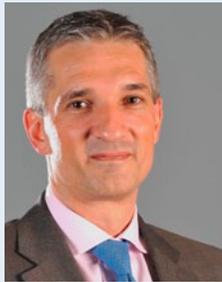


We're at a tipping point

Throughout human history, the ready availability of energy has been synonymous with the development of our societies, economies and cultures.



Yet we find ourselves in a struggle to reconcile three conflicting but vital imperatives: how to source the energy essential to meet our needs, at prices that everyone can afford, while ensuring that supplies are sustainable especially when it comes to the impact on our climate and air quality. The WEC calls this the “energy trilemma”.

This challenge is not one we can shy away from. As energy demand shifts to emerging economies, as new technologies seek to disrupt markets, and as the impacts of climate change place further strains on our infrastructure and resources, it is clear that we are at a tipping point in our energy future. We must get real in understanding all our energy challenges if we are to seize the opportunities to provide energy for the greatest benefit of all.

This is why we are launching World Energy Focus. Each month World Energy Focus will highlight crucial issues, in the context of the global reach that only an organisation such as the WEC can provide. We look forward to playing our part in helping to shape the global energy agenda – and we welcome your feedback and input.

Christoph Frei
Secretary General
World Energy Council



Energy for all? the challenge is how to scale up

Photo: IISD/Earth Negotiations Bulletin

In a world where one in five people has no access to electricity and two in five are without clean cooking facilities, the importance of the United Nations' Sustainable Energy for All (SE4ALL) initiative cannot be over-stated. Proposed by Secretary-General Ban Ki-moon in 2011, its 2030 objectives are to enable universal access to modern energy services, to double the rate of improvement in energy efficiency, and to double the share of renewables in the energy mix. Last month the initiative held its first global forum in New York. In this exclusive interview, Dr. Kandeh Yumkella tells of its progress to date and the challenge of scaling up efforts so that the ambitious targets are met.

The three 2030 objectives of the Sustainable Energy for All (SE4ALL) initiative are very ambitious. Are they really achievable, given that 2030 is only a decade-and-a-half away?

I'm an eternal optimist. We've learnt a lot of lessons. Greenhouse gas emissions have gone up significantly in the last two years. We've seen the new IPCC reports > see page 2

EXCLUSIVE INTERVIEW

Energy for all

Dr Kandeh Yumkella tells of the progress made by the UN Sustainable Energy for All project and the challenge of scaling up efforts to meet its ambitious targets **FRONT PAGE**

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CEE nations facing multiple energy challenges

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Realities of Japan's 'energy policy muddle'

A new report by WEC's Japanese member committee examines the nuclear paradox the country is facing. The root cause: "a lack of understanding of energy issues" **PAGE 8**



Electricity enables villages to stay connected.

telling us that we have to do a lot in energy system transformation because the trajectory we're on is to 4°C or more [of global warming]. I also see that a number of governments are beginning to see the opportunities that renewable energy systems, for example, bring to meeting their domestic energy security needs.

In our recent SE4ALL forum [REN21](#) announced that 144 countries have set renewable energy targets. We've also seen in reports from the World Energy Council (WEC) and the International Energy Agency (IEA) that Asia is now leading renewable energy investment. They're choosing to leap-frog into new clean energy solutions.

Of course, those reports also tell us that countries are not moving as fast on energy efficiency. It is supposed to be the low-hanging fruit – the target that has the biggest opportunity for innovation, job creation and market creation. So the challenge we have with our partners – the WEC, the World Economic Forum and others – is to work out how to remove the barriers to energy efficiency. There is a lot of work to do there. The analysts among our partners tell us the targets are achievable but that at current business-as-usual rates it will take 60 years.

Given that one in five people has no access to electricity and two in five are without clean cooking facilities, would it perhaps have been more



Electricity use in classroom supports use of information technology in Namibia. Photo: John Hogg/World Bank

realistic to have focused the SE4ALL initiative on the single objective of universal access to modern energy services?

We have said it's one goal with several targets. The one goal, for sure, is sustainable energy for all – and we insist on the three targets because they give a good narrative. Countries that do not have universal access yet can achieve universal access if they are more efficient in using the energy they're producing. There are significant losses in production and transmission in a number of developing countries. Also, you can use renewable energy to achieve access because you can do decentralised power. We want to send a message that energy is the ultimate enabler for sustainable development.

Can you give some examples of SE4ALL's concrete achievements to date?

We've been able to score a number of political points. The General Assembly declared a decade of Sustainable Energy for All when we were in Rio two years ago. It was adopted by all the countries of the world, who agreed to spend 10 years looking consistently and systematically at achieving the three targets of SE4ALL.

Also the World Bank and a number of the multilateral development banks are now aligning their energy strategies to meet the SE4ALL targets. Those are just some of our strategic achievements – there are many others.

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ABOUT WORLD ENERGY FOCUS

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Alex Forbes has been reporting on energy developments and analysing trends for more than three decades.

His expertise covers all the mainstream energy sources, policy, regulation and climate change. In 2013, Alex received the annual award from the International Association for Energy Economics for Excellence in Written Journalism.



On the finance side, some of the financial institutions that pledged funds towards SE4ALL in Rio have begun disbursing them. For example, the OPEC fund for international development is worth over \$1 billion over this year-and-a-half in SE4ALL-related projects.

The European Union has set a target of reaching 500 to 600 million energy-poor people with modern energy solutions by 2030. We see them backing that now, for example in Africa, making money available. The EU has also announced that it will put \$3 billion in its next six-year programming cycle to leverage \$12-13 billion for SE4ALL-related projects.

And we are seeing a number of private sector entities supporting what we call high-impact opportunities.

Having said that, all of those movements do not add up to the scale of the ambition, so the challenge in 2014/2015 is how to scale up. We see good evidence that our partners are making efforts but we need bigger scale to achieve our three targets.

In his 2011 Vision Statement for the SE4ALL initiative, UN Secretary-General Ban Ki-moon wrote: "At a time when so many economies are struggling, some may claim that sustainability is a luxury we cannot afford." What do you say to people who feel this way?

It is an old paradigm. I used to lead an industrial development agency. The old slogan used to be: "industrialise

fast, produce now, clean up later". Many of the countries that adopted that strategy realised later that the cost of cleaning up was very high – in terms of the finance and the technologies needed to do it, but also the human cost because cancer rates were up, and a lot of food safety issues arose.

They should look at the examples of countries that are now saying: "We don't want to be locked into technology that was useful over the last 40 years, we want forward-looking technologies that will help us achieve energy security and sustainable production." They're leap-frogging.

We also say to those who believe in this statement: "Look, 20 years ago we did not have mobile phones in our pockets. Today even in poor villages in Africa or in Bangladesh people have mobile phones and they're paying for them by buying scratch cards."

This is what we believe can happen in energy systems. People will have an opportunity in the near future to combine mobile payment systems, in other words digital technology, with renewables to have decentralised distributed power. In the rich countries we see a future combining smart grids and digital technology with renewable energy systems and low-cost storage systems. Consumers of energy will be producers of energy – what some have called "prosumers". The dream I have is of an energy internet, where every consumer, every skyscraper, every hotel is generating its own

power – so that we change the energy production model.

What are the next major steps in the initiative's progress towards achieving the 2030 objectives? And how can the World Energy Council help?

The next important stages are to get a sustainable development goal for energy in the post-2015 development framework and to institutionalise the SE4ALL initiative to create a legal framework for the next 20 to 30 years – a legal framework that allows every member state to engage in a holistic dialogue on energy.

We are already laying the foundations. People describe SE4ALL as the new example of a mega-partnership. And the constituency of the WEC is the one that has the utilities, those who generate the power, who distribute the power and who have the technologies – those who have skin in the game. We see them as very important partners in crafting this new way of looking at energy. ●

Interview by Alex Forbes.

Dr. Kandeh Kolleh Yumkella is Under-Secretary-General at the United Nations and the Special Representative of the Secretary-General for Sustainable Energy for All and CEO of the Sustainable Energy For All initiative and chair of UN-Energy. Previously, he was a two-term Director General of the United Nations Industrial Development Organization (UNIDO).

CEE nations facing multiple energy challenges

Energy supply security issues were high on the agenda as executives and policy-makers gathered in Romania last month for the WEC Central and Eastern Europe Regional Energy Forum (FOREN).



The WEC regional event took place against a backdrop of further escalation in the gas payment and pricing dispute between Russia and Ukraine.

Nevertheless, with transit gas still flowing through Ukraine's pipeline network, high reserves of gas in underground storage facilities throughout Europe, and the region entering the low-demand summer

season, the dispute is not necessarily the most pressing concern for the energy sector of the Central and Eastern Europe (CEE) region. The region has many other issues on its priority list.

2030 POLICY FRAMEWORK

For several CEE countries a major concern is the 2030 energy and climate policy

[> see page 4](#)



Danube river.
Photo Radamés Mannoso

framework launched earlier this year by the European Commission. The commission has proposed a 40% reduction in greenhouse gas (GHG) emissions below the 1990 level, an EU-wide target for renewable energy of at least 27%, and a mechanism to improve the robustness of the EU emissions trading system (ETS).

How much energy resources do the CEE countries have? View and download WEC World Energy Resources data on: www.worldenergy.org/data/resources

In an interview with World Energy Focus, Juraj Kubica – Acting Secretary of the Slovak WEC Member Committee and Senior Adviser to the Deputy Prime Minister – said: “The prime ministers of

Slovakia, Czech Republic, Poland and Hungary in a common meeting have responded by saying that the climate policy 2030 is too restrictive. It should open up options in our countries. So the stance of our prime ministers and our governments – all four of them – is that we should decide on our own in our countries what should be the energy mix and what will be the share of different sources.”

REGIONAL CO-OPERATION

Another prevalent theme at FOREN was the need for greater regional co-operation as a means of enhancing energy supply security. Iulian Iancu, Chair of WEC’s Romanian Membership Committee – responsible for organising FOREN – highlighted two such initiatives: the Danube Region Strategy and a Romanian proposal to create a north-south energy transport lane within the EU.

The Danube Region Strategy involves 10 countries along the River Danube – Austria, Bulgaria, Croatia, Germany, Hungary, Moldavian Republic, Slovakia, Romania, Ukraine and Serbia – participating in shared energy projects. The Romanian proposal for an energy transport lane would connect the Romanian Black Sea with the Black Forest in Germany.

Kubica’s view is that: “The main task now is to reinforce the grids – electric transmission lines and gas pipelines. Between Slovakia and the Czech Republic the connections are very strong but between other countries

they are not strong enough – they do not have enough capacity. The markets are being coupled between Czech Republic, Slovakia, Hungary and Romania in the near future, but the market is in advance of the grid connections.”

REVIEWING RENEWABLES

The growing share of renewables in CEE nations is also raising concerns. “Solar PV and the wind sector have benefited from renewables subsidies,” says Iancu. “However, such subsidies have reached saturation level and there have been calls for more grid investment to accommodate the increased wind capacity. Therefore we need to look at the issue of electrical storage in order for renewables to maintain their growth momentum.”

Ged Davis, WEC Executive Chair of Scenarios, said: “An important issue that has affected all of Europe, and significantly Eastern Europe, has been the European commitment to addressing climate change. Therefore we see in a number of countries, particularly Germany, very strong incentives to move towards wind and solar. All of this is compounded by the decision of some countries, particularly Germany, to phase out the role of nuclear power.

“This makes it urgent to find solutions to big challenges that are not easy to deal with. Germany for example in the last four years or so has significantly increased its use of coal. That of course goes against the climate

change policy, proposed by the Commission but yet to be endorsed across Europe, to reduce GHG emissions by 40%.”

EFFICIENCY

A key imperative, says Davis, is to improve the efficiency of energy systems in CEE countries – not least because much of their energy infrastructure remains a legacy of the former Soviet Union. “It’s a long-term exercise,” he added, “but valuable because it would increase the supply options for Europe.”

A major uncertainty, arising from the energy supply security concerns raised by the Russia-Ukraine crisis, is what the future of gas is likely to be in Europe. There have been suggestions that over the long term countries could turn away from gas because of security of supply concerns.

“That may be short-sighted,” says Davis. “Russian gas is substantial in volume and close to Europe. There’s no doubt that Europe needs to do quite a bit of work to ensure that it’s got a wider portfolio [of supply] than it has. It’s in Europe’s interest to maintain some Russian gas but it has to be part of a broader security strategy that ensures adequate storage and interconnection, plus a widening of supply, perhaps with some domestic shale gas, perhaps with more LNG imports, and perhaps by widening supply from other areas.”

“In WEC’s Jazz Scenario gas grows

*we should decide
on our own
what should be
the energy mix*

quite rapidly in Europe. So there’s an important need for gas investment over the medium term. That alongside a big role for energy efficiency and increasing penetration of wind and solar. In a world of limited subsidies, gas is the natural fuel to displace coal.” ●

The WEC study, “World Energy Scenarios: Composing energy futures to 2050”, assesses two contrasting policy scenarios, the more consumer-driven Jazz scenario and the more voter-driven Symphony scenario. Rather than telling policymakers and energy leaders what to do in order to achieve a specific policy goal, the WEC Scenarios uses an explorative approach to assess what is actually happening in the world now, to help gauge what will happen in the future and the real impact of today’s choices on tomorrow’s energy landscape. The report is the result of a three-year study conducted by over 60 experts from nearly 30 countries, with modelling provided by the Paul Scherrer Institute. Download the report on the WEC webpage: www.worldenergy.org/publications

Obama defies Congress with bold new US climate policy

US President Barack Obama has used his executive powers to direct the Environmental Protection Agency (EPA) to propose a radical climate change mitigation policy. If implemented, the Clean Power Plan would reduce carbon dioxide emissions from electricity generation to 30% below 2005 levels by 2030.



The EPA claims benefits would include avoidance of up to 6,600 premature deaths, up to 150,000 asthma attacks in children, and up to 490,000 missed work or school days – “providing up to \$93 billion in climate and public health benefits”. They also claim that it would “shrink electricity bills roughly 8% by

increasing energy efficiency and reducing demand in the electricity system”.

The proposals provide guidelines for individual states to develop plans to meet state-specific targets to reduce carbon pollution and have been designed to give states as much

flexibility as possible in how they meet these targets.

“States can choose the right mix of generation using diverse fuels, energy efficiency and demand-side management to meet the goals and their own needs,” says the EPA.

CLIMATE PLEDGE

President Obama has become increasingly frustrated at the obstruction that has been put up by Congress to any moves to implement a meaningful climate policy.

In February 2013, he controversially pledged: “If Congress won’t act soon to protect future generations, I will. I will direct my Cabinet to come up with executive actions we can take . . . to reduce pollution, prepare our

communities for the consequences of climate change, and speed the transition to more sustainable sources of energy.”

The Clean Power Plan is the biggest-ever push in the US to take action on climate change. Some believe it will be a defining moment in Obama’s presidency. It is clearly a boost for international climate negotiations in the run-up to the UN talks in Paris next year, aimed at agreeing a full international treaty.

Launching the proposals in early June, EPA administrator Gina McCarthy said: “We don’t have to choose between a healthy economy and a healthy environment – our action will sharpen America’s competitive edge, spur innovation, and create jobs.”

DETERMINED

The proposals are expected to come under fire from lobbies that will be affected, especially the US coal industry.

But Obama looks determined. In his weekly video address at the end of May, recorded at the Children’s National Medical Center in Washington, he said: “Special interests and their allies in Congress will claim that these guidelines will kill jobs and crush the economy. Let’s face it, that’s what they always say. But every time America has set clear rules and better standards for our air, our water, and our children’s health – the warnings of the cynics have been wrong.” ●

DEVIL IS IN THE DETAIL, SAYS WEC US MEMBER COMMITTEE To get a feel for how the energy industry has reacted to publication of Obama’s Clean Power Plan by the EPA, World Energy Focus interviewed Barry Worthington, Executive Director of the US Energy Association (USEA), which constitutes the WEC US Member Committee.

The essence of his reply was that the jury is still out as companies absorb the detail of the regulation: “The reaction is mixed – and still somewhat uncertain because people are still wading through 680 pages and trying to be certain that they understand what all the ramifications are. Some have reacted by saying it could have been worse, some companies have used the word ‘disastrous’ to describe it, and some have said ‘we can meet this’. So there’s not a single unified perspective.

“The uncertainty is a little bit troubling. For example, the original belief was that 2005 would be the base year by which reductions would be measured. Upon further reading and reviewing, it appears that 2012 will be the baseline for judging.”

That is “dramatically significant”, says Worthington, because US emissions peaked in the 2005-7 timeframe and had declined significantly by 2012 – driven down by the North American shale gas

revolution, the global recession of the latter half of the 2010s, and the impressive energy efficiency improvements that have been made in the US over the past decade.

“If 2005 were the base year, in most states we would be about half-way towards meeting the goal already. If 2012 is the base year, no one’s getting recognised or credited for the reductions that took place between 2005 and 2012.”

Worthington adds that there is more to come. The new proposed regulation addresses only existing power stations. Another regulation for new power plants is due to be finalised imminently.

NEWS IN BRIEF

CHINA URGED TO IMPOSE EMISSIONS CAP

A senior climate change advisor in China has urged the government to impose an absolute cap on the nation’s greenhouse gas (GHG) emissions from 2016, according to a report in the *Financial Times*. Professor He Jiankun, vice-chairman of China’s National Experts Panel on Climate Change, said he and other influential advisors had recommended including the limit in the 2016-2020 five-year plan. China accounted for 29% of GHG emissions in 2012, making the country a crucial element of any credible climate change mitigation treaty.

US LNG EXPORT PLANT NEARS FID

The US Federal Energy Regulatory Commission (FERC) has given final approval for the siting, operation and construction of what will be the second new LNG export project in the United States. The decision clears the way for the partners in the Cameron LNG project to take final investment decision (FID) within weeks and to begin construction before the end of 2014. Meanwhile, the first new US LNG export project, Cheniere’s Energy’s Sabine Pass, remains on track to start up in 2015.

ENERGY DEMAND UP 2.3% IN 2013

World demand for energy was up 2.3% in 2013, according to the latest Statistical Review of World Energy published by BP – which commented that the rate was slightly below the ten-year average, “reflecting the weakness of the global economy”. Emerging economies continue to dominate growth, “accounting for 80% of growth last year and nearly 100% of growth over the past decade”.



Energy sector faces increasing pressure from climate change

Operators of energy production and transportation infrastructure need to prepare themselves for the impacts of climate change, not just from expected mitigation policies that will impact their businesses but also the realities of climate change itself.

So says a report – “Climate Change: implications for the energy sector” – just published by the World Energy Council (WEC), the University of Cambridge Institute for Sustainability Leadership (CISL), the Cambridge Judge Business School, and the European Climate Foundation.

As the largest emitter of greenhouse gas (GHG) emissions, the energy industry faces increasing pressures as policymakers grapple with climate change mitigation and adaptation policies. These pressures have been highlighted significantly in recent months with the publication of several

reports that together make up the latest climate change assessment by the Intergovernmental Panel on Climate Change (IPCC) – the Fifth Assessment Report (AR5). The new report provides concise summaries of the AR5 findings.

But that is just part of the story for the energy industry. The energy industry is also under threat from extreme weather events, rising sea levels and changing precipitation patterns.

INCREASED DISRUPTION

“The means and infrastructure to produce and transport energy will be adversely impacted by climate change,”

says the report. “The oil and gas industry is likely to suffer from increased disruption and production shutdowns due to extreme weather events.”

“Power plants, especially those in coastal areas, will be affected by extreme weather events and rising sea levels. Critical energy transport infrastructure is at risk, with oil and gas pipelines in coastal areas affected by rising sea levels and those in cold climates affected by thawing permafrost.

“Electricity grids will be impacted by storms, and the rise in global temperature may affect electricity generation, including thermal and hydroelectric stations in some locations. Weather changes may also affect bioenergy crops.”

ENERGY TRILEMMA

Commenting on the release of the briefing at the Asia Clean Energy Forum in Manila last month, WEC Secretary General Christoph Frei said:

“Climate change is certain to impact the energy sector. We need robust and transparent policy frameworks to unlock the required long-term investments that are urgently needed to deliver the future we want.” ●

The report, “Climate change: implications for the energy sector”, is available with an infographic on the WEC website via this link: <http://bit.ly/U9i9Nd>

IEA: Don’t take investment for granted

The investment in infrastructure needed to meet the world’s energy demand over the coming two decades is at “real risk of shortfalls” if governments fail to implement appropriate policy frameworks. So says the International Energy Agency (IEA) in the first major revision of its World Energy Investment Outlook in over a decade.

Commenting on the findings, the IEA’s chief economist, Fatih Birol, said: “Policymakers face increasingly complex choices as they try to achieve progress towards energy security, competitiveness and environmental goals. These goals won’t be achieved without mobilising private investors and capital, but if governments change the rules of the game in unpredictable ways, it becomes very difficult for investors to play.”

COPING WITH DECLINE

The report, published last month, projects that more than \$48 trillion of investment will be needed between now and 2035 to meet the world’s growing energy needs. Three-fifths of this is needed to compensate for declining production at existing oil and gas fields and to replace power plants and other equipment that reach the end of their productive lives.

To compensate for the decline and to meet projected demand growth, today’s annual investment in energy supply of \$1.6 trillion needs to rise towards \$2 trillion over coming decades. Annual spending on energy efficiency needs to rise from \$130 billion today to more than \$550 billion by 2035.

Launching the report in London, the agency’s Executive Director, Maria van der Hoeven, warned that investment would only materialise if there are “credible policy frameworks in place as well as stable access to long-term sources of finance”.

INVESTMENT SHORTFALL

The agency also warns that the investment path outlined in the report’s main scenario “falls well short of reaching climate stabilisation goals” because “today’s policies and market signals are not strong enough to switch investment to low-carbon sources and energy efficiency at the necessary scale and speed”.

WEC Secretary General Christoph Frei said the findings reinforce the critical nature of the challenges for meeting global energy demand in the next decades. “Our Jazz and Symphony scenarios show that current technologies, policies, and current rates of innovation are not enough to meet our energy needs and climate goals,” he said. “We will need to choose the best of both worlds, work much harder on the trilemma, and deliver innovation in areas such as electric storage and CCS if we want to unlock the urgently needed long-term investments and deliver sustainable energy for the greatest benefit of all.” ●

WEC EVENTS

World Energy Leaders' Summit

Cartagena, Colombia, 23 October 2014

This high-level exclusive event is organised twice a year for the global energy leaders' community to hold an ongoing dialogue on critical issues affecting the energy world. Participation is by invitation only to ministers, CEOs of the WEC's Patron and Global Partners, WEC officials and selected high-level guests.

The Cartagena summit will look at the implications of the shale gas revolution for the region, next steps towards regional integration, the broader long-term scenarios and the outlook for renewables, and the relevant policy implications. It will be co-hosted by the President of Colombia. The event will also include an Energy

Trilemma Summit and a Latin American Ministerial Meeting.

WEC 2014 Executive Assembly

**Cartagena, Colombia
20-24 October 2014**

The annual general membership meeting exclusively for the members of the World Energy Council. WEC members have ultimate authority in the governance of the WEC and are overall responsible for managing the WEC's affairs.

Africa Energy Indaba

**Johannesburg, South Africa
17-18 February 2015**

The Africa Energy Indaba (AEI) is the foremost African energy event for energy professionals from across the globe. The event gathers international and African experts to share their insights and solutions to Africa's energy crisis, while exploring the vast energy development opportunities in Africa. The event includes a conference and an exhibition.

The AEI has been designated the WEC's African regional event and



is presented by the South African National Energy Association (SANEA), the WEC national committee. It is supported by the African Union Commission and the NEPAD Planning and Coordinating Agency.

<http://www.africaenergyindaba.com/>

WEC MEMBER COMMITTEE EVENTS

Bolivia Gas & Energía 2014. 7th International Congress

**Santa Cruz, Bolivia,
20-21 August 2014**

Where is the gas industry moving towards? What is the future of petroleum? And what are the new technologies driving the energy sector? These are some of the issues to be discussed at Bolivia Gas & Energía. The event has been held every year since 2008 by the Bolivian Chamber of Hydrocarbons and Energy (CBHE), the WEC national committee. It is the largest event of its type in Bolivia. The 2014 event will be held under the



theme: "Energy globalisation: the future of petroleum, gas and other energies". The 2014 conference is expected to gather around 600 delegates and the exhibition is expected to have 2000 visitors.

<http://boliviagasenergia.com/>
Contact: Raul Kieffer
(direccionejecutiva@cbhe.org.bo)

Roundtable on Baltic Sea issues

Helsinki, Finland, 28 August 2014

The meeting will gather participants from WEC committees and government representatives from the EU countries in the Baltic Sea region. Participants will exchange views on EU-related topics such as the EU 2030 package, the future of the European energy markets, and energy security issues. Closed session, for WEC members only.

Hosted by WEC Finland.
Contact: Einari Kisel
kisel@worldenergy.org

Beirut Energy Forum

**Beirut, Lebanon,
17-19 September 2014**

The BEF is Lebanon's largest event dedicated to energy efficiency, renewable energy, and green building. The 2014 Forum will discuss green jobs, financing mechanisms and their impact, solar energy quality control schemes, plus other topics. The event will be held under the patronage of Lebanese Minister of Energy and Water, H.E. Arthur Nazarian, with speakers from the League of Arab States, the Central Bank of Lebanon, ESCWA, UNIDO, World Bank, International Finance Corporation,



among others. Free of charge for WEC Lebanon members.

<http://www.beirutenergyforum.com/>
Contact: Pierre Khoury
pierre.khoury@lcecp.org.lb

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www.worldenergy.org/events/future

Harsh realities of Japan's 'energy policy muddle'

More than three years after the nuclear accident at Fukushima, all of Japan's commercial nuclear reactors remain shut down – with the prospects for re-starts as uncertain as ever. A report on the impact of the accident on Japan's energy situation, just published by the Japanese WEC Member Committee, examines the nuclear paradox that the nation now faces. It concludes that Japan's energy policy is in a "muddle" caused by "a lack of understanding of energy issues".

Since the accident at the Fukushima Daiichi nuclear power station and the closure of the Japan's nuclear power stations, one of the most surprising aspects of the aftermath has been how well the nation has coped with the loss of so much generating capacity. As Teruaki Masumoto – Chair of the Japan Energy Association and the nation's WEC Member Committee – notes in his report, the "nuclear power plants together accounted for more than 30% of electricity generation before the accident".

Japan has gone through three summer and winter peak power demand seasons without any major outages for two main reasons. One has been the mostly unsung efforts of electricity companies, which have operated fossil fuel-fired thermal power plants at full throttle, including "dusted off aged plants", and boosted imports of coal, oil and LNG. The other has been the energy-saving efforts of consumers.

But the costs have been high, writes Masumoto, and the burden of the nuclear shut-down is growing. "Paradoxically, this is raising awareness about the usefulness of nuclear power." The effects of the nuclear shut-down are being felt in three main ways:

- o **The extra fossil fuel** required to compensate for the lost nuclear generation has led to the fuel import bill rising steeply. Payment for fossil fuels for power generation "has more than doubled" – from 3.7 trillion yen in fiscal 2010 to 7.8 trillion yen in fiscal 2014. "Japan faces a formidable challenge as it has recorded a trade deficit for 21 straight months," says Masumoto.
- o **A consequence** has been a hike in electricity rates as utilities grapple with rising fuel costs, exacerbated by depreciation of the yen.
- o **Last but not least**, the increased consumption of fossil fuels has boosted emissions of carbon dioxide. "Overall carbon dioxide emissions in Japan grew from 1,316 million tonnes in 2010 to



Teruaki Masumoto

1,409 million tonnes in 2012," says Masumoto, "representing an increase of 93 million tonnes."

So, what now? The government's response has been to formulate a Basic Energy Plan, published in April "after a laborious process, including 100 days of debate". It re-confirms the role of nuclear power in Japan as an important baseload power source, while calling for a reduction of dependence on nuclear energy in the long term.

DAMAGED TRUST

The plan identifies 10 challenges faced by Japan in relation to energy supply and demand, of which Masumoto highlights five: the ongoing problems at Fukushima Daiichi; Japan's vulnerability because of its very low rate of energy self-sufficiency – just 5.5% in 2012; the challenge to Japan's competitiveness arising from electricity rate hikes; the growth of greenhouse gas emissions; and, crucially, "damaged trust in government agencies, business operators and nuclear experts".

The plan does little to reduce the uncertainty over future energy policy in Japan, given that numerical targets for the energy mix will not be determined until the prospects for nuclear re-starts become clear. And who knows when that will be.

Even the one firm proposal in the plan – to actively promote renewable energy sources – comes in for criticism from Masumoto regarding the issue of renewable energy surcharges on bills as a result of feed-in tariff (FITs):

"FIT force electricity consumers – including the millions of households receiving public livelihood assistance – to pay for PV businesses, which enjoy good profits. The majority shoulder these PV business costs silently . . . FIT is a socially unfair programme that promotes regressive income redistribution under the pretext of promoting renewable energy development."

The over-arching message in Masumoto's report is that the government has a long way to go in resolving Japan's energy issues.

"The new Basic Energy Plan reflects a policymaking process swayed by public opinion, media reports and various arguments made by political leaders," he concludes. "Over and over again, I come back to the notion that the greatest cause of the muddle that is Japan's energy policy is a lack of understanding of energy issues." ●

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