

SE4ALL Bulletin

A Daily Report of the First Sustainable Energy for All Forum

Published by the International Institute for Sustainable Development (IISD) in collaboration with the Sustainable Energy for All Forum

ONLINE AT HTTP://WWW.IISD.CA/ENERGY/SE4ALL/2014F/ ISSUE #1, VOLUME 181, NUMBER 5, THURSDAY, 5 JUNE 2014



SUSTAINABLE **ENERGY FOR ALL**

SE4ALL HIGHLIGHTS: WEDNESDAY, 4 JUNE 2014

The first Sustainable Energy for All (SE4ALL) Forum opened on Wednesday morning, 4 June 2014. Chad Holliday, Chair, SE4ALL Executive Committee, explained that SE4ALL has three goals—access, efficiency and renewable energy—and with the World Bank and other organizations it is measuring progress to ensure it has an impact on the world.

Ahmad Alhendawi, UN Secretary-General's Envoy on Youth, stressed the important role of young people as innovators, consumers and voters, who contribute in a meaningful way to development at large. Reema Nanavaty, Self-Employed Women's Association (SEWA), noted that rural women demonstrate how energy can transform lives, and argued for a platform through SE4ALL that enables poor people and women as users, owners and managers of energy devices. Winona LaDuke, Honor the Earth, noted that indigenous communities are in the most remote, least electrified and poorest areas of North America, and called for a just, "graceful" transition to renewables and less investment and subsidies for fossil fuels.

GROWING THE MOVEMENT

Together we've got the power: Why SE4ALL needs civil society? Gerard Bos, IUCN, moderated the session. Aaron Leopold, Practical Action, and Sarah Wykes, CAFOD, reported on a survey to understand the role of civil society organizations in implementing SE4ALL, which showed a demand from civil society to participate fully in SE4ALL, but that capacity building, resources and meaningful information are needed. Daniel Riley, WWF-US, said there is a need to: build trust among stakeholders; enable civil society to create social structures to promote participation and engagement; and ensure funding for energy access. Lizeth Zúñiga, Renewable Association of Nicaragua, said civil society does not yet know enough about SE4ALL despite consultations. Ishmael Edjekumhene, Kumasi Institute, described stakeholder consultations in Ghana, and while there is an effort to involve civil society, it still needs a better say in identifying energy needs of the poor. Mariam Mohamed Abdullah Abdelhafiz Allam, Arab Youth Climate Movement, stressed that sustainable energy is about people, not just technology, and called for eradicating energy poverty.

Leveraging multi-stakeholder partnerships: Progress and lessons from Rio+20 SE4ALL Commitments: This session

was moderated by Georg Kell, UN Global Compact. Carmen Becerril Martínez, Acciona, highlighted business models for rural electrification efforts in Peru and Mexico, including creation of "electrification committees" in each community. Marina Migliorato, Enel, discussed efforts to break down economic barriers to electricity access in Brazil and Chile, including by providing energy credits for recyclable waste, and training young, illiterate grandmothers to become "barefoot" solar engineers. Jean-Marc Fontaine, Total, described the "Awango by Total" project bringing solar lamps to remote areas in 16 countries. Ibrahim Rehman, TERI, said creating local entrepreneurship around off-grid electrification offers maximum impact, and has "triggered" the broader solar market.

The energy trilemma: Catalyzing business action: Christoph Frei, World Energy Council, highlighted the many risks confronting business and the importance of national policy developments for building an effective international framework. Clay Nesler, Johnson Controls, talked about innovations in energy savings performance contracting in the buildings sector. Morten Albaek, Vestas, discussed changing the energy mix for the poorest people by installing high-tech wind turbines in remote areas. Colin Calder, PassiveSystems, emphasized the need for energy market reforms, and the opportunities of using the digitalization of home appliances to optimize energy usage. Luc Tanoh, Econet Solar, discussed the deployment of "home power stations" in African countries to charge phones and provide LED lights. Thaddeus Burns, GE, noted that in addition to developing creative technologies, there is a need to liberalize trade in these technologies. Philippe Joubert, Global Electricity Initiative, discussing utilities, highlighted the lack of an effective policy framework and challenges related to intermittent loads, digitalization, and water and land use of new technologies. Alex Wittenberg, Oliver Wyman, talked about the energy sustainability index, highlighting the need for policy makers to create a stable regulatory and legal framework that is transparent and long term. Mahaman Laouan Gaya, Niger, emphasized awareness raising on sustainable energy among African leaders, and international assistance for, *inter alia*, improving private sector participation and overcoming regulatory barriers.

Harnessing the power of youth: Sean Collins, Student Energy, and Ahmad Alhendawi, UN Secretary-General's Envoy on Youth, described the importance of harnessing the power of youth to facilitate the transition to a sustainable energy future.

The SE4ALL Bulletin is a publication of the International Institute for Sustainable Development (IISD) <info@iisd.ca>, publishers of the Earth Negotiations Bulletin © <enb@iisd.org>. This issue was written and edited by Pamela Chasek, Ph.D., Joanna Dafoe, Faye Leone and Stefan Renckens. The Digital Editor is Liz Rubin. The Editor is Tomilola Akanle Eni-ibukun, Ph.D. <tomilola@iisd.org>. The Director of IISD Reporting Services is Langston James "Kimo" Goree VI kimo@iisd.org. Funding for coverage of this forum has been provided by the SE4ALL Forum. IISD can be contacted at 161 Portage Avenue East, 6th Floor, Winnipeg, Manitoba R3B 0Y4, Canada; tel: +1-204-958-7700; fax: +1-204-958-7710. The opinions expressed in the *Bulletin* are those of the authors and do not necessarily reflect the views of IISD. Excerpts from the *Bulletin* may be used. in other publications with appropriate academic citation. Electronic versions of the Bulletin are sent to e-mail distribution lists (in HTML and PDF format) and can be found on the Linkages WWW-server at http://www.iisd.ca/. For information on the Bulletin, including requests to provide reporting services, contact the Director of IISD Reporting Services at <kimo@iisd.org>, +1-646-536-7556 or 300 East 56th St., 11D, New York, New York 10022, USA. The IISD Team at the First Sustainable Energy for All Forum can be contacted by e-mail at <pam@iisd.org>.





They encouraged youth to become involved in the green energy movement from an early age, and underscored the need for youth to "make it personal" by viewing themselves as important players in the clean energy solution.

Partnership to scale up energy access through women's empowerment: Panelists included: Caroline McGregor, US; Bahareh Seyedi, UNDP; Soma Dutta, ENERGIA International Network; Nicola Armacost, Arc Finance; and Radha Muthiah, Global Alliance for Clean Cookstoves (GACC).

CATALYZING INVESTMENT THROUGH INNOVATIVE BUSINESS MODELS

Accelerating sustainable energy deployment through support for innovation: Ethan Zindler, Bloomberg New Energy Finance, said US\$1.5 trillion in private funding has been invested in clean energy in the past decade, but it needs continued public support. Ashok Sarkar, World Bank, called for more investment to get to the US\$300 billion a year in incremental investments needed, particularly the private sector finance that complements development finance and innovative financing instruments. David Rodgers, Global Environment Facility (GEF), described the GEF's plans for innovative programming, including performance-based financing and incentives, multi-focal area projects with climate benefits, high-impact projects, regional projects and programmes, catalyzing private sector engagement, and small grants and loans.

Modern cooking appliances and fuels: Radha Muthiah, GACC, noted that the GACC Alliance advocates a market-driven approach to encourage investment, rather than a traditional NGO model. Moderator Tyler Suiters, Consumer Electronics Association, recalled that 4.3 million deaths are linked to indoor use of solid fuels. Koffi Ekouevi, World Bank, described two categories of users: those without access to alternatives to charcoal, who will need efficient cooking devices to control for the indoor air pollution; and those who are ready to transition to liquefied petroleum gas (LPG) and/or natural gas. Harry Verhaar, Philips Lighting, noted four pilot distribution models to accelerate market penetration of clean cookstoves. Maria Neira, WHO, said households need cleaner alternatives to unprocessed coal in the transition period before using clean cookstoves, and noted the forthcoming launch of indoor air pollution guidelines. Sean Moore, Acumen, said that so far, cookstoves have been funded by grant capital, which means that market demand will need to be built before commercial capital will come in. Gary Hattem, Deutsche Bank, said cookstoves are a "very early stage" industry, similar to microfinance 15-20 years ago, and require patient, flexible capital to encourage growth. Kimball Chen, GLPG Partnership and WLPGA, said a stove's cleanliness depends on the fuel it uses, and LPG is an important option. He said determining the right fuel for each situation depends on which is economically viable, scales up quickly, is available on the supply side, is accessible to consumers, is affordable, is culturally and politically acceptable, and is sustainable. Muthiah stressed the need for true adoption of clean cookstoves, not just sales, and highlighted the role of women in the supply chain to ensure adoption.

Innovations in finance for energy access: Christine Eibs Singer, SE4ALL, highlighted four barriers to finance for energy access: access for consumers and firms; distribution channels; capacity building; and consumer awareness. Willem Nolens, SolarNow, discussed the deployment of solar home systems, based on affordability, high quality, and a credit provision system facilitating purchasing additional appliances. Graham Smith, Off Grid Electric, talked about their approach to solar energy as a service, which does not entail large upfront costs to customers. Vincent Weirda, UN Capital Development Fund, discussing the CleanStart project, highlighted the role of the public sector in reducing risks and in supporting different pathways of investment. Silvia Kreibiehl, Frankfurt School-UNEP Collaborating Center for Climate & Sustainable Energy Finance, highlighted high perceived risks and limited access to long-term capital as barriers to small- and medium-scale renewable energy projects, while also discussing the GET FiT and Renewable Energy Performance Platform projects. Letha Tawney, World Resources Institute, talked about their research on the intersection of financial innovations and regulatory frameworks, using examples from Kenya, Senegal and India.

Water-energy-food nexus: This panel was moderated by Tania Rödiger-Vorwerk, Germany. Panelists included: Olivier Dubois, FAO, Anna Delgado, World Bank, Martin Hiller, REEEP and Klaus Rudischhauser, EuropeAid.

Clean energy mini-grids: Steven Hunt, DFID, identified five barriers facing the deployment of clean energy minigrids: inadequate regulation; market fragmentation; lack of standardization; lack of proven commercial business models; and lack of access to affordable long-term finance. Mahama Kappiah, ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), explained how clean energy mini-grids could help realize SE4ALL targets on energy access and renewable energy. Dean Cooper, UNEP, stressed the need to consider mini-grids with "practical urgency," and addressed the need for private sector investments to scale up deployment. Suman Sureshbabu, Rockefeller Foundation, identified the need to increase scale to achieve the level of standardization needed to bring down cost and complexity. Caroline Nijland, Foundation Rural Energy Services, described the potential for hybrid mini-grids to support rural electrification, provide supply quality and quantity, and accelerate deployment. Venkat Ramana Putti, World Bank, described the role of local financial institutions, and the need for their increased engagement, to ensure the long-term sustainability of mini-grids.

Energy efficiency accelerators: Luis Gomez-Echeverri, IIASA and SE4ALL, moderated the panel, calling for a massive scaling up of investment for energy efficiency, but said this cannot be done without the private sector. Rajendra Pachauri, TERI and IPCC, said energy efficiency is the lowest hanging fruit available to stabilize the global temperature increase to 2°C. Reid Detchon, UN Foundation, said most governments understand that energy efficiency is important, but are frustrated with the pace of implementation. Clay Nesler, Johnson Controls, said the building efficiency accelerator could reduce energy use in buildings by 25-50%, create jobs, improve capacity in developing countries, and improve quality of life. Steven

Kukoda, International Copper Association, discussed developing partnerships on energy efficiency in appliances and industrial equipment, which will reduce CO2 emissions and save money. Alfred Haas, OSRAM, said the lighting sector uses 50% of electricity and produces 5% of greenhouse gases, largely due to inefficient technologies, and said the Global Lighting Initiative will achieve climate savings. Sheila Watson, FIA Foundation, said fuel economy policies have improved fuel efficiency, while cost-effective technologies exist, but need greater involvement from the private sector. Paul Voss, Euroheat & Power, stressed the importance of District Energy Systems and said that an energy transition must be sustainable and keep economies competitive. Ivan Jaques, World Bank, stressed the importance of cities and said energy efficiency is a means to sustainable development and improves and expands access to services. Josué Tanaka, EBRD, listed three challenges to efficiency: lack of understanding of financial returns of projects; fragmentation; and lack of capacity of financial intermediaries.

Scaling up decentralized and 'bottom-up' energy solutions: Moderator Martin Krause, UNDP, said the SE4ALL Energy Access Committee has emphasized the need for offgrid, decentralized, bottom-up energy solutions and smallerscale technologies, and it recommends: changing messages to highlight development benefits of energy, not gridlines and kW hours; better coordination at the national level; and finding business models and approaches for investment in small-scale technologies. Nii Darko Asante, Ghana, said the key issue with distributive access is engaging smaller providers, which will require government measures to reduce costs to operators. Fabby Tumiwa, Institute for Essential Service Reform, said involving communities in decision-making about energy services requires bottom-up financing. Klaus Rudischhauser, EuropeAid, said the European Commission will prioritize rural electrification and added that small-scale models in rural areas require civil society involvement. Magnus Magnusson, UN Capital Development Fund, said the CleanStart component of SE4ALL is working toward clean pathways for households to jump-start permanent access to energy, noting that partnerships and collaborations between energy providers and microfinance institutions are important for supply. Andrew Webb, SolarAid, discussed the efforts of Sunny Money, which focuses on sales, and SolarAid. an international NGO, noting that the hybrid structure of the organization has been integral to its success. Aneri Patel, UN Foundation, noted the Energy Access Practitioner Network and its investment directory, and highlighted scratch cards and mobile money as examples of accessing energy by paying per use rather than owning an entire system.

Energy access for development impact: how can the private and public sector collaborate on renewable energy solutions: Moderated by William Brindley, Newdea, the following panelists spoke: Scott Fast, Accenture Foundation; Roger Ford, Accenture Development Partnership; Zia Khan, Rockefeller Foundation; Harvey Rubin, University of Pennsylvania and Energize the Chain; and Christine Eibs Singer, SE4ALL.

Sustainable bioenergy HIO: Moderated by Gerard Ostheimer, SE4ALL, the following panelists spoke: Olivier

Dubois, FAO; Gerard Bos, IUCN; Ignaas Caryn, KLM; and Adam Monroe, Novozymes.

Global gas flaring reduction HIO: Moderated by S. Vijay Iyer, World Bank, the following panelists spoke: Bjorn Hamso, Global Gas Flaring Reduction Partnership, and Hege Marie Norheim, Statoil.

PARALLEL MULTI-STAKEHOLDER SESSIONS

Women, Energy and Economic Empowerment: This session, moderated by Chad Holliday, Bank of America and SE4ALL, focused on the work of SEWA, Anurag Bhatnagar. Grassroot Trading Network for Women, explained how the poor find it difficult to access energy. Mohinder Gulati, SE4ALL, discussed how access to energy contributes to the empowerment of women. Reema Nanavaty, SEWA, discussed the history of the organization and how poor households were spending 40-45% of their incomes on accessing energy. Divuben Rathod, SEWA, described the life of salt workers and how 70% of their earnings used to go to buying diesel, but solar pumps have decreased diesel consumption by 70-80%, dramatically increasing income and savings. She said that she used the money she saved to bring the voice of 30,000 poorest women from Kutch desert to the policy makers in New York. Ramilaben Rohit, SEWA, discussed the savings achieved through solar lights. Heeaben Dave, SEWA, discussed the economic and health benefits of switching from kerosene and fuelwood to solar.

Renewable Energy – the Brazilian expertise: This panel was moderated by José Antônio Corrêa Coimbra, Chief of Staff for Brazil's Minister of Mines and Energy. The panelists were: Altino Ventura Filho, Ministry of Mines and Energy; Albert Geber de Melo, CEPEL and State University of Rio de Janeiro; and Jorge Miguel Samek, ITAIPU.

Knowledge hub for SE4ALL: Research consortium and analytical agenda: Luis Gomez-Echeverri, IIASA and SE4ALL, introduced the three pillars of the initiative's knowledge hub: modeling; monitoring implementation; and knowledge management of successful policy experiences. Nebojsa Nakicenovic, IIASA and Vienna University of Technology. presenting on pillar one, highlighted findings from the normative scenarios developed in the Global Energy Assessment report. Vivien Foster, World Bank, talking about pillar two, discussed the development of: the Global Tracking Framework; the Readiness for Investment in Sustainable Energy project; and the State of Energy Access Report. Letha Tawney, World Resources Institute, discussing pillar three, highlighted the importance of both research on successful policy experiences, and attention to information users' demands and information communication. Ibrahim Rehman, TERI, emphasized the importance of: scenario development at national levels; the availability of demand-side information in tracking; and the challenge of communicating technical knowledge. Vijay Modi, Columbia University, noted the need for the availability of actionable local data.

Wind for Prosperity: This panel was moderated by Morton Albaek, Vestas. The panelists were: Martin Krause, UNDP; Sergio Oceransky, Yansa Group; Luc Tanoh, Econet Solar; and Nawal Al-Hosany, Masdar.



Energy efficiency: Sharing experiences and launching a global platform to accelerate the transition to efficient appliances and equipment: John Christensen, UNEP DTU Partnership, introduced the two areas of focus: national energy efficiency success stories, and the launch of a Global Platform to accelerate the transition to efficient appliances and equipment. Masahiko Horie, Japan, summarized the success of the Top Runner Program, in encouraging competition and innovation among companies to fulfill efficiency targets. Ib Peterson, Denmark, noted the success of energy efficiency policies in Denmark. Sergio Toro, Chile, reflected on successful measures in Chile to implement energy efficiency lighting standards. David Rodgers, GEF, underscored the role of public-private partnerships in providing best practices. Daniel Assandri, ABB Canada, stressed the importance of motors for realizing efficiency gains. Arnaldo Vieira de Carvalho, IADB, highlighted initiatives taken by IADB to support countries in preparing energy efficiency legislation. Juan Pablo Moreno Cadena, MABE, said that challenges facing energy efficiency can only be overcome through collaboration, such as regional alliances to harmonize standards. Christine Egan, CLASP, addressed the role of energy efficiency as the "proven first fuel," as it is cheaper than building new capacity and benefits consumers, local manufacturers, and the environment. Harry Verhaar, Philips Lighting, said that a remaining challenge for lighting efficiency is to expand efforts toward non-residential lighting.

SHARING KNOWLEDGE AND EXPERIENCES, DEVELOPING CAPACITY

Energy Access Practitioner Network. Richenda Van Leeuwen, UN Foundation, moderated the panel. Ishmael Edjekumhene, Kumasi Institute, said financial institutions need to find the right financing scheme for energy access in rural areas. Harish Hande, SELCO India, said the Energy Access Practitioner Network in India addresses what is lacking in finance by training bankers to provide financing and creating more energy entrepreneurs. Fiza Farhan, Buksh Foundation, stressed the importance of the Network in working with private sector foundations to leverage more public financing for energy access, adding that understanding market dynamics and giving investors what they need buys a solution. Princess Abzeita Djigna, AbzeSolar SA, said that the Network has helped exchange best practices and bring business women, the private sector, and local governments together to help provide solutions and empower women.

Launch of Poor People's Energy Outlook Report: Aaron Leopold, Practical Action, moderated a panel to launch the Poor People's Energy Outlook (PPEO) report 2014, which calls for defining energy access by services, not supply.

Simon Trace, Practical Action, said a physical connection to a grid is not the same as energy access, and called for an agreed definition of access, better engagement by SE4ALL with civil society, and shifting investment and financing to off-grid approaches. Bahareh Seyedi, UNDP, said PPEO reports have contributed to: treating energy as an enabler of sustainable development, not an end in itself; shifting the focus from large-scale energy projects to small-scale, decentralized options; and emphasizing the need for a multi-stakeholder process.

Global Tracking Framework: Multi-tier access indicators: Moderated by Vivien Foster, World Bank, the following panelists spoke: Mikul Bhatia, World Bank; Jens Drillisch, KfW; and Steven Gitonga, UNDP.

Launch of SE4ALL Capacity Building Hub: Rajendra Pachauri, TERI, introduced the Capacity Building Hub, called the "Specialized Training, Education and Experiential Resources (STEER)," which aims to build stakeholder confidence to achieve global SE4ALL goals by empowering individuals and institutions along the entire energy value chain. Ibrahim Rehman, TERI, described the governance structure of the STEER International Steering Community, comprising representatives of major donors, development partners, and delivery partners. Silas Lwakabamba, Rwanda, welcomed the launch of STEER as an opportunity to learn from other countries to realize significant energy savings, including through transmission and end-use energy losses. Mohinder Gulati, SE4ALL, said that the value added of STEER is its broader view of capacity-building support. Nebojsa Nakicenovic, IIASA and Vienna University of Technology, underscored the importance of human capital in order to deliver on SE4ALL goals. Kandeh Yumkella, SE4ALL, added that SE4ALL is a major initiative that is not only about the energy poor, but a broader energy revolution that also involves wealthy countries.

Cities: Charting new frontiers of energy sustainability: Moderated by Vatsal Bhatt, Brookhaven National Laboratory, the following panelists spoke: David Gilford, New York City Economic Development Corporation; Paula Brooks, Franklin County, Ohio; Robert Phocas, City of Charlotte, North Carolina; Jerry Tinianow, City and County of Denver, Colorado; and Jianping Wei, Weifang University.

A Discussion on Potential Energy Goal, Targets and Indicators for Post-2015 Development Agenda: Magdy Martinez Soliman, UNDP, noted that sustainable energy is a key enabler of sustainable development. Ivan Vera, UN-Energy, called for a stand-alone Sustainable Development Goal on securing sustainable energy for all by 2030, with targets on: ensuring universal access; doubling energy efficiency; and doubling the share of renewable energy. Vivien Foster, World Bank, discussed the SE4ALL Global Tracking Framework, which is a data platform that covers over 180 countries and has a 20-year history from 1990-2010 of tracking the three SE4ALL goals. Elizabeth Thompson, SE4ALL, said we need to emphasize the linkages between energy and issues like water, food production, health and transport. Sarah Wykes, CAFOD, said the targets on renewables and efficiency need to be increased significantly to keep global warming below 2°C, with at least 45% of energy coming from renewables by 2030.

REN21 Global Renwables 2014 Global Status Report public presentation: The REN21 Global Renewables 2014 Global Status Report was launched in a session moderated by Christine Lins, REN21, with a presentation of the report by Arthouros Zervos, REN21 and Greek Public Power Corporation. Kandeh Yumkella, SE4ALL, said the SE4ALL target on doubling the share of renewables was conservative, and looked forward to achieving higher gains. Tania Rödiger-Vorwerk, Germany, expressed hope for a higher increase in the global share of



renewable energy, and said Germany will organize further international dialogue on the issue. Pradeep Monga, UNIDO, said heating and cooling applications of renewable energy require more attention, and that UNIDO would like to work with WHO and others on energy's health benefits. Mahama Kappiah, ECREEE, said the report's quality of data and information has improved over the years, and noted an upcoming high-level SE4ALL event to launch an ECOWAS status report on renewable energy and energy efficiency. Nebojsa Nakicenovic, IIASA and Vienna University of Technology, said renewable energy is no longer a niche market but an important system, and that the SE4ALL target is reachable.

Clean Energy Solutions Center: Panelists included: Mark Hopkins, UN Foundation; Christine Egan, CLASP; Ellen Morris, Embark Energy; and Ian Lloyd, US.

Energy and health: Maria Neira, WHO, moderating the session, noted the importance of the energy-health nexus. Carlos Dora, WHO, discussed the links between energy efficiency and air pollution in the built environment and transport sector. Bahijjahtu Abubakar, Nigeria, highlighted the work of the Climate and Clean Air Coalition on reducing short-lived climate pollutants. Laura Stachel, WE CARE Solar, talked about the development of the "solar suitcase" to provide solar power to hospitals in Nigeria and its impact on childbirth and maternal health improvements. Yahav Lichner, UNFPA, noted the importance of discussing at the international level: interlinkages between different issue areas; securing access to energy to every private individual; and measurability, data and statistics. Jem Porcaro, UN Foundation, discussed the Energy and Women's Health initiative co-led by the UN Foundation, the WHO, and UN Women, which seeks to support governments and their partners in reducing maternal mortality, and improving children's and communities' health through the expansion of sustainable energy in rural and remote areas.

Sustainable energy use in cities: Panelists included: Vincent Kitio, UN-HABITAT; Renata Mele, Enel Foundation; Angie Fyfe, ICLEI; Djaheezah Subratty, UNEP; and Paul Voss, Euroheat & Power.

ACCELERATING COUNTRY ACTION

SE4ALL National Action Agenda and Investment

Prospectus: This session was moderated by Susan McDade, SE4ALL. 'Akau'ola, Tonga, described the Tonga Energy Roadmap and its implementation challenges. Sospeter Muhongo, Tanzania, described Tanzania's efforts to use natural gas, coal, hydro, and renewable energy to provide universal access to energy, which will eradicate poverty, but noted the challenges of the energy supply infrastructure and corruption. Hans Olav Ibrekk, Norway, said that donors must focus on results and outcomes and let countries figure out how results are achieved, but that there is a need for more education to reach the 2030 targets. Klaus Rudischhauser, EuropeAid, said a small amount of development grant money can leverage public and private funds for energy development, adding that energy is more than just electricity.

Country action progress: Action agendas: Janvier Litse, AfDB, highlighted messages from the African launch of the UN Decade on SE4ALL. The subsequent panel discussion on

"Country Action Progress: Action Agendas" was moderated by Daniel Schroth, AfDB. Emilio Rappaccioli, Nicaragua, said energy is a key factor in reaching sustainable development, and noted Nicaragua's progress in renewable energy generation, electrification, sustainable timber and energy efficiency. Arnaldo Vieira de Carvalho, IADB, compared Latin America's progress with the world's overall, and noted the region's share of countries opting into SE4ALL, as well as the Bank's commitment of funds. Nii Darko Asante, Ghana, highlighted his country's focus on access to modern energy for productive uses and cooking, and their work toward a draft investment prospectus. Bah Kadiatou Balde, Guinea, described his country's process toward an action plan, and discussed linking the action agenda to the investment prospectus. Ruby Sandhu-Rojon, UNDP, said action agendas must: have political leadership and sustained commitment, which has enabled much of Ghana's success to date; be part of broader development efforts; reach all stakeholders, including the primary users of energy, such as women; account for all three dimensions of sustainable development; and ensure transparency and accountability. Simon Trace, Practical Action, said civil society can provide a "reality check" of policies' effectiveness for poor people, build support for action agendas, and create energy literacy, yet does not currently feel engaged by SE4ALL.

Regional energy partnerships to promote sustainable industrial development and SE4ALL in the post-2015 **development agenda:** Introducing the panel, Vijay Modi, Columbia University, addressed the role of regional energy partnerships in promoting sustainable industrial development. ECOSOC President Martin Sajdik described the important role that industrialization plays in fighting the scourge of unemployment. Pradeep Monga, UNIDO, addressed the role of regional cooperation for achieving economies of scale for inclusive development and industrialization, pointing to the Global Network of Regional Sustainable Energy Centers as an example. Jessica Erivo, East African Community, noted the importance of regional cooperation in scaling up access to modern energy to promote renewable energy in East African communities, although certain sectors, such as agriculture, continue to demand a high level of energy and electricity. Nebojsa Nakicenovic, IIASA and Vienna University of Technology, addressed the need for regional partnerships, from both supply and demand sides, for smaller countries in order to realize economies of scale. Mahama Kappiah, ECREEE, underscored improved cooperation across West African countries, through capacity-building efforts and partnerships that complement national level actions. Vince Henderson, Dominca, and SIDS DOCK, encouraged bottom-up style of discussion, which can help prevent agencies from picking technologies without regard to the suitability for recipients.

Renewable energy for off-grid/rural electrification: Dolf Gielen, IRENA, highlighted that renewable energy is increasingly cost competitive, yet tapping into this potential will require an enabling policy environment and tailored business models. Salvatore Vinci, IRENA, asked the panel to discuss the conditions and challenges to scaling up off-grid projects. Carmen Becerril Martinez, Acciona, discussed projects in Peru and Mexico, highlighting the importance of relations with the local community and the role of small enterprises. Ishmael Edjekumhene, Kumasi



Institute, talked about challenges to off-grid electrification in Ghana, including political interferences, unclear delineations of the off-grid market, and ineffective regulatory regimes. Dana Rysankova, World Bank, noted that the most remote people are not necessarily the most appropriate targets for existing business models, and emphasized access to finance and inclusion of local financial institutions. Harish Hande, SELCO India, highlighted the role of incubation centers in rural and semi-rural areas to reach local entrepreneurs, and emphasized the replicability of processes instead of the scalability of projects. Marcus Wiemann, Alliance for Rural Electrification, noted the importance of cost-effective technologies, scalability, and financial prospects.

Promoting sustainable energy for all: Moderated by Ethan Zindler, Bloomberg New Energy Finance, the following panelists spoke: Mark Kissel, US; Bob Freling, Solar Electric Light Fund; and Jan Corfee-Morlot, OECD.

New Business models: bringing sustainable energy to the energy poor: Klaus Rudischhauser, EuropeAid, moderated the session. Andris Piebalgs, EU, said sustainable energy can be achieved with public-private partnerships and the SE4ALL framework is developing a new model. Helen Clark, UNDP, said that to attract private sector financing the necessary regulatory environment must be available and UNDP is working to encourage parliamentarians in this regard. Silas Lwakabamba, Rwanda, discussed projects in energy infrastructure development in Rwanda, including common projects with Uganda, Kenya and Ethiopia. Francesco Starace, Enel Green Power, called for adoption of indirect business models that take into account that the energy-poor consume very little energy per capita, but small amounts of energy change lives in big ways. Marcus Wiemann, Alliance for Rural Electrification, said we need a clearer picture on where to invest and that the finance sector needs to be more innovative to give rural people access to energy. Tania Rödiger-Vorwerk, Germany, said: energy is the largest sector of German development cooperation; ensuring universal access to energy is a social concern; and outcome monitoring should focus on benefits. Kandeh Yumkella, SE4ALL, said sustainable energy is not another aid problem, but is about investments and business models, and public policy is needed to incentivize the process.

Expanding rural electrification: This panel was moderated by Carlos Pascual, US, who suggested that energy access depends on the right kind of business model, more than availability of capital or technologies. Jay Ireland, GE Africa, said the value chain must make economic sense for every investor that will be part of it. Roseann Casey, USAID, said successful transactions are not the "end game" and described Power Africa's efforts toward government reform. Brian O'Hanlon, Overseas Private Investment Corporation, said the best risk mitigation is a solid project with effective players and agreements that spread risk across all parties. Caroline McGregor, US, discussed the Department of Energy's work on a quality assurance framework for mini-grids, including definition of levels of service, and an accountability framework. Himesh Dunghel, Millennium Challenge Corporation, said that if consumers do not pay a costreflective tariff for a service, the project is not commercially viable and, therefore, is unsustainable.

International Energy and Climate Initiative Energy+:

Moderator Jon Vea, Norway, opened the panel discussion with an overview of Energy+, which aims to fund energy access, renewable energy, and energy efficiency in low-income developing countries. Hans Brattskar, Norway, explained how Energy+ shares objectives in common with SE4ALL and acts as a delivery instrument for its objectives. Jiwan Acharya, ADB, stressed the role of partnerships for increasing access to sustainable energy services, as seen by the Energy+ cooperation with Bhutan. Hans Olav Ibrekk, Norway, addressed design principles of Energy+ that use a sectoral approach, encourage payment by results, and aim to create an enabling environment to leverage commercial investments. David Reed, WWF-US, stressed the importance of private sector support and the role that Energy+ serves in exploring new models of partnerships.

Country action progress: Investment prospectuses: The session was moderated by Rohit Khanna, World Bank. Abou Salam Diallo, Senegal, discussed Senegal's energy strategy and rural electrification programmes.

Bah Kadiatou Balde, Guinea, described the development of Guinea's investment prospectus, which involves expanding the electricity network, using mini-grids, and expanding off-grid services to remote areas. Mohammad Hossain, Bangladesh, discussed partnerships with the US and others on an action plan to advance the three SE4ALL objectives, the government's Vision 2021 "electricity for all" plan, and renewable energy and energy efficiency targets. Molly Ward, US, further discussed the development of Bangladesh's Investment Prospectus Framework. Maria Isabel Cifuentes, Guatemala, talked about Guatemala's strategy on clean cookstoves and clean cooking solutions. Julio Perez, Nicaragua, discussed clean cooking solutions in Nicaragua.

Asia and Pacific Initiatives on SE4ALL: Moderated by Rae Kwon Chung, ESCAP, the following panelists spoke: 'Akau'ola, Tonga; Harry Verhaar, Philips Lighting; Soma Dutta, ENERGIA; Ruslan Bultrikov, Kazakhstan; and Han Jiangzhou, China.

CLOSING PLENARY

Kandeh Yumkella, SE4ALL, reflected on a successful first day of the Forum, noting that 46 sessions were held with over 200 speakers. He expressed hope that the Forum will convince negotiators of the need for a Sustainable Development Goal (SDG) for energy. Christoph Frei, World Energy Council, described how the framework of an energy trilemma—of energy security, energy equity, and environmental sustainability—appears to be gaining traction. Jorge Pinheiro, R20 Brazil, underscored the potential for improving governance and alternative finance in order to realize energy goals. Sheila Oparaocha, ENERGIA, said the work presented by WHO on household air pollution has added value to SE4ALL. She noticed a widespread desire for data, not only for the sake of accountability but also for energy commitments central to the SDGs. Tom Hart, ONE Campaign, described the success of the Electrify Africa Act that received bipartisan support from the US Congress as an example of what SE4ALL stakeholders can accomplish through cooperation.