

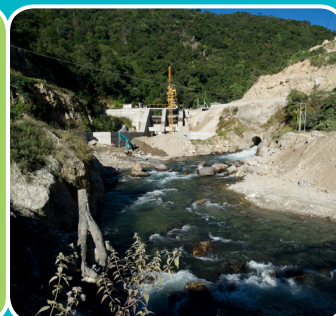


# ASIA CLEAN ENERGY FORUM 2014



CONNECTING THE POLICY,  
TECHNOLOGY, AND  
FINANCE COMMUNITIES

Manila, 16–20 June 2014



ORGANIZED BY



**USAID**  
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**WORLD ENERGY COUNCIL**  
CONSEIL MONDIAL DE L'ÉNERGIE  
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CONNECTING THE POLICY, TECHNOLOGY, AND FINANCE COMMUNITIES

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ACEF 2014

	16 June Monday		17 June Tuesday			18 June Wednesday		
9:00 a.m.– 10:30 a.m.	Preforum Event		Preforum Event			Asia Clean Energy Forum Opening Plenary and Ministerial Dialogue  1. Welcome Remarks 2. Keynote Address 3. Launch of Sustainable Energy for All Initiative’s Asia-Pacific Hub 4. Trilemma Ministerial Dialogue		
	International Off-Grid Renewable Energy Conference	Quantum Leap in Wind	International Off-Grid Renewable Energy Conference	Sustainable Energy for All Investor Forum				
10:30 a.m.– 11:00 a.m.	Coffee Break		Coffee Break					
11:00 a.m.– 12:30 p.m.	International Off-Grid Renewable Energy Conference	Quantum Leap in Wind	International Off-Grid Renewable Energy Conference	Sustainable Energy for All Investor Forum				
12:30 p.m.– 2:00 p.m.	Lunch		Lunch			Lunch		
2:00 p.m.– 3:30 p.m.	International Off-Grid Renewable Energy Conference	Quantum Leap in Wind	International Off-Grid Renewable Energy Conference	Energy-for- All Investor Forum	Informal Sessions	Parallel Sessions		
						Delivery of DSM and Energy Efficiency to Utility Customers	Promotion of Utility-Scale Renewable Energy Applications	Innovative Financing Instruments for Energy Access
3:30 p.m.– 4:00 p.m.	Coffee Break		Coffee Break			Coffee Break		
4:00 p.m.– 5:30 p.m.	International Off-Grid Renewable Energy Conference	Quantum Leap in Wind	International Off-Grid Renewable Energy Conference	Energy-for- All Investor Forum	Informal Sessions	The Utility Business Case for Customer Energy Efficiency Programs	Distributed Generation with Renewable Energy: Opportunities and Challenges in Industrial and Commercial Applications	Productive Uses of Energy
6:00 p.m.– 8:00 p.m.	Reception		No Reception			Reception (hosted by ADB)		

Visit the official website: [www.asiacleanenergyforum.org](http://www.asiacleanenergyforum.org)

Schedule											
19 June Thursday						20 June Friday					
Building Codes and Appliance Standards: Policies and Enforcement		Renewable Energy Grid Integration and Storage		The Business Case for Energy Access		Parallel Sessions					
						Comparing Treatment of Clean Energy in National Energy Policies		Changing Finance: New Trends, Innovations and Directions		International Collaboration on Energy Technology Development and Deployment: Case Studies and Best Practices	
Coffee Break						Coffee Break					
Deep Dive Workshops						Future Energy Scenarios: Perspectives on the Future Trajectory of Clean Energy		Perspectives from the Financial and Development Communities on Clean Energy Finance		Carbon Capture, Storage, and Utilization	
Finance for Early-Stage SMEs (PFAN Asia)	Energy Efficient Air Conditioning (CLASP)	Clean Energy Solutions for Industry (Carbon War Room, AMP)	Renewable Energy Policy and Regulation (GIZ)	Utility-Led Demand Side Management (Nexant, WEC, ACEEE)	Clean Technology Centers and Networks (ADB)						
Lunch						Lunch					
Finance for Early-Stage SMEs (PFAN Asia)	Energy Efficient Air Conditioning (CLASP)	Clean Energy Solutions for Industry (Carbon War Room, AMP)	Renewable Energy Policy and Regulation (GIZ)	Utility-Led Demand Side Management (Nexant, WEC, ACEEE)	Clean Technology Centers and Networks (ADB)	Barriers to Reforming Fossil Fuel Subsidies: Lessons Learned from ASEAN		Difficult Challenges: Financing Off-Grid Energy Projects		Bio-Energy and Waste-to-Energy Technologies	
Coffee Break						Coffee Break					
Finance for Early-Stage SMEs (PFAN Asia)	Energy Efficient Air Conditioning (CLASP)	Clean Energy Solutions for Industry (Carbon War Room, AMP)	Renewable Energy Policy and Regulation (GIZ)	Utility-Led Demand Side Management (Nexant, WEC, ACEEE)	Clean Technology Centers and Networks (ADB)	Closing Plenary 1. Review of Track Discussions 2. Ending Keynote 3. Raffle 4. Closing Remarks					
Reception (hosted by USAID)											

 Energy Efficiency  
 Renewable Energy  
 Energy Access

 Policy and Regulation  
 Finance  
 Technology

# 16–17 June 2014



## International Off-Grid Renewable Energy Conference and Exhibition

Day 1–16th June 2014	
8:30 a.m.–9:30 a.m.	Registration
<b>Opening Ceremony</b> 9:30 a.m.–10:15 a.m.	<b>Welcome Remarks:</b> <ol style="list-style-type: none"> <li>1. Wencai Zhang, Vice President (Operations 1), Asian Development Bank</li> <li>2. Adnan Z. Amin, Director General, IRENA</li> <li>3. Ernesto Macias, President, Alliance for Rural Electrification</li> </ol>
10:15 a.m.–10:30 a.m.	MoU signing ceremony between IRENA and Asian Development Bank <b>IRENA:</b> Adnan Z. Amin, Director General <b>ADB:</b> N. J. Ahmad, Officer-in-Charge, Regional and Sustainable Development Department
10:30 a.m.–10:45 a.m.	Setting the scene (IRENA)
<b><i>Bridging the electricity access gap sustainably and rapidly: The role of stand-alone renewable energy solutions</i></b>	
<b>Session 1</b> 10:45 a.m.–12:30 noon	<i>Developing markets for stand-alone renewable energy systems: Insights into policy and regulatory aspects</i> <b>Moderator:</b> Carlos Jericho L. Petilla, Secretary, Department of Energy, Philippines <b>Panelists:</b> <ol style="list-style-type: none"> <li>1. Hardiv Harris Situmeang, Executive Director, ASEAN Centre for Energy</li> <li>2. Farzana Rahman, Unit Head (Investment), Renewable Energy, IDCOL, Bangladesh</li> <li>3. Marcus Wiemann, Secretary General, Alliance for Rural Electrification</li> <li>4. Jiwan Acharya, Senior Climate Change Specialist, Asian Development Bank</li> <li>5. Andy Schroeter, Director, Sunlabob Renewable Energies, Laos</li> </ol>
Lunch      Exhibition	
<b>Session 2</b> 2:00 p.m.–3:30 p.m.	<i>Developing markets for stand-alone renewable energy systems: Insights into financing and business models</i> <b>Moderator:</b> Akanksha Chaurey, CEO, IT Power India <b>Panelists:</b> <ol style="list-style-type: none"> <li>1. Peter Ballinger, Director, U.S.–African Clean Energy Development and Finance Center, OPIC</li> <li>2. Dipal C. Barua, Managing Director, Bright Green Energy Foundation, Bangladesh</li> <li>3. Paul Needham, President and Co-founder, Simpa Networks, India</li> <li>4. Roderick De Castro, Executive Director, TeaM Energy Foundation Inc., Philippines</li> <li>5. Shrey Bairiganjan, Project Manager, Arc Finance</li> </ol>
Coffee Break      Exhibition	
<b>Session 3</b> 4:00 p.m.–5:30 p.m.	<i>Socioeconomic impact of off-grid renewable energy deployment: Meeting basic and productive needs</i> <b>Moderator:</b> Robert F. Ichord, Jr., Deputy Assistant Secretary, U.S. Department of State <b>Panelists:</b> <ol style="list-style-type: none"> <li>1. Aaron Leopold, Global Energy Advocate, Practical Action</li> <li>2. Laurie Navarro, President, CleanEnergy Solutions International, Philippines</li> <li>3. Soma Dutta, ENERGIA International Network on Gender and Sustainable Energy</li> <li>4. Trim Mumpuni, Executive Director, IBEKA</li> </ol>
Exhibition	
Networking and Reception	

Day 2 – 17 <sup>th</sup> June 2014	
<i>Minigrids: Harnessing the opportunity for meeting electricity needs and stimulating socioeconomic development</i>	
<b>Session 4</b>  9:00 a.m.–10:30 a.m.	<i>Developing markets for renewable energy-based Minigrids: Insights into policy and regulatory aspects</i>  <b>Moderator:</b> Gauri Singh, Director- Country Support and Partnerships, IRENA <b>Panelists:</b> <ol style="list-style-type: none"> <li>1. Li Zhiwu, National Research Institute for Rural Electrification &amp; Division Chief, Hangzhou Regional (Asia and the Pacific) Center for Small Hydropower, People's Republic of China</li> <li>2. Ahmed Ali, Director General, Ministry of Environment and Energy, Maldives</li> <li>3. Brian Shaad, Co-founder, Mera Gao Power, India</li> <li>4. Nico Peterschmidt, Managing Director, INENSUS</li> <li>5. Rana Adib, Policy Advisor, REN21 Secretariat</li> </ol>
	Coffee Break      Exhibition
<b>Session 5</b>  10:45 a.m.–12:15 noon	<i>Developing markets for renewable energy-based Minigrids: Insights into financing and business models</i>  <b>Moderator:</b> Don Purka, Director, Infrastructure Finance Division 1 Private Sector Operations Department, Asian Development Bank <b>Panelists:</b> <ol style="list-style-type: none"> <li>1. Anu Valli, Investment Manager, Bamboo Finance</li> <li>2. Sandeep Giri, CEO, Gham Power, Nepal</li> <li>3. Tripta Singh, Deputy Director, Energy Access Initiative, UN Foundation</li> <li>4. Santosh Kumar, Technical Expert, Indo-German Energy Programme, GIZ</li> <li>5. Abhay Garg, Portfolio Manager, Acumen Fund</li> </ol>
	Lunch      Exhibition
<b>Session 6</b>  1:15 p.m.–2:45 p.m.	<i>Financing energy access initiatives: Mobilising finance and establishing the right delivery mechanisms</i>  <b>Moderator:</b> Susan McDade, Country Actions Team Leader, SE4ALL Initiative <b>Panelists:</b> <ol style="list-style-type: none"> <li>1. Aman Ghalib, Acting Director, Renewable Energy Department, Ministry of Energy and Water, Afghanistan</li> <li>2. Loeung Keosela, Executive Director, Rural Electrification Fund, Cambodia</li> <li>3. Sarah Alexander, SELCO India</li> <li>4. Roberto Ridolfi, Director- Sustainable Growth and Development, Directorate-General for Development and Cooperation – EuropeAid, European Commission</li> <li>5. Chingiz Orujov, Senior Energy Economist, Infrastructure Department, Islamic Development Bank</li> </ol>
	Coffee Break      Exhibition
<b>Session 7</b>  3:15 p.m.–5:00 p.m.	<i>Off-grid renewable energy technology: Design, innovation and integration</i>  <b>Moderator:</b> Dolf Gielen, Director, Innovation and Technology Centre, IRENA <b>Panelists:</b> <ol style="list-style-type: none"> <li>1. Matt Jordan, Program Manager, Global Lighting and Energy Access Partnership</li> <li>2. Dean Cooper, Energy Finance Programme Manager, UNEP</li> <li>3. Silvia Kreibiehl, Head, Frankfurt School- UNEP Centre</li> <li>4. Dennis Chew, Regional Director (Asia-Pacific), International Electrotechnical Commission</li> <li>5. Wilhelm van Butselaar, Manager Hybrid Energy Systems, SMA Australia</li> <li>6. Franck Al Shakarchi, Project Manager, CEA-INES, France (tbc)</li> </ol>
	Closing Remarks
5:00 p.m.–5:30 p.m.	<ol style="list-style-type: none"> <li>1. Anthony Jude, Senior Advisor, concurrently Practice Leader (Energy), ADB</li> <li>2. Ernesto Macias, President, Alliance for Rural Electrification</li> <li>3. Adnan Z. Amin, Director General, IRENA</li> </ol>
	Exhibition



16 June 2014

## Quantum Leap in Wind Workshop 2014: Challenges and Solutions to Grid Integration of Utility-Scale Wind Power Plants

9:00 a.m.–5:30 p.m.

### Objectives

#### *Theme of Fourth Quantum Leap in Wind (QLW) Workshop*

Growth of wind power has reached a plateau in regions like US, EU, and India, while growth continues in the People's Republic of China and the prospects for significant increase in wind power installations have improved in countries like Indonesia, Mongolia, Philippines, Pakistan, Sri Lanka, Thailand, and Viet Nam. Despite the progress made in these countries, grid integration has emerged as the key barrier to the continued expansion of wind power.

The 2014 Quantum Leap in Wind workshop will focus on answering the question: “What are the issues that continue to hinder wind power development?” The workshop will use this as the anchor question while addressing the grid integration facet of wind energy projects in the Asian countries.

The one day workshop will kick off with presentation by 10 Asian country representatives on status of wind industry. Presenters will discuss barriers, solutions to overcoming barriers and recommendations for changes to policies, tariffs, interconnection, permitting, land acquisition, financing, and others.

The second half of the workshop will focus on the key issue of grid integration of wind energy. Now that several Asian countries have a few wind project installations, additional project development is predicated on resolving issues related to ability of grid to absorb variable power. The attitude in the past of most grid managers and operators in these markets has been “less than five percent of wind power capacity (or less than 2% of wind energy) is no problem.” This attitude is being replaced by caution and in some cases fear. This session will bring together grid managers and operators, and experts in the field of variable power integration to present issues and solutions to grid integration of wind power. The session will start with a generic National Renewable Energy Laboratory presentation on wind power grid integration followed by sessions on two topic areas: System Planning and System Operations.

#### *Takeaway for Workshop Participants*

The workshop will share lessons, best practices and recommendations related to integration of utility-scale wind power to the grid.

The workshop will provide opportunities to establish connections with potential clients, suppliers, policy makers, utility companies and financiers in order to facilitate transactions through extensive networking opportunities.

ADB is committed to increasing access to clean and affordable energy for people throughout the region. One of these is wind power, which is poised to simultaneously address the three challenges of energy security, climate change and access to energy for all.

The fourth QLW workshop is a Preforum event of the ninth Asia Clean Energy Forum ([www.asiacleanenergyforum.org](http://www.asiacleanenergyforum.org)). Key players in the global and Asian wind industry, from sectors of finance, technology, project development, policy and regulation, shall gather to brainstorm and devise a roadmap for a quantum leap in wind in Asia and the Pacific.

## Participants

Wind energy developers, policy makers, utility system planning and operations, regulators.

## Agenda

<b>Morning sessions:</b> 9:00 a.m.–9:10 a.m.	<b>Welcome note:</b> S. Chander, Special Senior Advisor (Infrastructure and Public-Private Partnership) Asian Development Bank
9:10 a.m.–9:40 a.m.	<b>Keynote address</b> Steve Sawyer, Secretary General, Global Wind Energy Council
9:40 a.m.–10:00 a.m.	<b>Quantum Leap in Wind Update</b> Bo An, Pramod Jain
10:00 a.m.–10:30 a.m.	<b>Philippines Wind Resource Map by NREL</b> Mark Jacobsen, National Renewable Energy Laboratory, Department of Energy, U.S.A.
10:30 a.m.–11:00 a.m.	<b>Coffee Break</b>
<b>Morning sessions:</b> 11:00 a.m.–11:45 a.m.	<b>Wind development country update. Focus on issues that are hindering growth of wind industry.</b>  <b>Session 1:</b> India by Alok Srivastava Philippines by Marissa Cerezo Viet Nam by Do Thanh Vinh  <b>Moderator:</b> Anthony Jude, Senior Advisor, concurrently Practice Leader (Energy), Regional and Sustainable Development Department, Asian Development Bank
11:45 a.m.–12:30 noon	<b>Session 2:</b> People's Republic of China by Haiyan Qin Mongolia by Angarag Sri Lanka by Upali Daranagama Pakistan  <b>Moderator:</b> Ashok Bhargava, Director, Energy Division, East Asia Department, Asian Development Bank  Each country will be allocated 15 minutes. The lead delegate responsible for renewable energy from each country will present the findings.
12:30 noon–2:00 p.m.	<b>Lunch</b>
<b>Afternoon sessions:</b> 2:00 p.m.–2:50 p.m.	<b>Session 3: Grid Integration of Utility-Scale Wind Power Plants</b> Jaquelin Cochran, National Renewable Energy Laboratory, Department of Energy, U.S.A. Philip Napier Moore, Mott McDonald, Thailand case-study  <b>Moderator:</b> Pil-Bae Song, Visiting Professor, Korea Development Institute  As utility-scale wind power projects are commissioned in new wind energy markets, there is a growing realization that the grid is not ready to integrate even the first few projects. Presenter will describe the status, challenges and solutions in new wind markets in the areas of Grid Code, System Planning and System Operations.
2:50 p.m. to 3:30 p.m.	<b>Session 4: Wind Power Dispatching and Forecasting</b> Jaquelin Cochran, National Renewable Energy Laboratory, Department of Energy, U.S.A. Rongfu Sun, Jiebei Company, State Grid, People's Republic of China, Wind Power Dispatching  <b>Moderator:</b> Pradeep Perera, Principal Energy Specialist, Energy Division, East Asia Department, Asian Development Bank  First presentation will describe the challenges posed by wind power to system operations. It will describe the best practices in the areas of economic dispatch, unit commitment, contingency analysis, and wind energy forecasting.  The second presentation will describe a case-study from People's Republic of China. This case-study will describe dispatching of wind production on all timeframes: minute-by-minute, hour-by-hour and day-by-day. It will describe how the flexibility in the system is used in the different timeframes. It will also describe the scenarios before and after wind energy forecasting. It will describe the methodology used for forecasting and the positive impact of forecasting on managing the dispatch of wind power.

3:30 p.m.–4:00 p.m.	<b>Coffee Break</b>
4:00 p.m.–5:00 p.m.	<p><b>Session 5: System Impact Studies for Connecting Wind Power Plants</b>  Nagaraja Ramappa, Power Research and Development Consultants Pvt. Ltd., India  Kamani Jayasekara, Ceylon Electricity Board, Sri Lanka  Dharshana Muthumuni, Manitoba Hydro, Canada</p> <p><b>Moderator:</b>  Mukhtor Khamudkhanov, Principal Energy Specialist, Energy Division, South Asia Department, Asian Development Bank</p> <p>In this session three case studies will be presented.</p> <ul style="list-style-type: none"> <li>(a) Country A. Experience with grid code for variable power—Minimum requirements in terms of quality of power, active/reactive power control, voltage/frequency regulation and fault ride through</li> <li>(b) Country B. Methodology and Results of Long-term system-wide impact analysis—connecting multiple wind farms over multiple years. Impact of variable power on load flow, short-circuit requirements and dynamic stability under various scenarios will be presented along with recommended upgrades to the network, addition to spinning reserves and addition to flexibility of load and existing generation.</li> <li>(c) Country C. Methodology and Results of System impact study related to connecting a specific wind farm to the grid. Impact of variable power on load flow, short-circuit requirements and dynamic stability under various scenarios will be presented along with recommended upgrades to the network.</li> </ul>
5:00 p.m.–5:30 p.m.	<p><b>Session 6: Wind Developer Panel Discussion</b>  The concluding session will be a panel discussion of private wind project developers. Panel will discuss the challenges faced by developers in all aspects of wind project development, how these challenges are being resolved, and what policy makers, regulators and utilities can do to accelerate wind development.</p> <p><b>Moderator:</b> Pramod Jain, Consultant, Asian Development Bank</p> <p><b>Panelists:</b>  Vince Perez, Altenergy, Philippines  Edgare Kerkwijk, Asia Green Capital, Indonesia  Upali Dharnagama, Additional Secretary, Ministry of Power, Sri Lanka  Alok Srivastava, Secretary, Ministry of New and Renewable Energy, India  Jaquelin Cochran, NREL, USA  Nagaraja Ramappa, PRDC, India</p>

### Contact Information of Organizers:

**Pramod Jain**, pramod@i-windenergy.com

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17 June 2014

## Investor Forum Asia

PART I:	Sustainable Energy for All Investor Forum
8:30 a.m.–9:00 a.m.	Registration
9:00 a.m.–9:15 a.m.	<p><b>Opening Session:</b> Anthony Jude, Senior Advisor, concurrently Practice Leader (Energy), Asian Development Bank Kandeh Yumkella, Special Representative of the UN Secretary General and CEO, Sustainable Energy for All Jiwan Acharya, Senior Climate Change Specialist (Clean Energy), Asian Development Bank (MC)</p> <p><b>Moderator:</b> Susan McDade, Country Action Team Leader, Sustainable Energy for All Initiative Jiwan Acharya, Senior Climate Change Specialist (Clean Energy), Asian Development Bank (co-moderation)</p>
9:15 a.m.–10:15 a.m.	<p><b>Meeting SE4ALL Targets in Asia and the Pacific</b> Government representatives will present their energy access, renewable energy (RE) and energy efficiency (EE) goals, development priorities and investment opportunities, to a panel of development agencies and financing institutions. The discussions will focus on creating an enabling environment for RE and EE through policy and regulation, addressing barriers to RE and EE investment, and catalyzing private sector investment in RE and EE, especially in applications that reduce energy poverty.</p> <p><b>Representatives from the Governments of:</b> Bangladesh, Bhutan, Myanmar, Nepal</p>
10:15 a.m.– 10:30 a.m.	Coffee Break
10:30 a.m.– 11:30 a.m.	<p><b>Panel Discussion:</b> Multilateral and bilateral development agencies give feedback and make recommendations on the programs shared by the Government representatives in the previous session. Additionally, they will be asked to cite specific ways they can support some of the issues raised during the discussion. Yongping Zhai, Director, Energy Division, South Asia Department, Asian Development Bank Vijay Iyer, Senior Regional Advisor (Infrastructure), South Asia Region, World Bank Hongpeng Liu, Chief, Energy Security and Water Resources Section, Environment and Development Division, ESCAP Hans Olav Ibrekk, Policy Director, Energy+, Government of Norway Peter Storey, Global Coordinator, Private Financing Advisory Network</p>
11:30 a.m.–12:15 noon	<p><b>Open discussion:</b> Participants will be given the floor to join the discussion between the government agencies and the panel of experts.</p>
12:15 p.m.–12:30 noon	<p><b>Closing remarks:</b> Robert Ichord, Jr., Deputy Assistant Secretary, Bureau of Energy Resources, US Department of State</p>
12:00 noon–1:45 p.m.	Lunch Break

PART II:	Energy for All Investor Forum
1:45 p.m.–1:50 p.m.	<b>Opening remarks</b> Edwin Khew, Chair, Sustainable Energy Association of Singapore (SEAS), & Cochair of Energy for All Partnership Steering Committee
1:50 p.m.–2:00 p.m.	<b>ADB's Energy for All Program.</b> Energy for All will present its recent milestones and evolving implementation strategies. Jiwan Acharya, Asian Development Bank
2:00 p.m.–3:00 p.m.	<b>SESSION 1: Enabling private sector participation in energy access.</b> Energy for All will present how its Project Development Facility enabled energy access enterprises to establish their operations and scale up their impact to the energy poor. Erel Narida, One Renewable Energy Enterprises (PHI) Paul Needham, Simpa Networks (IND) Rustam Sengupta, Boond Energy (IND) Brian Shaad, Mera Gao Power (IND)
3:00 p.m.–3:45 p.m.	<b>SESSION 2: Developing financing products for energy access enterprises.</b> Customized financing products for energy access enterprises need to be developed and adopted by mainstream financing institutions to reach the USD 48 billion annual investments needed for universal energy access by 2030. <sup>1</sup> This session will present examples of how Energy for All is developing these financing products with its partners. Sanjoy Sanyal, New Ventures India (IND) Pariphan Uawithya, Rockefeller Foundation, (IND) Aaron Leopold, Practical Action (REG)
3:45 p.m.–4:00 p.m.	<b>Coffee Break</b>
4:00 p.m.–4:30 p.m.	<b>SESSION 3: Energy for All Investor Platform.</b> Apart from providing project development assistance to energy access enterprises, Energy for All is also developing a suite of services for its investor network under the Energy for All Investor Platform. Investors participating in Session 3 will be asked to provide a brief background on their fund and share some insights on how the Energy for All Investor Platform can be more relevant to their dealflow process. En Venkat, Aavishkaar Anu Valli, Bamboo Finance Nicholas Lazos, Insitor Management Deborah Gapas, OIKO Credit Philippines Joan Yao, LGT Venture Philanthropy David Sher, Low Carbon Enterprise Fund, ERM Robert Calingo, Peace and Equity Foundation Yanis Boudjouher, ReEx Capital Asia
4:30 p.m.–5:50 p.m.	<b>SESSION 4: Business plan presentations.</b> Energy access enterprises that are receiving Energy for All's support will be asked to present their business model and investment needs to a panel of experts and funders. Sandeep Giri, Gham Power (NEP) Allen Himes, Indigo Energy (MYA) Damian Miller, Orb Energy (IND) U Kyaw Min Tun, SolaRise (MYA) Didar Islam, Solaric (BAN) Fiza Farhan, Buksh Foundation (PAK)
5:50 p.m.–6:00 p.m.	<b>Closing remarks</b> Gil-Hong Kim, Director, Sustainable Infrastructure Division, Regional and Sustainable Development Department, Asian Development Bank

<sup>1</sup> World Energy Outlook 2011, International Energy Agency

## ACEF Informal Sessions

### 2:00 p.m.–5:30 p.m.

On Tuesday afternoon, ACEF will feature six informal sessions as part of the Preforum activities. These sessions will provide different organizations with the opportunity to make more detailed presentations on interesting, innovative, and cutting-edge projects or studies relevant to the clean energy community.

The schedule for the informal session is as follows:

2:00 p.m.–3:30 p.m.	<b>The Clean Energy Solutions Center: No-Cost Policy Assistance, Best Practices and Case Studies</b> <i>Briefing Theater 1</i> <p>During this informal session representatives from the Clean Energy Solutions Center and its partners will explore how this initiative provides support for governments, advisors and analysts as they create policies and programs to advance the deployment of clean energy technologies.</p>
	<b>Climate Change Strategies Database</b> <i>Briefing Theater 2</i> <p>This session will present the Climate Change Strategies Database, a joint initiative of ADB's Asia Regional Integration Center and Regional and Sustainable Development Department. The database collates policies, actions and directions undertaken by countries so far on climate change, and serves as a platform that will enable researchers to access up-to-date information on the current actions of countries in addressing issues on climate change.</p>
4:00 p.m.–5:30 p.m.	<b>The Global Electricity Initiative</b> <i>Briefing Theatre 2</i> <p>This session will provide an overview of the Global Electricity Initiative, a joint initiative of the World Energy Council, the World Business Council for Sustainable Development, and the Global Sustainable Electricity Partnership. The focus of the session will be on the challenges of the Asian electricity sector, i.e., access to electricity, energy efficiency, renewables as well as adaptation and mitigation to climate change.</p>
	<b>The Ten Island Challenge</b> <i>Briefing Theater 1</i> <p>This session will describe and discuss the Ten Island Challenge, an initiative of the Carbon War Room, Rocky Mountain Institute and US Department of Energy to work with Caribbean island nations to accelerate the transition to low-carbon, renewable energy economies. The session will also identify how the approach may be applied to island nations in the Pacific as well.</p>
	<b>Presentation of the REN21 Renewables 2014 Global Status Report</b> <i>Auditorium Zone D</i> <p>This session will present the 2014 edition of REN21's annual Renewables Global Status Report. First released in 2005, this report provides a comprehensive and timely overview of renewable energy markets, industries, investments, and policy developments worldwide. It enables policymakers, industry, investors, and civil society to make informed decisions.</p>



ASSISTING COUNTRIES WITH CLEAN ENERGY POLICY

## The Clean Energy Solutions Center No-Cost Policy Assistance Best Practices and Case Studies

**17 June 2014, 2:00 p.m.–3:30 p.m.**

### Briefing Theater 1

During this informal session representatives from the Clean Energy Solutions Center and its partners will explore how this initiative provides support for governments, advisors and analysts as they create policies and programs to advance the deployment of clean energy technologies. The session will also focus on the Solutions Center’s “Ask an Expert” service that provides no-cost clean energy policy consultations to governments and government-affiliated practitioners, and has to date supported over 120 requests for policy assistance from nearly 70 countries.

### Agenda

2:00 p.m.	Welcome and introductions
2:10 p.m.	Presentation: Overview of the Clean Energy Solutions Center
2:25 p.m.	Panelist Overviews: Panelists discuss their contributions to the Solutions Center through Ask an Expert and training offerings
2:45 p.m.	In-depth panel discussion on helping countries with development and implementation of clean energy policies and programs: <ul style="list-style-type: none"> <li>• The role and impacts of quick response technical assistance</li> <li>• Effective policy support resources, such as best practices, capacity building and training opportunities</li> <li>• How can the Solutions Center further support and collaborate with governments and policymakers on both national and subnational levels</li> </ul>
3:10 p.m.	Audience Questions and Discussion

### Panelists include:

Ian Lloyd, U.S. Department of Energy

Jaquelin Cochran, Senior Energy Analyst, National Renewable Energy Laboratory

Eric Gibbs, Senior Director of Country Programs, Collaborative Labeling and Appliance Standards Program (CLASP)

### Organizer

The Clean Energy Solutions Center, an initiative of the Clean Energy Ministerial, helps governments and policy experts design and implement clean energy policies by providing no-cost expert assistance, training, policy reports, data, and tools. To learn more about the Solutions Center and how it can assist in meeting countries’ clean energy policy objectives, please visit [www.cleanenergysolutions.org](http://www.cleanenergysolutions.org).

### Contact

For more information on this Clean Energy Solutions Center event or its organisers, please contact:

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## Climate Change Strategies Database

**A joint project of ADB's Asia Regional Integration Center (ARIC) and Regional and Sustainable Development Department (RSDD)**

**17 June 2014, 2:00 p.m.–3:30 p.m.**

### Briefing Theater 2

ADB's Asia Regional Integration Center (ARIC) of the Office of Regional Economic Integration (OREI) invites everyone to attend a presentation on its Climate Change Strategies Database.

ARIC hosts a one-stop knowledge and information portal on regional cooperation and integration (RCI) initiatives in Asia and the Pacific. One of its richest sources of information is the Climate Change Strategies Database. The database collates policies, actions and directions undertaken by countries so far on climate change. The database serves as a platform that will enable researchers to access up-to-date information on the current actions of countries in addressing issues on climate change.

The ARIC website includes news, opinions and editorials, calendar of economic activities, and list of publications. The website also offers a number of databases on: trade integration and free trade agreements; investment, macroeconomic, monetary, and financial indicators; tax incentives; and climate change strategies, among others.

### Agenda

2:00 p.m.	ARIC Video
2:05 p.m.	Welcome
2:10 p.m.	Introduction to the Asia Regional Integration Center
2:25 p.m.	The ARIC-RSDD Climate Change Strategies Database
2:40 p.m.	Climate Change Strategies Database video
2:45 p.m.	Question and Answer
3:30 p.m.	Close

### Organizers/Presenters

This event is jointly sponsored by ARIC and Regional and Sustainable Development Department (RSDD).

The ARIC is ADB's primary source of information and knowledge on regional cooperation and integration in the Asia and the Pacific; and is in the forefront of ADB's research and regional integration initiatives.

RSDD is the focal point of sector and thematic work in ADB. It leads and coordinates the preparation and update of sector and thematic policies and strategies of ADB; promotes and supports learning and knowledge sharing through communities of practice and external partnerships; and captures, synthesizes, enriches, channels, and encourages the uptake of innovative sector and thematic practices in ADB's operations.

### Contact

For more information about this session, please get in touch with:

#### James Villafuerte

Economist, ARIC  
jamesvillafuerte@adb.org

#### Mara Claire Tayag

Team Leader, ARIC  
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GLOBAL ELECTRICITY INITIATIVE

## The Global Electricity Initiative

**17 June 2014, 4:00 p.m.–5:30 p.m.**

### Briefing Theatre 2

#### *Global Electricity Initiative*

We are delighted to invite you to join an exclusive session on the Global Electricity Initiative (GEI). The objective of the GEI is to identify, record, and showcase action that utilities are undertaking to mitigate and adapt to climate change, increase energy access and reduce their global environmental footprint. Furthermore, one of GEI's main objectives is to lay the foundation for a global electricity community. The initiative is driven by three of the largest industry-based and sustainability networks in the world:

- World Energy Council (WEC)
- World Business Council for Sustainable Development (WBCSD) and
- Global Sustainable Electricity Partnership (GSEP)

GEI is chaired by Philippe Joubert.

The initiative was launched in 2011 at the COP-17 summit in Durban, South Africa. The results of the first phase were based on a survey of 25—mainly African—electricity utilities, representing 10% of global generating capacity. The initiative was well received and it was agreed to scale up the initiative and cover a larger group of electricity utilities around the world. The new phase was announced in 2012 at COP-18 in Doha, Qatar.

### Session Format and Topics

The focus of the session will be on the challenges of the Asian electricity sector, i.e., access to electricity, energy efficiency, renewables as well as adaptation and mitigation to climate change. The meeting will be conducted in a plenary setting, with a moderator and some discussion leaders, who will give presentations and speeches followed by a discussion with the audience.

### Contact Points

For more information on this session or the GEI, please contact:

**Yoshiyuki Tsuji** ([tsuji@worldenergy.org](mailto:tsuji@worldenergy.org))

**Alexander Wirp** ([wirp@worldenergy.org](mailto:wirp@worldenergy.org))



## The Ten Island Challenge

**17 June 2014, 4:00 p.m.–5:30 p.m.**

### Briefing Theater 1

**Summary:** This session will describe and discuss the Ten Island Challenge, an initiative of the Carbon War Room, Rocky Mountain Institute and US Department of Energy to work with Caribbean island nations to accelerate the transition to low-carbon, renewable energy economies. The session will also identify how the approach may be applied to island nations in the Pacific as well.

### Background

Islands face increasing challenges from their dependence on imported fossil fuels, which impacts the prices they pay for everything from electricity to food. This is further complicated by the added demand that tourism places on the island's resources. Natural energy resources are abundant on islands. However, the systems required to use them have not been widely implemented and scaled.

This lack of implementation is the result of multi-market barriers that islands and technology providers encounter. These multi-market barriers include local permitting, long-term fossil fuel contracts, and other legislative barriers. What is missing is a scaled regional approach to these barriers.

At the Rio+20 Summit, Christiana Figueres, Executive Secretary of the UNFCCC, shared the stage with Sir Richard Branson, Founder of the Carbon War Room, and Jose Maria Figueres, President of the Carbon War Room, and threw down a challenge for CWR to work with ten island nations to accelerate their transition off fossil fuels. She heightened the challenge by adding that those islands should be signed on by 2014. We took on that challenge and are currently working to bring ten islands onboard to become smart island economies.

The Ten Island Challenge seeks to bridge the gap between the potential for a clean energy economy and current reality, by working with islands to identify the barriers, find solutions and create a regional roadmap for making the necessary changes. This roadmap details solutions that can attract both private sector investment and aggregated demand for large-scale renewable energy systems. Our finish line is a region rich with renewable energy systems, fast-tracking a transition to a low carbon economy, and establishing a blueprint for other isolated economies, and indeed continental countries as well.

### Presenter

Jeff Erikson is Director of Global Projects at the Carbon War Room, based in Washington, DC. In that capacity he provides oversight and strategic direction to all of the Carbon War Room's active Operations, ensuring that they achieve their goal of reducing carbon emissions and advancing the low-carbon economy. Jeff is also responsible for working across the organization to shape and activate new Operations.

Before joining the Carbon War Room, Jeff served as Senior Vice President at SustainAbility, a global think-tank and strategic advisory firm. Jeff headed the Washington, DC office and was the global lead for business development. Prior to joining SustainAbility, Jeff spent 14 years at Mobil Oil and ExxonMobil Corporation, where he was responsible for projects and programs in multiple engineering specialties and across a broad range of environmental, health, and safety issues. He also spent five years in commercial real estate development.

**Contact:** [jerikson@carbonwarroom.com](mailto:jerikson@carbonwarroom.com) +1 202 717 8444

The **Carbon War Room** accelerates the adoption of business solutions that reduce carbon emissions at gigaton scale and advance the low-carbon economy.



## Presentation of the REN21 Renewables 2014 Global Status Report Evolution and diversification of renewables globally

**17 June 2014, 4:00 p.m.–5:30 p.m.**

### Auditorium Zone D

Find out what made 2013 another record year for renewables. Discover where the greatest number of additions to electric generating capacity occurred, how heating and cooling with renewables is progressing and who the new leaders in renewable energy deployment are. A short retrospective will illustrate how the renewables sector has evolved over the past decade.

First released in 2005, REN21's annual *Renewables Global Status Report* provides a comprehensive and timely overview of renewable energy markets, industries, investments, and policy developments worldwide. It enables policymakers, industry, investors, and civil society to make informed decisions. The *Renewables Global Status Report* relies on up-to-date renewable energy data, provided by an international network of more than 500 contributors, researchers, and authors.

### Agenda

4:00 p.m.	Welcome
4:10 p.m.	Presentation of <i>Renewables 2014 Global Status Report</i> <b>Rana Adib</b> , Research Coordinator, REN21
4:30 p.m.	Renewable Energy in Asia—Status and Outlook <b>Hardiv Situmeang</b> , Director, ASEAN Center for Energy
4:40 p.m.	Critical role of renewable energy policies <b>Rafael Senga</b> , Manager, Energy Policy Asia-Pacific, World Wildlife Fund
4:50 p.m.	Question & Answers
5:30 p.m.	Close

Copies of the Executive Summary and Key Findings of the REN21 Renewables 2014 Global Status Report will be distributed; the full report can be downloaded from [www.ren21.net/gsr](http://www.ren21.net/gsr)

### Organizer

REN21 is the global renewable energy policy Multistakeholder network that connects a wide range of key actors. REN21's goal is to facilitate knowledge exchange, policy development and joint action towards a rapid global transition to renewable energy. REN21 promotes renewable energy to meet the needs of both industrialized and developing countries that are driven by climate change, energy security, development and poverty alleviation. To assist policy decision making, REN21 provides high quality information, catalyzes discussion and debate and supports the development of thematic networks.

Joining the session will be the ASEAN Center for Energy (ACE) and the World Wildlife Fund (WWF).

### Contact

For more information on this REN21 Renewables Global Status Report event or its organisers, please contact:

**Rana Adib**

REN21 Secretariat

[rana.adib@ren21.net](mailto:rana.adib@ren21.net)

# ASIA CLEAN ENERGY FORUM 2014

CONNECTING THE POLICY, TECHNOLOGY, AND FINANCE COMMUNITIES Manila, 16–20 June 2014



## 18 June 2014

Energy Efficiency

Policy and Regulation

Renewable Energy

Finance

Energy Access

Technology

## Opening Plenary and Ministerial Roundtable

### Part 1: Connecting the Policy, Technology, and Finance Communities

**18 June, 9:00 a.m.–10:30 a.m.**

The opening plenary session will set the scene for the three-day Main Forum. It will include opening remarks from the three ACEF co-organizers, as well as a Keynote Address from R.K. Pachauri, Chair of the IPCC, Director General of TERI in India, and a leading voice on energy and climate issues in Asia and the world.

The plenary will conclude with a launching ceremony for the Sustainable Energy for All Regional Hub in Asia and the Pacific, featuring Kandeh Yumkella, Special Representative of the UN Secretary-General and CEO of Sustainable Energy for All.

### Welcome and Opening Remarks

9:00 a.m.–9:30 a.m.

**Bindu Lohani**

Vice President (Knowledge Management and Sustainable Development)  
Asian Development Bank

**Robert F. Ichord, Jr.**

Deputy Assistant Secretary  
Department of State  
United States

**Christoph Frei**

Secretary General  
World Energy Council

### Keynote Address

9:30 a.m.–10:00 a.m.

**R.K. Pachauri**

Chair of the Intergovernmental Panel on Climate Change (IPCC),  
Director General, The Energy and Resources Institute, India

## Launching Ceremony

### *Regional Launch of the United Nations Decade of Sustainable Energy for All (2014–2024) and the Regional Hub in Asia and the Pacific*

10:00 a.m.–10:30 a.m. **Host: Jiwan Acharya**, Senior Climate Change Specialist (Clean Energy), Sustainable Infrastructure Division, Regional and Sustainable Development Department, Asian Development Bank

**Opening remarks: Anthony Jude**, Chair, Energy Committee, Senior Advisor and concurrently Practice Leader (Energy), Regional and Sustainable Development Department, Asian Development Bank

**Multimedia Presentation** on regional launch of Decade of SE4ALL and Regional Hub for Asia and the Pacific

**Keynote Speaker: Kandeh Yumkella**, Special Representative of the UN Secretary-General and CEO, Sustainable Energy for All

## Remarks of Members of Regional Hub:

**Caitlin Wiesen**, Regional Manager, Asia–Pacific Regional Centre, United Nations Development Programme (UNDP)

**Shun-ichi Murata**, Deputy Executive Secretary of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)

**Launching Ceremony: Bindu Lohani**, ADB and **Kandeh Yumkella**, SE4ALL to lead the launching ceremony with representatives of UNDP and ESCAP by touching the display pedestal

## Opening Plenary and Ministerial Roundtable

### Part 2: Ministerial Roundtable on the Energy Trilemma—Security, Affordability, and Sustainability

**18 June, 11:00 a.m.-12:30 noon**

The second part of the opening plenary session will feature a Ministerial Roundtable on the Energy Trilemma.

The term “energy trilemma” refers to the three cross-cutting issues related to energy use—namely, energy security, social impacts, and environmental impacts. The Roundtable will provide an opportunity for senior, ministerial-level officials to exchange views and experiences on these critical issues and the emerging challenges that face energy policymakers. The agenda will build upon insights gained from the ongoing activities of ADB and the World Energy Council, and the energy priorities and challenges facing developing Asian countries today and in the future.

This session will include the following distinguished guests:

**Chair: Christoph Frei**, Secretary General, World Energy Council

**Ajwad Musthafa**

Permanent Secretary  
Ministry of Environment and Energy  
The Maldives

**Usmonali Usmonzoda**

Minister of Energy & Water Resources  
Tajikistan

**Carlos Jericho L. Petilla**

Secretary, Department of Energy  
The Philippines

**Junichi Shiraishi**

Vice Minister for Global Environmental Affairs  
Ministry of Environment, Japan

**Special Guest: Adnan Z. Amin**, Director General, IRENA

## Thematic Track Sessions

### Track 1: Energy Efficiency

This year, ACEF's Energy Efficiency Track will have a strong focus on utilities and their customers. This includes one session on the delivery of demand side management and other energy efficiency programs to utility customers, and a second session exploring how energy efficiency programs can make business sense for utilities. The third session will cover the development of building codes and appliance standards, focusing on several case studies from different countries in the region.

#### Track Chairs

**Sohail Hasnie**, Principal Energy Specialist, Energy Division, Southeast Asia Department, Asian Development Bank

**Dan York, Utilities**, State, and Local Policy Program Fellow, American Council for an Energy-Efficient Economy (ACEEE)

### Session 1: Delivery of DSM and Energy Efficiency to Utility Customers

**18 June, 2:00PM-3:30PM**

#### Auditorium Zone A

Demand side management (DSM) is a key tool for utilities and policymakers to promote energy efficiency for customers, particularly in countries facing rapidly growing demand amidst supply constraints, as is common in developing Asia. This session will explore how DSM and other energy efficiency programs can be implemented in Asia. It will include examinations of People's Republic of China, India, and Pakistan, as well as a presentation on monitoring and evaluation of DSM programs.

#### Session Chair

**Dan York**, Utilities, State, and Local Policy Program Fellow, ACEEE

#### Speakers

**Mona Yew**, Director, China DSM and Energy Efficiency Project  
National Resources Defense Council (NRDC)

#### *DSM Implementation by People's Republic of China's Grid Companies*

Three years have passed since the People's Republic of China issued its national DSM regulations in 2011 requiring grid companies to meet specific energy savings and demanding reduction targets. During the past three years, the PRC's grid companies have implemented a series of measures to meet the targets, and the government has also provided guidance and support along the way. The PRC government completed an evaluation of the grid companies' performance in 2013 and found that they performed well in some aspects but fell short in other areas. In addition, the NRDC has carried out a research project that examined the barriers and potential solutions to help grid companies to scale up their DSM efforts. An overview of how the PRC's grid companies have responded to the DSM regulations mandate and how the government's compliance evaluation scheme has evolved will be presented along with the NRDC's research findings and recommendations.

**Usman H. Malik**, Director  
PITCO (Private) Limited

#### *DSM in the Agricultural, Industrial, and Municipal Sectors of Pakistan*

PITCO was involved in the implementation and M&E activities of the US\$ 23.5 million USAID funded Energy Efficiency and Capacity Program to improve energy efficiency in the agriculture, municipal and industrial sectors of Pakistan. These Demand Side Management (DSM) Programs included the Agriculture Tubewell Efficiency Improvement Program (TWEIP), which reached out to 230,000 farmers through a very effective mobilization approach. Over 12,000 farmers enrolled in the program, 2,368 inefficient farmer tubewells replacements were made, with a 50% USAID subsidy, resulting in peak demand savings of

16.09 MW. The Industrial DSM Program replaced 1,009 inefficient motors and installed 810 Variable Frequency Drives (VFDs), with a 50% USAID subsidy, resulting in energy savings of 8.5 MW. The Municipal DSM Program replaced 201 inefficient municipal water pump sets, with a 100% USAID subsidy, in water and sewerage utilities, resulting in energy savings of 2.36 MW.

**Venkatesh Dwivedi**, Senior Manager  
Energy Efficiency Services Limited (EESL)

### ***Facilitating DSM and Energy Efficiency for India***

In this presentation, EESL showcases two of its innovative models to address sector-specific barriers and collate best practices to enable large-scale delivery of DSM and energy efficiency measures to Indian utility customers. EESL's first-of-a-kind program in India—DSM-based residential efficient lighting with Standard-Offer-Program (SOP)—enunciates a policy shift to treating energy efficiency as a resource by utilities and purchasing energy savings based on long-term contracts, with built-in regular payment mechanism that provides investors with a bankable instrument to secure financing. Expected to save 47.96 million kWh and 383.70 million kgs of CO<sub>2</sub>, a statewide project is already underway. Successful implementation will lead to a policy mandate from the Government of India and nationwide replication of this mechanism, thus saving 50,365 million kWh. EESL's unique Annuity Model addresses widespread barriers such as reducing transaction costs, apportioning risks equitably, and managing tedious monitoring and verification protocols at the back of strong public-private-partnerships. Several cross-sector pilots are already underway.

**Normand Michaud**, Director  
Econoler

### ***The Importance of M&E for DSM Programs***

DSM programs have been the focus of many countries in the last year as a way to reduce energy consumption in all market sectors. The monitoring and evaluation (M&E) is a key component of the DSM process as it provides program managers and stakeholders with a clear picture of the DSM program. The role of M&E also goes well beyond assessing these impacts to also offer a basis for future savings estimates as well as recommendations on how to improve program delivery and increase market penetration, both resulting in more effective programs and higher energy savings. This is why it becomes essential, when designing DSM programs, to include significant efforts on M&E. The proposed presentation will explain why M&E must be planned during the design of DSM programs and will describe the principal guidelines of a traditional program evaluation, using examples from Canada and USA.

## **Track 2: Renewable Energy**

The Renewable Energy Thematic Track will cover a wide range of issues affecting the sector, including sessions on both utility-scale renewable applications and on distributed generation, in particular how distributed renewable energy can be used in industrial and commercial settings. The third session will explore different technologies and approaches that can be used to address the challenges of renewable energy grid integration and storage.

### **Track Chairs**

**Pradeep Tharakan**, Senior Climate Change Specialist, Energy Division, Southeast Asia Regional Department, Asian Development Bank

**Yong Chen**, Regional Program Officer (Asia & the Pacific), IRENA

## **Session 2: Promotion of Utility-Scale Renewable Energy Applications**

**18 June, 2:00PM-3:30PM**

### ***Auditorium Zone B***

The promise of utility-scale renewable energy remains strong, but there are still many challenges to realizing its potential in Asia. This session examines different approaches to developing and utilizing large-scale renewables in the region. It will also include a panel discussion looking in more detail at the challenges facing utility-scale wind far

**Session Chair**

**Yong Chen**, Regional Program Officer (Asia & the Pacific), IRENA

**Speakers**

**Elena Basic**, Strategy and Policy Consultant  
DNV GL Renewables Advisory

***Reducing Risk to Scale Solar Funding in Southeast Asia***

Solar PV project development is progressing rapidly in South East Asia and grid parity has been reached in some countries (notably in the Philippines). As governments consider withdrawing or reforming their solar incentive schemes, access to cost effective finance is crucial and non-FiT based off-take arrangements and innovative financing models are becoming increasingly common. In a post-FiT world, identifying attractive projects and understanding, quantifying and mitigating the associated risks is ever more critical. DNV GL Renewables Advisory (formerly GL Garrad Hassan) has extensive knowledge and experience across all company and project phases and a deep understanding of the associated risks. The Renewables Advisory team has undertaken a review of relevant projects and business models in the region and, where relevant, globally, to identify common trends and associated bankability challenges.

**Klas Heising**, Head of Sector Project Technology Cooperation  
GIZ

***Quantifying the Operational Benefits of Variable Renewable Energy in 4 Actual Power Systems***

In spite of the current shale gas bonanza, many developing countries are considering increased shares of variable Renewable Energies (vRE) in their national energy mix. While the decline of generation costs toward so-called-grid parity, and the resulting long-term increase in generation shares have been recently discussed, solid figures regarding the “hard facts” of vRE penetration benefits are still lacking: the actual operational (“economic”) benefits of integrating PV and Wind into the generation matrix. GIZ has taken the first steps toward filling this gap by contracting the calculation of operational benefits (OpBen) deriving from integrating 5–50% vRE peak capacity into the actual generation mixes of different developing countries. The presentation will show that existing hydro storage and spinning reserves can result in operational benefits of about twice what has been estimated by previous “grid parity” studies and will make reference to the applicability to power systems in Asia.

**Philip Napier-Moore**, Project Director  
Mott MacDonald

***Effective Promotion of Utility-scale Wind Farm Development in ASEAN***

ASEAN now has promotion schemes in place to support utility scale wind farm development in each of the Philippines, Thailand and Viet Nam, with the potential for wind power promotion also being considered in other ASEAN countries, such as Indonesia and Malaysia. Wind turbine technology developments are also steadily improving the economics of wind power generation across ASEAN. Lessons from projects we support regionally and internationally demonstrate that effective promotion of utility-scale wind power requires governments to establish clear procedures with respect to (i) concessional tariff levels and tariff allocation; (ii) grid integration and priority dispatch; (iii) environmental permitting; (iv) land rights, including transmission routes and setbacks; and (v) equipment import duties and corporate tax treatment. This presentation will consider the promotion of utility scale wind power in ASEAN to date, including project-based lessons learned on challenges, together with potential mitigation approaches, to help unlock the region’s wind power potential.

***Panel Discussion on the Challenges of Developing Economically Viable Utility-Scale Wind Farms***

**Jinlong Ma**, Principal Consultant  
DNV GL

**Mark Jacobsen**, Senior Project Leader  
National Renewable Energy Laboratory

**Pramod Jain**, President  
Innovative Wind Energy

## Track 3: Energy Access

The Energy Access Track will echo many of the themes explored in the first two tracks. The introductory session will look at new approaches to financing the expansion of energy access, one of the most important issues facing the clean energy community in Asia. The second session will explore how expanded energy access can contribute to productive uses, with example from actual projects. The third session will discuss the business case for expanding energy access.

### Track Chairs

**Jiwan Acharya**, Senior Climate Change Specialist (Clean Energy), Sustainable Infrastructure Division, Regional and Sustainable Development Department, Asian Development Bank

**Susan McDade**, Country Action Team Leader, Sustainable Energy for All

## Session 3: Innovative Financing Instruments for Energy Access

**18 June 2014, 2:00 p.m.-3:30 p.m.**

### Auditorium Zone C

#### *Addressing Energy Poverty in Asia: ADB's Response and an Overview of the Energy Access sessions*

**Jiwan Acharya**, Senior Climate Change Specialist (Clean Energy), Sustainable Infrastructure Division, Regional and Sustainable Development Department, Asian Development Bank

ADB's Strategy 2020 has identified access to energy as one of the key elements to achieve inclusive growth and has made "increasing access to energy for all" a pillar of its current energy policy. This discussion will provide a quick snapshot of the energy access situation in Asia, as well as ADB's response to meet the challenge of energy poverty. A brief overview of the energy access sessions during ACEF will also be presented.

More than 600 million people in the Asia and Pacific region have no access to electricity and three times as many still have no access to modern fuels. Different technologies for providing access to energy are available and well understood, but financial, policy, and institutional support are necessary in order to make them successful. Financing is one of the key elements to meet the objectives of universal energy access. The World Energy Outlook 2012 estimated that nearly \$1 trillion in cumulative investment, around \$49 billion per year, is needed to achieve universal energy access by 2030. Different entities are employing innovative financing instruments to create a positive impact for people still living in energy poverty. This session will highlight various financing instruments that have the potential to provide and facilitate energy access in the region.

### Session Chair

**Hans Olav Ibrekk**, Policy Director, Energy+, Norwegian Ministry of Foreign Affairs

### Panelists

**Ricardo Arias**, Senior Infrastructure Specialist, GPOBA  
World Bank

**Alex Doukas**, Research Analyst  
World Resources Institute

**Susan McDade**, Country Action Team Leader  
Sustainable Energy for All Initiative

**Manu Binod Aryal**, Capacity Building Specialist, Central Renewable Energy Fund  
Alternative Energy Promotion Centre

**Nithyanandam Yuvaraj Dinesh Babu**, Chief of Party  
USAID PACE-D Program, Nexant, India

## Session 4: The Utility Business Case for Customer Energy Efficiency Programs

18 June, 4:00 p.m.–5:30 p.m.

### Auditorium Zone A

Energy efficiency programs can present a risk to the business models of power utilities, who often face reduced revenues if electricity consumption declines. This session highlights reasons why energy efficiency programs for utility customers can make sound business sense. Presentations will include examples from Australia, India, and Pakistan.

### Session Chair

**Chong Chi Nai**, Director, Energy Division, Southeast Asia Regional Department, Asian Development Bank

### Speakers

**Craig Morgan**, Principal  
Northmore Gordon

### *Experience of a Certificate Aggregator in the Australian Energy Efficiency Obligation Markets*

This paper compares two Energy Efficiency Obligation, or “White Certificate” schemes that are currently operating in Australia. Both the NSW Energy Savings Scheme (ESS) and the Victorian Energy Efficiency Target (VEET) require energy utilities to purchase certificates that are created from energy efficiency projects. The ESS has a very broad range of eligible activities from which certificates can be created, and importantly a methodology allowing projects based on almost any energy efficiency technology to be considered. The VEET scheme has more limited methods available for calculating energy savings, and has been dominated by lighting and hot water projects. Actors involved include utilities, project developers, energy savers, and certificate aggregators. This paper describes the schemes, and summarizes the differences, benefits and disadvantages of them from the perspective of a certificate aggregator.

**Apurva Chaturvedi**, Program Management Specialist, Clean Energy  
USAID India

### *Agriculture Demand Side Management: A Sound Business Case*

The agriculture sector is the largest consumer of water and electricity in India, because the use of these two resources is either free (groundwater) or negligibly priced (electricity). This has led to low investments in the sector, resulting in poor power supply and pump-set burn out. USAID/INDIA’s water-energy nexus activity (wenexa) project aimed to improve the comanagement of energy and water resources in the agriculture sector, through enhanced power distribution and end use efficiency, coupled with sound water management practices. The program established an innovative ten year public-private partnership between an ESCO (ENZEN) and a state utility (BESCOM) to replace old inefficient pump sets with ESCO covering the investments. The partnership resulted in energy savings to utility with greater opportunity cost and profits to ESCO on energy savings. So far, 35% energy savings have been reported under the program. Similar models have been replicated by other utilities in the region.

**Omar M. Malik**, Director  
Carbon Services (Private) Limited

### *National CFL Project Pakistan*

Carbon Services is involved in the implementation, carbon credit registration, and logistics of the ADB funded \$86 million National Compact Fluorescent Lamp (CFL) project which is replacing 30 million inefficient incandescent lamps with energy efficient CFLs in the domestic sector of Pakistan. Anticipated savings are 1,094MW. The Government of Pakistan is covering the cost of the CFL procurement and public awareness campaign. Nine power distribution companies are distributing 2 CFLs and recovering 2 healthy incandescent lamps per customer. Customers will save approximately \$160 annually in electricity bills. This will create a win-win situation for both government (by reduced fiscal pressure on electricity generation capacity enhancement) and for consumers (by saving on electricity bills). The project will generate 3,500,000 Carbon Emission Reduction units (CERs) which will be monetized to pay back part of the project. So far 11.1 Million CFLs have been distributed, resulting in savings of 475MW.

**Dan York**, Utilities, State, and Local Policy Program Fellow  
ACEEE

### *The Business Case for Utility DSM in North America*

## Session 5: Distributed Generation with Renewable Energy: Opportunities and Challenges in Industrial and Commercial Applications

**18 June, 4:00 p.m.-5:30 p.m.**

### **Auditorium Zone B**

Distributed renewable energy is often seen primarily as a means of electrifying households, but it also holds great potential for powering industrial and commercial activities, both in remote areas and as an alternative to grid electricity. This session will examine three applications of renewable technology for these purposes, including a solar-wind-biomass hybrid system powering ice production in the Philippines and the use of clean energy for telecom towers in India. The session will also include a panel discussion with four experts from a range of different organizations in the field.

### **Session Chair**

**Yongping Zhai**, Director, Energy Division, South Asia Regional Department, Asian Development Bank

### **Speakers**

**Maria Angela Sabando**, Mayor  
Roxas Municipality, Palawan (USAID B-LEADERS Project)

#### ***Hybrid RE Power System in Green Island, Roxas, Palawan***

USAID, through its CEnergy Project, implemented by IRG over a four-year period, has supported a grant aiming to demonstrate a Hybrid Renewable Energy micro system in an off-grid area in the Philippines as a model for replication. This system is a combination of electric power generating systems that utilized RE to provide electric power service within an off-grid pilot area or community. The project is piloted in Green Island, Roxas, Palawan and implemented in partnership with Roxas Municipality, PCART and SURE. The 25.5 kW solar-wind-biomass system provided 24 hour service to 50 households and production of ice flakes to preserve the fishing catch of the community, translating into around 80% savings from electricity expenses and 10% savings from transportation expenses from purchasing water and ice from the mainland. The purely RE micro grid is estimated to avoid 254kgCO<sub>2</sub> per day and foreign exchange savings of US\$ 127.45 a day.

**Nicolas Bivero**, Director  
Transnational Uyeno Solar Corporation

#### ***Solar Power As A Means to Reduce Operating Costs in a Sustainable Manner: Actual Case Studies in the Philippines***

Transnational Uyeno Solar Corporation (TUSC) is presenting two case studies that focus on solar power, and how it has helped organizations in the Philippines effectively reduce long-term operating costs in a sustainable and environmentally-responsible manner. The first involves a 20.58 kWp rooftop solar installation at the first Starbucks store in Asia to utilize solar power. The system has contributed savings of up to 20% on the store's electricity consumption, serving also as a concrete testament to the company's commitment to preserve the environment. The second involves a 14 kWp solar charging station for e-tricycles in Boracay Island. The solar charging station has helped reduce CO<sub>2</sub> emission and pollution levels on the island, which is vital to its nature-friendly atmosphere. The operating cost of solar-powered e-tricycles has also substantially improved the earning capacity of e-tricycle drivers. This is likely to continue as electricity grid rates increase over time.

**Vikas Singhal**, Senior Manager  
ICF International India

#### ***Clean Energy for Telecom Towers in India***

There is a need for development of clean energy solutions for the telecom towers market in Asia. This can be achieved through an ecosystem backed by a stable and favorable regulatory environment, financial support using innovative financial instruments and clean technology vendors. By learning from India's experiences, a speedy catch-up on the learning curve can be achieved in places where the telecommunication sector is still under development in Asia and countries are facing the challenge of huge diesel consumption for powering telecom towers. Currently, Asian clean energy for telecom markets is at a very nascent stage and provides opportunity with the following potential benefits: 1) economic benefits to tower operators, with reduced energy cost leading to faster growth of sector; 2) environmental benefits, with substitution of polluting diesel engines by clean energy technologies; 3) social benefits due to creation of new jobs and other opportunities in a clean energy market.

## Panel Discussion on Distributed Renewable Generation

**Hugh Bannister**, Chair  
IES Advisory

**Kuldeep Jain**, Managing Director  
Clean Max Enviro Energy Solutions Pvt. Ltd.

**Tom Price**, Director of Strategic Initiatives  
All Power Labs

## Session 6: Productive Uses of Energy

**18 June, 4:00 p.m.–5:30 p.m.**

### Auditorium Zone C

It is widely recognized that the provision of energy access alone is not sufficient to bring forth longer-term economic growth and development. For such development to be sustainable, energy should promote productive uses that will provide more income generation opportunities to the poor. However, there is very little evidence as to what extent and under what circumstances energy access can achieve economic growth through productive uses of energy. The session will show the connection between energy access and productive use by relating examples from actual projects.

### Moderator

**Roberto Ridolfi**, Director in charge of Sustainable Growth and Development  
Europe Aid Directorate, European Commission

### Panelists

**Soma Dutta**, Senior Technical Advisor  
ENERGIA India

**Stewart Craine**, Founder and Managing Director  
Village Infrastructure Angels

**Dagmar Zwebe**, Sector Leader, Renewable Energy  
SNV Viet Nam

**Monali Ranade**, Senior Environmental Specialist  
World Bank

**Parimita Mohanty**, Fellow, Area Convener and Team Leader  
Energy Environment Technology Development Division, The Energy & Resources Institute

## Session 7: Building Codes and Appliance Standards: Policies and Enforcement

19 June, 9:00 a.m.–10:30 a.m.

### Auditorium Zone A

Building codes and appliance standards are proven tools for improving energy efficiency for commercial and residential customers, two key energy consumption demographics. However, implementing and enforcing such standards in different countries in Asia requires unique solutions and policy tools. This session will explore some of the challenges and successes of programs in the People's Republic of China and India, as well as the process of establishing a standards and labeling program in Brunei Darussalam.

### Session Chair

**Sohail Hasnie**, Principal Energy Specialist, Energy Division, Southeast Asia Regional Department, Asian Development Bank

### Speakers

**Bilolika Rajkiran Venkateshgoud**, Assistant Professor  
Administrative Staff College of India

#### *Building Codes in India: Effective Policy Intervention—A Case Study of Andhra Pradesh*

The McKinsey Global Institute in its report in 2010 projected that 700–900 million m<sup>2</sup> of commercial and residential space needs to be built in India till 2030. In 2012–2013, the commercial sector consumed 71,019 gigawatt-hours, which is 9% of total electricity consumption. It is the right time to implement the energy conservation building code (ECBC) throughout the country to conserve energy in fast moving economic growth. In spite of legislature support by EC ACT 2001 and ECBC 2007, out of 28 states, only four states came forward to implement the ECBC. Out of four, only one state, i.e., the state of Andhra Pradesh, has developed a comprehensive framework for effective implementation. This presentation discusses the bottlenecks, challenges and learning processes during the 3 years of evolution of the code in Andhra Pradesh, with a focus on scaling it up to every state with policy interventions at state and national level.

**Soumya Prasad Garnaik**, Senior Manager  
ICF International

#### *Standard and Labelling Program of India: A Success Story of Market Transformation Through Energy Efficient Appliances*

Energy efficiency in appliances is now emerging as a useful tool in addressing the issue of energy security. A large number of countries have already introduced the program, and many others are expected to follow suit. The success of such programs is critically dependent on awareness and acceptability of energy efficient products by consumers and manufacturers. Energy labeling programs give consumers the information needed to choose more efficient products. Such programs also create competition among manufacturers based on energy efficiency. With this in mind, India launched its Standards and Labeling (S&L) program in 2006. Its key objective program is to provide the consumer with an informed choice about energy and cost saving potential. The scheme was launched on 18th May 2006 and now covers 15 kinds of equipment or appliances. Four of these have been notified for mandatory labeling from 7 January 2010, and the others are in a voluntary phase.

**Steven Zeng**, Director, People's Republic of China Program  
Collaborative Labeling and Appliance Standards Program (CLASP)

#### *Developing a Policy Analytical Tool for the Improvement of Energy Efficiency Standards and Labeling for Energy-Use Products in People's Republic of China*

The People's Republic of China is the world's largest producer and consumer of household appliances, lighting and other residential and commercial equipment. By 2012, the PRC had developed and implemented over 52 energy efficiency (EE) standards and 28 mandatory energy labels for a wide range of domestic, commercial and selected industrial equipment. However, there are tremendous opportunities for additional savings through more stringent energy efficiency policies for major energy-consuming appliances. To assess the stringency of EE standards, CLASP developed an integrated products prioritization tool for energy efficiency improvements. This tool has three components: (1) analysis of market data, (2) quantification of energy savings potential, and (3) benchmarking the PRC's EE standards to those of peer economies

worldwide. This integrated approach led to three independent but complementary studies, and a comprehensive analysis resulting in a coherent set of recommendations on what products to prioritize for the PRC's energy efficiency standards revisions, in order to maximize their energy savings.

**Li Jiayang**

Collaborative Labeling and Appliance Standards Program (CLASP)

### ***Consumer Comprehension of People's Republic of China Energy Labels***

The People's Republic of China initiated its Energy Label program in 2005. The Chinese Energy Label is a mandatory information label that identifies a product as belonging in a specific energy efficiency tier. An energy efficiency index and typical energy consumption figures are also included on the label. Previous studies have shown that the program has raised considerable awareness among consumers but it is not known whether they fully comprehend the information provided. In this study we surveyed 500 consumers to learn how well they understand the PRC Energy Label for a selection of the most commonly purchased household appliances. For each type of label, we asked the participants specific questions to gauge their understanding of the information provided on the labels and assess whether it is helpful when making purchase decisions. At the same time, we aim to help policymakers to improve any future design of the PRC Energy Label.

**Xunpeng Shi**, Senior Research Fellow

Energy Studies Institute, National University of Singapore

### ***Creating Mandatory Energy Efficiency Standards and Labeling Programs in Brunei Darussalam***

This presentation will explain how to make standards and labeling (S&L) legislation and how to choose initial MEPS level. It will propose necessary components for a good S&L legal framework, that is: clear liabilities, authoritative administration, open principles and effective enforcement; it will recommend key issues for good S&L legislation, i.e., advanced policy making, customized legislation, inclusive legislative procedure, and necessary flexibility; it will show how to use the CLASP Policy Analysis Modeling System (PAMS); and also explain how to assess the impact of MEPS on the business sector and consumers, which are the government's top concern. This presentation will provide practical guidelines for countries that want to start or revise their S&L regime or MEPS for a product.

## **Session 8: Renewable Energy Grid Integration and Storage**

**19 June, 9:00 a.m.–10:30 p.m.**

### ***Auditorium Zone B***

The successful integration of renewable energy sources into electricity grids has long been one of the greatest challenges facing the growth of renewable technologies. The presentations in this session review a wide range of technologies that can be used to address this issue by supporting the integration of renewable energy. These include traditional and cutting edge energy storage technologies that can help solve the problems of intermittency and mismatched supply and demand, as well as tools designed to address technical issues related to voltage and frequency stability.

### **Session Chair**

**Pradeep Tharakan**, Senior Climate Change Specialist, Energy Division, Southeast Asia Regional Department, Asian Development Bank

### **Speakers**

**Vinayak Walimbe**, Director Financial Services  
Customized Energy Solutions

### ***The Role of Emerging Energy Storage Technologies for Adoption of Renewables to Replace DG for C&I Customers***

One major challenge in increasing renewable penetration in regions with weaker electric grids is the variability and intermittency of these resources. As a result, a large number of Commercial & Industrial (C&I) customers are forced to rely on costly and polluting diesel generation as the only option for reliable backup power. Recent advances in energy storage

technologies have made it possible to integrate variety of renewables (wind, solar, small hydro) as a source for captive power for C&I customers. This can drive adoption of renewable technologies and reduce diesel consumption for C&I customers. This presentation will show an overview of technologies suitable for such hybrid systems and present case studies to demonstrate business potential. A recent study by India Energy Storage Alliance suggests a potential for over 2 GW of such opportunities domestically within next 5 years. Similar applications also exist in other Asian countries, making the potential much greater.

**Pakorn Thepparat**, Senior System Engineer  
Siemens AG

### ***New Technology for the Integration of Large Amounts of Green Energy***

Integration of large-scale renewable energy systems – hydro power, solar plants and offshore wind power – poses big challenges to power grids, with risks for system stability. As renewable energy tends toward higher power levels, the impact on voltage and frequency stability must be considered. The Modular Multilevel Converter in HVDC PLUS and SVC PLUS brings large hydro, wind and solar plants to main grid in a Grid Code compatible way. HVDC PLUS is the preferred technology to connect long cable transmission, islanded grid or weak AC networks to main grid. It enables black-start capability and can independently control active and reactive power. SVC PLUS has rapid response time, beneficial for voltage stability. HVDC PLUS and SVC PLUS use MMC technology, providing compact, space-saving and flexible solutions. HVDC PLUS and SVC PLUS will be discussed to emphasize the advantage of this technology for large volume grid integration of green energy.

**Pradeep Perera**, Principal Energy Specialist  
Energy Division, East Asia Regional Department, Asian Development Bank

### ***Role of Pump Storage Hydropower in Grid Integration of Wind Power***

Pump Storage Hydro (PSH) plants offer a technically mature and economically feasible energy storage solution that can increase the flexibility of the PRCs Power system and facilitate higher market penetration levels of wind power. However, there are regulatory and institutional barriers that are clearly restricting the effective utilization of available PSH plants and are thus hindering further investments in new PSH capacity. There is an urgent need to create an enabling environment to address these issues. Although the prevailing single buyer electricity market in the People's Republic of China, coupled with fixed feed-in tariff for generators, does not allow the full realization of economic benefits deriving from energy storage, there is still room for regulatory reform and incentive mechanisms that would provide adequate level of incentives for market players to increase the utilization of available and potential PSH capacity to reduce the wind power curtailment.

**Toru Kubo**, PhD Candidate, University of Oxford

### ***Distributed Generation or Distributed Storage? The Use of Electric Vehicle Fleets to Scale Up Renewable Energy and Improve Power Reliability in Asia***

This presentation will introduce the potential for the growing fleet of electric battery vehicles in Asia to contribute as distributed storage opportunities for both small- and large-scale renewable energy providers. The unique usage patterns of vehicles – mainly used in the morning and late afternoon but otherwise parked the majority of the time – and the natural fluctuation of renewable energy sources (e.g., solar energy peaking mid-day) could be a perfect match. This will not only help countries reduce their carbon footprint and fuel costs in the power sector but also help control oil consumption growth from transport and thereby enhance energy security. While existing pilot cases in the U.S. and Denmark focus primarily on the provision of premium services (e.g., frequency regulation), there is a strong case for broader use in developing Asia where power reliability is low with back-up generators being ubiquitous among industrial and commercial facilities.

## **Session 9: The Business Case for Energy Access**

**19 June, 9:00 a.m.–10:30 a.m.**

### ***Auditorium Zone C***

The ADB-led Energy for All partnership brings together governments, civil society, the private sector, and others to share knowledge, build capacity, and develop projects. ADB encourages its partners and members to develop business models that demonstrate the potential to scale up and enable projects to grow from the pioneering stage to a national or regional scale. These organizations share the objective of providing energy access to 100 million people by 2015. This session will discuss various business cases for energy access that offer innovative solutions and approaches to reach a substantial number of people still living in energy poverty, and contribute to attaining this goal.

**Moderator**

**Molly Ward**, Alternative & Renewable Energy Advisor, Bureau of Energy Resources , U.S. Department of State

**Panelists**

**Rajendra Nimje**, Managing Director  
Solar Energy Corporation of India

**Mike Crosetti**, Director  
Castlerock Consulting

**Paul Needham**, President  
Simpa Networks, Inc.

**Sarah Alexander**  
SELCO

**Farzana Rahman**, Unit Head (Investment), Renewable Energy  
IDCOL

***Key Takeaway Messages for Energy Access Track***

**Susan McDade**, Country Action Team Leader  
Sustainable Energy for All (SE4All) Initiative

## Deep Dive Workshops

**19 June, 11:00 a.m.–6:00 p.m.**

Deep Dive Workshops are a new feature of ACEF 2014. They consist of six parallel, day-long workshops on the second day of the Main Forum, which will provide participants with an opportunity to gain in-depth knowledge of a specific clean energy topic. Each workshop is organized by one or more ACEF partner organizations, who have brought together speakers and created agendas designed to encourage interaction with participants and to produce concrete outcomes.

All Deep Dive Workshops will consist of three sessions running from 11:00 a.m. to 6:00 p.m. on Day 2 of the Main Forum (Thursday 19 June). The list of workshops is below, and detailed overviews and agendas are available on the following pages.

### **Sourcing Finance for Early-Stage SME Clean Energy Businesses and Projects in Asia**

**Auditorium Zone A**

**Organizer:** The Private Finance Advisory Network (PFAN)

### **Cooling Off: Enabling Market Transformation towards Energy Efficient Air Conditioning in Asia**

**Auditorium Zone B**

**Organizers:** CLASP, the SEAD Initiative (represented by the U.S. Department of Energy), and Lawrence Berkeley National Laboratory

### **Clean Energy Solutions for Cement and Other Asia-Pacific Industries**

**Auditorium Zone C**

**Organizers:** Carbon War Room and the Aspen Institute's Accelerating Market-Driven Partnerships program

### **Renewable Energy Policy and Regulation—How Administrative and Regulatory Procedures Influence RE Markets in South-East Asia**

**Auditorium Zone D**

**Organizer:** GIZ

### **Facilitating Clean Energy and Climate Technology Transfer and Investment Through Centers and Networks**

**Briefing Theater 1**

**Organizer:** ADB

### **Utility-Led Demand Side Management: Strategies for Scaling Up Investment in End-Use Efficiency in Developing Asia**

**Briefing Theater 2**

**Organizers:** Nexant, the Global Electricity Initiative, and the American Council for an Energy-Efficient Economy (ACEEE)

## Sourcing Finance for Early-Stage SME Clean Energy Businesses and Projects in Asia

**19 June, 11:00 a.m.–5:30 p.m.**

**Auditorium Zone A**

**Organizers:** The Private Finance Advisory Network (PFAN)

### Synopsis

The path to developing a mature, bankable project or business is a long and arduous road that often requires multiple capital infusions along the way. Unfortunately, external sources of capital for early stage enterprises have become increasingly scarce and difficult to access, leaving project developers and entrepreneurs limited resources to complete feasibility activities necessary to attract external investors. This workshop focuses on highlighting the challenges of raising capital for SME clean energy businesses and projects in Asia, as told from the various perspectives of participants who have successfully navigated this journey before, stimulating dialogue on actionable next steps that can be undertaken by all stakeholders in addressing this gap through both traditional and innovative approaches.

### Session 1: Entrepreneur's Stories

**11:00 a.m.–12:30 p.m.**

During this introductory session, workshop participants will hear from various clean energy SME's throughout the Asia region that have transformed their ideas from concepts, to reality. Each entrepreneur will present his or her own unique story, highlighting the challenges and solutions to building new businesses around a variety of clean energy technologies and services. Through their eyes, the audience will gain a clearer perspective on the real-world obstacles facing entrepreneurs, setting the stage for further discussion on how donors and policy makers can create conducive environments and interventions in addressing these gaps, leading to a greater number of similar success stories in the future.

Speakers during this session include:

Name	Title	Company
<b>Manjula Perera</b>	CEO	Wind Force
<b>Paul Puthenpurekal</b>	President	Solutions Using Renewable Energy (SURE)
<b>Anh Hoang</b>	Director of External Affairs	Vinaforest
<b>Romolo Nati</b>	CEO	Italpinas
<b>Satya Kumar</b>	Founder	Shri Shakti Energy Alternative
<b>Vaidyanathan Anandhakrishnan</b>	Founder	HMX Technology

<sup>1</sup> small and medium-sized enterprises (SME): s defined by approximate total investment volumes ranging from \$1–\$20 million.

## Session 2: SME Investor's Perspectives

**2:00 p.m.–3:30 p.m.**

This next session will shift the perspective away from the entrepreneurs, and focus on the investors that have evaluated and funded numerous, similar opportunities in the past. These speakers represent a wide array of investment vehicles that are seeking promising clean energy opportunities in the region, each representing a wholly different set of requirements that shapes everything from the types of opportunities they find attractive, to where and when such investments can take place. The investors will share their experiences engaging with clean energy enterprises in the region, highlighting their individual approaches and objectives, as well as providing their thoughts on the changes necessary to continue attracting capital to these opportunities.

Speakers during this session include:

Name	Title	Company
<b>Gary Zieff</b>	Senior VP of Business Development	Annex Power
<b>Anu Valli</b>	Investment Manager	Bamboo Finance
<b>Joan Yao</b>	Investment Manager	LGT Venture Philanthropy
<b>Birendra Rana</b>	Head of Credit	Clean Energy Development Bank

## Session 3: Lowering Transaction Costs and De-risking SME Opportunities

**4:00 p.m.–5:30 p.m.**

Disproportionately high transaction cost and outsized risk, relative to total investment size, are amongst some of the fundamental barriers that hinder the attractiveness of investing in SMEs. Even in advanced economies such as the United States, lending in the SME segment remained stagnant until banks lowered transaction costs by changing their approach in evaluating applications.<sup>1</sup> While similar solutions in emerging markets may not yet be feasible, there are a number of innovative, lower-cost approaches actively seeking to address specific components of these underlying issues through the provision of early-stage risk capital, investment promotion, mentorship, access to investors, and core capacity building. During this session, the audience will not only hear from several emerging firms that are employing innovative approaches that are addressing the core of these issues, but also actively participate as potential users of such platforms, bringing a whole new perspective to how entrepreneurs and investors will benefit from their implementation.

Speakers during this session include:

Name	Title	Company
<b>Robert Kraybill</b>	Managing Director	Impact Investment Exchange
<b>Ellen Morris</b>	Founding Partner	Embark Energy
<b>Boonrod Yaowapruerk</b>	Clean Energy Finance Team Lead	PFAN-Asia
<b>Mark Fogarty</b>	Director	First Energy Asia

### Organizers

The Private Financing Advisory Network (PFAN) is a multilateral, public-private partnership initiated by the Climate Technology Initiative (CTI) in cooperation with the UNFCCC Expert Group on Technology Transfer. PFAN operates to bridge the gap between investments and clean energy businesses.

### Contact

For more information on this Deep Dive Workshop or its organizers, please contact:

**Darius Li**

Communications Manager

PFAN-Asia

darius@sng-advisors.com

<sup>1</sup> “Similarly for banks, having an experienced officer evaluate a business plan and build up cash flow estimates is too expensive. As the SME segment represents a larger numbers of smaller loans, it is only viable if transaction costs in screening applicants are low. This was also a problem in the advanced economies. Banks finally penetrated the SME segment in the United States in a large scale only in the 1990s, when they shifted focus from reading business plans to evaluating the entrepreneurs themselves, and were able to do it cheaply using individual credit histories and automated scoring” <http://www.hks.harvard.edu/centers/cid/programs/entrepreneurial-finance-lab-research-initiative/the-missing-middle>

## Cooling Off: Enabling Market Transformation towards Energy Efficient Air Conditioning in Asia

19 June, 11:00a.m.–5:30 p.m.

*Auditorium Zone B*

**Organizers:** CLASP, the SEAD Initiative (represented by the U.S. Department of Energy), and Lawrence Berkeley National Laboratory

**Problem:** In Asia and other regions of the world, space cooling appliances are being purchased at higher rates than ever before. This diffusion of technology is transforming the lives of millions of people—increasing productivity, improving health, and enhancing welfare—but it is also driving a tremendous increase in energy demand that is stressing electrical grids, raising energy costs, and contributing to local air pollution and global climate change.

Air conditioners (ACs) and other space cooling systems are some of the most energy-consuming products on the planet, and many Asian economies are struggling to keep up with the high energy demand associated with their increased use. In many cities in India, for example, ACs are already estimated to account for 40%–60% of peak electricity demand during the summer months, and the scale of this burden is only going to grow. The purchase of space cooling appliances is expected to accelerate in coming years, and cooling-related electricity demand is expected to keep pace. In India, the People's Republic of China, and Brazil alone, power demand from room ACs is expected to reach over 500 TWh by 2020, equal to the electricity generated by five Three Gorges Dams, according to an analysis by Lawrence Berkeley National Laboratory (LBNL).

**Solution:** There is no single solution to the economic, environmental, and energy security-related consequences of rising cooling-related power demand. A variety of policy measures, including stringent energy efficiency standards, associated labels, and market transformation towards more efficient technology and systems—such as variable speed (inverter driven) ACs and demand response-ready units—are essential if the impact of cooling energy demand is to be moderated and managed effectively. This deep-dive workshop will bring together policymakers, manufacturers, utilities, and other stakeholders to develop holistic solutions that employ energy efficiency and demand response measures to reduce AC-related energy consumption in Asia.

### Workshop Objectives:

- Promote awareness and understanding of the scale of the challenges – environmental, economic, and energy-related – that will result from increased AC demand.
- Identify opportunities to address these challenges by sharing global, regional, and national best practices in AC efficiency and demand response projects and activities.
- Identify and document obstacles to transitioning to highly efficient, cost effective, demand response-ready space cooling solutions for Asia.
- Define a path forward to accelerate design and adoption of energy efficiency and demand response policies and market transformation programs for ACs in Asia.

### Workshop Agenda

**Moderator:** Samuel Tumiwa, Deputy Representative, North American Representative Office, Asian Development Bank

### Session 1: Introduction to the AC Challenge, SEAD, and a Regional Policy Approach (11:00 a.m.–12:30 p.m.)

- The AC Market and Energy Challenges in Asia (20 min.)
  - Eric Gibbs, CLASP
  - Nihar Shah, LBNL
- Introduction to the SEAD Initiative and SEAD AC Strategy (15 min.)
  - Gabrielle Dreyfus, U.S. Department of Energy

- ASEAN: A Regional Approach to AC Policy (40 min.)
  - Pierre Cazelles, International Copper Alliance, Introduction to the ASEAN SHINE Program
  - Virginie Letschert, LBNL, Country-Specific Policy Analysis
- Q&A (15 min.)

## Session 2: Opportunities and Current Activities (2:00 p.m.–3:30 p.m.)

- Case Studies: People's Republic of China, India & Indonesia AC Efficiency Policy (45 min.)
  - Zhang Shaojun, China National Institute of Standardization
  - Saurabh Diddi, Bureau of Energy Efficient, Ministry of Power, India
  - Maritje Hutapea, Ministry of Energy and Mineral Resources, Indonesia
- AC Incentive Programs (30 min.)
  - Stephane de la Rue du Can, LBNL
  - Steven Zeng, CLASP
- Q&A (15 min.)

## Session 3: Breakout Sessions (4:00 p.m.–5:00 p.m.)

- **Manufacturer and Supply Chain Breakout Session:** The objective of this session will be to identify critical issues for consideration by product manufacturers and supply chains in developing, manufacturing, and deploying cost effective, energy efficient, and DR-capable products in Asian markets.
  - Breakout Questions:
    1. What obstacles are preventing the rapid deployment of EE and/or DR-ready AC units in the region?
    2. What regulatory and/or market signals will be most effective in driving the development and manufacture of EE and/or DR-ready AC units?
- **Policymaker/Financier Breakout Session:** The objective of this session will be to identify critical issues related to policy development and implementation of efficiency standards and labeling for ACs, as well as financing of energy efficiency and demand response programs for ACs in Asia.
  - Breakout Questions:
    1. What obstacles are preventing the implementation of energy efficiency and demand response programs for ACs in Asia?
    2. What market signals will be necessary to drive regulatory support and investment for efficient and demand-responsive ACs in the region?

## Session 4: Roundtable Discussion (5:00 p.m.–5:30 p.m.)

- A session bringing together efficiency policymakers, EE financiers, and manufacturers to discuss issues identified during breakout sessions and define strategies to overcome obstacles to market transformation and define a path forward.

## Clean Energy Solutions for Cement and Other Asia-Pacific Industries

**19 June, 11:00 a.m.–6:00 p.m.**

**Auditorium Zone C**

**Organizers:** Carbon War Room and the Aspen Institute's Accelerating Market-Driven Partnerships program

**Synopsis:** Recently, the PRC's cement producers have begun using municipal solid waste to fire cement plants, reducing emissions and operating costs. If replicated throughout the People's Republic of China, this approach can dramatically reduce coal consumption, as well as help to address growing waste management challenges.

This phenomenon is important because cement production results in 5% of global carbon dioxide emissions. The PRC alone produces approximately 60% of the world's cement. Asia as a whole produces 80% of the world's cement.

This deep-dive workshop will focus on applications of waste-to-energy for heavy industries—including cement, steel, brickmaking, and petrochemical— throughout the Asia-Pacific Region.

In geographies where waste management services currently attract substantial tipping fees (the municipality and/or waste producer pays for disposal) and air quality is threatened by coal power plants, using municipal solid waste for energy offers a profitable and climate-friendly alternative.

### Goals and Planned Outcomes:

- Explore financing strategies for implementation of waste-to-energy for heavy industries;
- Share relevant case studies demonstrating successes and challenges;
- Identify strategies for rapidly accelerating the use of municipal solid waste (MSW) for replacing coal consumption to produce thermal energy in heavy industries;
- Identify how the private sector could most effectively achieve scale by working with NGO's and multilateral institutions (e.g., ADB and USAID);
- Create an environment where participants can agree specific partnerships; and
- Identify tangible near-term objectives that participants can collaboratively pursue.

Agenda-CWR andAMP Deep-Dive Workshop	
11:00 a.m.–11:20 a.m.	<b>Welcome Remarks - Gil-Hong Kim</b> , Director, Sustainable Infrastructure Division, Regional and Sustainable Development Department, Asian Development Bank Workshop Overview – Facilitators – Matthew S. Cullinen & Robert Foster
11:20 a.m.–11:40 a.m.	<b>Background &amp; Opportunity – Examples of Best Practices – Philippe Fonta</b> , Managing Director, WBCSD <ul style="list-style-type: none"> <li>• What can Asian Industry and policy makers learn from Europe's efforts to replace coal with municipal solid waste for firing cement plants?</li> <li>• Is the experience of cement plants relevant to other heavy industries? Is there a similarly compelling opportunity for iron, steel, petro-chemical, etc?</li> </ul>
11:40 a.m.–12:00 noon	<b>Case Studies Presented - Ernesto Dela Cruz</b> , Technical Manager, Holcim
12:00 noon–1:00 p.m.	<b>Barriers to Scale and Finance Hurdles – Small Breakout Groups and Report-Back</b> <ul style="list-style-type: none"> <li>• What is preventing an accelerated scale-up of waste-to-energy technologies for cement and other heavy industries in Asia? Is finance the key barrier or are other issues underpinning the lack of momentum?</li> <li>• Which three barriers need to be addressed in order to accelerate the deployment of waste-to-energy technologies in the Industrial Sector?</li> <li>• Who are the key stakeholders that need to act in order to overcome these barriers? How and when must they take action?</li> </ul>
1:00 p.m.–2:00 p.m.	Lunch

*continued on next page*

Table continued

2:00 p.m.–3:30 p.m.	<b>Solution Concept Creation – Thematic Breakout Groups</b> <ul style="list-style-type: none"> <li>• Develop a mission statement for the chosen solution – The one sentence vision, the elevator pitch.</li> <li>• Develop An Initial Road Map for Implementing the Solution: What is the Step-By-Step Strategy?</li> </ul>
3:30 p.m.–4:00 p.m.	Short Coffee Break
4:00 p.m.–5:30 p.m.	<b>Solution Concept Iteration – Building Consensus and Refining</b> <ul style="list-style-type: none"> <li>• Rank ideas and concepts based on various metrics, particularly scalability &amp; impact. The outcome will be 1–3 agreed upon concepts to further develop.</li> <li>• Three Breakout Groups – Refining the agreed solution concepts, or working on refining a single aspect of one concept (if only one selected by the team to move forward).</li> </ul>
5:30 p.m.–6:00 p.m.	<b>Next Steps – Open Discussion on How Participants Can Take Action</b> <ul style="list-style-type: none"> <li>• How can the participants themselves work together or independently to move the concepts forward?</li> <li>• Who else needs to be involved in moving these solutions forward?</li> <li>• What are some tangible near-term objectives that participants can collaboratively pursue?</li> <li>• Outcome – Agreed next steps for the participants, the organizers, or for encouraging others to take action.</li> </ul>
6:00 p.m.	Closing

## Renewable Energy Policy and Regulation - How Administrative and Regulatory Procedures Influence RE Markets in South-East Asia

**19 June, 11:00 a.m.–5:30 p.m.**

**Auditorium Zone D**

**Organizer:** GIZ

### Background

With a total investment of \$244 billion in 2012 renewable energies (RE) have become a major energy market. Globally, they account for almost 50% of newly installed electricity capacity. Worldwide countries are embarking on the journey towards more sustainable energy and setting themselves ambitious targets to increase the share of RE in the energy mix.

To enhance the development of RE, supportive policies are being implemented all over the world. There is a clear relation between the right regulatory framework for RE and its market development. More than 100 countries have renewable power policies in place. Be it feed-in tariffs, net-metering, quota obligations or bidding schemes the devil lies in the detail and determines the success of the policy.

Political targets and policies are only the first step in RE market development. Regulation and administrative procedures are even more crucial. Too often regulatory and administrative procedures impose barriers to RE project development. Complex permitting procedures and regulation on grid access and interconnection requirements can hamper the installation processes and delay market development significantly.

Moreover, administrative barriers have a financial impact on the overall system costs of RE technologies. Administrative costs indirectly affect other soft costs components such as capital costs and profit. High administrative costs indicate inadequate administrative risks, which reduce the predictability and cost security of the RE project. Thus investors usually demand a risk premium and, consequently, capital costs will increase.

Thus, it is of paramount importance for policy makers and energy regulators to understand how specific policies and regulations can influence RE market development. It is also crucial to assess the full scope of regulatory and administrative procedures that apply for different RE technologies. Streamlining these procedures and providing transparency for investors and RE project developers will immediately help to boost RE market development.

This also holds true for many countries in Asia. Especially in the South-East Asia, where countries like Thailand and the Philippines follow ambitious RE installation goals and have laid out the regulatory framework for meeting these targets.

To address the need for understanding the complete picture of RE policies and regulation and its administrative implementation, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) will hold a deep dive workshop on 19 June 2014, at the 9th ADB Asia Clean Energy Forum (ACEF).

Joining the workshop will be the International Energy Agency (IEA), who recently published the Power of Transformation Study, showing that any country can reach high shares of wind and solar power cost-effectively if power systems guarantee flexibility over long term.

The workshop will foster exchange of experiences among Asian countries to identify key challenges and potentials of policy mechanisms supporting renewables in Asia. Key experts from GIZ and its partner organizations will facilitate an exchange with all workshop participants to dive deep insight concrete examples of RE project development for different RE technologies in Asian partner countries.

## Objectives

The major goal of the GIZ deep dive workshop is to foster the discussion on robust regulatory frameworks that support renewables. Participants are invited to share their knowledge and will learn more about how streamlined and transparent regulatory and administrative procedures can boost RE market development. The workshop will focus on experience of Asian partner countries.

In order to achieve these goals, the workshop will give room for:

- Understanding the influence of different policies, e.g., feed-in tariffs, net-metering and bidding schemes, and their regulatory requirements on RE project development.
- Assessing administrative barriers for different RE technologies, such as wind power, solar energy and hydro power.
- Exchanging practical information on what works and what does not work and highlighting effective solutions for streamlining administrative procedures.

Agenda–GIZ Deep Dive Workshop				
11:00 a.m.	<b>Opening</b> <i>Robert Kressirer</i> , Regional Director Philippines and the Pacific, GIZ			
11:10 a.m.	<b>Introduction to Workshop and Topic: Why administrative procedures matter for renewable energy market development?</b> <i>Hendrik Meller</i> (GIZ Philippines)			
11:20 a.m.	<b>ASEAN Perspective on RE Policy Regulation–Introducing GIZ RE Guidelines</b> <i>Arne Schweinfurth</i> (GIZ Indonesia)			
11:30 a.m.	<b>Examples from South East Asian countries</b> Input presentation on the country specific policy schemes and regulatory requirements			
12:45 p.m.	<b>Indonesia:</b> <i>Dadan Kusdiana</i> , Director Bioenergy Division, Directorate General of Renewable Energy and Energy Conservation, Ministry of Energy and Mineral Resources	<b>Philippines:</b> <i>Mario Marasigan</i> Director Renewable Energy Management Bureau, Department of Energy	<b>Thailand:</b> <i>Khomgrich Tantravanich</i> Director of Licensing Department, Energy Regulatory Commission	<b>Viet Nam:</b> <i>Thanh Vinh</i> , International Cooperation Department, General Directorate of Energy, Ministry of Industry and Trade
	Lunch			
2:00 p.m.	<b>IEA–Power of Transformation – Economics of flexible power systems</b> <i>David Elzinga</i> (IEA)			
2:15 p.m.	<b>Best practises of effective regulation/administration for RE market development—Introduction to the working group</b> <i>Christoph Menke</i> (Bangkok Joint Graduate School; University of Trier)			
2:30 p.m.	<b>Group work</b> Groups will assess the regulatory and administrative requirements for renewable energies sharing examples from different countries of Southeast Asia. The groups will identify best practices and major challenges under different support schemes and formulate recommendations. <b>Guiding questions:</b> 1. What are effective administrative and regulatory procedures to achieve the specific policy objective? 2. Which administrative and regulatory aspects can lead to flexible market design? 3. What are the major challenges to streamline administrative and regulatory processes?			
	<b>Solar</b> <b>Session chairs:</b> <i>Thomas Chrometzka</i> (GIZ) and <i>Markus Dietrich</i> (GIZ Consultant)	<b>Wind</b> <b>Session chairs:</b> <i>Philipp Napier</i> (Mott McDonald) and <i>Werner Kossmann</i> (GIZ)	<b>Grid Integration</b> <b>Session chairs:</b> <i>David Elzinga</i> (IEA) and <i>Christoph Menke</i> (JGSEE/ KMUTT Bangkok)	
3:30 p.m.	Coffee Break			

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4:00 p.m.	<b>Reporting from the working groups</b>
4:15 p.m.	<b>Panel and Plenary Discussion</b> Moderated by <b>Christoph Menke</b> <ul style="list-style-type: none"> <li>• <b>Arne Schweinfurth</b>, GIZ ASEAN ACE</li> <li>• <b>Mario Marasigan</b>, DOE Philippines</li> <li>• <b>Khomgrich Tantravanich</b>, ERC Thailand</li> </ul> Speaker from Juwi Speaker from Meralco, Philippines
5:15	<b>Conclusion and recommendations</b>
	Closing

## Facilitating Clean Energy and Climate Technology Transfer and Investment through Centers and Networks

**19 June, 11:00 a.m.–5:00 p.m.**

**Organizer:** Asian Development Bank

### **Briefing Theater 1**

Climate Technology Centers and Networks represent a new organizational model that is in the early stages of implementation. At the global level there is the United Nations Environment Program (UNEP) Climate Technology Center and Network (CTCN), while at the regional level, there are four Climate Technology Network-and-Center projects funded by the Global Environment Facility (GEF) and implemented by regional multilateral development banks, including the ADB/UNEP Asia Pacific Climate Technology Network and Finance Center (CTNFC) which has been in operation for over a year. Other such initiatives include: the World Bank-led Climate Innovation Center (CIC) program that has already established three centers (in Kenya, Ethiopia and Viet Nam), with more in the pipeline; and Finance and Technology Transfer Center for Climate Change (Fin-TeCC) run by the European Bank for Reconstruction and Development (EBRD), among others. Each of these newly established Centers has a different scope, focus and approach to facilitate investment, transfer and innovation in climate technologies.

Given that clean energy is central to climate technology considerations, it is expected that the role of global, regional and national Climate Technology Centers and Networks in facilitating clean energy investments will become more important as the organizational model becomes more established and its roles better defined. With the Centers becoming fully operational, it is timely to take stock of their experiences so far. This workshop will introduce the various centers and discuss the different needs and gaps that they are addressing at the various stages of technology development and diffusion, their roles as investment facilitators and catalysts, and the opportunities as well as the challenges that they face. It will focus on initial experiences with the Centers' business models and approaches on prioritizing technologies and sectors, on what it means to provide technical advice and access to finance, and on how the Centers are responding to public and private sector client needs. Short presentations from practitioners will be discussed by panels and the audience in sessions designed to maximize interaction and dialogue. Sector and country-specific case studies will be presented, and public and private sector clients will be invited to share their views and experience.

The overall goal of the workshop is to create a dialogue between the managers and public and private sector clients of the Climate Technology Centers, through which they can showcase their experience, get feedback on approaches being developed, and learn from others.

### **Workshop Agenda**

11:00 a.m.–11:05 a.m.	<b>Opening Remarks</b> <b>Nessim Ahmad</b> , Officer-in-Charge, Regional and Sustainable Development Department, Asian Development Bank
11:05 a.m.–11:20 a.m.	<b>The Climate Technology Center and Network: Operational Arm of the Technology Mechanism</b> <b>Mark Radka</b> , Chief, Energy Branch, Division of Technology, Industry and Economics (DTIE), United Nations Environment Programme (UNEP)
11:20 a.m.–12:30 p.m.	<b>Roundtable 1: Experience and Strategies of International Organizations in Supporting Clean Technology Development</b> <p>A variety of programs have been established by international agencies in recent years to facilitate innovation and large-scale adoption of low-carbon technologies. Some key activities will be briefly highlighted by representatives from international agencies managing these Centers, along with opportunities for improved and expanded technology development and transfer. The panel will also discuss opportunities and challenges that the different organizational models present in terms of their added value, role as catalyst, response to different needs and gaps, and their niche in the clean energy finance landscape.</p> <p><b>Chair:</b> Mark Radka, Chief, Energy Branch, UNEP-DTIE</p> <p><b>Discussants:</b></p> <ul style="list-style-type: none"> <li>• <b>Pilot Asia-Pacific Climate Technology Network and Finance Center</b> <ul style="list-style-type: none"> <li>◦ <b>Michael Rattinger</b>, Climate Change Specialist, Regional and Sustainable Development Department, Asian Development Bank; and</li> <li>◦ <b>Rajiv Garg</b>, Programme Officer, Climate Change, UNEP Regional Office for Asia and the Pacific</li> </ul> </li> </ul>

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	<ul style="list-style-type: none"> <li>• <b>IRENA Innovation and Technology Centre</b> <ul style="list-style-type: none"> <li>◦ <b>Dolf Gielen</b>, Director, Innovation and Technology Centre, International Renewable Energy Agency (IRENA)</li> </ul> </li> <li>• <b>UNIDO's Energy Technology Centers</b> <ul style="list-style-type: none"> <li>◦ <b>Pradeep Monga</b>, Director, Energy and Climate Change, United Nations Industrial Development Organization (UNIDO)</li> </ul> </li> <li>• <b>Finance and Technology Transfer Center for Climate Change (FINTECC)</b> <ul style="list-style-type: none"> <li>◦ <b>Remon Zakari</b>, Business Development Manager, Energy Efficiency and Climate Change, European Bank for Reconstruction and Development (EBRD)</li> </ul> </li> </ul>
12:30 p.m.–2:00 p.m.	Lunch Break
2:00 p.m.–3:45 p.m.	<p><b>Roundtable 2: Practitioner Considerations for Clean Technology Selection and Integration into Public and Private Sector Projects</b></p> <p>Managers of Centers, ADB Operational Department staff, government representatives and experts in the audience will react to presentations from discussants and address the following guiding questions:</p> <ol style="list-style-type: none"> <li>1. How can Centers accelerate and facilitate technology transfer: where are the gaps and needs, and what are the challenges and opportunities?</li> <li>2. How should the balance be struck between responding to country demands versus promoting technologies?</li> <li>3. What does technology advice and support mean for investors? What kind of advice is sought by public and private sector clients?</li> <li>4. How can the Centers facilitate private sector investments in climate technologies, including in cleantech companies and VC/PE funds?</li> </ol> <p><b>Chair: Xuedu Lu</b>, Advisor, Regional and Sustainable Development Department, Asian Development Bank</p> <p><b>Discussants:</b></p> <ul style="list-style-type: none"> <li>• <b>Selection Criteria and Assessment Methodology for Prioritizing CTFC Climate Technology Investments</b> <ul style="list-style-type: none"> <li>◦ <b>Mark Lister</b>, Consultant, Asian Development Bank</li> </ul> </li> <li>• <b>Investing in Pro-Poor Technologies: ADB's Inclusive Business Support Program in Nepal</b> <ul style="list-style-type: none"> <li>◦ <b>Jiwan Acharya</b>, Senior Climate Change Specialist, RSDD; and</li> <li>◦ <b>Ram Manohar Shrestha</b>, Consultant, Asian Development Bank</li> </ul> </li> <li>• <b>Planning for Climate Technology: A Case in PRC</b> <ul style="list-style-type: none"> <li>◦ <b>Jizheng Zhang</b>, Director, Ningxia CDM Service Center</li> </ul> </li> <li>• <b>Building a Clean Technology Ecosystem in India</b> <ul style="list-style-type: none"> <li>◦ <b>Mohsin Bin Latheef</b>, Manager, INFUSE Ventures</li> </ul> </li> <li>• <b>Financing Early Stage Climate Technologies</b> <ul style="list-style-type: none"> <li>◦ <b>Peter Storey</b>, Global Coordinator, CTI-PFAN</li> </ul> </li> <li>• <b>Building a Clean Technology Marketplace</b> <ul style="list-style-type: none"> <li>◦ <b>Anja von der Ropp</b>, Legal Officer, Global Challenges Division, World Intellectual Property Organization (WIPO)</li> </ul> </li> </ul>
3:45 p.m.–4:00 p.m.	Coffee Break
4:00 p.m.–5:00 p.m.	<p><b>Looking Ahead: Priorities for supporting clean technology investment</b></p> <ol style="list-style-type: none"> <li>1. Perspectives on experiences of international organizations to date</li> <li>2. Advantages and limitations of business models being deployed</li> <li>3. Roles and future opportunities for Climate Technology Center activities</li> <li>4. Next Steps and Ongoing Collaboration between Climate Technology Centers</li> </ol> <p><b>Chair: Preety Bhandari</b>, Advisor, Regional and Sustainable Development Department and Head, Climate Change Coordination and Disaster Risk Management Unit, Asian Development Bank</p> <p><b>Discussants:</b></p> <ul style="list-style-type: none"> <li>• Representatives from ADB, UNEP, IRENA and INFUSE</li> </ul>
4:55 p.m.–5:00 p.m.	Closing Remarks

## Utility-Led Demand Side Management: Strategies for Scaling Up Investment in End-Use Efficiency in Developing Asia

19 June, 11:00 a.m.–6:00 p.m.

Briefing Theater 2

**Organizers:** Nexant, the Global Electricity Initiative, and American Council for an Energy-Efficient Economy

### Synopsis

This Deep Dive Workshop will bring together senior Asian clean energy professionals from utilities, government, the private sector, researchers and experts, and civil society to address the challenge of how to systematically scale up investment in energy efficiency using utility-driven DSM and other models. Participants in the workshop will discuss both regulatory and nonregulatory drivers for utility-led DSM in developing Asia, and will discuss what steps can be taken to promote utility-driven DSM, build capacity in the region, and track and monitor ongoing DSM efforts in developing Asia.

### Background

The WEC's World Energy Scenarios to 2050 show that energy efficiency and energy conservation are absolutely crucial in dealing with demand outstripping supply.<sup>1</sup> According to the Scenarios study, global energy demand will grow by one-third between 2010 and 2035, and 90% of this growth will take place outside OECD countries. The People's Republic of China and India lead the way in energy demand growth, representing over half of the total.<sup>2</sup> End-use efficiency is the most cost effective way of helping customers manage and reduce their energy costs, and energy efficiency measures are almost always less expensive than the cost of providing new energy supply.

Energy utilities play an important role in delivering end-use energy efficiency in developed countries. In Asia, however, little has been invested by electric and gas utilities in programmatic demand side management (DSM) and energy efficiency (EE), due to the lack of regulatory incentives and mandates to support DSM. Nevertheless, there is a vast potential to scale up DSM and EE programs in Asia, and there is a base of experience in Japan, Korea, Thailand, India, the PRC, and some other countries, upon which to build. ADB estimates that a total of more than \$100 billion a year is needed for developing Asia for countries to meet their government-established national EE targets by 2020.<sup>3</sup>

Utilities have been a driving force for achieving energy efficiency gains for the past 30 years in North America. Given the vast potential for DSM in Asia, and the existence of aggressive government targets in many countries, it is worth exploring the role of energy utilities in driving the scale-up of DSM technologies in Asia. ***This Deep Dive Workshop will examine the role of the Asian utility in the future of DSM and energy efficiency in Asia.***

### Workshop Objectives

This Deep Dive Workshop will bring together Asian clean energy professionals from utilities, government, the private sector, researchers and experts, and civil society to address the challenge of how to systematically scale up investment in energy efficiency using utility-driven DSM and other models administering and delivering DSM programs to utility customers.

The workshop aims to achieve the following:

- Review effective international regulatory frameworks for DSM and selected national perspectives on utility DSM and energy efficiency programs
- Present 5–6 case studies of utility-driven DSM made by international utilities as well as utilities in developing Asia
- Discuss both regulatory, and nonregulatory drivers for utility-led DSM in developing Asia
- Develop a consensus among participants on steps that can be taken to promote utility-driven DSM, build capacity in the region, and track and monitor ongoing DSM efforts in developing Asia.

<sup>1</sup> WEC. *World Energy Scenarios: Composing energy Futures to 2050*. 2013

<sup>2</sup> WEC. *World Energy Perspective: Energy Efficiency Policies – What Works and What Does Not*. Key Messages. 2013

<sup>3</sup> ADB. *Same Energy, More Power: Accelerating Energy Efficiency in Asia*. June 2013.

## Partners

The core organizers of the workshop are Nexant, the American Council for an Energy-Efficient Economy (ACEEE), and the Global Electricity Initiative (GEI), which is driven by the World Energy Council, Global Sustainable Electricity Partnership and World Business Council for Sustainable Development. The organizers are open to cooperation with other organizations that are actively supporting or implementing DSM and energy-efficiency efforts in the Asia region.

## Agenda

11:00 a.m.–12:30 noon	<b>Opening Session</b> <ul style="list-style-type: none"> <li>• Introduction <ul style="list-style-type: none"> <li>◦ <b>Dick Edwards</b>, Vice-President, Government Consulting, Nexant</li> </ul> </li> <li>• Opening Remarks <ul style="list-style-type: none"> <li>◦ <b>Loreta Ayson</b>, Undersecretary, Philippines Department of Energy</li> </ul> </li> <li>• Overview presentations <ul style="list-style-type: none"> <li>◦ <b>Philippe Joubert</b>, Executive Chair Global Electricity Initiative <i>Setting the Scene - Initial Insights of GEI's Industry Survey</i></li> <li>◦ <b>Dan York</b>, Fellow, American Council for an Energy Efficient Economy <i>Current Status and Trends of DSM in North America</i></li> <li>◦ <b>Peter du Pont</b>, Vice-President, International Development Consulting, Nexant <i>International Review of Utility-Delivered DSM Programs</i></li> </ul> </li> <li>• Case Study presentations <ul style="list-style-type: none"> <li>◦ <b>Venkatesh Diwedi</b>, Senior Manager (Technical), EESL, India <i>Innovative models to address sector-specific barriers and collate best-practices to enable large-scale delivery of DSM&amp;EE in India</i></li> <li>◦ <b>Edmundo Klophaus</b>, Philips, Hong Kong <i>Promoting efficient lighting with utilities in Asia using a bulk purchase approach with involvement of multilateral development banks</i></li> </ul> </li> </ul>		
12:30 noon–1:45 p.m.	Lunch break		
1:45 p.m.–2:45 p.m.	<b>Session 2</b> <ul style="list-style-type: none"> <li>• Panel on DSM <ul style="list-style-type: none"> <li>◦ <b>Usman Malik</b>, Director, PITCO (Pvt Ltd), Pakistan</li> <li>◦ <b>Mona Yew</b>, Director, China DSM and Energy Efficiency Project <i>National Resources Defense Council, People's Republic of China</i></li> <li>◦ <b>Pitarn Chaichinda</b>, Director DSM and Planning Division, Electricity Generating Authority of Thailand, Thailand</li> <li>◦ <b>Chen Shiun</b>, General Manager R&amp;D, Sarawak Energy Berhad, Malaysia</li> <li>◦ <b>Waqar Azeem</b>, Director Business Development, K-Electric Ltd, Pakistan</li> <li>◦ <b>Wayne Pales</b>, Head of Smart Grid Development, CLP/Hong Kong</li> <li>◦ Q&amp;A and discussion</li> </ul> </li> </ul>		
2:45 p.m.–3:30 p.m.	<b>Group work</b> (all participants) Breakout groups will discuss the challenges and successes with implementing DSM in developing Asia, drawing from the international overviews and case studies presented in the morning.		
	<b>Group 1</b>	<b>Group 2</b>	<b>Group 3</b>
	<b>Facilitators:</b> <b>Elena Nekhaev</b> , World Energy Council, Global Electricity Initiative, <b>Peter du Pont</b> , Nexant  <i>What Policies or Regulations Need to be in Place to Drive Utility DSM?</i>	<b>Facilitators:</b> <b>Bhaskar Natarajan</b> , PACE-D Technical Assistance Program, Nexant, India; <b>Craig Morgan</b> , Northmore Morgan Utility DSM and Smart Grids	<b>Facilitators:</b> <b>Dan York</b> , ACEEE and <b>Dilip Limaye</b> , SRC Global, USA  <b>Energy Efficiency as a Resource:</b> EE Obligations and Standard Offers
3:30 p.m.–4:00 p.m.	Coffee Break		
4:00 p.m.–4:45 p.m.	Group work (continued)		
4:45 p.m.–5:00 p.m.	Presentation of Group Findings		
	Conclusion and Recommendations		
5:50 p.m.	Closing		

## Track 4: Policy and Regulation

This year, ACEF's Policy and Regulation Track will take both a focused and expansive look at policy issues affecting clean energy in Asia. The first session will explore how clean energy is treated in specific national energy policies in the region and beyond. In contrast, the second session will take a broader view, with a range of presentations on the future of clean energy in the region. The third session will narrow again, looking specifically at the issue of fossil fuel subsidy reform in the region.

### Track Chairs

**Priyantha Wijayatunga**, Principal Energy Specialist, Energy Division, South Asia Regional Department, Asian Development Bank

**Steve Sawyer**, Secretary General, Global Wind Energy Council

## Session 10: Comparing Treatment of Clean Energy in National Energy Policies

**20 June, 9:00 a.m.–10:30 a.m.**

### Auditorium Zone A

Countries around the world have embraced the importance of clean energy, but their approaches to promoting its adoption vary widely. This session explores this variation, with presentations on the national solar policies in India and the People's Republic of China, as well as lessons from Germany's experience promoting distributed generation. It will also include a cross-cutting presentation examining the use of energy efficiency targets in national policies, as well as a discussion of the Clean Energy Solution Center's experience with policy development in a range of countries.

### Session Chair

**Dick Edwards**, Vice-President, International Development & Government Consulting, Nexant

### Speakers

**Paul Recknagel**, Senior Programme Manager  
GIZ China

#### *How to Promote Distributed Generation from PV—Experiences from Germany*

In recent years the federal government of Germany has announced ambitious objectives to reduce the use of fossil energy sources and promote a transition toward an energy system primarily based on renewable energy sources (Energiewende). The system of incentives and regulations in Germany has led to a decentralized—otherwise known as distributed—development of renewable energy installations. This is especially true for PV with a majority being small rooftop installations. This presentation will discuss a selection of measures that have been successful in promoting distributed generation in Germany, including public investment, solar rooftop databases (solar atlas / maps showing rooftop suitability for PV), solar rooftop exchange platforms and more. The experiences presented provide input and impulses for the policy framework in other countries—developed or developing—to scale up the deployment of distributed renewable energy installations.

**Frank Haugwitz**, Director  
Asia Europe Clean Energy (Solar) Advisory Co. Ltd

#### *People's Republic of China's National Distributed Solar Photovoltaic Policy—A Critical Assessment*

The People's Republic of China is home to 21 GW solar PV and 70–80% are utility-scale power plants facing significant grid curtailment constraints. Therefore, the National Energy Administration recently approved 1.8 GW of distributed industrial/commercial solar PV demonstration projects. In January 2014, NEA announced its 2014 national solar PV target, which is 8 GW distributed (industrial/commercial) and 6.05 GW utility-scale. This is an ambitious target and is unlikely to succeed, because the execution is hampered. For example, financial returns determined by feed-in-tariff are less attractive because the policy prefers a 100% self-generation and self-consumption model instead of selling self-generated power to the grid;

multi-point grid connections not allowed; unguaranteed stability of the load; no standardized roof leasing contracts available; unclear ownerships of roofs; poor structural stability of roofs. The presentation provides a critical assessment of the lessons learned and the pros and cons of a national policy promoting distributed renewable energy.

**Akshay Jaitly**, Partner  
Trilegal

### ***Decoding the Indian Solar Mission - Its Growth and Future Prospects***

India's solar energy sector has witnessed rapid growth in recent times. This presentation will focus on the major growth drivers, impediments and forecasts for the Indian solar sector including: (i) an analysis of how the Government of India's Solar Mission has evolved over the two phases and the important takeaways; (ii) the introduction of viability gap funding, challenges in security creation and the merits and imperatives of domestic content requirements in Phase II; (iii) a comparison of solar policies of state governments with the National Solar Mission and how capacity addition by some states is likely to outshine the National Solar Mission; and (iv) the various government initiatives, such as accelerated depreciation, Renewable Energy Certificates (RECs), and renewable purchase obligations, as well as what more needs to be done to achieve 20 GW of grid connected solar power by 2022.

**Dilip R. Limaye**, President  
SRC Global Inc.

### ***Setting Energy Efficiency Targets in National Energy Policies - Review and Comparison of Approaches and Results***

Recognizing the major benefits of energy efficiency (EE) for sustainable economic development and climate change mitigation, many countries around the world have developed national strategies and plans for scaling up EE implementation and have established aggressive goals and targets. This presentation provides an overview of the methodologies and approaches adopted by a number of developed and developing countries to establish such EE targets, the processes employed by them to obtain stakeholder inputs, and their progress toward meeting these targets. The presentation compares the main drivers for EE, the qualitative and quantitative goals and targets, and the results and lessons learned. The presentation also defines a "road map" for developing countries that are in the process of establishing national EE targets.

**Jacquelin Cochran**, Senior Energy Analyst, Clean Energy Solutions Center  
National Renewable Energy Laboratory

### ***Expert Assistance and Good Practices with Renewable Energy Policy Portfolios and Targets***

Each nation has unique conditions and goals for establishing renewable energy policy, requiring an individualized approach to policy development. In this session, representatives from the Clean Energy Solutions Center will share lessons and good practices on renewable energy policy development through examples and experiences of country and regional support. This informative session will feature case studies on the design of comprehensive renewable energy strategies and targets for Asia Pacific countries, Caribbean Community (CARICOM) member states, and the Economic Community of West African States (ECOWAS). These examples will allow the audience to analyze and compare renewable energy strategies and policies and gain an understanding of how individualized policy approaches can achieve successful results. Solutions Center representatives will also describe how their Ask-an-Expert service matches policymakers with authoritative leaders on renewable energy and energy efficiency policy topics to meet specific country needs.

## Track 5: Finance

ACEF's Finance track brings together a range of stakeholders seeking to provide financing for clean energy projects. The first session explores some innovative approaches and trends in financing the sector, while the second session will allow financial institutions to provide their perspective on providing financing for clean energy projects. The third session will focus on the difficult problem of providing finance for off-grid projects, which often raise unique challenges.

### Track Chairs

**Don Purka**, Director, Infrastructure Finance Division 1, Private Sector Operations Department, Asian Development Bank

**Eugene Yun**, Managing Partner, Eos Investment Partners

## Session 11: Changing Finance: New Trends, Innovations and Directions

**20 June, 9:00 a.m.–10:30 a.m.**

### Auditorium Zone B

Governments, development organizations, and the private sector are all interested in developing new approaches to financing clean energy projects. This session presents some of the challenges to successful project finance, as well as some new and innovative solutions to address these challenges. Presentations will cover a variety of tools that could be useful to project developers and funders in Asia.

### Session Chair

**Eugene Yun**, Managing Partner, Eos Investment Partners

### Speakers

**Ingrid Holmes**, Associate Director  
E3G

#### *Green Banks and Greening Banks: A Practical Perspective on the Rationale, the Institutions and the Tools*

Public finance constraints mean there is a renewed focus on using public private partnerships to scale up clean energy financing. Public bank innovation and reform will be critical to success. In 2009, E3G developed proposals for a Green Investment Bank (GIB). The idea reflected concerns from the private sector about the risks/scale of the clean energy finance challenge. From 2009–2012 E3G advised the UK Government on setting up the institution. Since then, similar institutions emerged in Australia, Connecticut, Japan and are being considered in the People's Republic of China. This presentation sets out the analysis/thinking behind the GIB and assesses its global relevance. It then highlights innovative tools for rebalancing existing development bank portfolios toward clean energy. This draws on 2011–2013 work with the EIB and EBRD on tools for screening energy investments. It includes EIB's implementation of an emissions performance standard and EBRD's incorporation of carbon pricing into its project assessments.

**Bhaskar Natarajan**, Deputy Chief of Party

USAID Partnership to Advance Clean Energy – Deployment (PACE-D) Program

#### *State Energy Conservation Fund-A Case of Missed Opportunities*

In 2001, India enacted the Energy Conservation Act. The Act provides for establishing a National Energy Conservation Fund (NCEF) at the central government level, and State Energy Conservation Funds (SECF) to be established at the state level. Most states have established SECF and issued rules and guidelines for the same. However, states are using the SECF as a fund for receiving the disbursements from the Bureau of Energy Efficiency, and expenses for energy efficiency are routed through SECF. The real objective of the Fund to be able to innovatively support EE projects through financing instruments has not happened. This paper proposes to review the present experiences of SECF and identifies missed opportunities that could have made a difference to EE in the country. The paper will also cover some examples of similar funds for renewable energy that have made a difference to the progress of clean energy in the country.

**Kevin Martin**, Regional Field Investment Officer  
USAID Development Credit Authority

### ***Credit Enhancements and Clean Energy Financing***

The presentation will focus on how credit enhancements such as USAID's Development Credit Authority have been instrumental in helping clean energy start-ups and entrepreneurs when they need to secure commercial financing. The presentation will explore some of the creative interactions between debt and equity, and how credit enhancements can be instrumental in reducing the credit risk of investors and lenders, whether they be microfinance institutions, or commercial banks that have a strategic interest in clean energy financing, or local institutions. The material used in the presentation will draw on the DCA's extensive history of working with financial institutions and clean energy enterprises to serve as case studies for countries to use as templates for their own specific concerns in this field.

**John Works**, Senior Energy Manager  
Engility Corporation

### ***The Creation of Innovative Risk Mitigation Facilities***

**Creation of Risk Mitigation Facilities**—These grant programs are designed as a way to de-risk the early stages of clean energy projects by enabling them to attract long-term debt financing. A current successful risk mitigation facility is the Geothermal Risk Mitigation Facility in East Africa, sponsored by the African Union Commission with funding from KfW Entwicklungsbank, which provides grants for geothermal resource exploration activities—including geologic and reservoir engineering studies and initial drilling programs—to prove up the steam resource and to de-risk geothermal projects so as to enable them to attract long-term debt financing. This type of program could be planned and implemented in Asian countries with geothermal potential, and could also be used as a means to de-risk the early stages of other clean energy projects (such as natural gas), using other regional sponsor and funding organizations.

**Atem S. Ramsundersingh**, Chief Executive Officer  
WEnergy Global Pte Ltd.

### ***Transitional Obstacles in Financing RE Projects: Old Protocols, New Technologies***

Governments in general are not able to finance future energy investment in their entirety, so there is a great need for the private sector. They need to facilitate such a shift and remove obstacles for investors. Financial markets could range from pension funds to insurance funds and wealthy individuals that want to expand into “green” options. New emerging inventions like “crowd funding” (e.g., Direct Public Offerings) will play a role. Basel III, the global regulatory standard on bank capital adequacy and market liquidity risk is also affecting project financing in all its for Therefore, financing institutions, including Development Banks and Aid Agencies, must reform their own financing rules to set the stage for financing RE projects. They must change their traditional business-as-usual procedures and cut down transaction costs for debt financing to facilitate relatively low-cost renewable energy projects so that they remain fairly profitable.

## Track 6: Technology

The overall theme of ACEF's Technology Track will be collaboration on the development and deployment of clean energy technologies. The first session will provide a range of case studies featuring different technologies and regions. The other sessions will focus specifically on developing technologies for carbon capture, storage and utilization; and bio-energy and waste-to-energy technologies.

### Track Chairs

**Anthony Jude**, Senior Advisor and Practice Leader (Energy), Regional and Sustainable Development Department, Asian Development Bank

**David Elzinga**, Senior Energy Technology Analyst, International Energy Agency

## Session 12: International Collaboration on Energy Technology Development and Deployment – Case Studies and Best Practices

**20 June, 9:00 a.m.–10:30 a.m.**

### Auditorium Zone C

The adoption of clean energy technologies has accelerated rapidly in recent years, but there remain many challenges to ensuring that new technologies are available in different countries and regions. This session will highlight ongoing efforts by public and private sector organizations to promote collaboration on technology development and deployment across national and regional borders. Examples include projects linking the state of Tennessee in the U.S. with the Philippines, the application of smart grid technologies for demand management and distributed generation, and diffusion of low-carbon technology in the People's Republic of China.

### Session Chair

**Jean-Francois Gagne**, Head, Energy Technology Policy Division, IEA

### Speakers

**Bartosz Wojszczyk**, Chief Innovation Officer  
Meralco

### *Technology Collaboration Across Cities, Countries, and Regions*

**Douglas Jackson**, International Affairs Director  
Tennessee Renewable Energy & Economic Development Council

### *Connecting Tennessee Renewable Energy With the Philippines*

This presentation provides a chronology of the Tennessee Renewable Energy & Economic Development Council (TREEDC) International Exchange Program. TREEDC is a statewide network of 96 Tennessee Mayors that promotes renewable energy through educational outreach and economic development in Tennessee. TREEDC members recently initiated the TREEDC International Exchange Program and selected the Philippines as the pilot country. The program's objectives are 1) research and technology exchange between Tennessee municipalities, colleges and business members and their international counterparts; 2) providing local community leaders with advice and guidance regarding renewable energy opportunities; and 3) offering local communities a toolbox of clean energy solutions designed to meet local needs and resources. A review of the public-private approach by TREEDC to advance renewables in the Philippines will be provided. Additionally, the 5 renewable energy forums previously held at local universities in the Philippines are discussed and summarized.

**Leonardo Benitez Diez**, Smart Energy Director  
Indra

***How Can Technology Support the Deployment of Demand Management Programs and Distributed Generation: Real Experiences and Lessons Learned***

This presentation will highlight real experiences from projects where Indra participated related to energy efficiency, demand-side management and integration of distributed generation. The need to connect in real-time the different market agents (TSO, DSO, Retailer, Client), keeping the physical balance of the network, imposes major challenges that can be solved through technology. The basic requirements to be able to support these smart grids are interoperability, real-time processing, distributed intelligence and management of huge amounts of data as well as the capability to interact with the smart cities of the future. We will explain the actual outcomes and lessons learned from these European projects and how this can be applied to the ASEAN region, particularly for countries that require major investments in energy infrastructure and where it is important to consider these energy efficiency measures to optimize investments and make these energy markets sustainable in the future.

**Fan Zhang**, Director  
International Low Carbon Center

***International Collaboration on Low-carbon Technology Development: Hunan Province, People's Republic of China***

In order to promote low carbon technology development in Hunan province, People's Republic of China, the government in Hunan province and the Asian Development Bank (ADB) initiated collaboration under a project titled Integration of Climate Technology Financing Needs into National Development Strategies, Plans and Investments Priorities. The project provides expert services focused on incorporating climate technology considerations into the development plans of Hunan province, with the aim of bridging climate technology-related gaps and opportunities identified by environmental and other agencies, and investment programs coordinated by economic and planning ministries. The presentation will show relevant aspects of the technology context in Hunan province, the collaboration background, the cooperation outcomes (such as the policy and plans tailored for low carbon technology development), and the way to scale up the influence of the project into an innovative low carbon technology promoting mechanism.

**Franziska Zimmermann**, Director of Government Affairs & Strategic Relations  
Philips ASEAN & Pacific

***Towards a Low-Carbon Future: Global Collaboration between The Climate Group, Cities, and Philips to accelerate adoption of LED Street Lighting***

**Session 13: Future Energy Scenarios: Perspectives on the Future Trajectory of Clean Energy**

**20 June, 11:00 a.m.–12:30 p.m.**

**Auditorium Zone A**

Projecting the future of the energy sector is always a difficult task, but this session will attempt to just that by exploring different scenarios for the growth of clean energy in the region, including presentations on the future of sustainable energy, natural gas, and electricity itself. There will also be a presentation on the use of geospatial tools to explore opportunities for clean energy, as well as the work of the UN's Sustainable Energy for All Initiative in Asia and the Pacific.

**Session Chair**

**Steve Sawyer**, Secretary General, Global Wind Energy Council

## Speakers

**Hongpeng Liu**, Chief, Energy Security and Water Resources Section  
UN ESCAP

### ***United Nations Sustainable Energy For All Initiative—Perspectives for Asia and the Pacific***

UN Secretary General Ban Ki-moon launched the global initiative to mobilize all stakeholders toward three critical objectives on energy to be achieved by 2030: (1) ensure universal access to modern energy services; (2) double the global rate of improvement in energy efficiency; and (3) double the share of renewable energy in the global energy mix. SE4ALL is expected to catalyze major new investments to help eliminate energy poverty, and enhance prosperity. UN ESCAP is promoting regional energy cooperation in Asia-Pacific and actions by member states to help achieve the SE4ALL goals. The first Asian and Pacific Energy Forum held in May 2013 agreed on the vision: Asia and the Pacific where there is sustainable energy for all; enhanced energy security from regional to household levels; a secure energy future of equity, diversification and access to all; and an increase in the share of cleaner energies in the overall energy mix.

**Dan Millison**, Manager  
Transcendergy, L.L.C.

### ***Reinventing History and the Future of Sustainable Energy***

If Alexander Graham Bell were alive today he would not recognize the telecommunications business. If Thomas Edison were alive he would most certainly recognize the grid. One of Edison's financial backers, J.P. Morgan, had a vision of community-owned combined heat and power plants, i.e., distributed generation. Morgan's vision was sidetracked by the "natural monopoly" of centralized generation, which has failed to deliver energy services for more than 500 million people in Asia alone. The policy challenge today is to replicate the mobile telecommunications model in the energy sector: everyone in the world who wants a cell phone already has one. As the technology and regulatory policy evolution that occurred in the telecoms business is showing signs of life in the energy business, this presentation will review lessons learned from these two industries (and the Montreal Protocol) and provide policy recommendations to accelerate the transformation to a sustainable energy future.

**David Elzinga**, Senior Energy Analyst  
International Energy Agency

### ***Energy Technology Perspectives: Harnessing Electricity's Potential***

Starting from the premise that electricity will be an increasingly important vector in the energy systems of the future, the IEA's Energy Technology Perspectives 2014 (ETP 2014) takes a deep dive into what needs to be done to provide sustainable options for generation, distribution and end-use consumption. In addition to modelling the global outlook up to the year 2050 under different scenarios for around 500 technology options, ETP 2014 explores the possibility of "pushing the limits" in six key areas: 1) De-carbonizing energy supply: is solar the answer? 2) The enabling role of natural gas: flexibility vs. base load. 3) Electrified transport: how quickly and far can we go? 4) Energy storage as a game changer? 5) Financing the transition to low-carbon electricity. 6) High efficiency power generation in India. The presentation will provide key messages and highlights from the publication, including data, key findings and recommended policy options.

**Jefferson Edwards**, General Manager, Gas and LNG Market Development  
Royal Dutch Shell

### ***Future Energy Scenarios: The Role of Natural Gas in ASEAN***

In the coming years, meeting the world's energy needs will be a formidable challenge. There is, however, no silver bullet solution. Countries and regions will pick portfolios of energy solutions based on factors including: secure, diverse and flexible supplies; cost and competitiveness; and environment and health. The IEA has predicted a "golden age of gas" in which annual global gas production could increase by 1.8 trillion m<sup>3</sup> by 2035. This is supporting new opportunities for Liquefied Natural Gas (LNG), to bridge longer distances between supply and demand regions and to unlock stranded gas reserves. Growth will be particularly strong in ASEAN markets, bringing with it multiple benefits through increased energy supply security, connectivity, flexibility and long-term price stability; competitive power generation costs; reduced greenhouse gas emissions; better air quality and human health; increasing use as a clean transport fuel; and by acting as a complement to new low carbon technologies.

**Jessica Katz**, Engineer  
National Renewable Energy Laboratory

### ***Using Spatial Analysis to Explore Clean Energy Opportunities in Asia: The Geospatial Toolkit***

Conducting a comprehensive renewable energy resource assessment informs future energy scenarios and supports clean energy policy and project development. With support from the U.S. Agency for International Development, the U.S. Department of Energy's National Renewable Energy Laboratory has developed Geospatial Toolkits (GsTs) for fifteen Asian countries. The GsT is a map-based software application that enables visualization and analysis of a country's renewable energy potential by integrating country-specific renewable energy resource data with other GIS data related to land-use, infrastructure, electrification, etc. The GsT quantifies solar, wind, and biomass resource potential based on user-defined constraints. This presentation will provide examples of how the GsT can support integrated energy and land use planning and renewable energy prospecting, and discuss recent capacity building efforts on the GsT in the Asia region. This presentation can be structured as a short overview or as a deep dive workshop that includes a GsT training component.

## **Session 14: Perspectives from the Financial and Development Communities on Clean Energy Finance**

**20 June, 11:00 a.m.–12:30 p.m.**

### ***Auditorium Zone B***

This session will examine the perspectives of financiers on financing energy efficiency and renewable energy projects. Presenters will include commercial banks and domestic financial institutions from Asia, as well as bilateral and multilateral agencies that focus on promoting financial products labelled as either “clean energy” or “climate” finance.

### **Session Chair**

**Rune Stroem**, Director, Energy Division, Central and West Asia Regional Department, Asian Development Bank

### **Speakers**

**Arne Schweinfurth**, Principal Advisor for ASEAN-RESP  
GIZ

### ***Lending Guidelines for Renewable Energy Projects in ASEAN***

A significant potential for deployment of renewable energies in the Association of Southeast Asian Nations (ASEAN) countries is drawing increasing interest from investors. Over the last decade, many ASEAN member states have introduced comprehensive regulatory frameworks, including considerable financial incentives, in order to stimulate the RE market. Despite those efforts, the large-scale deployment of RE technologies for power generation is still facing barriers. For this reason Mott MacDonald Program is developing “ASEAN RE Lending Guidelines for bankers/investors” within its RE support program. The Guidelines are intended to provide techno-commercial guidance of international best practice for solar PV projects developed under non-recourse project finance and to include lessons learnt from specific case studies or project examples. It is envisaged to become a practice-oriented tool which helps investors in their RE risk assessment. This presentation will focus on sharing the initial results and key issues to be addressed by the Lending Guidelines.

**Deepak Rauniar**, Chief Executive Officer  
Hydroelectricity Investment and Development Company Limited

### ***Financing Hydro Projects in Nepal – Perspectives from a Domestic Financial Institution***

There has been a sea change in the traditional thought process in Nepal that the availability of domestic finance for power projects is a major constraint without tapping into international resources. Owing to the central bank's requirement as part of its monetary policy, the domestic banks and financial institutions have geared up financing of hydroelectricity projects. Given the unresolved issues of government guarantee, foreign exchange risks and other questions, the Independent Power Producers

(IPPs) in Nepal have started to look toward local banks and financial institutions for funding of projects. The presentation aims to provide a perspective on hydropower finance from a domestic financial institution point of view: a brief of the hydro sector of Nepal; a new initiative by the GoN in hydropower finance; an assessment of domestic sources, funds, instruments and financing modalities; risk and funding opportunities in Nepal hydro power projects; and the requirements/expectation of multilateral financing.

**Duarte Henriques da Silva**, Investment Specialist, Investment Funds and Special Initiatives Division  
Private Sector Operations Department, ADB

### ***Leveraging Private Equity in Climate Finance—A New Initiative in ADB***

The level of investment required is enormous in order to address climate change mitigation and adaptation through the provision and dissemination of low-carbon and environmentally friendly technologies and infrastructure. Private sector institutional investors, particularly pension funds, sovereign wealth funds, insurance companies, and foundations, are interested in making significant investments in this sector. However, some institutional investors find it difficult to invest in a relatively nascent sector in markets they are not familiar with. Role of ADB in setting up investment products attractive enough for these investors that will bring scale beyond traditional MDB capabilities and ultimately impact the market. Private equity role in environmental finance in Asia.

### ***Banking on Energy: Philippine Commercial Bank Perspectives***

**Joseph Lledo**, Team Head, Corporate Banking - Team 2  
Banco de Oro Unibank, Inc.

**Jo Ann B. Eala**  
Bank of the Philippine Islands

## **Session 15: Carbon Capture, Storage, and Utilization**

**20 June, 11:00 a.m.–12:30 p.m.**

### ***Auditorium Zone C***

Technology for the capture, storage, and utilization of atmospheric carbon (generally referred to as CCS) is still in its early stages, but there have been several successes in this area around the world. This session will highlight some of these success stories, along with ongoing projects supported by ADB and other organizations to advance CCS technologies in Asia and elsewhere. Case studies include pilot projects in Canada, the U.S., and the People's Republic of China, as well as research projects.

### **Session Chair**

**Ashok Bhargava**, Director, Energy Division, East Asia Regional Department, Asian Development Bank

### **Speakers**

**Alice Gibson**, Principal Manager, Capacity Development  
Global CCS Institute

### ***CCS Success Stories***

Achieving decarbonization at least cost is a challenge requiring the use of a number of clean energy solutions, including the use of carbon capture and storage (CCS) with fossil fuels and biomass. This presentation will focus on concrete outcomes in the development of CCS. It will provide a big-picture overview of the status of large-scale CCS globally, then focus on individual case studies specifically in the power sector. The short case studies will include: the Boundary Dam Integrated Carbon Capture and Sequestration Demonstration Project, a postcombustion plant in Canada currently in the testing phase and expected to be operational in mid-2014; Kemper County IGCC Project, a pre-combustion plant in the USA, currently under construction and expected to be operational by the end 2014; Sinopec Shengli Oil Field Project, a post-combustion retrofit of power plant in the People's Republic of China, expected to make a final investment decision in 2014.

**Andrew Minchener**, General Manager  
IEA Clean Coal Centre

### ***CCS for natural gas fired CHP and power plants in the People's Republic of China***

The ADB–PRC joint Study on Carbon Capture and Storage in Natural Gas–Based Power Plants was designed to provide the strategic analysis needed to compare CCS options at this early stage of CCS development for gas fired CHP, and assess the feasibility of near-zero CO<sub>2</sub> emission gas plants in major urban areas in the People's Republic of China. A multinational team worked in conjunction with the Datang International Power Group Company Limited, a leading enterprise in the power industry, which is undertaking a CO<sub>2</sub> capture pilot project at its Gaojing natural gas CHP plant. This presentation will discuss the results of the study, including the scope to implement post-combustion CO<sub>2</sub> capture technology, and the establishment of a CO<sub>2</sub> transport pipeline to various oil/gas fields close to the plant with adequate CO<sub>2</sub> storage capacity. It will also consider retrofit and policy issues that will need to be addressed should CCS be implemented.

**Annika Seiler**, Finance Specialist (Energy)  
Energy Division, East Asia Department, Asian Development Bank

### ***ADB's Cooperation Strategy for Advancing CCS Technology***

**Alberto Pettinau**, Technical Manager  
Sotacarbo S.p.A.

### ***The Italian Technology Centre on CCS and Clean Energy: Activities and International Cooperation***

This initiative was started under an efficient energy program funded by the Italian National Government and Regional Government of Sardinia with the main focus on CO<sub>2</sub> capture, transport and storage (CCS). The program is being developed at the Sotacarbo research center, which has been operating for several years in the Sulcis area of Sardinia. There are two main thrusts in the program: R&D activities and pilot tests; and demonstrations in a full-scale coal power plant. The first of these concerns the achievement of the Sulcis coal technological Pole in reaching two main goals: 1) to carry out a ten-year R&D program concerning development of new CCS systems, including CO<sub>2</sub> use; and 2) to realize and test a 48 MWth pressurized oxy-combustion pilot plant by 2016. This presentation details the main results obtained in the past two years, and outlines the areas for possible international collaboration.

**Simplicio P. Caluyong**, Project Coordinator  
CCOP CO<sub>2</sub> Storage Mapping Program

### ***The CCOP CO<sub>2</sub> Storage Mapping Program – A CCS Regional Capacity Building Program***

CCS-M is designed to support existing CO<sub>2</sub> geological storage research activities as well as kick start the implementation of geological storage mapping in CCOP member countries. The training courses and seminars that are planned in the Facilitation Phase of the program will help build and consolidate the members' knowledge in CCS, particularly in understanding the methodologies and standards in site selection, characterization and storage capacity estimation as well as the various applied CCS technologies. CCS-M will also provide a forum for knowledge sharing among the CCOP countries. A guideline for National CO<sub>2</sub> Storage Mapping, one of the expected outcomes of CCS-M, will be a useful and easy to use reference for all member countries that are considering or already starting on their own national storage mapping.

## Session 16: Barriers to Reforming Fossil Fuel Subsidies: Lessons Learned from Asia

**20 June, 2:00 p.m.–3:30 p.m.**

### Auditorium Zone A

This special session is organized by the Global Subsidies Initiative of the International Institute for Sustainable Development ([www.iisd.org/gsi](http://www.iisd.org/gsi)). It will feature findings from ADB work on fossil fuel subsidy reform in Indonesia and Thailand, as well as GSI case studies from Indonesia, Malaysia, the Philippines, and Viet Nam.

### Session Chair

**Priyantha Wijayatunga**, Principal Energy Specialist, Energy Division, South Asia Department, Asian Development Bank

### Speakers

**Tara Laan**, Associate  
Global Subsidies Initiative, IISD

### Context and Lessons from Asia

The speaker will introduce the scale of fossil fuel subsidies in ASEAN; the basic rationale for reform; the existing political commitments to reform (G-20, APEC); and a summary of challenges experienced by countries that are trying to introduce reform, including Technical (predicting reform impacts; protecting the vulnerable) and Political (building support among national stakeholders). The presentation will be based on recent GSI case studies on fossil-fuel subsidy reform on Indonesia, Malaysia, the Philippines and Viet Nam; as well as principles derived from the 2013 publication, *A Guidebook on Fossil-Fuel Subsidy Reform for Policy Makers in Southeast Asia*, which synthesizes international and regional literature on the issue.

**Shikha Jha**, Principal Economist  
Economics and Research Department, Asian Development Bank

### Technical Assistance: Planning Fossil Fuel Subsidy Reform in Indonesia and Thailand

The speaker will outline the key implications from a forthcoming ADB project (TA 7834), which looks at how to develop detailed inventories of subsidies in Indonesia and Thailand; how to project the impacts of reform using a variety of complementary modelling techniques (SAM, MARKAL, macro/CGE); and how to ensure that fuel subsidy reforms do not adversely affect social welfare. The presentation will examine a variety of issues using examples from Indonesia and Thailand, including the importance of transparency and the challenges of identifying and measuring subsidies; the factors and areas of uncertainty that go into modelling the impacts of reform; and the importance of protecting the poor.

### Panel Discussion

**Ari Perdana**  
National Team for Accelerating Poverty Reduction, Indonesia.

**Nguyen Manh Hai**, Director, Research Department for Public Service Policies  
Central Institute for Economic Management, Viet Nam

**Zenaida Monsada**, Assistant Secretary  
Department of Energy, Philippines

## Session 17: Difficult Challenges: Financing Off-grid Energy Projects

**20 June, 2:00 p.m.–3:30 p.m.**

### *Auditorium Zone B*

Off-grid energy projects are among some of the most difficult to identify financing for. These projects often take place at a small scale in remote areas with poor access to financial institutions. This session will discuss the approaches that different organizations in the region have taken to overcome these challenges.

### **Session Chair**

**Don Purka**, Director, Infrastructure Finance Division 1, Private Sector Operations Department, Asian Development Bank

### **Speakers**

**Dean Cooper**, Energy Finance Program Manager  
United Nations Environment Programme

#### *Clean Energy Mini Grids in Remote Areas—An Investment Opportunity*

Over 1.3 billion people do not have access to electricity, primarily in rural areas. A new approach is required to bring affordable clean energy solutions to these people. By saving the costs of extending the main grid, electricity from de-centralized Minigrids can be affordable. But dedicated public and private sector financing is essential for such innovation. There is global experience of hybrid RE Minigrids but their commercial operation, particularly in developing economies, has not yet been established. UNEP's clean energy Minigrids program has completed a 12-month assessment of sites in Indonesia and the Philippines to determine the commercial viability (and hence sustainability) of replacing diesel in existing Minigrids by renewable energy. ACEF will be the first time that any results have been presented, forming the foundation for hybrid Minigrid demonstration projects at these sites to help reduce investor risk and so attract the private sector finance necessary for widespread replication.

**Alakesh Chetia**, President  
SunEdison Foundation

#### *SunEdison's Rural Electrification Approach in India and the Philippines*

After 3 years of experience in installing and operating its first Minigrid in India through the SunEdison Eradication of Darkness (SEED) program, SunEdison is now piloting a new approach to financing and ownership of rural Minigrids in India and the Philippines. In a shared risk model, SunEdison is working in close collaboration with Village Level Entrepreneurs (VLE) and Village Electrification Cooperatives (VEC) to create an enabling environment in which the VLE/VEC takes a majority stake, with SunEdison taking a minority stake in the village/site Minigrid. End consumers also play a part in funding the capital cost by means of connection fees or other similar upfront payments. Loans for VLE/VCE as well as end consumers incapable of paying the connection fees are facilitated by SunEdison from various capital funding sources including grants and crowd funding progra

**Pankaj Sehgal**, Managing Director  
SUN Group

#### *The Challenges of Financing Off-Grid Energy Projects*

Financing off-grid projects involves providing a comprehensive “energy management” for their customers rather than just slices of the total solution. Providing a complete solution will increase a service provider's share of its customers' energy spend and make its business more profitable; and lead to better control over the customer base. Given the relative inability or reluctance of customers to pay “upfront,” innovative revenue and financing models need to be deployed. The presenter will share experiences of the following models: (i) leasing (ESCO and RESCo); (ii) a leasing model backed by sovereign Super ESCo and Super RESCo (iii) lease cum Sale; (iv) financing through mortgage institutions; (v) microfinance; (vi) mandating as priority sector lending; (vii) upfront subsidies as “incentives” for the customers (viii) insurance instruments. There is also an explicit

set of executable recommendations for energy access and energy-efficiency. Financing for these may involve public capital, public policy instruments, and/or private capital.

**Alfredo Baño**, Consultant  
Asian Development Bank

### ***Benefits of Results Based Financing in Off-Grid Technology Deployment***

Off-grid projects are the front line of energy access in remote and rural communities worldwide, but the private sector has had limited success reaching these communities with off-grid technologies. Financing issues, such as low affordability and high costs associated with limited access to finance and low-scale operations, make off-grid solutions too expensive, resulting in low penetration. Results based financing (RBF) provides a solution to bridge financing gaps through improved access to finance for private service providers, which would leverage the impact of concessional financing and subsidies. Innovative RBF schemes help improve the working capital situation and increase the investment capacity of private firms, which kick-starts the deployment of off-grid solutions. Similarly, RBF helps bridge the consumer affordability gap by financing upfront costs at lower-than-market rates, through partial guarantees and concessional credit lines to participating financing institutions.

## **Session 18: Bio-Energy and Waste-to-Energy Technologies**

**20 June, 2:00 p.m.–3:30 p.m.**

### ***Auditorium Zone C***

Bio-energy and waste-to-energy cover a diverse range of technologies and applications. Though many of these technologies have been broadly in use for some time, there is still great potential for further development and refinement in this area. This session will present examples of different efforts to employ biomass and waste as energy sources, including food and animal waste, municipal solid waste, and dedicated energy crops.

### **Session Chair**

**David Elzinga**, Senior Energy Technology Analyst, International Energy Agency

### **Speakers**

**Thomas Chrometzka**, Director, Renewable Energy  
GIZ Thailand

### ***Experiences from a Thai-German Community-Based Gasification Project***

GIZ Thailand is supporting the country's Ministry of Energy in the implementation of its strategy to increase the deployment of gasification systems from energy crops across the country, while building local capacity and raising the proportion of sustainable energy within the energy mix. Within a joint Thai-German consortium, GIZ helps to adapt technology used in Thailand with high-quality components from Germany in a tailor-made approach to raise quality and life-expectancy of gasification systems in Thailand. This is done in close cooperation with the local community, with the power plant being operated as a community-based system to ensure local support, ownership and value creation. GIZ is currently developing two showcase projects in Khon Kaen province. The presentation aims to share experiences and provide examples of best practices as lessons learnt from these projects.

**Edwin Khew**, Managing Director  
Anaergia

### ***Turning Food and Animal Waste to Energy—The Future of Renewables & Distributed Generation***

Anaergia is a global pioneer in the generation of renewable energy from biogas and the largest biogas-to-energy company in the world. Its proprietary solutions are based on advanced anaerobic digestion (AD) technologies that create value from untapped organic waste stream. Using its proven and diverse portfolio of solutions, it can convert biogas to renewable electricity or natural gas for facility operations, vehicle fleet fuel or power grid feed. The focus of the presentation will be on how Anaergia has used its innovative technologies, with case studies on waste to energy projects, including food waste to energy.

plants (People's Republic of China and Singapore) and chicken manure to energy plants (Singapore). Experience shows that it is possible to reduce energy costs, minimize waste disposal costs and generate new revenue sources, providing sustainable solutions for waste treatment and distributed power generation to cater to urbanization in cities of the future.

**Thusitha Sugathapala**, Director General  
Sri Lanka Sustainable Energy Authority

### ***Strategic Approach for Energy Generation from Waste Agricultural Biomass***

Even with the issues of limited access to affordable energy services, use of Waste Agricultural Biomass (WAB) for energy is still not significant, mainly due to the existence of barriers such as the lack of systematic approach, information and capacity gaps, technology transfer issues, etc. The Sustainability Assessment of Technologies (SAT) methodology developed by the UN Environment Program (UNEP) is effectively used for the utilization of WAB based environmentally sound technologies (ESTs) for energy services, allowing optimum use of local resources and appropriate technology transfer through regional collaboration. The methodology uses a progressive assessment procedure through tiers on screening, scoping and detailed assessment of resource-technology-application options allowing entry points for diverse stakeholders and optimizing information requirements. The technology assessment process takes into account the three important aspects of environmental soundness, social/cultural acceptability and economic feasibility via introduction of customized criteria/indicators, thus integrating sustainability with the technology assessment.

**Stephen Ray Thornberry**, President  
IMT Solutions

### ***Environmental Burden to Solution: Recycling Waste into Energy***

Handling and proper disposal of Municipal Solid Waste (MSW) has become a major problem in the Philippines, while continued concerns over energy availability and prices and climate change issues have led toward a need for alternative and new energy sources. Recovery of energy from MSW through gasification can conserve more valuable fuels and improve the environment by lessening the amount of waste going to landfills. Medium scale Waste to Energy (WTE) plants can provide a broad array of benefits. They will also make it easier for LGUs to achieve waste management success. Gasification uses a relatively small amount of oxygen or water vapor. Its advantages are a much lower volume of process gas per unit of MSW and thus a smaller volume of gas control equipment; and a fuel gas that can be integrated with turbines or engines, efficiently converting fuel energy with a carbon negative impact on Global Warming.

**Liu Xin**, Managing Director  
Energy and Environmental Development Research Center  
Collaboration on Biogas and Biomass Projects in China

### ***Implementing Biomass Technologies for Renewable Energy Development in the People's Republic of China***

The Energy and Environmental Development Research Center (EED) is an energy and environmental technology and policy consulting agency, with expertise in renewable energy and environmental engineering. This presentation will highlight EED's experience with the development and implementation of biomass energy projects in the People's Republic of China.

## Closing Plenary: Win the Clean Energy Race

**20 June 2014, 4:00 p.m.–5:30 p.m.**

The closing plenary session will provide a cap on a week of informative, engaging, and productive events. Anthony Jude, Senior Advisor and concurrently Practice Leader (Energy), for the Asian Development Bank will provide a review of the Forum, focusing on lessons learned and concrete outcomes produced by the wide-ranging presentations, panels, and workshops. This will be followed by a keynote speech by Ambassador Carlos Pascual, Special Envoy for International Energy Affairs from the U.S. Department of State. ACEF will conclude with a raffle giveaway and closing remarks from ADB's Vice President Stephen Groff.

### **2014 ACEF Review**

**4:00 p.m.–4:20 p.m.**

#### **Anthony Jude**

Senior Advisor, and concurrently Practice Leader (Energy)  
Regional and Sustainable Development Department  
Asian Development Bank

### **Keynote Speech**

**4:20p.m.–5:00 p.m.**

#### **Ambassador Carlos Pascual**

Special Envoy, International Energy Affairs  
Department of State  
United States

### **Raffle Drawing**

**5:00 p.m.–5:05 p.m.**

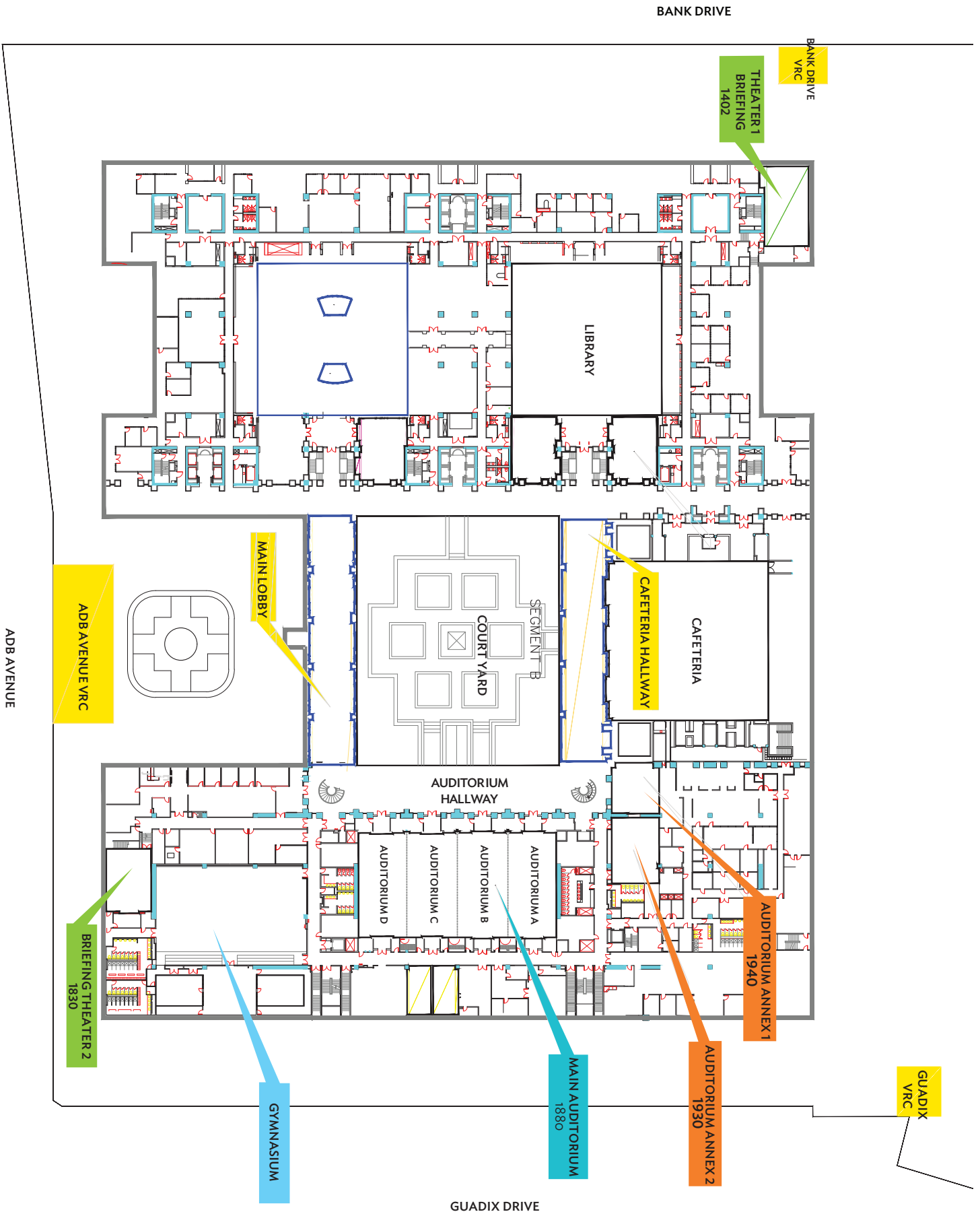
The ACEF Secretariat will give away eight iPad minis and one iPad, through a raffle. Participants will be eligible for the drawing by completing an ACEF feedback survey before the closing plenary.

### **Closing Remarks**

**5:05 p.m. –5:30 p.m.**

#### **Stephen Groff**

Vice President (Operations 2)  
Asian Development Bank



Level 1 Floor layout

## About the Asia Clean Energy Forum

The Asia Clean Energy Forum is the premier knowledge-sharing event on clean energy in the region. It attracts a diverse group of stakeholders including governments, national and multinational banks, carbon and clean energy investment funds, project developers and service providers, academics and civil society, and development partners and other international organizations. The forum provides a dynamic platform for crosscutting debates and discussions on clean energy development and financing, climate change, energy access and security, and governance in the energy sector.

## About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to approximately two-thirds of the world's poor: 1.6 billion people who live on less than \$2 a day, with 733 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

## FORUM CONTACTS

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For more information, please visit

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