



# Asia Clean Energy Forum Bulletin

## A Daily Report of the Seventh Asia Clean Energy Forum (ACEF) 2012

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### ASIAN CLEAN ENERGY FORUM 2012 HIGHLIGHTS: THURSDAY, 7 JUNE 2012

In the morning, participants convened in plenary and considered “Financing Sustainability and Enabling Profitability: public and private perspective.” The day was organized into 12 breakout sessions.

### PLENARY SESSION

Xiaoyu Zhao, ADB, noted the high potential of Asia-Pacific’s clean energy market and opportunities to contribute to poverty reduction.

Christine Lins, Executive Secretary, Renewable Energy Policy Network for the 21st Century (REN21), presented the REN21 Renewables 2012 Global Status Report, which includes new features on rural energy development and complementarity of energy efficiency policies. She said renewable policy frameworks are key for industry to invest in clean energy markets.

Moderator Andrew Revkin, The New York Times, led an interactive panel discussion on, *inter alia*: technology transfer; the future of the climate; and the role of natural and shale gas in the future energy mix.

Brian Castelli, Alliance to Save Energy, stressed the need for south-south technology transfer and the replication of successful initiatives by developing countries. Michael Eckhart, Citigroup, underscored that the world is currently in a “technological transformation.” S. Chander, ADB, emphasized focusing on population growth, resource management, and capital investment flows in renewables in the developing world to address climate change.

Castelli said that the move toward renewable energy is a generational one, and agreed with Eckhart that the future energy-mix will continue to feature fossil fuels, but energy efficiency will be emphasized.



View of the panel discussion during the morning plenary session



Protesters from Greenpeace depicting the use of dirty coal in the Philippines.

### BREAKOUT SESSIONS

#### ENERGY FOR ALL: UP-SCALING MICRO-ENTERPRISES:

Bart Édes, ADB, moderated the session. Hanna Ebeling, LGT Venture, provided an overview of LGT’s Impact Venture Accelerator Programme, centered on philanthropic impact investments in emerging markets through a personalized and local approach. She explained that the accelerator programme incubates early stage enterprises by providing risk capital up to US\$ 50,000. Ebeling emphasized that the priority is on the reach and depth of social impact and that loans are provided at market rates to avoid distorting the local market.

Andrea Griffin, Orb Energy, explained that her company, a provider of solar home systems, developed their model by focusing on: distribution networks; provision of incentives to start franchises; and after-sales installation and maintenance services. She observed that finding appropriate investments has been a challenge.

William Baron, Mercy Corps, noted his organization’s focus on market development in post-conflict states. He said their “one-step approach” in Timor Leste, involves working with existing businesses and identifying lead firms. On early stage incubation, he observed that some enterprises only need assistance accessing markets and do not necessarily need financing.

Ajaita Bothra, Frontier Markets, reflected on the importance of understanding whether the investor is providing the right fit for the micro-enterprise. She challenged the assumption that the poor do not have money and therefore could not afford products, noting that products would be bought if their value was understood.

During the discussion, one participant enquired about the definition of micro-enterprises, observing that the discussion appeared to be more focused on medium-sized enterprises. Participants also discussed the role of government and gender in up-scaling micro-enterprises.

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L-R: Andrew Revkin, the New York Times; S. Chander, ADB; Brian Castelli, Alliance to Save Energy; Michael Eckhart, Citigroup; and Christine Lins, Executive Secretary, REN21

**CARBON CAPTURE AND STORAGE: REGIONAL UPDATE:** This session was chaired by Ashok Bhargava, ADB. Alice Gibson, Global Carbon Capture and Storage (CCS) Institute, presented the global status of CCS, noting that it is already being demonstrated globally with eight operational projects and 72 large-scale projects in the planning, development, or operational stage.

Pradeep Tharakan, ADB, described challenges and opportunities for CCS in Southeast Asia and stressed that CCS can be conducted across sectors.

Annika Seiler, ADB, said, given growth scenarios of increased coal consumption across Asia, CCS is needed to avoid a high carbon growth path. She said developing countries face specific challenges, including that policymakers view CCS as a last priority, rather than as a strategic choice.

Gwen Andrews, Alstom, said CCS is ready to scale-up to large commercial demonstration projects. She noted an advantage to working on CCS in China is the emphasis on driving down costs, an approach that could be transferred to other Asian countries.

Participants discussed, *inter alia*: systems accounting; non-climate impacts of coal; public concerns on CCS safety; long-term storage liability; and chemical looping. Tharakan said there is a need to reduce all emissions, not only CO<sub>2</sub>. Gibson and Andrews both emphasized securing finance for large-scale demonstration projects. Seiler stressed that concessional financing and a dedicated fund are essential for demonstration projects in developing countries.

**DEVELOPMENT AND IMPLEMENTATION OF CLEAN ENERGY IN THE PHILIPPINES:** Pete Maniego, National Renewable Energy Board, the Philippines, chaired the session.

Jose Layug, Department of Energy, the Philippines, outlined milestones and targets in the Philippines, describing

the fiscal and non-fiscal incentives and reported on recent activities to increase renewable energy use by 50% in the next 20 years. He provided a snapshot of renewable energy projects in the Philippines, explaining the range of available energy sources including biomass, geothermal, solar, hydro, tidal, and wind.



ACEF participants attending a session on clean energy in the Philippines

Katsumasa Hamaguchi, Japan International Cooperation Agency, described the legal framework development for energy efficiency and conservation in the Philippines, covering five sectors. Due to the Philippine's relatively low energy self-sufficiency, he stressed the need for energy conservation, concluding that the focus is not on making laws, but on implementing and enforcing laws.

Jasper Inventor, Greenpeace International, presented on the short-term versus the long-term thinking around feed-in tariffs (FIT). He stated that targets for 2030 are reachable by 2020, posing suggestions, *inter alia*: challenging ADB to support a FIT support facility for consumers; putting forth FIT implementing mechanisms as a nationally appropriate mitigation action (NAMA); and making FIT more socially acceptable.

Discussion topics included, *inter alia*: achieving grid parity; improving energy access; questioning government actions to allow new coal plants; improving and building momentum for energy efficiency; and mobilizing political will.

**STRATEGIES FOR FINANCING SMALL-SCALE SOLAR POWER PLANTS:** In a session chaired by Rehan Kausar, ADB, Tony Artiga, Sunco Clean Energy Solutions, presented bankable business models his company is developing for energy, water, and telecommunications. He highlighted the company's work in using the mobile phone pay-as-you-go model to link solar energy producers with consumers.

Stewart Craine, Barefoot Power/Village Infrastructure Angels, presented on long-term energy lending. Noting that banks are still reluctant to invest in small-scale solar projects, he called on MDBs and other investors to provide the US\$ 500 million in capital for the sector's growth.

Don Purka, ADB, presented on bridge-building efforts in addressing the concerns of local and foreign banks skeptical about investing in small-scale solar projects in India through the introduction of ADB's partial credit guarantees enabling solar power entrepreneurs to obtain loans to finance their projects.

Sicheng Wang, National Development and Reform Commission, China, presented on financing mechanisms for a distributed solar photovoltaics (PV) project. He drew attention to financing for grid connected PVs, noting that an evaluation standard for long-term PV power generation will be key in persuading insurance companies to back solar power entrepreneurs who will in turn be able to secure bank loans to finance their projects.

**ENERGY FOR ALL: BUSINESS SOLUTIONS FOR PROMOTING ENERGY ACCESS:** David Reed, WWF, moderated the session, observing that there is a radical difference between what governments think private sector investors want and what the investors themselves actually want.

Sameer Shetty, Boving Fouress Ltd, underscored lack of political will as the fundamental reason why clean energy cannot be delivered to the rural poor. He called for political championing to make energy accessible to those who do not have it, highlighting energy access as a means to eliminate poverty.

Advocating a bottom up approach, Harry Verhaar, Philips Lighting, highlighted: inspiration, through sharing of examples; aspiration, quantifying what one wants to achieve and by when; and perspiration, getting things done.

Lyndon Frearson, Cat Projects, observed that business is here to make money and therefore governments and MDBs need to be realistic about these objectives. He emphasized the



L-R: Bart Édes, ADB; Hanna Ebling, LGT Venture; Andrea Griffin, Orb Energy; William Baron, Mercy Corps, and Ajaita Shah Bothra, Frontier Markets

value of providing energy to the rural poor, and, highlighted constraints relating to finance, governance, and the supply chain.

On barriers, Glenn Tong, Propmech Corporation, cited the mindset of business leaders and politicians who are guided by the bottom line and do not see the potential of renewable energy. Frearson highlighted local community barriers including low levels of expectation and mistrust in the contractor and technology.

During the discussion, participants considered whether the UN Secretary-General's Initiative on Sustainable Energy for All could play a key part in garnering political will. Responding to a question on the role of finance, Shetty noted that the hydro energy business is financially viable and commercial banks have "jumped onto it," now that they see a model that works. On ADB's contribution to promoting energy access, Shetty responded that the ADB brings credibility to the table, required to foster political will. Verhaar observed that co-financing initiatives will expand the collective circle of influence, with Frearson adding that the ADB could build a knowledge based around the sector.

**QUANTUM LEAP IN WIND POWER:** This session was chaired by Jitendra Shah, ADB.

Steve Sawyer, Global Wind Energy Council, identified political commitment as a key condition for successful policy and regulatory regimes to facilitate wind projects. He compared wind policy options, noting that FIT markets and tax incentives are effective to initiate investments. He said trade and quotas are not effective measures and tenders are a risky option.

Gil Opina, Siemens Wind Power, presented technological advancements of the wind turbine industry in the Philippines, including rotors, wind energy conversion systems, control systems, towers and foundations, and operation and maintenance.

Pramod Jain, Innovative Wind Energy, Inc., compared tariffs to a fruit basket, with distinct types of fruit representing: published FIT; incentives; tax benefits; renewable portfolio obligations; renewable energy credits; and wind regimes.

Jitendra Shah, ADB, summarized a pre-forum wind workshop highlighting key findings, *inter alia*: hope from successful pioneer projects; discovery that technology is the easiest aspect of wind projects; and recognition that FITs have different components.

Participants discussed, the minimum capacity required to make a project feasible, and how to increase the comfort of bond buyers with wind farms as a secure, low-risk investment.

**ADB'S KNOWLEDGE AND INNOVATION-BASED SUPPORT TO PRC'S CLEAN ENERGY DEVELOPMENT:** Ashok Bhargava, ADB, chaired the panel and presented ADB support for China's clean energy development, describing rapid energy growth and transformation to a low-carbon, energy efficient economy. He specified priorities, *inter alia*: offshore wind; low-carbon district heating; CCS and concentrated solar power (CSP) demonstration; shale gas; fossil fuel power plants emission performance standards; tariff studies; and energy smart regulations.

Pradeep Perera, ADB, reviewed results achieved in China from 2006-2010, indicating areas of ADB support for the next five years to: mobilize US\$ 240 billion in investments to achieve energy savings; scale-up provincial energy efficiency programmes; implement, monitor, and channel financing; and develop market based approaches.

Woo Yul Lee, ADB, introduced CSP technology to convert solar energy into usable heat and electricity, providing flexibility, reliability, and predictability. He claimed that 15% of China's total energy could be produced by CSP by 2040 if deployed in time.

Annika Seiler, ADB, reviewed the benefits of clean coal technologies and integrated gasification combined cycle technology for China, considering the expected rise in use of coal. She recounted ADB support in three loan projects, acknowledging the capacity development and regulatory and safety support.

In the discussion, Pradeep responded to a question on how China can continue to manufacture and improve energy efficiency by suggesting value addition..

**RAISING FUNDS AND MATCHING FINANCING WITH PROJECTS:** This session was moderated by Samuel Tumiwa, ADB. Eric Usher, UNEP, presented lessons learned from the Seed Capital Assistance Facility (SCAF), noting that for Asia, SCAF activity has concentrated on investments in the Philippines and India, with a focus on small-scale hydro and wind power projects.

Tao Ren, European Investment Bank and the Global Energy Efficiency and Renewable Energy Fund (GEEREF), introduced the GEEREF as the only fund-of-funds providing risk capital to renewable energy focused on SMEs, acknowledging that much work needs to be done to build fund managers' capacity.

Youngsuk Seo, KPMG Korea, presented on the gap between developers and investors, noting that many projects presented for funding are not mature enough to be developed, highlighting country, technical and financial risks faced by the developer.

Husain Mugaibel, Islamic Development Bank (IsDB), presented his organization's experiences in energy project financing in the Middle East and North Africa, highlighting the IsDB's net approvals for the energy sector in 2011 as US\$ 78 billion.

Miles Stump, International Finance Corporation, noted barriers to sustainable energy investment include: the need for: financiers to provide a strategic focus to the entrepreneur; and the financial sector to provide holistic, comprehensive solutions to developers.

**ENERGY FOR ALL: CLEAN COOKING SOLUTIONS FOR THE POOR:** Sununtar Setboonsarng, ADB, moderated the session. Leslie Cordes, Global Alliance for Clean Cookstoves/UN Foundation, noted that billions of people cook on traditional or open fire stoves fueled by biomass. Highlighting the health risks, she observed that women are disproportionately affected. Cordes described the cookstove market as fragmented, comprising a variety of fuels and numerous manufacturers. Emphasizing scale, she highlighted the alliance's goal of 100 million households adopting clean cookstoves by 2020.



Siemens booth at the ACEF 2012

Wim van Nes, SNV, observed the need to create demand for clean cookstoves, following market-based approaches. On enabling environments, he said the question is how to engage in effective coordination mechanisms at the national level. On the supply side he noted the need to strengthen local organizations.

Michael Kelly, World LP Gas Association, highlighted the “huge opportunity at the base of the pyramid” for providing access to energy. Noting that LPG is primarily an energy source in developing countries, he said that it is a better solution for urban and peri-urban areas.

Heike Volkmer, GIZ, said that improving cooking behavior, by for example, not using wet firewood is a challenge. She expressed doubt on whether there is a global market for cookstoves. On scaling up, she advocated strengthening the supply chain, product development, and access to finance. Cordes responded that there is a market for cookstoves but not for advanced clean cookstoves.

Participants discussed: clean cookstove testing centers, affordability, and accessibility for the poor. van Nes noted that health benefits and efficiency could convince households to pay more for clean cookstoves.

**TECHNOLOGY DEVELOPMENTS AND APPLICATION FOR BIOENERGY IN ASIA:** This session was chaired by Jun Tian, ADB. Craig Jamieson, World Agroforestry Center, described Bioenergy with Carbon Capture and Storage (BECCS) as a viable, cost effective method to reduce atmospheric CO<sub>2</sub> concentrations. He said raising awareness on BECCS and inclusion in policy frameworks is necessary to accelerate the technology deployment and its use.

Pasi Rousu, Chempolis Asia & Pacific, Finland, described Chempolis’s formicobio as a superior solution for cellulosic ethanol, emphasizing the important role of biofuels in reducing dependency on fossil fuels, stressing that biomatter should not compete with land use for food.

Oktay Mammadov, Ministry of Economic Development, Azerbaijan, presented on Temiz Seher, a state owned company that aims to improve the city’s ecology and manage solid municipal waste disposal, including the development of a waste-to-energy plant that will produce energy for 50,000 households.

Gatot Prawiro, GE Energy-Gas Engines, highlighted the potential of distributed power from biomass and biogas and described GE efforts on biogas, palm oil, landfill gas, and special gas.

Participants raised questions on: use of gas engines and potential for third generation biofuel refineries in Asia, and food versus fuel, with one participant stating that there are sufficient sources of biomass that do not affect the food supply and another participant stressing high price volatility for food.

**BUSINESS OPPORTUNITIES IN ADB’S ENERGY SECTOR:** Yongping Zhai, ADB, chaired the panel and presented the ADB energy policy to promote energy efficiency, maximize energy access for all and support sector reforms and good governance.

Mukhtor Khamudkhanov, ADB, shared experiences on operations in southern Asia, highlighting 2012 lending programmes that focus on *inter alia*: energy sector reform and restructuring; non-lending programmes; and balanced physical infrastructure development.

Jim Liston, ADB, traced pathways to working with the programmes in ADB. He clarified the business cycle in the central and western Asia department, reporting on projects in the pipeline and associated opportunities.

Teruhisa Oi, ADB, shared the differing priorities for ADB operations in China and Mongolia that are addressed through ongoing loan projects and capacity building. He introduced proposed projects for 2012-13 including a project in China to improve energy efficiency in district heating.

Rehan Kausar, ADB, listed the projects in the pipeline in southeast Asia, describing loans and technical assistance including safeguards for biodiversity, highlighting Vietnam’s large portfolio.

In the ensuing discussion, Kausar clarified that Myanmar is a member country to ADB and that its energy sector strategy roadmap is in the initial stages.

**MANAGING RISK IN CLEAN ENERGY PROJECTS:** The session was chaired by Don Purka, ADB. Suzanne Etcheverry, Overseas Private Investment Corporation (OPIC), presented on innovative risk mitigation products for regulatory risk of FIT in the renewables resources space, and highlighted OPIC’s political risk insurance product. The product insures US-based businesses against currency inconvertibility; expropriation; and political violence.

Matt Daly, REC Solar, gave a technical presentation on the project financing approaches for utility-scale renewable energy, describing how both renewable energy developers and financiers can ensure themselves against financial risks with export guarantee programmes.

Stressing that within the renewable energy portfolio, energy efficiency provides the biggest opportunity to address climate change, James Maguire, Asia Aon Risk Solutions, presented on financial risk management instruments in developing the clean energy sector in Asia. He highlighted two financial risk management instruments utilized by his company: energy savings insurance; and performance guarantee facilities, noting the role of ENSOs in setting up the latter.

Tamsir Ndiaye, Organization for the Development of the Senegal River, presented on hydro-based regional energy integration. Ndiaye highlighted that access to low-cost energy boosts production/profits in other sectors of the economy and is thus a poverty reduction tool. He noted challenges facing the organization, including a difficulty in mobilizing sufficient funding and the different priorities of states on the use of the Senegal River.