



World Future Energy Summit Bulletin

A Daily Report of the World Future Energy Summit (WFES) 2012

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WORLD FUTURE ENERGY SUMMIT 2012 HIGHLIGHTS: TUESDAY, 17 JANUARY 2012

On Tuesday, the World Future Energy Summit (WFES) 2012 was organized around the theme of “Business and Policy Forum.” In the morning, participants attended plenary panel discussions by business leaders in sustainable energy and international agencies. In the afternoon, participants attended parallel sessions on wind power, natural gas, energy efficiency, cities, transportation, China, rural development, and capacity building. During an evening reception, the 2011 Zayed Future Energy Prize was awarded to Schneider Electric, Ashok Gadgil, and the Carbon Disclosure Project.



Zayed Future Energy Prize (L-R): Jean-Pascal Tricoire, Schneider Electric; Ashok Gadgil, University of California; Paul Dickinson, Carbon Disclosure Project; HH General Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi; Damian Miller, Founder and CEO of Orb Energy; Eric Pooley, Environmental Defense Fund; Sultan Ahmed Al Jaber, Director-General, Zayed Future Energy Prize

PLENARY SESSION: BUSINESS LEADERS IN FUTURE ENERGY

In his keynote address, Fatih Birol, International Energy Agency (IEA), underlined that the global financial crisis and the Fukushima nuclear disaster have affected government energy policies and demoted climate change on the political agenda. He said that trajectories plot a 6°C change in climate, and that immediate action and urgent investment in clean energy are needed.

Panelists agreed on the need to continue investing in emerging markets, with Tulusi Tanti, Chairman, Suzlon, saying this can transform obstacles into opportunity. Juan Araluce, President, Vestas, and Frank Wouters, Director, Masdar Power, emphasized economies of scale and scalability. Bjørn Haugland,

DNV, highlighted investments in research and development as companies transition from renewable pilot projects, and the importance of carbon capture and utilization. Steve Bolze, General Electric, said investments in new technologies will be critical in the longer-term, and that centralized generation for vast geographic areas may be possible, though expensive. Mark Carne, Shell, emphasized changing energy portfolios, pointing out that 2012 will be the first year that Shell produces more gas than oil. Noting the volatility of gas prices, Jim Brown, First Solar, said that supply stacks, including photovoltaics and renewable energy, can insulate the market from risk. Steve O’Rourke, Sun Edison, said addressing engineering issues is the next challenge for photovoltaic technology. Jean-Pascal Tricoire, President, Schneider Electric, emphasized the need for low cost energy that communities currently without electricity can deploy and maintain.

PLENARY SESSION: INSIGHTS FROM THE INTERNATIONAL AGENCIES

Keynote speaker Jake Wallenberg, Chairman, AB, said that businesses must accept they are not currently doing enough to contribute to sustainability. He underscored the need for strong incentives for innovation and risk-taking, and changes in investment mentality. He emphasized collaboration among academia, business, and NGOs, citing events such as WFES and projects such as Masdar as examples of such collaboration.

Keynote speaker Rajendra Pachauri, Chairman, Intergovernmental Panel on Climate Change, said no limits exist to the potential for renewable sources of energy, including solar, geothermal, and hydropower, but that economies of scale are not yet well understood.



Business Leaders in Future Energy

The *World Future Energy Summit Bulletin* is a publication of the International Institute for Sustainable Development (IISD) <info@iisd.ca>, publishers of the *Earth Negotiations Bulletin* © <enb@iisd.org>. This issue was written and edited by Catherine Benson, Tallash Kantai, Jonathan Manley, Miquel Muñoz, Ph.D., Delia Paul and Ari Daniel Shapiro, Ph.D. The Photographer is Diego Noguera. The Digital Editor is Brad Vincelette. The Editor is Leonie Gordon <leonie@iisd.org>. The Director of IISD Reporting Services is Langston James “Kimo” Goree VI <kimo@iisd.org>. Funding for coverage of this meeting has been provided by Masdar. IISD can be contacted at 161 Portage Avenue East, 6th Floor, Winnipeg, Manitoba R3B 0Y4, Canada; tel: +1-204-958-7700; fax: +1-204-958-7710. The opinions expressed in the *Bulletin* are those of the authors and do not necessarily reflect the views of IISD. Excerpts from the *Bulletin* may be used in other publications with appropriate academic citation. Electronic versions of the *Bulletin* are sent to e-mail distribution lists (in HTML and PDF format) and can be found on the Linkages WWW-server at <<http://www.iisd.ca/>>. For information on the *Bulletin*, including requests to provide reporting services, contact the Director of IISD Reporting Services at <kimo@iisd.org>, +1-646-536-7556 or 300 East 56th St., 11D, New York, New York 10022, United States of America. The IISD team at WFES 2012 can be contacted by e-mail at <miquel@iisd.org>.



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Fatih Birol, Chief Economist, International Energy Agency (IEA)

Adnan Amin, Director General, International Renewable Energy Agency (IRENA), suggested governments create an environment that encourages private sector investment in renewables. Fatih Birol worried about certain governments slowing support for renewable energy, and explained the importance of reducing fossil fuel subsidies. S. Vijay Iyer, World Bank, said governments can justify using renewable energies across numerous sectors, and encouraged applying funds to leverage the private sector. Jim Leape, Director General, WWF International, stressed the importance of: renewable energy efficiency; using arguments beyond climate change to attract public action; and easing consumer access to renewable energy.

Mohammed El-Ashry, Chairman, REN21, emphasized increased research and development support and public and private support for innovation to enter the marketplace. Marcel Engel, World Business Council for Sustainable Development, said business needs predictability to scale up, such as a predictable price for carbon. Timothy Wirth, President, United Nations Foundation, suggested incentives for appliance energy efficiency as an example of complementary approaches for sustainable energy and economic growth. Carlos Dora, World Health Organization, stressed complementarities in environment, energy, and health, saying people need to understand concrete benefits from change.

WIND: POWERING UP - SEIZING OPPORTUNITIES

Steve Sawyer, Secretary General, Global Wind Energy Council, chaired the session.

Luis Adão da Fonseca, EDP Renewables, stressed the importance of long-term regulatory frameworks to facilitate sustained growth in the sector. Iñigo Sabater Eizaguirre, Vestas, warned against viewing renewable energy solutions as short-term goals, and emphasized robust partnerships to increase uptake of renewables.

Andrew Garrad, President, Garrad Hassan, noted that although there has been dramatic growth in wind energy in emerging markets, there was still more overall growth in the Organisation of Economic Cooperation and Development (OECD) than elsewhere.

Discussing the potential for shale gas and its effect on renewable investment, Eddie O'Connor, CEO, Mainstream Power, said that although shale gas has slowed renewables in the US, it is "a big, gigantic bubble" that will go away. Aart Schreij, London Array Masdar, highlighted the interest of India, China, the UK, and Germany in offshore wind energy, noting that the associated costs will be reduced in the next decade.



Frank Wouters, Director, Masdar Power, United Arab Emirates

TRANSFORMING CITIES: ESTABLISHING SUSTAINABLE COMMUNITIES

Peter Sharratt, Deloitte LLP, moderated the session.

Mary Walsh, London Sustainable Development Commission, UK, highlighted initiatives on retrofitting London's aging building stock to be energy efficient, using solid waste for district heating and cooling, and putting sustainability at the core of the 2012 Olympics planning.

Rex Parris, Mayor, Lancaster, California, lamented that cities are not matching the level of action needed. He said Lancaster is attempting to become the first net-zero city, and attributed Lancaster's success to partnering with industry and creating an environment for new technology adoption.

Alan Frost, Director, Masdar City, spoke on passive urban design principles to make Masdar City cooler and pedestrian-friendly, including: building orientation and design for maximizing shade and harnessing natural wind corridors. He noted that Masdar City is using technology partners to implement clean technology solutions.

Rutu Dave, World Bank, highlighted that cities are the cause and victims of climate change and called for a paradigm shift towards smart city planning. She highlighted the city-wide approach methodology developed by the World Bank to assist cities in reducing emissions and attracting green funds.

COUNTRY FOCUS - CHINA

Chaired by Chris Hartshorn, Lux Research, this session focused on China as a growing business partner, innovator, manufacturer, and market in the renewable sector. Andrew Beebe, Suntech, explained that other nations can look to China for guidance on making and meeting long-term energy goals. He praised China's production capacity and capabilities. Steven 'Mac' Heller, Executive Chairman, CODA Holdings, said that China and the US must work together to reduce high fossil fuel consumption and CO2 emissions. He said China is the world's largest car producer and consumer, a phenomenon reinforced by China and India's emerging middle class.

Mark Ma, China Construction Bank, said that China contains large market opportunities and rising labor costs, and its economy will benefit from energy efficiency and saving. He said investors care about business models, management, and financial returns. Tom Zhao, BYD Solar Division, said that China's twelfth 5-year plan offered direction on increasing energy efficiency. He highlighted the importance of stabilizing the quality of renewable resources and of the relationship between businesses and government.

Haiyan Sun, Trina Solar, elaborated on green growth as the focus of China's new key performance indicator, the importance of globalizing innovation, and China's tougher



Panel on Education, Training and Development (L-R): Eesa Bastaki, CEO, ICT Fund, UAE; Rafic Makki, Abu Dhabi Education Council; Peter Heath, Chancellor, American University of Sharjah, UAE; Fred Moavenzadeh, President, Masdar Institute of Science and Technology, UAE; Wyatt Hume, Provost, UAE University, UAE; and Tod Laursen, President, Khalifa University, UAE

intellectual property laws. The ensuing discussion focused on Africa as a potential renewable energy market and capital-raising opportunities in China.

ENERGY EFFICIENCY: THE KEY TO CARBON REDUCTION

This session was moderated by Ramon Baeza, Boston Consulting Group. He asked speakers how to fully realize energy efficiency gains.

Morten Mauritzen, Exxon Mobil, stressed the growth potential of renewables, projecting a 30% increase in demand from 2010-2040. Sascha Brozek, Siemens, highlighted intelligent design on buildings and construction. Pejman Norastehfar, Bayer Material Science, addressed sustainable production processes. Benoit Dubarle, Schneider Electric, recommended smart grids to optimize distribution among consumers. Frank Ackland, General Electric, supported the installation of household smart meters to modify consumer behavior.

Hiroshi Ogawa, Mitsubishi Heavy Industries, described sustainable transportation design including electric vehicles as a key to efficiency, highlighting their use in Masdar City. Kornelis Blok, Utrecht University, recommended removing fuel subsidies, tightening efficiency standards to reflect state-of-the-art technology, and educating industry professionals on implementation.

THE ROLE OF GAS IN THE FUTURE ENERGY MIX

Moderated by Ruud Weijermars, Delft University of Technology, panelists addressed topics including: competition between liquefied natural gas (LNG) and long distance pipeline gas; power generation competition between coal and gas; energy security in Europe; and Australia's increasing role in LNG supply from offshore shale gas. Panelists emphasized the role of gas in a faster transition to renewables. Rob Gardner, Exxon Mobil, explained that global energy demand will grow by 30% over the next 30 years but gas will grow by 60%, with much of this gas coming from unconventional supplies. Michael Ladwig, Alstom, added that renewables already

contribute 20-30% of electricity production in some countries. Bernard Esselinckx, CEO Al Suwadi Power Company, Ernie Moniz, Massachusetts Institute of Technology, and Gardner agreed that substantial time is necessary to change energy infrastructure. Moniz recommended balancing electricity and natural gas infrastructures through high-level integration of regulatory systems. During a discussion on pipeline leakage, Evgeniy Nadezhdin, Russia Energy Agency, described the Russia Federation's program to decrease gas flaring by 95% while Crispian McCredie, Alboran, cautioned that such measures would not be possible for countries like Nigeria or Angola.

SUSTAINABLE TRANSPORTATION: SYSTEMS, POLICIES AND TECHNOLOGIES

Alain Flausch, Secretary General, International Association of Public Transport, moderated the session and said urban sprawl and increased private car ownership were driving up urban CO₂ emissions and oil consumption. He called for modal shifts from public to private transportation systems.

Iwao Matsuoka, Institution for Transport Policy Studies, said that complete transport system solutions are needed to offer good alternative transport methods to the public, and not merely adopting new technologies into existing systems.

Robert Olivier, Montreal Transport Company, underlined that transport is responsible for an increasing share of Quebec's greenhouse gas emissions. He added that the province aims to have 95% of public transit trips electric by 2030, and detailed the development of Montreal's metro network.

Gunnar Heipp, Munich Public Transport Company, stressed that transit oriented land-use planning is key to developing an effective low-carbon transportation system. He presented the Munich transport masterplan that requires urban planning adhere to transportation plans.

Abdulahman Al Shizawi, Abu Dhabi Department of Transport, noted long-term infrastructure plans for Abu Dhabi to modify government vehicles and taxis to run on compressed



Alain Flausch, Secretary-General, International Association of Public Transport (UITP), moderating the side event: Sustainable Transportation: Systems, Policies and Technologies



Rajendra Pachauri, Chairman, IPCC

natural gas, and to make provisions for multi-modal integrated public transit networks, intercity rail systems, and walking and cycling facilities.

ENERGY AND RURAL DEVELOPMENT

Moderator Ralph Sims, Director, Centre for Energy Research, Massey University, described a Food and Agriculture Organization initiative on Energy-Smart and Climate-Smart food systems to be launched in 2012.

Lamenting the percentage of the world using firewood as a primary energy source, Michael Kelly, World Liquefied Petroleum Gas Association, highlighted the benefits of transitioning to liquefied petroleum gas.

Darrin Morgan, Boeing, described an integrated seawater agriculture system that could produce food and green energy in non-arable lands. Trevor Demayo, Chevron, stressed the provision of affordable, economically-viable, culturally-appropriate, and proven sustainable technologies. André Zeijseink, KEMA, spoke on ensuring availability, affordability, reliability, portability, and sustainability of energy systems in rural areas. Jan-Olaf Willums, Chairman, InSpire Group, described an initiative linking the declining cost of batteries with solar energy that benefits both the local entrepreneur and end-user.

Christine Eibs Singer, CEO, E+Co, explained her organization's work to assist renewable energy entrepreneurs and provide long-term capacity building. Morgan Bazilian, United Nations Industrial Development Organization, noted the importance of both governments and the private sector in meeting the universal access to energy target.

EDUCATION, TRAINING AND DEVELOPMENT

Moderated by Fred Moavenzadeh, President, Masdar Institute of Science and Technology, this session focused on the role that education and research and development can play in transforming UAE into a knowledge-based economy.

Keynote speaker Eesa Bastaki, CEO, Information and Communication Technology Fund, discussed building a robust research and development infrastructure, and creating a culture of research across academic, private, industry, and government sectors.

Rafic Makki, Abu Dhabi Education Council, described the knowledge-based economies of Singapore and South Korea, and the importance of improving K-12 education to enhance and sustain higher education. Peter Heath, Chancellor, American University of Sharjah, explained that UAE's new economy will require financing the high cost of graduate education, and stressed the urgency of cultivating intellectual young Emiratis. Rory Hume, Provost, UAE University, underlined the importance of comprehensive K-12 reform and of doctoral research and mentorship. Tod Laursen, President, Khalifa University, emphasized the role of human capital in creating a knowledge-based economy and the importance of academic mentorship in developing independent thinkers.

Larry Wilson, Provost, Zayed University, underlined the need for visionary leadership and a long-term resource commitment to create a new economy.

AROUND WFES

In addition to the Plenary and Parallel Sessions, delegates attended numerous events throughout WFES, including: roundtable discussions; the Project Village; discussions at the Young Future Energy Leaders pavilion; displays at Innovate@WFES; presentations at the Masdar theatre; and numerous other side events, meetings, and workshops at national, institutional, and company pavilions.

SIDE EVENT: MASDAR CITY: Assem Kabesh, Masdar City, said that Masdar aims to shift the UAE from an oil-based, consumption economy to a knowledge-based economy, and explained that Masdar City will be a tax-free zone.

SIDE EVENT: SHOULD TARIFFS BE IMPOSED ON SOLAR PANELS FROM CHINA? Young Future Energy Leaders debated the US (pro-tariff) and Chinese (anti-tariff) positions. China accounts for 60% of the world's solar panel industry and exports 95% of its production. The pro-tariff team claimed there is unfair competition. The anti-tariff team argued success results from good manufacturing processes and cheap labor. The motion against tariffs narrowly won the debate.

ZAYED ENERGY PRIZE

The Zayed Future Energy Prize 2012 award ceremony was held in the evening at the Emirates Palace Hotel in Abu Dhabi. The Prize celebrates achievements that reflect innovation, long-term vision and leadership in the fields of renewable energy and sustainability. Submissions were assessed for impact, innovation, long-term vision, and leadership by a jury with diverse members including tennis player Andre Agassi, actor Leonardo di Caprio, Olafur Ragnar Grimsson, President of Iceland, and Mohamed Nasheed, President of the Maldives.

The winners of the Zayed Future Energy Prize 2012 were: Schneider Electric (France) in the Large Corporations category for providing safe, reliable, and efficient energy; Ashok Gadgil in Lifetime Achievement for his work in reducing fuel wood consumption in Darfur through efficient cooking stoves; and the Carbon Disclosure Project (UK) in the Small and Medium Enterprise (SME) and NGO category for motivating 3,000 of the world's largest companies to disclose their carbon and water use.

Sultan Ahmed Al Jaber, Director General, Zayed Future Energy Prize, noted the record number of 425 submissions from 71 countries.

Grimsson said the modern message of Abu Dhabi is a call for a future where power plants will no longer threaten the future of the planet.



Masdar Pavillion