



SUMMARY OF THE VIENNA ENERGY FORUM 2013: 28-30 MAY 2013

The Vienna Energy Forum (VEF) 2013 was held on 28-30 May 2013 at the Hofburg Palace in Vienna, Austria. The event brought together over 1621 participants from 116 countries, including 19 ministers, as well as policymakers, experts, and representatives from the private sector and civil society. Organized jointly by the UN Industrial Development Organization (UNIDO), the Austrian Federal Ministry for European and International Affairs, and the International Institute for Applied Systems Analysis (IIASA), the meeting addressed sustainable energy in the context of negotiating a post-2015 development framework, a process initiated at the June 2012 UN Conference on Sustainable Development (UNCSD or Rio+20). Convening one year after Rio+20, VEF 2013 addressed the theme, "One year after Rio+20: the energy future we want."

The three-day Forum included three ministerial and high-level dignitaries segments, two high-level panels, five plenary sessions and five parallel sessions addressing a range of issues including energy access, financing the energy future and the development of an energy sustainable development goal. Participants also considered the "Key Recommendations on Energy in the Post-2015 Development Framework" directed to the UN High Level Panel on the Post-2015 Development Agenda (HLP).

The Forum also included special events of the UN Secretary-General's Sustainable Energy For All (SE4ALL) initiative, as well as a series of side events. Several memoranda of understanding were signed during the Forum, including between the East African Community, UNIDO and the Economic Community of West African States (ECOWAS) Centre for Renewable Energy and Energy Efficiency (ECREEE), for an East African regional center on renewable energy and energy efficiency.

This report summarizes the discussions during the 2013 Forum in chronological order.

A BRIEF HISTORY OF MULTILATERAL PROCESSES ON ENERGY

Global Forum on Sustainable Energy: The first Global Forum on Sustainable Energy (GFSE) convened from 11-13 December 2000, in Laxenburg, Austria. GFSE-1 addressed the theme "rural energy - priorities for action." Since then, the Forum has convened almost every year, addressing themes such as the role of incentive measures, biomass and "Africa is Energizing Itself." IISD Reporting Services (RS) coverage of many of these events can be found at: http://www.iisd.ca/process/climate_atm.htm#climate_atm_by_sd

International Renewable Energy Conference: At the World Summit on Sustainable Development in 2002, German Chancellor Gerhard Schröder invited the international community to a conference on renewable energy. The International Renewable Energy Conference (IREC), "Renewables2004," took place from 1-4 June 2004, in

Bonn, Germany, and launched a series of IREC meetings. The outcomes of the conference led to the creation of the Renewable Energy Network for the 21st Century (REN21).

Several subsequent meetings have been held under the IREC process, including the Delhi International Renewable Energy Conference (DIREC), which was held in New Delhi, India from 27-29 October 2010 and concluded with the DIREC Declaration and 30 new pledges by governments and civil society under the Delhi International Action Programme. In 2013, the Abu Dhabi International Renewable Energy Conference (ADIREC) convened simultaneously with the sixth World Future Energy Forum (WFES) and International Water Summit, in Abu Dhabi, United Arab Emirates (UAE) from 15-17 January 2013, and adopted a Declaration calling for a doubling of the world's share of renewable energy by 2030.

IISD RS coverage of Renewables2004 and of some IREC processes can be found at: <http://www.iisd.ca/sd/ren2004>, <http://www.iisd.ca/yimb/wirec2008/> and <http://www.iisd.ca/yimb/energy/direc2010/>

Global Renewable Energy Forum: The first Global Renewable Energy Forum (GREF) was held in Foz do Iguaçu, Brazil, from 18-21 May 2008, with objectives, among others, of: creating a suitable environment to promote dialogue on strengthening inter-regional bonds; and setting up joint actions among countries and regions to reduce poverty and enhance energy security through the use of renewable energy.

The second GREF convened from 7-9 October 2009, in León, Mexico, under the theme "Scaling up Renewable Energy." Its main objective was to provide a platform for proactive dialogue to strengthen inter-regional cooperation and encourage innovative multi-stakeholder partnerships aimed at scaling-up renewable energy in Latin America and elsewhere.

IISD RS coverage of the meetings can be found at: <http://www.iisd.ca/yimb/greb2008/> and <http://www.iisd.ca/yimb/energy/greb2009/>

IRENA: The International Renewable Energy Agency (IRENA) was established in Bonn on 26 January 2009. IRENA's main objective is to promote a rapid transition

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towards the widespread and sustainable use of renewable energy worldwide. The first session of the IRENA Assembly was held from 4-5 April 2011 in Abu Dhabi, UAE, and focused, *inter alia*, on the election of the Council; the 2011 work programme and budget; rules of procedure; transitional arrangements; and staff and financial matters. The Assembly's second session was held from 13-15 January 2012, in Abu Dhabi, UAE, and saw the solidification of IRENA's institutional structure, clear support for its work through an expansion of its 2012 budget, and clear political signals from delegates on the direction the Agency should take. The third Assembly took place on 13-14 January 2013 in Abu Dhabi, UAE and marked the UAE's ratification of its headquarters agreement with IRENA, which finalized the Agency's legal establishment and accorded it all the rights, privileges and protections of an international organization. It also formalized IRENA as the first international organization to be headquartered in the Middle East.

IISD RS coverage of IRENA assemblies can be found at: <http://www.iisd.ca/irena/irenaa1> and <http://www.iisd.ca/irena/irenaa2>

Vienna Energy Conference 2009 and Vienna Energy Forum 2011: The Vienna Energy Forum, held every two years, was established with the aim of exploring 21st Century challenges from the perspective of energy, based on the premise that challenges such as poverty, climate change, security, health and income are closely linked to the nature, accessibility and affordability of existing energy systems.

The Vienna Energy Conference convened in Vienna, Austria, from 22-24 June 2009, to address the theme: "towards an integrated energy agenda beyond 2020: securing sustainable policies and investments." The conference served as an opportunity to: shift the debate on energy and development beyond generalities to identify specific courses of action; initiate and advance regional and international co-operation; and present new international energy initiatives such as IRENA.

The Vienna Energy Forum convened in Vienna, Austria, from 21-23 June 2011, with the theme, "energy for all – time for action." The Forum focused on energy poverty and increasing energy access in developing countries. The Forum was held in parallel with a Ministerial Meeting on Energy and Green Industry.

IISD RS coverage of the meetings can be found at: <http://www.iisd.ca/yimb/energy/iec2009/> and <http://www.iisd.ca/yimb/energy/vef/2011/>.

World Future Energy Summit (WFES): The fourth WFES convened from 17-20 January 2011 in Abu Dhabi, UAE, to consider issues including: international future energy policy; future energy financing; solar and wind energy; green cities; and sustainable buildings.

The fifth WFES took place in Abu Dhabi, UAE, from 16-19 January 2012. It was convened around a high-level segment focusing on policy and strategy, and three forums on: business and policy; technology and innovation; and finance and regulation. Participants considered, among other issues: energy efficiency; transportation; China; rural development; energy storage; energy-smart infrastructures; carbon capture and storage (CCS); and venture capital.

IISD RS coverage of the fourth and fifth WFES can be found at: <http://www.iisd.ca/yimb/energy/wfes/wfes2011/> and <http://www.iisd.ca/yimb/energy/wfes/wfes2012/>

SE4ALL: The UN General Assembly declared 2012 the "International Year of Sustainable Energy for All" (SE4ALL). In this context, UN Secretary-General Ban Ki-moon launched his SE4ALL initiative to identify and mobilize action by stakeholders from across government, business, civil society, academia and the development community. The initiative aims to achieve three objectives by 2030: ensuring universal access to modern energy services; doubling the global rate of improvement in energy efficiency; and doubling the share of renewable energy in the global energy mix.

The Rio+20 Outcome Document "The Future We Want": Rio+20 took place from 20-22 June 2012 in Rio de Janeiro, Brazil. The conference resulted in the adoption by representatives of 191 UN member states and observers of the Rio+20 outcome document entitled "The Future We Want." This document addresses energy by, *inter alia*: recognizing the critical role it plays in development and committing to facilitate support for access to sustainable modern energy services; and expressing determination to make sustainable energy for all a reality, while recognizing that countries set priorities according to their specific circumstances.

IISD RS coverage of Rio+20 can be found at: <http://www.iisd.ca/uncsd/rio20/enb/>

ECOWAS-GFSE-Global Environment Facility (GEF)-UNIDO High Level Energy Forum: This meeting, themed "Paving the Way for Sustainable Energy for All in West Africa through Renewable Energy and Energy Efficiency" took place from 29-31 October 2012, in Accra, Ghana, as part of the SE4ALL initiative. It saw the establishment of the first regional implementation framework for the SE4ALL initiative in the ECOWAS region in the form of the adoption by ECOWAS energy ministers of resolutions on the: ECOWAS Policy on Renewable Energy; ECOWAS Policy on Energy Efficiency; ECOWAS Small Hydro Power Program; and ECOWAS Bioenergy Strategy Framework.

IISD RS coverage of the meeting can be found at: <http://www.iisd.ca/energy/renewable/hlfree>

High Level Meeting on Energy and the Post-2015 Development Agenda: This meeting was held on 9 April 2013 in Oslo, Norway, to examine potential global energy objectives for the post-2015 development agenda. Participants finalized a common vision to be set forth as a set of recommendations to the HLP.

The meeting was part of the Global Thematic Consultation on Energy, one of 11 thematic consultations undertaken to inform the design of the post-2015 development agenda, coordinated by UN Energy and SE4ALL. The process is co-led by UNIDO, the UN Department of Economic and Social Affairs (DESA) and the World Bank, with support from the UN Development Programme (UNDP).

IISD RS coverage can be found at: <http://www.iisd.ca/post2015/energy/>

Report of the HLP to the UN Secretary-General: The HLP issued its final report to UN Secretary-General Ban Ki-moon on 30 May 2013. The report recommends a post-2015 framework that pursues five "key transformations": leave no one behind; put sustainable development at the core; transform economies for jobs and inclusive growth; build peace and effective, open and accountable public institutions; and forge a new global partnership.

The Panel's report argues for doing "something that has never before been done" – eradicating extreme poverty, hunger, illiteracy and preventable deaths. Included in the report's 12 goals is one on "Secure Sustainable Energy," which includes and builds on the targets of the SE4ALL initiative, and outlines targets to: double the share of renewable energy in the global energy mix; ensure universal access to modern energy services; double the global rate of improvement in energy efficiency in buildings, industry, agriculture, and transport; and phase out harmful and inefficient fossil fuel subsidies that encourage wasteful consumption.

The report is available at: <http://www.post2015hlp.org/wp-content/uploads/2013/05/UN-Report.pdf>

REPORT OF THE MEETING

OPENING CEREMONY

The Vienna Energy Forum (VEF) 2013 opened on Tuesday morning, 28 May 2013, with welcome addresses and music by the String Quartet of the Vienna Philharmonic Orchestra.

Underscoring the aim of achieving the UN Secretary-General's Sustainable Energy for All (SE4ALL) initiative goals on access, efficiency and renewables, Kandeh Yumkella,

Director General, UN Industrial Development Organization (UNIDO), outlined additional targets for energy and health: reducing by half the number of premature deaths from air pollution; and providing modern energy services to 400,000 primary healthcare service providers in developing countries. He challenged participants to develop targets on the nexus of energy with food, water and women.

Christine Stix-Hackl, Permanent Representative of Austria to the UN, on behalf of Michael Spindelegger, Vice Chancellor and Foreign Minister of Austria, said Austria is proud to host the main office of the SE4ALL initiative in Vienna, to be opened in September 2013. Pavel Kabat, Director and Chief Executive Officer, International Institute for Applied Systems Analysis (IIASA), highlighted the comprehensiveness of IIASA's Global Energy Assessment models in exploring how to achieve global energy goals, and stressed that an integrated approach to the water-energy-food nexus would lower overall costs of their achievement.

Chad Holliday, Chairman, Bank of America, expressed confidence that the combined efforts of the UN Secretary-General, the President of the World Bank and Kandeh Yumkella can act as the catalyst needed to achieve the SE4ALL goals and the energy goals outlined by Yumkella. Renate Brauner, Vice-Mayor and Vice-Governor of the City of Vienna, outlined the importance of sustainable energy for solving global environmental and social development challenges. She described the Smart City Vienna Initiative, a strategy to reduce the environmental footprint and improve the socio-environmental relationship of the city.

In a video message, UN Secretary-General Ban Ki-moon outlined the three objectives of SE4ALL and stressed the need for partnership, commitment and action for a cleaner, more transparent world. In a second video, Suleiman Jasir Al-Herbish, Organization of Petroleum Exporting Countries (OPEC) Fund for International Development (OFID) pointed to the importance of energy to the core agenda of the UN Conference on Sustainable Development (UNCSD or Rio+20). He referred to OFID's championing of energy poverty alleviation, noting a shift in focus of the sustainable energy projects, with 10 of the 27 projects funded in 2012 based on renewable energy sources. He underscored the need to move from "finding solutions" to "funding solutions."

MINISTERIAL AND HIGH LEVEL DIGNITARIES SEGMENT I

Nisha Pillai, BBC, moderated this high level session on Tuesday morning.

Mariyam Shakeela, Minister of Environment and Energy, Maldives, noted her country spends 35% of its GDP on importing fuel and US\$30 million annually on electricity subsidies, and described its plan to convert the energy supply of 10 islands to 100% renewable sources. She noted that many small island developing states (SIDS) face challenges in accessing renewable energy funds.

Suhail Mohamed Almazroui, Minister of Energy, United Arab Emirates (UAE), said at current costs, renewables alone will not solve the global energy challenge. He described how the UAE balances conventional and renewable energy production and use, highlighting its first major solar installation, Shams 1, as well as nuclear projects coming online.

Heikki Holmås, Minister of International Development, Norway, stressed that the High Level Meeting on Energy and the Post-2015 Development Agenda, which was held in April 2013, had concluded that energy was the missing Millennium Development Goal (MDG) and is imperative to the sustainable development goals (SDGs) for socio-developmental and environmental reasons.

Lihua Liu, Vice-Minister of Industry and Information Technology, China, said promoting sustainable energy use is the world's common task, and outlined China's progress in this regard. He noted that coal is still being promoted for

China's industrialization, albeit as part of a growing smart grid system to improve the efficiency of conventional energy sources.

Peter Thomson, Permanent Representative of Fiji to the UN and Chairman of the Group of 77 and China (G-77/China), outlined the G-77/China's recommendations for the sustainable energy agenda, *inter alia*: including energy as one of the SDGs; promoting equity; maintaining resources through overseas development assistance (ODA); promoting the transfer of environmentally clean and sound technologies; and encouraging investment for action.

In the ensuing discussion, participants focused on climate change, private investment and supportive policies. Holmås said ODA does not provide large enough investments for universal renewable energy access, and should therefore be used to supplement other investments. Shakeela stressed the need for mutual transparency between funders and recipients. Almazroui said renewable energy must move beyond subsidies and be commercially competitive. Questions from the audience addressed, among other things: Norway's Energy+ initiative; how to create a business case for renewables; energy consumption; political will; technical assistance for feasibility studies; and engaging in sectoral, not project-based, development.

HIGH LEVEL PANEL I: ENERGY IN THE POST-2015 AGENDA

The high-level panel on energy in the post-2015 agenda on Tuesday morning was moderated by Nisha Pillai.

Elizabeth Thompson, Executive Coordinator for Rio+20, noted the challenge of delivering on energy goals, highlighting the need for partnerships to attract private capital, appropriate and stable regulatory frameworks, and mechanisms for transparency and accountability.

Sven Alkalaj, Under-Secretary-General and Executive Secretary of the UN Economic Commission for Europe (UNECE), said sustainable development requires sustainable energy and stressed the importance of the energy-water nexus. Adnan Amin, Director-General, International Renewable Energy Agency (IRENA), described the rapidity of technical innovation, investor learning and policy development, leading to reduced costs of renewables deployment.

Pointing to rapid developments in renewable technologies, Gerhard Roiss, CEO, OMV, suggested that predicting the future "renewable world" is difficult. Rachel Kyte, World Bank, highlighted the need to find the "sweet spot" between energy access, affordability and sustainability.

Halil Yurdakul Yigitgüden, Organization for Security and Co-operation in Europe (OSCE), lamented that governments currently choose projects that are easier to finance and have short payback periods, stressing that funding should instead be channeled towards energy efficiency. José Goldemberg, Sustainable Energy Institute, said Rio+20 lacked the multilateralism present at the original Rio conference, and that the focus on individual countries' actions made it impossible to meaningfully address SE4ALL goals. He identified a lack of active leadership as limiting progress on renewable energy for development.

In the subsequent discussion, Goldemberg described Brazil's successful experience of working with electric utilities to regularize electricity provision for the poor, who previously had not paid for intermittent service but now pay for better quality service. Kyte pointed to inefficiency in both energy system management and fiscal policies.

Alkalaj recommended integrating energy into school curricula and raising awareness of energy goals using mass media broadcasts. Thompson outlined the post-Rio+20 Higher Education Sustainability Initiative. Pillai challenged panelists to consider whether an explicit energy SDG is needed, pointing out that addressing energy issues is implicit in other SDGs. Amin said a specific energy target would generate investment, and is needed for benchmarking.

On the universality of the goals, Kyte commented on the need to tailor financial solutions to specific markets, noting that multiple dimensions of financial flows and inequality exist in the current “flat world.” Alkalaj encouraged a regional approach to renewables. Thompson urged embedding “sustainable development thinking” into national development policy and planning. Roiss emphasized interlinkages, particularly with the issues of employment and industry competitiveness.

On energy transitions, Amin said the VEF can only inform the ideas of policymakers, whose job it is to then enable industry to make changes on the ground.

One participant suggested improving cooperation between science and policy, stressing the need to support sustainable hydrocarbons. Another participant questioned how to better involve youth in renewable energy deployment. A participant also highlighted Brazil’s energy subsidies for the poor as good practice. Participants further commented on: parallels between the setting of targets for water and energy; the availability of technology but lack of social data on energy; and misunderstandings of the actual cost of renewables.

HIGH LEVEL PANEL II: A NEW ACTION AGENDA – HIGH LEVEL GROUP ON SUSTAINABLE ENERGY FOR ALL

Nisha Pillai moderated the high level panel on a new action agenda on Tuesday afternoon.

Andrew Steer, President and CEO, World Resources Institute (WRI), stated that there is insufficient progress in providing access to electricity, underscoring the need to solve the problems of energy efficiency and access to renewable energy.

Victorio Oxilia Dávalos, Executive Secretary, Latin American Energy Organization (OLADE), said renewables contribute 26% of total primary energy in Latin America and the Caribbean. He acknowledged that more than 31 million people are still in “darkness,” and noted concerns over high biomass consumption and energy inefficiency. Jérôme Ferrier, President, International Gas Union, recommended fostering access to electricity through natural gas to complement renewables, creating a “golden age of gas for all.”

Alexander Bychkov, Deputy Director General, International Atomic Energy Agency (IAEA), noted that the IAEA focuses on sustainable development through promoting the safe, secure and responsible use of nuclear energy. N.P. Singh, Ministry of New and Renewable Energy, India, highlighted the growing contribution of renewable energy to India’s energy mix, including through a planned doubling of its current share by 2015.

Mohammad Taeb, OPEC, underscored the link between poverty alleviation and energy access. Linking energy and climate change, he added that the current negotiations for a post-2015 climate regime will influence countries’ actions on renewables and energy efficiency.

In subsequent discussions, panelists considered questions on, *inter alia*: trade-offs between affordability and climate protection, including the role of carbon taxes; security threats to energy supplies; unconventional gas, including shale gas; and the possibility for a two-tiered energy pricing system with lower prices for domestic supplies in developing countries.

On energy portfolios, Steer underscored that energy options must be evaluated on poverty reduction and greenhouse gas emission terms. Bychkov acknowledged that nuclear power is not the only future but can support the use of renewable energy and fossil fuels. Singh described plans in India to provide 3.5 million biomass cooking stoves, explaining that different models will be provided to suit the cooking habits of different communities. Oxilia Dávalos underscored the need to teach people, especially in rural areas, how to build and use efficient stoves.

Answering a question about how “green” natural gas is, Ferrier explained that one of the sector’s primary objectives is to reduce and limit leakages. Steer regretted the lack of emphasis and urgency given to the development of carbon capture and storage.

SPECIAL EVENT: LAUNCH OF THE SUSTAINABLE ENERGY FOR ALL GLOBAL TRACKING FRAMEWORK

On Tuesday afternoon, Kandeh Yumkella introduced the report of the SE4ALL Global Tracking Framework, a collaboration of 15 organizations and the first analytical output of the SE4ALL initiative.

Rachel Kyte outlined the report’s main findings, saying it sets an analytical baseline by establishing the status quo for renewable energy worldwide and country by country. She noted it found that 2.8 billion people still use wood and biomass for cooking and heating, and that renewables contribute only 18% of the global energy mix.

Vivian Foster, World Bank, explained that a data platform associated with the report is available online for 180 countries, covering 98% of the global population, and highlighted that China and the US account for 40% of global energy consumption. She said the report found that electricity access rose only 1% per year over 1990-2010, and energy intensity reduced 1.3% per year. She lamented that overall energy needs have grown faster than renewables deployment.

Dan Dorner, International Energy Agency (IEA), highlighted that the report identifies 20 “high impact” countries that collectively account for 65-80% of the global energy poverty challenge and are therefore key to meeting global targets. He explained there are also “fast moving” countries where rapid gains have been seen and from which others can learn.

Simon Trace, CEO, Practical Action, focused on the challenges of measuring energy access, proposing technology-neutral measurements to assess increased access through tiers of energy services, quality of electricity supply, and quality and service delivery of cookstoves.

PLENARY SESSION 1: FRAMEWORK FOR ACTION – HIGH IMPACT OPPORTUNITIES

On Tuesday afternoon, Leena Srivastava, Executive Director, The Energy and Resources Institute (TERI), moderated the plenary panel on high impact opportunities (HIOs).

Nebojsa Nakicenovic, Deputy Director, IIASA, and Technical University of Vienna, stressed that HIOs need to be looked at as a system, not individually. Christoph Frei, Secretary General, World Energy Council, pointed to the need to accelerate trade in green goods and services. Ebrima Njie, Economic Community of West African States (ECOWAS) Commissioner for Infrastructure, described needs assessments completed by some member states through the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE).

Helen Mountford, Deputy Director, Organisation for Economic Co-operation and Development (OECD), highlighted HIOs, including attracting institutional investors such as pensions funds and insurance schemes, and managing energy demands in richer economies and households. Albert Binger, Caribbean Community Climate Change Centre, described the SIDS DOCK initiative for reducing dependence on energy imports and addressing climate change adaptation.

Albrecht Reuter, Fichtner IT Consulting AG, said market penetration of renewable energies requires an updated market design. Arthouros Zervos, Chair, Renewable Energy Policy Network for the 21st Century (REN21), and Chairman and CEO, Public Power Corporation, underscored the interlinked nature of the SE4ALL targets and stressed the need for moving from a “rigid” centralized system to a decentralized and flexible one.

The ensuing discussions addressed, among other things: whether subsidies can be considered HIOs; “sunset clauses” for subsidies; political risk as a barrier to institutional investments in renewables; the need for internationally harmonized market design; and strategies to mitigate intermittency. On subsidies, Frei encouraged research on “smart subsidies.” Mountford said policies should target support through direct financing and cash transfers. On climate change, Binger lamented the lack of global reaction to news that atmospheric carbon dioxide (CO₂) levels have exceeded 400 parts per million. Panelists also expressed support for international energy standards, with Nakicenovic calling for “smart standards” that evolve with technology.

SPECIAL EVENT: THEMATIC CONSULTATIONS ON ENERGY

On Tuesday afternoon, Heikki Holmås moderated the special session on the SE4ALL Post-2015 Global Thematic Consultation on Energy.

Thompson noted that the Rio+20 outcome explicitly supports the goals of the SE4ALL initiative. Reid Detchon, UN Foundation, recalled that the SE4ALL targets are global, not national, explaining that this provides flexibility to countries to contribute to their realization. Minoru Takada, Executive Office of the Secretary-General’s High-Level Group on SE4ALL Secretariat, lauded the potential represented by: emerging global consensus on sustainable energy; support across regions for global sustainable energy; and support for energy goals from outside actors.

Irene Giner-Reichl, Austrian Ambassador to China and President, Global Forum on Sustainable Energy, highlighted the need to consider commitments on multiple governance levels and sectoral interlinkages between energy and health, water and gender. Holmås challenged participants to consider whether a consensus exists on the need for a specific SDG on energy.

One participant noted that while “lip service” is paid by many, conflicts of interest between sustainable energy and current energy structures and providers may create barriers to agreement. Another noted that baselines must be determined before a target can become meaningful. A private sector representative noted that a lack of “bankability” of renewable energy projects, along with political and market uncertainty, have prevented companies from investing in them.

On finance, Detchon emphasized that public resources must be made available to facilitate private investment. Takada said the post-2015 consultation process was “21st century” in terms of the high level of stakeholder inclusion, and that delivering on any energy SDG will have to be an equally inclusive process to be successful. Thompson said the “negotiation industry” is focused on “brackets and full stops,” not on progress. She noted that inability to reach internal consensus within the G-77/China hampers global progress in some negotiating processes.

Detchon said the “top-down” system of governance is broken and the method of “act first, agree later” used by the SE4ALL initiative shows that negotiating processes are not always necessary to achieve global goals. Takada said peer-reviewed data is needed to persuade those skeptical of SE4ALL, and noted the UN Decade of Sustainable Energy for All that commences in 2014 could be leveraged to secure an energy SDG.

MINISTERIAL AND HIGH LEVEL DIGNITARIES SEGMENT II

Moderated by Ged Davis, Global Energy Assessment, a ministerial and high level segment convened on Wednesday morning to address national energy strategies and progress towards sustainable energy systems.

Panelists described national targets and policies for renewables and energy efficiency. Pointing to Poland’s current dependence on coal, Marcin Korolec, Minister of

Environment, Poland, highlighted his country’s efforts to diversify its energy mix, including a target of 15% renewable energy by 2020. Datuk Loo Took Gee, Secretary General of the Ministry of Energy, Green Technology and Water, Malaysia, described Malaysia’s national target of deriving 11% of energy from renewable sources by 2020, and the Association of Southeast Asian Nations (ASEAN) target of regional energy savings of 15% by 2015.

Sok Siphana, Advisor to the Royal Government, Cambodia, emphasized that private sector investment is driving growth of renewables in Cambodia. Raúl García Barreiro, Deputy First Vice-Minister of the Ministry of Energy and Mining, Cuba, described transformation in Cuba’s energy grid through a new economic and social policy in 2012, which contains guidelines on energy efficiency and renewables.

Questions from the moderator and audience addressed, *inter alia*, subsidies, hydraulic fracturing for shale gas extraction, and the potential of distributed wind systems for rural energy access. Addressing subsidies, Korolec outlined Europe’s plans to abandon both fossil fuel and green energy subsidies and Loo said Malaysia currently subsidizes about 70% of the market price of energy but aims for market price by 2016, with a stabilization fund to “cushion” the transition. On demand reduction, several speakers lauded the interest of younger generations in new technologies. Barreiro underscored the need for education about energy efficiency and Siphana highlighted opportunities to adopt energy saving technologies.

PLENARY SESSION 2: ENERGY AND GREEN GROWTH

On Wednesday morning, Paul Hohnen, Founder and Managing Director, Sustainability Strategies, moderated the plenary session on energy and green growth, asking panelists to provide recommendations on the energy-green economy nexus for the post-2015 agenda.

Jacqueline Cramer, Director, Utrecht Sustainability Institute, called for government intervention and local action to address fossil fuel pricing and mitigate climate change. She urged investment in energy systems and efficiency in urban areas, noting 80% of the world’s population will live in cities by 2050. Arthur Reijnhart, Shell, noted the significance of the transportation sector in energy consumption and CO₂ emissions. He stressed that there is no “silver bullet” solution for a sustainable energy future, and highlighted Shell’s focus on multiple pathways, including biofuels, electricity, gas and hydrogen.

Heinz Leuenberger, UNIDO, cautioned that providing green energy and expecting green growth will not be enough. He also stressed the need for a paradigm shift away from attention to “labor productivity” towards “resource productivity.” Mark Radka, UN Environment Programme (UNEP), and Leuenberger described decoupling energy use from production of goods and services, with Leuenberger explaining the need to re-design products to use less energy and be easily recycled. Radka lamented the limited evidence of decoupling growth from emissions, with coal consumption continuing to rise.

Lambert Kuijpers, UNEP, described his experience with the Montreal Protocol on Substances that Deplete the Ozone Layer and work on energy efficiency in buildings, explaining that the post-2015 agenda will look at increasing the efficiency of heating and cooling equipment in building stock. He underscored the need to look at human behavior when designing solutions.

Participants suggested, *inter alia*: looking to the Montreal Protocol as a model for positive change; reducing road congestion and pollution in developing countries by enabling more telecommuting; and looking at behavioral economics to move from incremental improvements to transformational change.

PLENARY SESSION 3: PLANNING FOR SUSTAINABLE CITIES

On Wednesday morning, Joan Clos, Executive Director, UN HABITAT, moderated the session on planning for sustainable cities, highlighting the relationship between urban planning and energy.

Presenting the Vienna Smart City Initiative, Thomas Madreiter, City of Vienna, underscored that becoming a post-oil city is primarily a social and political, rather than technological, challenge. He explained that “smart cities” require holistic approaches and social resilience.

Eddie Bet Hazavdi, Ministry of Energy and Water, Israel, described Israel’s “smart cities” concept as a holistic solution to address interconnected issues concerning water, energy and food. Raj Liberhan, Director, India Habitat Centre New Delhi, described India’s urbanization challenge, anticipating future urban growth rates of 6-8%. He said “quick-fix” solutions are tempting but are often shortcuts that do not lead to sustainable development.

Carina Lakovits, Austrian Ministry of Finance, said many seemingly financial challenges are actually political, giving the example of existing fossil energy subsidies as an opportunity to reallocate existing government funds to green growth without increasing costs to taxpayers. Noting the building sector produces a quarter of energy-related carbon emissions, Brigitta Huckestein, BASF Group, emphasized the need for regulations to develop energy efficiency building codes. She highlighted that the EU Directive on Energy Efficiency in Buildings provides a flexible methodology for countries to set their own standards.

Noting that urbanization is changing the world at an unparalleled rate, Franz Marré, Ministry for Economic Cooperation and Development, Germany, emphasized the importance of the intersectoral dialogue required for security within the water-energy-food nexus. Marcos Pontes, UNIDO Goodwill Ambassador, highlighted the importance of education for bringing people from “dark areas” to the “lit part of the world.”

On shifting geographies of manufacturing, Madreiter said smart cities must plan for all types of economic activity within their borders and Huckestein noted manufacturing has moved to emerging markets, not only because of the cost of labor in industrialized nations, but also because of their growth. Marré said green growth must occur throughout the global supply chain, and Bet Hazavdi said smart cities must focus on education, and research and development, in order to ensure the relevance of local workforces to modern production.

Participants highlighted the importance of, *inter alia*: finding indicators to improve understanding of the water-energy nexus for slums; considering municipal waste in the smart cities discussion; and considering the challenge of applying new building requirements to social housing.

PARALLEL SESSION 1: ENERGY ACCESS

On Wednesday afternoon, Vijay Modi, Columbia University, moderated this session, contrasting the value of utilities with battery storage for poor households.

Mary Robinson, Mary Robinson Foundation and UN Special Envoy for the Great Lakes Region of Africa, said energy access is a justice and human rights issue, declaring it unacceptable that in the 21st century, poor people die because they lack light and energy for medical care.

Drawing lessons from Europe’s 100 years of electrification experience for developing countries, Jan Dictus, Founder, GOJA Consulting for Environment and Sustainable Development, said affordability is as important as access to technology, decentralized power production is feasible and economically viable, and keeping systems simple is key. Wolfgang Engshuber, Chairman, Principles for Responsible Investment, said the finance industry is undergoing a “crisis

of fundamental values,” and that while there is interest in sustainable projects, no investment will occur without supportive policies and clear political statements that avoid disclaimers.

Michael Kelly, World LP Gas Association, explained that liquid petroleum gas (LPG) is a scalable and inexpensive way to quickly deliver energy to improve livelihoods and reduce greenhouse gas emissions from deforestation. He pointed to Indonesia as an example, where millions of people were switched from traditional biomass to cleaner LPG within 3 years, through cooperation between the government and the private sector.

Richenda Van Leeuwen, UN Foundation, urged participants to join the Energy Access Practitioners Network, which she said facilitates new partnerships to alleviate energy poverty. She underscored that building local capacity to maintain technology is critical for sustainably alleviating energy poverty.

Pradeep Monga, UNIDO, said UNIDO: uses an incremental approach to energy access, linked to progressively more productive activities across levels; takes a multi-track and multi-level approach to access by promoting off-grid, mini-grid and on-grid systems; takes regional and sub-regional approaches to enable economies of scale; and encourages public-private partnerships to catalyze private financing.

Lucius Mayer-Tasch, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, cautioned that universal income-generating effects are not ensured once electricity arrives. He shared cautionary examples where income declined for some as a result of electrification of other homes and businesses in newly electrified areas.

Panelists debated how market systems and social assistance can benefit the “poorest of the poor.” While Engshuber recalled that half the world’s population is under 25 years old and said markets will invest in their future, Monga cautioned that these investments have not yet been made and said new business models are needed for them to be realized.

Responding to audience questions, panelists discussed the role of civil society in alleviating energy poverty and the need for transformational change to avoid bestowing an “unsafe world” on the next generation.

PARALLEL SESSION 2: ENERGY EFFICIENCY

On Wednesday afternoon, Luis Gomez-Echeverri, IIASA, moderated the session on energy efficiency, calling it the “the low-hanging fruit that no one can reach.” He requested panelists to address the systemic dimensions of energy transformations.

Expressing optimism about the future of energy efficiency, Mark Hopkins, UN Foundation, underscored that supportive policies are required to catalyze investment, noting that many initiatives, such as building codes and appliance efficiency standards, do not require direct financing. Doris Österreicher, Austrian Institute of Technology, explained smart city design considers energy storage and flows across the interlinked components of a city, including buildings, vehicles, water networks, and sewage and waste systems.

David Shropshire, IAEA, discussed the organization’s mandate beyond nuclear energy, highlighting its work with member states on energy planning by providing tools, modeling and training. He outlined its efforts to support reliable energy provision across energy systems, from generation to transmission, including through renewables.

Jigar V. Shah, Executive Director, Institute for Industrial Productivity, suggested a 3.5% reduction in industrial energy use each year to cut energy consumption by 50% by 2030, and encouraged adopting a continuous improvement process and energy management systems. Marina Ploutakhina, UNIDO, supported a continuous improvement framework for energy efficiency and pointed to the ISO 50001 standard for energy management as a framework on which it can be based.

Questions were posed on, *inter alia*: whether doubling efficiency improvements will achieve climate goals; the role of the UN in creating demand for energy efficient buildings; how to foster behavioral change; and China's efforts in improving energy efficiency. Panelists and participants commented on strategies to scale up efficiency efforts, with one participant challenging the panel to "move from low-hanging fruit to capturing whole trees," and another elaborating on the need to move from project-based to programmatic approaches.

As an example of energy efficiency projects in buildings, Hopkins described the retrofitting of the Empire State Building. On behavioral change, Österreicher underscored the importance of encouraging urban populations to accept new technologies. On finance, one developing country participant called for assistance in approaching banking institutions about energy efficiency technology projects, and one private sector participant urged focused dialogue between financiers and the energy community. Several noted that in spite of energy efficiency improvements, energy demand continues to grow and efforts to reduce demand are urgently needed.

PARALLEL SESSION 3: RENEWABLE ENERGY AS A TOOL FOR SUSTAINABLE DEVELOPMENT

On Wednesday afternoon, moderator Christine Lins, Executive Director, REN21, introduced the session on renewable energy, highlighting that 18% of final energy consumption is currently from renewables, and said business as usual will not suffice to double this share.

Diego Maserà, UNIDO, said while renewable energy is usually recognized for its environmental benefits, its social and economic values such as job creation are often overlooked. He stressed that communication about renewables must emphasize all benefits. Mahama Kappiah, Executive Director, ECREEE, recalled that the Centre's creation was partially in response to the absence of an MDG on energy.

Brigitte Öppinger-Walchshofer, Managing Director, Austrian Development Agency, outlined work with partner countries, including pilot models for the co-financing of small-scale renewable energy projects, and support for regional centers on energy efficiency and renewable energy. Jorge Samek, Director General, Itaipu Binacional, outlined the matrix of renewable energy technologies used in Brazil, including hydropower and biofuels. He described new waste-to-energy projects, noting that co-benefits include less water contamination.

Martin Hiller, Director General, Renewable Energy and Energy Efficiency Partnership (REEEP), informed participants of the REEEP Project Implementers Meeting 2013, convening in parallel with VEF 2013, which brings together 30 project implementers to share experiences with renewable energy projects. Gábor Baranyai, Deputy State Secretary, Ministry of Foreign Affairs, Hungary, described the EU's renewable energy developments, cautioning that the focus on renewables has decreased. He also noted that energy and renewables have a "low profile" in the UN Open Working Group on the SDGs.

Peter Traupmann, Managing Director, Austrian Energy Agency, called for small-scale renewable energy systems to be elevated in discussions on energy solutions, particularly for rural communities. He underlined the role of local and regional actors in determining their own energy systems, and noted the need for capacity-building.

Participants discussed, *inter alia*, changing flows of investments in renewables and the need for system integration as the share of renewables increases in energy systems. On expanding electrification, Kappiah explained that West Africa uses a combination of off-grid "island communities" as well as on-grid solutions. Öppinger-Walchshofer noted interest in Austria for strategic business partnerships related to

renewables. Hiller said successful business models are being developed, but still face challenges in securing investments. Baranyai noted overly-bureaucratic regulatory procedures impede business model innovation. Kappiah explained ECREEE's role as a catalyst in "bundling and scaling-up" small-scale projects to access development bank funding.

PARALLEL SESSION 4: TECHNOLOGY TRANSFER AND INNOVATION

Omar El Arini, Honorary Chief Officer, Multilateral Fund Secretariat, Montreal Protocol, moderated the parallel session on Technology Transfer and Innovation on Wednesday afternoon.

André Faaij, Utrecht University, explained that further deployment of new, energy efficient technologies is being hampered by profit margins, investment risks and 'lock-in' for conventional energy supply. Giovanni Federigo De Santi, Joint Research Centre of the European Commission, explained the EU's ambition to create a "European energy market" via: a stable forward-looking policy framework, which can "force innovation"; technology platforms like the Strategic Energy Technology Plan; and new financial mechanisms that supplement Member States' public and private sector projects.

Pongsvas Svasti, Thammasat University, described challenges of innovation and dissemination of technology to the South: information asymmetry, which makes it difficult for buyers to assess the value of technical information; market forces related to patents and intellectual property rights; and economic externalities.

Pradeep Pursnani, Shell Foundation, said technology alone is not enough to catalyze technology uptake, elaborating that this also requires access to markets, addressing barriers and ensuring technology uptake by end users. He lamented the lack of patience and flexibility in efforts to find a solution. Sven Teske, Greenpeace International, said renewables represent the majority of power installed in the past five years, but that their deployment is taking place mainly in developing countries. He noted continuing analytical and technical work by Greenpeace in their "Energy Revolution" publication series, and stressed that renewable energy project success in developing countries requires bottom-up planning and top-down financing.

Martin Krause, UN Development Programme (UNDP), said UNDP recommends that technology transfer should be: defined by contextually relevant innovation, diffusion and cultural adoption; discussed in a comprehensive but non-technical manner; and driven by context-specific customer demand. He added that it also need not involve new or high-tech products to be successful. Sidi Menad Si-Ahmed, UNIDO, said technology transfer in the context of the Montreal Protocol did not involve low-tech technologies for developing countries, but rather the most up-to-date technologies, which had the most impact and enabled developing country companies to compete on the world market.

SIDE EVENT: REGIONAL SUSTAINABLE ENERGY CENTERS IN AFRICA: CREATING REGIONAL MARKETS TO SUPPORT THE DECADE OF SUSTAINABLE ENERGY FOR ALL

Among several side events convened during the Forum, UNIDO and ECREEE held a side event on Wednesday afternoon on regional sustainable energy centers in Africa. The side event focused on the added value and possible actions of a South-South cooperation network of the regional sustainable energy promotion centers in Africa. Kandeh Yumkella opened the event and Naoko Ishii, GEF CEO and Chairperson, spoke on the future role of regional programmes in the GEF portfolio. Other participants highlighted the roles of regional centers as part of the institutional structure of the SE4ALL initiative, and presented lessons learned from the West and North Africa centers.

MINISTERIAL AND HIGH LEVEL DIGNITARIES SEGMENT III

This ministerial and high level segment, moderated by Ged Davis, convened on Thursday morning.

Panelists outlined national experiences, including current energy production and future targets. Abdul-Aziz Abdul-Latif Al-Ibrahim, Minister of Electricity and Water, Kuwait, pointed to efforts in Kuwait to diversify energy sources. Ali Asghar Soltanieh, Permanent Representative of Iran to the UN in Vienna, highlighted Iran's subsidy reform plan, noting it aims to replace energy and food subsidies with targeted social assistance.

Sham Bathija, Senior Advisor of the President, Afghanistan, described challenges to addressing energy supply in a country "shattered" by 30 years of war, but underscored efforts to develop energy policies and initiate renewables projects. Alhaji Usman Boie Kamara, Minister of Trade and Industry, Sierra Leone, said the key focus of the energy sector is to secure affordable electricity supply, including by investing in and improving transmission and distribution networks.

Henry Isak Amalovu Katali, Minister of Mines and Energy, Namibia, described a government initiative to electrify rural schools across the country, and also outlined Namibia's "Solar Revolving Fund," which gives citizens access to 5% interest loans to purchase solar equipment.

Panelists addressed, *inter alia*: the challenges of developing renewables in economies that are heavily reliant on fossil fuels; how to operate under and resolve constraints, including lack of finance; strategies for "reaping benefits" from companies exploiting Africa's energy resources; and equity and gender. On reforming subsidy structures, Soltanieh described tiered pricing systems, where prices increase as consumption increases, and Al-Ibrahim noted the political challenges involved in removing subsidies.

PLENARY SESSION 4: FINANCING THE ENERGY FUTURE WE WANT

On Thursday morning, Venkata Ramana Putti, World Bank, moderated this session.

Yuan Wang, China Development Bank, shared that China has made rapid progress in ending energy poverty, with 99.5% of the population now connected to modern energy services, and said the Chinese Development Bank plans to direct 40% of its energy investments to renewables.

Faris Hasan, OFID, outlined lessons from OFID's energy poverty research, including that: poverty-alleviating investments should begin with income-generating activities; energy must be immediately affordable for the poor; providers must be technologically, logistically and financially efficient to minimize costs; and both on- and off-grid solutions must be employed. Highlighting that support must be targeted to the specific sector and size of partners, David Rodgers, GEF, said GEF has found success with partners by supporting: enabling policy environments; incremental financing; corporate partnerships to leverage and transfer cutting-edge knowledge and capacities; and capacity building for innovators and entrepreneurs.

Gianluca Sambucini, UNECE, outlined global changes that affect the energy future, including expanding population growth, increasing urbanization and the rising quality of life in emerging and developing countries. Georgina Kessel, Partner, Spectron, outlined four institutional elements essential for ensuring sufficient energy financing: legal frameworks that give certainty to actors; appropriate institutional frameworks and regulatory bodies; stable short and long term energy policies; and stable fiscal policies guaranteeing reasonable profits over time. Supported by Wang, Hasan and Rodgers, she said these elements bring transparency, stability and efficiency to governance and lending.

Ernesto Macias, President, Alliance for Rural Electrification, explained that "rural electrification" refers to off-grid solutions, which he said are multiple, flexible and adaptable. He lamented the lack of coordination between stakeholders and the "passivity" of governments.

Participants asked questions on, *inter alia*: the role of the "significant private companies" in VEF discussions; the disparity in investment in the cooking sector; and the potential for a special fund for women's access to energy. Rodgers said private energy companies should be viewed as leaders in technology development, not as "bad guys."

PLENARY SESSION 5: PUBLIC AND PRIVATE PARTNERSHIPS

Irene Giner-Reichl introduced the plenary session on public-private partnerships (PPPs) on Thursday morning.

Rajendra Pachauri, Chairman, Intergovernmental Panel on Climate Change (IPCC) and UNIDO Goodwill Ambassador, urged PPPs to move beyond project development and implementation, and called for businesses and governments to work together to develop policies for the future. He also underscored the need to consider small-scale and individual entrepreneurs, not only large companies, in PPPs.

Janez Podobnik, Acting Director General, International Centre for Promotion of Enterprises (ICPE), described PPPs as a tool for addressing energy security challenges, pointing to, *inter alia*, their potential to contribute to public policy development and supplement scarce public funds. He described the development of the ICPE Energy Efficiency Hub, a multi-stakeholder platform for sharing knowledge and encouraging debate. Thomas Stelzer, Assistant Secretary-General, UN Department of Economic and Social Affairs (DESA), said PPPs can help overcome challenges with compliance to commitments, and underscored the different competencies and roles of public and private partners. He highlighted the need to make a good business case for projects to attract available private funds.

Harry Verhaar, Philips, described PPPs as the "smartest, most ecological, most economical path we can take," but acknowledged the road to renovate existing infrastructure will be long. He announced that Philips had signed an agreement with UNIDO on Wednesday, 29 May, to advance "Community Light Centres" in Africa, which, through solar-powered LED lighting, lengthen the day to allow social engagement, education and enterprise activities to be undertaken. Günter Maier, Founder and Managing Partner, MG Energy, cautioned that PPPs should only be considered if they can demonstrate: added value; an effective implementation structure; and that objectives of all partners can be met.

Participants discussed, *inter alia*: concerns with the impacts on biodiversity of large-scale renewables; gender, including within SE4ALL; the need for people-centered investment; and grassroots innovation. Several panelists underscored that financing is a key part of PPPs. Verhaar urged considering product life-cycles, noting higher upfront costs of sustainable solutions mean new models of financing are needed. Pachauri stressed the need to focus on the "bottom of the pyramid," to ensure the poorest people can access secure, stable energy. Podobnik urged focusing on affordability in addition to the SE4ALL's objectives.

PARALLEL SESSION 5: GREEN MINI-GRIDS IN AFRICA – SECTOR TRANSFORMATION TOWARDS SUSTAINABLE ENERGY FOR ALL

Steven Hunt, Department for International Development (DFID), UK, moderated this session, which met on Thursday morning.

Isaac Kiva, Ministry of Energy, Kenya, said Kenya's current electrification rate is 30%, but that it is increasing via a government rural electrification programme. The programme uses solar and hybrid mini-grids, each of which serves between 500-1,500 households. He explained that Kenya is seeking grants and concessional financing from development partners. Momodou Njie, Permanent Secretary of the Ministry of Energy, the Gambia, underscored the Gambia's support for the SE4ALL initiative, explaining that: only 30% of rural and 50% of urban dwellers in the Gambia have access to electricity; energy costs remain extremely high; and his government understands that sound policies are required to enable change.

Ryan Anderson, Norplan, said a recent Norplan analysis shows mini-grids in Sub-Saharan Africa make economic sense beginning at an average of five connections per kilometer. He explained that to be financially and economically viable, mini-grids must be associated with high-value productive uses, cautioning that this excludes the poorest of the poor. Anderson also said mini-grid expansion is hampered by a lack of developers to bring to market, maintain and repair mini-grids. Patrick Theuret, EDF, described EDF's investment model in African countries, and said in most cases mini-grids can meet rural village needs. Mike Enskat, GIZ, presented challenges in promoting mini-grids based on experience with over 250 mini-grid projects in 17 countries.

Dean Cooper, UNEP, said investment risk must be addressed for projects to be economically viable. He lamented that there are too many assumptions about the needs of rural communities, and that to date the analysis of the commercial viability of mini-grids in developing countries is generally lacking. Richenda Van Leeuwen said no "black and white picture" of commercial viability is available because there is no universal definition of a mini-grid. She said concessional financing is usually needed for projects to be viable, and highlighted the need to communicate the value of mini-grids for health and education to gain inter-ministry support.

Participants recommended, *inter alia*: focusing on larger scalable projects to ensure investor interest; integrating financing for centralized capacity building programmes into projects; concentrating not only on solar photovoltaic but also on solar thermal technologies; ensuring better data on energy needs and usage is available; and involving civil society in the development and deployment of mini-grids.

CLOSING SESSION

On Thursday afternoon, Ged Davis moderated the final VEF 2013 session, in which Forum participants considered and commented on draft "Key Recommendations on Energy in the Post-2015 Development Framework," presented by the organizers based on the discussions of the Forum. The six draft recommendations are a combination of broad declarations and suggested targets, addressing, among other things: the need for a global transformation toward sustainable energy systems; the need for energy to be integrated into the post-2015 development agenda; and support for SE4ALL as the one global energy goal. Davies underscored that the intent of the draft recommendations is to build a network of parties that will drive the process forward to 2030.

Comments from participants addressed, *inter alia*: concerns with the technicality of the word "system"; whether advice to integrate energy into all SDGs prejudices outcomes of the SDG negotiation process, and if omitting such language might allow consideration of an explicit energy goal; affordability as a necessary additional component of SE4ALL; and poverty alleviation as a key goal of SE4ALL.

In concluding statements, Kandeh Yumkella thanked the co-organizers, funders and sponsors of the Vienna Energy Forum, and presented early champions of the Forum with gifts of appreciation. Participants applauded Yumkella's leadership, vision and collaboration, as VEF 2013 was his last major event as Director General of UNIDO.

The meeting concluded at 2:43pm.

UPCOMING MEETINGS

XII World Wind Energy Conference and Renewable Energy Exhibition (WVEC 2013): With the theme "opening doors to Caribbean winds," WVEC 2013 will convene in Havana, Cuba to provide a forum for participants to share information and knowledge on the advances and prospects of wind power and renewable energy in Latin America and the Caribbean. **dates:** 3-5 June 2013 **venue:** Convention Palace of Havana **location:** Havana, Cuba **contact:** Conrado Moreno Figueredo **phone:** 537-266-3637 **email:** wwec2013@cujae.edu.cu **www:** <http://www.cubasolar.cu/wwec2013/en/>

Caribbean Renewable Energy Forum (CREF):

This annual event, co-sponsored by the Inter-American Development Bank, the Caribbean Community, and the Organization of American States, will convene to consider, *inter alia*, what the rising price of oil and dropping price of natural gas mean for the future of regional energy generation and renewables. **dates:** 9-11 October 2013 **venue:** Westin Resort & Casino **location:** Aruba **contact:** Matthew Perks, CREF Executive Director **phone:** +1-845-440-7800 **email:** mperks@caribbeanenergyforum.com **www:** <http://www.caribbeanenergyforum.com/>

International Greentech and Eco Products Exhibition and Conference Malaysia (IGEM):

The aim of this conference and exhibition is to "advance green growth and global entrepreneurship" and to drive change, adopt green technology and address environmental issues in the growing green economy. **dates:** 10-13 October 2013 **venue:** Kuala Lumpur Convention Centre **location:** Kuala Lumpur, Malaysia **contact:** Malaysian Green Technology Corporation (GreenTech Malaysia) **phone:** +603-8921-0800 **email:** igem@greentechmalaysia.my **www:** <http://www.igem.com.my/2013/>

Global Green Growth Forum (3GF):

The annual meeting of the 3GF will take place in Copenhagen, Denmark, with a focus on improving resource efficiencies in the value chain. The 3GF aims, among other things, to explore new avenues for promoting and scaling up green growth by connecting leaders from different sectors and to provide a platform for advancing international and public-private initiatives including SE4ALL. **dates:** 21-22 October 2013 **location:** Copenhagen, Denmark **contact:** 3GF Secretariat **phone:** +45-3392-0000 **email:** 3gf@um.dk **www:** <http://3gf.dk/>

UNFCCC COP 19 and COP/MOP 9: The 19th session of the Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC COP 19) and the ninth session of the Meeting of the Parties to the Kyoto Protocol (COP/MOP 9) will take place in Warsaw, Poland. **dates:** 11-22 November 2013 **location:** Warsaw, Poland **contact:** UNFCCC Secretariat **email:** secretariat@unfccc.int **www:** http://unfccc.int/meetings/warsaw_nov_2013/meeting/7649.php

WFES-7: The seventh World Future Energy Summit (WFES-7) will convene from 20-22 January 2014, in Abu Dhabi, UAE. The Summit brings together world leaders, international policy makers, industry experts, public and private sector investors and media to discuss practical and sustainable solutions to future energy challenges. **dates:** 20-22 January 2014 **venue:** Abu Dhabi National Exhibition Centre **location:** Abu Dhabi, United Arab Emirates **contact:** Ara Fernezian, Divisional Managing Director, UAE **email:** ara.fernezian@reedexpo.ae **www:** <http://www.worldfutureenergysummit.com/>

GLOSSARY

ECOWAS	Economic Community of West African States
ECREEE	ECOWAS Centre for Renewable Energy and Energy Efficiency
HIOs	high impact opportunities
MDG	Millennium Development Goal
ODA	overseas development assistance
PPP	public-private partnership
SDG	sustainable development goal
SE4ALL	Sustainable Energy For All
VEF	Vienna Energy Forum