular surveys and commentary on issues affecting the sector, business trends, changes in regulations and the commercial, risk and financial challenges of doing business.

We have 12 dedicated Power & Utilities Centers of Excellence in key locations around the world, working as part of our global network.



Most Recent Power & Utilities Sector Related Thought Leadership Publications



Power and Utilities KPMG's Profile and Perspectives

This document combines our service offerings, client lists and professionals' thoughts on industry hot topics from around the globe.



Impact of IFRS: Power and Utilities

This publication provides assistance to companies in the power and utility sector who are considering converting to IFRS. It gives an overview of IFRS conversion process and looks at the impact of conversion on IT systems, people and business processes.



Power Sector Development in Europe – Lenders Perspectives 2011

The European Power and Utility sector will require a substantial amount of investment during the next 15 years, in order to manage increasing demand, while also decarbonising its generation portfolio and replacing aging infrastructure.



Think BRIC! Comparative Study

This report sizes the investment needs of the power sectors in Brazil, Russia, India & China; including historical analyses from 2000–2008 & also projected investment needs until 2020 by assessing socio-economical, technical, environmental & legal aspects.



Green power 2011 – The KPMG renewable energy M&A report

This annual report follows Powering Ahead: 2010, looking at changes and trends in the renewable energy sector to provide insight on where the market is heading.



Sub-Saharan Africa Power Outlook

The growth and investment in the African infrastructure industry has reached heights never experienced before. Given the relative degree of investment maturity in the developed world, the focus for investment has undoubtedly shifted to prominent developing areas, such as Sub-Saharan Africa.



Central and Eastern European Hydro Power Outlook

Hydropower offers extremely varying potentials in the CEE region, but provides a decent 23 per cent share overall in the capacity mix of the region, placing it far above all other carbon sensitive technologies.



Major Projects Advisory Statement of Qualifications – Power and Utility

Public infrastructure and large private projects are still moving forward and are creating a continual demand on the national construction industry.

Investing in the sector

KPMG member firms invest significant time and resources in deepening and sharing our understanding and knowledge of the sector. This enables us to provide our clients with strategic and insightful services that are tailored to their specific needs and based on a real understanding of their challenges.

Our key industry initiatives include:

The KPMG Global Energy Institute (GEI)

The GEI provides critical insights and analyses to the energy sector, helping finance, tax and risk executives meet new energy challenges and maximize new opportunities. We do this by creating an open forum where peers can exchange insights, share leading practices, and access the latest KPMG thought leadership. These publications provide interpretations, insight and practical guidance, and range from white papers, podcasts and surveys to opinion pieces and regulatory analyses that affect major companies in the power and utilities sector.

The GEI interacts with members through a variety of channels, including webcasts, podcasts, conferences, share forums and a web-based portal: www.kpmgglobalenergyinstitute.com to be a valuable resource for insight on key industry issues and emerging trends.

The KPMG Global Power & Utilities Conference

The KPMG Global Power & Utilities Conference is KPMG's industry flagship event for CEOs, divisional heads and financial executives, bringing together decision makers from power producers, developers, investors, regulators and other stakeholders from the global power and utilities sector.

The conference is held on an annual basis and focuses on strategic, financial, environmental and risk related issues that are top of mind for power and utilities executives, as commented on via keynote presentations by distinguished leaders, issue-focused plenary roundtable discussions and interactive parallel sessions.

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The KPMG Global Energy Conference

The annual KPMG Global Energy Conference is the premier event presented by the KPMG Global Energy Institute, and is held in Houston, TX every spring. The conference brings together energy financial executives from around the world in a series of interactive discussions with industry luminaries.

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