



Vienna Energy Forum Bulletin

Summary of the Vienna Energy Forum 2015 (VEF 2015)

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SUMMARY OF THE VIENNA ENERGY FORUM: 18-20 JUNE 2015

The Vienna Energy Forum (VEF) 2015 themed ‘Sustainable Energy for Inclusive Development’ was held from 18-20 June 2015 at the Hofburg Palace, Vienna, Austria. The event brought together participants from about 60 countries, including 24 ministers, as well as high-level dignitaries and senior representatives of international and non-governmental organizations, academia, civil society and the private sector. The event was organized by the UN Industrial Development Organization (UNIDO), Austrian Federal Ministry for European and International Affairs, International Institute for Applied Systems Analysis (IIASA), the UN Secretary-General’s Sustainable Energy for All (SE4All) initiative and the Austrian Development Agency (ADA).

VEF 2015 convened against the backdrop of three crucial events set to take place in 2015: the Third International Conference on Financing for Development to be held in Addis Ababa, Ethiopia, in July; the UN Summit for the Adoption of the post-2015 Development Agenda taking place in New York, US, in September; and the 21st session of the Conference of the Parties (COP 21) to the UN Framework Convention on Climate Change (UNFCCC) to be held in Paris, France, in December. VEF 2015 aimed to contribute to the post-2015 development agenda and climate processes by emphasizing their multiple co-benefits, and by showcasing best practices and actions on the ground.

The event consisted of high-level panel discussions and parallel sessions considering a range of issues, including energy efficiency, public-private partnerships (PPPs), sustainable transport and innovative financing mechanisms for sustainable energy. It also included a number of special events such as Energy Leaders’ Voices, Climate School, a networking session on Women for Sustainable Energy and an event on progress on the implementation of the outcomes of the Clean Energy Ministerial. A series of side events also took place throughout the three-day forum.

During the meeting, a number of initiatives and projects were launched, including the SE4All Global Tracking Framework, the Multi-tier Access Framework, the UNIDO-Global Green Growth Institute (GGGI) Global Green Growth Report and the Renewable Energy Policy Network for the 21st century (REN21) Renewables 2015 Global Status Report.

The meeting concluded with the presentation of the VEF 2015 Outcome Document consisting of eight key messages which will be transmitted to the three 2015 global processes.

A BRIEF HISTORY OF THE VIENNA ENERGY FORUM

The Vienna Energy Forum (VEF) takes place every two years. It was established in 2008 by the Austrian Government, IIASA and UNIDO. The Forum aims to explore how energy can contribute to meeting global development challenges, based on the premise that issues such as poverty, climate change, security, health and income are closely linked to the nature, accessibility and affordability of existing energy systems.

The first VEF convened in Vienna, Austria, from 22-24 June 2009 under the theme ‘Towards an Integrated Energy Agenda Beyond 2020: Securing Sustainable Policies and Investments.’ The conference served as an opportunity to: shift the debate

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on energy and development beyond generalities to identify specific courses of action; initiate and advance regional and international cooperation; and present new international energy initiatives, such as the International Renewable Energy Agency (IRENA). One of the Forum's six key recommendations foresaw the creation of a development goal on energy, which aimed to achieve universal energy access by 2030.

The second VEF themed 'Energy for All – Time for Action,' convened in Vienna from 21-23 June 2011. The Forum was held in parallel with a Ministerial Meeting on Energy and Green Industry. The Forum focused on energy poverty and increasing energy access in developing countries in light of the SE4All initiative, and addressed a range of issues, including: the key building blocks for developing a strategy for prioritizing the energy access agenda; energy efficiency; and reducing global energy intensity.

The third VEF themed 'One Year after Rio+20: The Energy Future We Want,' took place in Vienna from 28-30 May 2013. The Forum addressed sustainable energy in the context of negotiating the post-2015 development agenda, a process initiated at the 2012 UN Conference on Sustainable Development (UNCSD, or Rio+20).

REPORT OF THE MEETING

OPENING

VEF 2015 opened on Thursday morning, 18 June 2015. Pradeep Monga, UNIDO, welcomed participants, highlighting that sustainable energy is a golden thread that connects the post-2015 development agenda and climate action on the ground.

Michael Linhart, Secretary-General for Foreign Affairs, Austria, drew attention to the VEF 2015 theme: Sustainable Energy for Inclusive Development, noting that energy has been called the "central nervous system of the world economy."

Li Yong, Director General, UNIDO, delivered an address on behalf of UN Secretary-General Ban Ki-moon, highlighting global energy needs and issues such as household air pollution. He pointed out that the VEF is the only forum where energy and development issues are discussed holistically.

Kandeh Yumkella, Special Representative of the UN Secretary-General and CEO, SE4All, emphasized the need to accelerate action in light of growing energy demand, calling for focus on action on the ground, more investment and greater deployment of technologies.

Nebojsa Nakicenovic, Deputy Director General and Deputy CEO, IIASA, on behalf of Pavel Kabat, Director General and CEO, IIASA, highlighted the role of the VEF in advancing work on the SE4All's 2030 objectives and called for the current investment in sustainable energy of US\$1.3 trillion to be doubled.

Martin Ledolter, Managing Director, ADA, outlined Austria's international interventions in promoting sustainable energy and developing capacity.

Günter Liebel, Austrian Federal Ministry of Forestry, Environment and Water Management, on behalf of Andrä Rupprechter, Minister for Agriculture, Forestry, Environment and Water Management, Austria, stressed the need to change energy systems worldwide, describing the impact of energy in fighting poverty and climate change.

Renate Brauner, Deputy Mayor of the City of Vienna, outlined Vienna's efforts in relation to new energy systems and climate-friendly city development.

HIGH-LEVEL PANEL I: SUSTAINABLE ENERGY FOR PRODUCTIVE CAPACITIES

This session was moderated by Li Yong. Tania Roediger-Vorwerk, Ministry of Economic Cooperation and Development (BMZ), Germany, emphasized that a reliable, affordable and sustainable power supply is crucial for enhancing productive capacities. She noted that, in Germany, a high percentage of renewable energy has been integrated into the grid.

Roediger-Vorwerk highlighted projects in the Black Sea region, Southeast Europe and East Africa, providing examples of how sustainable and reliable energy can lead to job creation and support the scaling up of renewable energy capacities worldwide.

Lamberto Zannier, Secretary-General, Organization for Security and Co-operation in Europe (OSCE), highlighted his organization's emphasis on fostering cooperation and dialogue, developing national energy regulations, exchanging best practices and building capacity within the region. He outlined OSCE activities in Central Asia and noted the need to develop PPPs and balance the energy mix to secure sustainable energy supply and reduce greenhouse gas (GHG) emissions, pointing to security threats emanating from water scarcity and climate change.

Ngouille Aly Ndiaye, Minister of Industry and Mines, Senegal, shared national experiences in mixing energy sources to reduce dependency on thermal energy, such as the use of solar and hydroelectric plants, and wind farms. He noted independent solutions for off-grid villages, with schools and medical facilities fitted with solar panels, and solar lamps used for public lighting.

Anita Marangoly George, World Bank, drew attention to the SE4All Global Tracking Framework, and said energy poverty can be overcome in this lifetime. She noted increased electrification rates and the use of hydro, wind, solar and geothermal power; and called for action on indoor air pollution and on mobilizing funds for sustainable energy.

Prasert Sinsukprasert, Ministry of Energy, Thailand, drew attention to his country's national energy targets and actions, noting national energy conservation laws, energy management standards, building codes, and energy conservation funds and soft loans.

Jamila Matar, Director, Energy Development, League of Arab States, noted variations in oil and gas resources across the region, and discussed the Arab renewable energy strategy and the National Renewable Action Plans. She expanded on national financing mechanisms initiated by the Central Bank of Lebanon and its subsidized loans for energy projects.

Addressing productive capacities in the context of inclusive development, Leena Srivastava, Acting Director General, The Energy and Resources Institute (TERI), pointed out that good quality, reliable and affordable energy has not been supplied to the "bottom of the pyramid." Emphasizing the role of sustainable energy in job creation, she highlighted the need for: institutional mechanisms; capacity building; the right framework conditions around availability of finance; and access to technologies.

HIGH-LEVEL PANEL II: ENDING ENERGY POVERTY - CONCRETE COMMITMENTS AND ACTION ON THE GROUND

Kandeh Yumkella chaired the session. In his keynote speech, Suleiman Al-Herbish, Director General, OPEC Fund for International Development (OFID), shared his experiences as a development practitioner, highlighting: OFID's role in pushing the eradication of energy poverty to the top of the global development agenda; the Fund's decision to increase its one-time commitment of US\$1 billion to a revolving pledge; and the need to develop partnerships and maintain the momentum to maximize impact.

Reporting on Ecuador's experience with ensuring sustainable energy for all and citing his country's focus on energy from water resources, Jose Medardo Cadena, Vice-Minister of Electricity and Renewable Energy, Ecuador, emphasized the need to use available energy resources and called for international cooperation, exchange of experiences and best practices, and technological support.

Daniel-Alexander Schroth, SE4All Africa Hub, highlighted the need for long-term energy planning and the role that the SE4All Global Action Agenda can play at the national level.

Drawing on his country's experience, Wolsey Barnard, Department of Energy, Energy Programmes, South Africa, emphasized the need for plans with timeframes, funding, implementation and oversight, noting that, for rural electrification, a distinction must be made between off-grid solutions and the practicality of economic development.

Emphasizing the need for practical financial tools, Martin Hiller, Director General, Renewable Energy and Energy Efficiency Partnership (REEEP), noted the difficulty that start-ups have in accessing finance because local banks are reluctant to lend for energy services. He explained that REEEP is working with revolving funds in East Africa, and, in Cambodia, a fund has been established to assist rice farmers with the installation of rice husk gasification units.

Sam Parker, Director, Shell Foundation, pointed out that over 80% of those without access to energy live in rural areas and are therefore best served by off-grid enterprise solutions. He highlighted market barriers, including: a lack of awareness of the off-grid sector's potential to help reach energy targets; the issue of finance being targeted only at the level of large-scale on-grid infrastructure; and the lack of energy distribution systems. Emphasizing collaboration, he explained that the Shell Foundation is launching a fast-track consortium to syndicate finance and work on consumer demand creation for energy services.

Vijay Modi, Colombia University, highlighted the large natural gas resources in East Africa, including new potential in Tanzania and Mozambique of more than 100 million cubic feet. He stressed the huge demand for gas in Africa and noted the need for a regional plan to facilitate its utilization.

Klaus Rudischhauser, Deputy Director General, Directorate General for International Cooperation and Development, European Commission, said increased mobilization of sustainable energy needs to be followed by further action on the ground through national platforms and synergies. He noted that shared knowledge requires national policies and regulations to be replicated at scale.

Rudischhauser stressed that while energy is high on the political agenda, long-term investment is lacking, hindering the private sector from becoming a key driver in clean energy investments.

Yumkella invited participants' comments on whether universal access to energy can be achieved in the next 15 years. Participants discussed: the use of a roadmap and vision to "coerce" action; moving from processed to raw foods; exporting excess energy; the role of women; and transferring government's commitment to other players.

HIGH-LEVEL PANEL III: BUSINESS MODELS AND SMART POLICIES FOR SCALING UP RENEWABLE ENERGY

Arthouros Zervos, Chairman, REN21, chaired the session. Noting that government policies could enable greater growth in the renewables sector, he said the current renewables growth rate is inconsistent with the SE4All 2030 objectives, and highlighted opportunities for PPPs and government policies to enable private sector investment.

In his keynote speech, Paolo Frankl, Head, International Energy Agency (IEA), underscored that, while renewable energy growth surpassed expectations, and investments in renewables in developing countries grew, Organization for Economic Cooperation and Development (OECD) countries exhibited the opposite trend. He emphasized that enabling environments are becoming more important than financial support, highlighting the need for: allocation of investment; exploiting competition; a consistent systemic approach; and developing service products and markets.

Among his country's efforts, Mutaz Musa Abdalla Salim, Minister of Water Resources and Electricity, Sudan, highlighted the 2030 strategy to raise the renewables' share in the energy mix to 72% and efforts in expanding the transmission and distribution infrastructure.

Wondimu Tekle Sigo, State Minister, Ministry of Water, Irrigation and Energy, Ethiopia, outlined renewable energy initiatives in his country, explaining that energy provision is a challenge due to the mountainous terrain and dispersed population. He highlighted that more than 30,000 solar home systems have been installed and 10,000 biogas systems constructed. He said smart grids are necessary to manage load shedding, and called for support from international partners for research and development, and capacity building.

Highlighting progress on renewable energy policies and the need to improve energy efficiency, Anna Wronska, Deputy Minister, Ecology and Natural Resources, Ukraine, observed that renewable energy will allow her country to reduce demand for natural gas. On challenges, she pointed to heavy reliance on imported fossil fuel, inefficient infrastructure and the substantial investment required to modernize the energy sector.

Tian Zhongxing, Ministry of Water Resources, China, highlighted his country's renewable energy initiatives, noting that 30 gigawatt (GW) of hydropower capacity is being developed and several nuclear power projects have been approved.

Arcadio Gutiérrez Zapico, Director General, Energy Club of Spain, noted that 42% of electricity in Spain is generated from renewable energy, with one of the main sources being wind power, which provides 27 GW. He noted that during the

financial crisis, demand for electricity dropped but is now back at 2004 levels. He said lessons had been learned regarding the need to connect renewable energy systems within Europe, technology readiness and subsidies.

Scott Foster, UN Economic Commission for Europe, (UNECE), noted that fossil fuels play a role in the energy mix and that limiting the average global surface temperature increase to 2°C still envisages 40% of primary energy coming from fossil fuels. He called for a level playing field, which requires addressing fossil fuel subsidies.

Foster highlighted the Hammamet Declaration from the Fifth International Forum on Energy for Sustainable Development as a recipe for regions to move towards attaining sustainable energy, and emphasized: rational energy policies; prioritization of regional markets; appropriate investment framework conditions; and engagement with industry, the private sector and the general public.

Cicero Bley Jr, Itaipu Binacional, argued that technology offered to developing countries is overpriced, and called for a spirit of partnership in understanding local conditions. He drew attention to biogas as an accessible alternative fuel and to the benefits of decentralizing energy production and distribution.

Liu Heng, International Centre on Small Hydropower under the Auspices of UNIDO, Ministry of Water Resources and Ministry of Commerce, China, discussed business and investors, government support and policies, and technology transfer and cooperation, noting that government commitment coupled with private sector involvement solves problems.

HIGH-LEVEL PANEL IV: REGIONAL STRATEGIES FOR SUSTAINABLE ENERGY AND BEST PRACTICES

Panel Chair, Irene Giner-Reichl, President, Global Forum on Sustainable Energy, said 2015 is a year to make progress on global governance.

Klaus Rudischhauser noted that a regional approach is important when energy markets are small and fragmented, national infrastructure and regulations are insufficient, and the generation capacity is unevenly distributed. He pledged continued and extended support to Regional Sustainable Energy Centers in different regions.

Morlaye Bangoura, Commissioner, Energy and Mines, Economic Community of West African States (ECOWAS), described the paradox of the region having tremendous energy potential but not exploiting it. He expanded on the history of ECOWAS, the regional energy protocol and policies, and the need for regulators and for saving energy.

Providing the Small Island Developing States' (SIDS) perspective, Vince Henderson, Permanent Representative of Dominica to the UN, said regional approaches work best. He discussed similarities and differences in the region, noting, for instance, that the Pacific suffers from a lack of access to energy, whilst the Caribbean has access but at prohibitive costs. He lauded partners, such as UNIDO, Austria and the EU, and called for resource rich-islands to pass clean energy on to islands that do not have clean energy sources.

Fernando Ferreira, Executive Secretary, Latin American Energy Organization (OLADE), described energy access across the 27 OLADE countries, noting it is now at 90% but that that still means many people are without electricity. He highlighted

strategic partnerships and cooperation with Africa, and stressed that energy and electricity reduce poverty and promote social inclusion.

Irene Nafuna Muloni, Minister of Energy and Minerals Development, Uganda, shared East Africa's regional integration experience, highlighting capacity as a challenge. She reported on work towards the establishment of the East African Centre for Renewable Energy and Energy Efficiency (EACREEE), which Uganda proposed to host.

Among regional challenges in the EU context, Peter Fischer, German Federal Foreign Office, highlighted: building an efficient market; ensuring enabling governance structure and infrastructure; and establishing good external energy relations.

Noting that only 29% of Oceania's population has energy access, Solomone Fifita, Secretariat of the Pacific Community, highlighted the Pacific Regional Data Repository for Sustainable Energy for All and other regional initiatives, such as on the formulation of policies and plans. He said energy efficiency in Oceania is promoted through appliance labeling and standards, phasing out inefficient lights and training according to accredited standards.

Moses Ntlamelle, Southern African Development Community (SADC) Secretariat, informed participants of the proposed SADC Centre for Renewable Energy and Energy Efficiency to be operationalized in September 2015.

Concluding the session, Bangoura Morlaye awarded prizes to supporters of the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE).

HIGH-LEVEL PANEL V: SUSTAINABLE ENERGY AND CLIMATE CHANGE – ROAD TO COP 21

This session was moderated by Richard Kinley, Deputy Executive Secretary, UNFCCC Secretariat. He illustrated how 2015 stands out as a seminal moment, being a once-in-a-generation opportunity to put the world on a more sustainable track. He noted significant developments such as the G-7 leaders calling for decarbonization and global energy transformation by 2050, and Pope Francis's encyclical on climate change.

Keynote speaker, Naoko Ishii, CEO and Chairperson, Global Environment Facility (GEF), highlighted the Planetary Boundary Framework and the New Climate Economy reports. She stressed policy, financing and leadership as key requirements for successful transformation, and noted the importance of multi-stakeholder platforms in moving the sustainable development agenda forward.

Monique Barbut, Executive Secretary, UN Convention to Combat Desertification (UNCCD) Secretariat, noted the land sector provides examples of positive inclusive solutions. She reminded participants that restoring degraded land sequesters emissions and urged them to balance actions on energy, such as putting targets on biofuels, with other factors, such as food security and livelihoods.

Marcin Korolec, Secretary of State, Ministry of the Environment, Poland, emphasized that: COP 21 should "put the world on a new track"; a framework is more important than the initial level of ambition; and not all actions are captured in countries' Intended Nationally Determined Contributions (INDCs), a fact which is recognized by the Lima-Paris Action Agenda.

Sylvie Lemmet, Director for European and International Affairs, Ministry of Ecology, Sustainable Development and Energy, France, highlighted the following expectations for COP 21: a legally-binding agreement with mechanisms to put the world on a 2°C track; the number of countries with INDCs needs to be sufficient to send a strong signal to the world; progress on how US\$100 billion per year by 2020 in finance is going to be delivered; and fostering action outside the UNFCCC.

Hiroki Mitsumata, Ministry of Economy, Trade and Industry, Japan, announced that Japan's INDC of 26% emission reduction below recent levels by 2030 will be submitted in July 2015, and highlighted the importance of disseminating technologies to developing countries, noting the Innovation for Cool Earth Forum to be held in Tokyo, Japan, from 7-8 October 2015.

Janos Pasztor, Executive Office of the UN Secretary-General, highlighted the interconnections among sustainable energy, sustainable development and climate objectives, and said the new climate agreement should create a stable framework enabling a broader pipeline for investments in sustainable energy.

David Turk, US Department of Energy, called for a focus on implementation and ambition after COP 21, highlighting: clean energy transformation accelerated by the sixth Clean Energy Ministerial; the role of the Clean Energy Solutions Center in providing information to policymakers; and the need to channel the political interest in climate and clean energy towards a global architecture for the long haul.

Concluding, Arif Ahmed Khan, Ministry of Climate Change, Pakistan, emphasized implementation and the need to look for comprehensive solutions while prioritizing climate considerations over bilateral interests.

During the ensuing question-and-answer session, participants addressed, *inter alia*: accountability for emission reduction commitments that have been made; potential hurdles for the Paris negotiations; the role of climate and clean energy institutions; and health and clean air issues.

HIGH-LEVEL PANEL VI: THE MULTIPLE BENEFITS OF ENERGY EFFICIENCY

The session was chaired by Achim Steiner, UN Under-Secretary General and Executive Director, UN Environment Programme (UNEP). Jean-Marc Ollagnier, Accenture Resources, highlighted that: 1.2 billion people globally do not have access to energy, yet resources need to be used sustainably. He observed that energy efficiency can mitigate 40% of CO₂ emissions, and that the private sector can play a role in moving towards sustainability and developing new solutions.

Describing his country as one of the most energy efficient in the world, keynote speaker, Masahiko Horie, Ministry of Foreign Affairs, Japan, outlined the Top Runner Approach – a standard-setting tool aimed at improving the energy efficiency of appliances and products. Horie observed that the Japan International Cooperation Agency (JICA) is supporting around 15 countries on energy efficiency and that the New Energy and Industrial Technology Development Organization (NEDO) is supporting the Smart Cities Initiative.

Ajay Mathur, Director General, Bureau for Energy Efficiency, India, explained how the government set up a public company, Energy Efficiency Services Ltd, to enhance the use of light-emitting diodes (LED) bulbs for street lighting and domestic use by providing the bulbs at a subsidized cost to be repaid over time.

Le Huu Phuc, Ministry of Industry and Trade, Viet Nam, highlighted his country's laws and policies aimed at improving energy efficiency, noting that demand for energy is high, and Viet Nam will soon be an energy importing country. He noted the need for energy efficiency improvements, especially in the industrial sector.

Noting changes in policy to focus on energy efficiency and its multiple benefits, Daegyun Oh, Korea Energy Management Corporation, provided a chronology of events in the Republic of Korea from an energy efficiency perspective.

Dan Dorner, IEA, drew attention to the Energy Efficiency in Emerging Economies (E4) Programme that helps emerging economies harness economy-wide benefits and also highlighted the World Energy Outlook Special Report that sets out pillars for success at COP 21. He said a peak in global energy-related emissions could be achieved by 2020 at no net economic cost, with a focus on increasing energy efficiency.

Reid Detchon, UN Foundation, stressed the importance of energy efficiency, spreading renewable energy and reducing energy waste. He noted the role of energy efficiency in creating jobs, and called for best practices to be shared and replicated.

HIGH-LEVEL PANEL VII: SUSTAINABLE CITIES – GLOBAL DRIVER

Nebojsa Nakicenovic chaired the panel. He highlighted that cities produce 80% of global CO₂ emissions.

In his keynote address, Arnulf Grubler, IISA, and Visiting Professor at Yale University, expanded on the multiple challenges posed by cities, noting the need for policy integration and institutional change to accommodate new development paradigms.

Peter Göntzer, General Manager, Wien Energie GmbH, the second keynote speaker, expanded on the Vienna Model, an innovative approach to smart energy solutions that addresses high-efficiency cogeneration, decentralized production and increased use of renewables, and saves around 3 million tonnes of CO₂ emissions annually.

Ligia Noronha, UNEP, noted the increasing interest and involvement of citizens in the energy debate. She drew attention to shifts in technology, resource demand, politics and sociological factors, and to the need to focus on local governments. She also underscored cities' potential for transformation.

Rohit Khanna, World Bank: noted that there is no developed-developing country dichotomy at city level; cautioned against locking in unsustainable development trends in cities; and stressed that energy efficiency should be seen in a broader context of livability. He called for convergence of bottom-up and top-down approaches for energy efficiency to take hold in cities, and underscored the importance of data and capacity.

Fleming Voetmann, Danfoss, observed that technology is available and stressed the need to accelerate its adaptation. He highlighted energy efficiency co-benefits, particularly the freeing up of resources locked in inefficient energy systems, and provided district energy examples.

Highlighting cities' energy efficiency potential, Harry Verhaar, Philips Lighting, focused on improving livability and the role of city and sector-based initiatives; and provided replicating and scaling examples in lighting.

Brigitte Bach, Austrian Institute of Technology, provided a research perspective on sustainable cities, noting that it is possible to have zero-emissions cities by 2050 by focusing on integration issues, including legal, planning, marketing, social acceptance and technology aspects. She stressed the need for new creative approaches involving multiple stakeholders.

Maryke van Staden, ICLEI – Local Governments for Sustainability, called for engaging local governments, focusing on integrated approaches, low-emissions development, resilient systems and capacity building.

Perla Srour-Gandon, Directorate-General for Energy, European Commission, presented the EU's perspective, inviting participants to view urban density as an opportunity to reduce emissions. She highlighted the EU's Covenant of Mayors initiative, emphasizing awareness and capacity building, and city-to-city cooperation.

During the ensuing discussion, participants addressed, *inter alia*: ways to involve people on the ground in the absence of action by local authorities; options to trigger private sector financing; and improving cities' livability through energy efficient solutions.

HIGH-LEVEL PANEL VIII: POST-2015 DEVELOPMENT AGENDA: THE SDG SUMMIT AND BEYOND

Gyan Chandra Acharya, UN Under-Secretary-General and High Representative for the LDCs, LLDCs and SIDS, chaired the session. He noted the need to build resilience to deal with climate change and disasters, and include women and marginalized groups in the process.

Acharya stressed the importance of: having a vision and goals; accelerating progress; and sharing and replicating best practice. He drew attention to the proposed Sustainable Development Goals on sustainable energy (SDG7) and on sustainable industrialization (SDG9).

Keynote speaker Nebojsa Nakicenovic, discussed the interrelationship between the SDGs, with a specific focus on SDG7 and SDG9. He introduced the World in 2050 initiative that looks at achieving global development within planetary boundaries. He drew attention to the scenarios in the Global Energy Assessment to illustrate that all the SDGs need to be looked at in unison to ensure multiple benefits.

Darcy Boyce, Minister for Energy, Telecommunications, Immigration and Investment, Barbados, described issues of energy security in SIDS and the linkages with investments and the economy. He underscored the importance of involving youth, discussed borrowing rates and access to funding for climate adaptation, and welcomed the future opening of the Caribbean Center for Renewable Energy and Energy Efficiency. He called for research on how to get more energy, food and water from the sea.

Henrique Banze, African, Caribbean and Pacific Group of States (ACP) drew attention to the Sipopo Declaration from the 7th Summit of ACP Heads of State and Government and 96th Session of the ACP Council of Ministers. He defined challenges as under-exploitation of renewables, inadequate policies and dependence on biomass and fossil fuels, and on the SDGs, called for a comprehensive and cost-effective approach, monitoring of implementation of progress at all levels, and partnerships.

Fernando Frutuoso de Melo, Directorate-General for International Cooperation and Development, EU Commission, said a comprehensive outcome from the Third International Conference on Financing for Development could determine the success of the UN Summit to adopt the post-2015 development agenda and of COP 21. Noting interconnections between SDGs 7 and 9, he highlighted their positive impact on SDGs on health, education, nutrition and food, sustainable economic growth and climate change.

Kazuo Furukawa, Chairman, NEDO, said innovation and strong multilateral cooperation initiatives are key to achieving SDGs 7 and 9. He emphasized the need to: determine what is needed to diffuse technology to bring value to society; share best practices among stakeholders; and develop a framework with policy and regulatory instruments to help technology dissemination.

Helen Hai, CEO, Made in Africa Initiative, and Goodwill Ambassador for UNIDO, highlighted ways to transform economies and empower people through industrialization, citing success stories from Ethiopia and Rwanda.

Describing industrialization and sustainable energy as enablers, Taizo Nishikawa, Deputy to the Director General, UNIDO, underscored interlinkages between SDGs, and highlighted the importance of means of implementation and a reporting and monitoring mechanism.

Ibrahim Rehman, Director, Lighting a Billion Lives Campaign, TERI, stressed the need to recognize that: development is the driver of energy choices, with climate being a co-benefit; energy has to focus on service delivery within an enterprise-based approach; and focus on capacity development is needed.

HIGH-LEVEL PANEL IX: NEW AND INNOVATIVE FINANCING MECHANISMS FOR SUSTAINABLE ENERGY

Chair Ajay Mathur opened the session, emphasizing that financing is ultimately the "main lubricant" for clean energy. In his keynote address, William Warren Smith, President, Caribbean Development Bank (CDB), highlighted adequate, timely and appropriate financing as a key challenge to realizing sustainable energy. Emphasizing concessional financing, he explained that traditional financing instruments used for diesel and steam power generation are inadequate for renewable energy development because of real and perceived barriers.

Mathur explained that the CDB is pursuing initiatives to address barriers to financing and is providing a blend of loan and grant financing options. On geothermal energy, he said the CDB is in the process of establishing a facility to offer instruments suitable for each stage of development.

Responding to an invitation to highlight constraints relating to financing for clean energy, participants listed: lack of confidence and trust in the technology; over-estimation of the risks by banks; cost effectiveness of due diligence; financing transaction costs; and the need for payment guarantee insurance.

Christine Lins, Executive Secretary, REN21, observed that investments in renewables have outpaced fossil fuel investments for the fifth year running, emphasizing that renewable energy projects are reliable and bankable. She stressed that it is crucial to scale up funds in order to achieve the SE4All objectives.

James Wilde, Managing Director, Carbon Trust, observed that in spite of energy efficiency opportunities with savings of 15-20% and payback in 1-2 years, many companies are not implementing energy efficiency measures due to lack of awareness and motivation, an absence of trust, and difficulty in accessing finance. He explained how his company raises awareness of energy efficiency opportunities, tracks uptake and provides tailored advice to small-and medium-sized enterprises (SMEs) worth GBP30 million per year.

John Wasielewski, Power Africa, USAID, emphasized that sustainable financing for energy has to be local, adding that people support what they help create.

George Chavdarov, European Investment Bank, explained that the Bank is working with the European Commission to scale up efforts in the energy sector and is encouraging private and public sector investment. He highlighted the European Energy Efficiency Fund, which provides market-based financing for small-scale energy efficiency and the Green for Growth Fund, Southeast Europe, a specialized fund to advance energy efficiency and renewable energy.

Roberto Ridolfi, Directorate General, International Cooperation and Development, European Commission, emphasized appropriate institutional and regulatory frameworks for investment and said that finance blending should become “smarter, faster, deeper and broader.” He highlighted *ElectriFi*, an EU electrification financing initiative, which aims to accelerate access to energy in rural areas in developing countries by supporting the private sector.

Andrea Hagmann, Development Bank of Austria, explained how the Bank operates, noting its role in supporting the private sector in developing countries and emerging markets with long-term financing, the use of loans and private equity instruments, and the provision of technical assistance. She noted innovative finance was about combining available instruments, discussed energy efficiency projects, and stressed the importance of bringing in partners.

In his recap of the session, David Rogers, GEF, stressed: the importance of connections, partnerships and relationships; the existence of proven solutions and the need to replicate them at scale and innovate; and the importance of local banks as engines of economic growth.

HIGH-LEVEL PANEL X: INTEGRATED APPROACHES FOR THE ENERGY-WATER-FOOD- HEALTH NEXUS

Pavel Kabat chaired the panel. Ursula Schaefer-Preus, Chair, Global Water Partnership (GWP), expanded on the work of the GWP and the linkages between water, agriculture, energy, food, nutrition and health. She called for: integrated

approaches; their operationalization; and developing a strong body of evidence and research. She noted 2015 is the last year of the International Water Decade and that it has helped accelerate the Millennium Development Goal (MDG) achievement on water.

Providing a private sector perspective, James Rockall, CEO and Managing Director, World Liquid Petroleum Gas Association (WLPGA), noted investors want to make a return on investment and expanded on the positive impacts of using Liquid Petroleum Gas. He called for enabling policies and the monetization of socio-economic and environmental issues, and discussed the role of subsidies, women, education and finance mobilization, as well as the need for bottom-up solutions.

Robert Zeiner, ADA, noted that the nexus approach is not a new one but is being applied more consciously and systematically. He shared the Agency’s experience in looking at issues holistically to achieve a better overall development outcome. He noted that benefits from the nexus approach are related directly to 11 SDGs and indirectly to six of them.

Simon Trace, CEO, Practical Action, discussed the definition of ‘nexus,’ noting one-way dependency on the one hand and interdependency on the other, the challenges of measuring impacts and the need for more indicators. He presented the Practical Action Energy-Water-Food Nexus at Decentralized Scales report on synergies and trade-offs, and how to manage them. He explained how the nexus plays out at the local level and how energy project designs need to take it into account.

Amb. Hyun Cho, Ministry of Foreign Affairs, Republic of Korea, illustrated how the concept of nexus has been developed and strengthened by the Korea International Cooperation Agency (KOICA), citing the example of a water and electricity project in East Timor. He said a clearinghouse to address the nexus has been established and emphasized, and stressed: the importance of good understanding of local conditions; the need for a technological breakthrough to lower prices; and the need to find a formula for strengthening the nexus and sharing it with NGOs and private investors.

Raffi Balian, US Embassy, Budapest, cautioned that not all world leaders believe in an integrated approach to sustainable development and said it is “our responsibility to have a conversation” with them. He stated that an integrated approach is needed for security in the provision of environmental and energy services and that, in order to develop such an approach, science, research and data need to be brought together to break down institutional barriers.

Mohinder Gulati, COO, SE4All, pointed out that the Earth’s resource base and capacity to carry carbon have been shrinking, and described a study by the Food and Agriculture Organization of the UN that addresses the water and carbon footprint of food loss and wastage. Identifying opportunities the nexus can offer to reduce food wastage, he stressed the need to change policies and invest in infrastructure, which will lead to employment opportunities and also feed the hungry.

Concluding, Chris Walzer, Professor at University of Veterinary Medicine, Vienna, called for including the environment in the nexus. He stated the need for, *inter alia*: developing tools to incentivize participation; establishing a directorate general nexus; monetizing trade-offs; and education.

PARALLEL SESSIONS

ENERGY EFFICIENCY FOR COMPETITIVE

INDUSTRIES: Pradeep Monga chaired the session. He stressed that energy efficiency is a low-hanging fruit, yet there is ample scope to improve it within industries of all sizes.

Noting that both the scope of and barriers to energy efficiency in industry are well known, keynote speaker Leena Srivastava said energy efficiency in industry is driven by climate change, energy security and supply chain dynamics. She cited case studies from a sugar plant in Guyana, a glass industry and a foundry plant in India, municipal water pumping installations in Ghana, and public buildings in Uganda.

Jigar Shah, Executive Director, Institute for Industrial Productivity, provided an overview of Alcoa and how the company had been turned around. He made an analogy between energy efficiency and safety measures, stressing the importance of both. Shah noted that the cost of energy as a percentage of production costs varies greatly depending on the industry.

Peter Traupmann, Managing Director, Austrian Energy Agency, distilled lessons from 35 years of working on energy efficiency, noting that energy efficiency improvements that lead to a market advantage are easy to make and that energy efficient companies have lower costs and are more competitive. He lamented the high investment costs linked to energy-intensive industries and the lack of harmonized energy policies within the EU.

Zhihong Zhang, Climate Investment Funds (CIF), explained the functioning of the Clean Technology Fund. He noted a report from six large multilateral development banks on climate finance commitments and concluded that not much is being done on energy efficiency compared to large-scale renewable energy projects.

David Shropshire, International Atomic Energy Agency, explained that the Agency is focusing on developing more efficient nuclear reactors and on reducing the reactor footprint. He noted the need to consider the entire reactor lifecycle and plan to ensure that all energy issues are properly considered.

David Carroll, President, International Gas Union, emphasized that returns on energy efficiency investments are paramount but, for industry, the dominant cost is not energy but raw materials, intermediate goods and labor, which could be a barrier to energy efficiency.

Vladimir Nechitailov, Ural Mining and Metallurgy Company Holding, Russian Federation, outlined how his company saved money by reducing energy consumption. He emphasized the need to establish appropriate technological processes and for fiscal policies aimed at energy efficiency.

Joe Almaguer, Dow Chemical Company, emphasized that every dollar saved by energy efficiency flows directly to the bottom line of a company. Even in periods of low energy pricing, he noted energy management systems need to continue to improve on energy intensity in order to provide a competitive advantage. He explained how his company has taken steps to formalize energy efficiency management by putting in place measurement, tracking and reporting mechanisms, and that, since 1990, energy intensity has been reduced by 40%, translating into savings of US\$28 billion.

Andrew Yager, Multiconsult, highlighted the recently released papal encyclical on climate change, which includes energy conservation actions. He further noted that fuel switching, new energy sources and technologies are important for energy efficiency.

Caroline McGregor, US Department of Energy, drew attention to the Energy Management Working Group of the Clean Energy Ministerial, where countries take collective action to strengthen national and international efforts to adopt energy management systems. She highlighted the new energy management standard ISO 50001.

ADDRESSING THE KNOWLEDGE GAP THROUGH RESEARCH NETWORKS: The session was chaired by Luis Gomez-Echeverri, IIASA. In his keynote speech, Mikul Bhatia, World Bank, noted that current understanding of energy access prevents a range of initiatives under SE4All from being pursued. He highlighted the following reports: Readiness for Investment in Sustainable Energy (RISE); Progress Towards Sustainable Energy: Global Tracking Framework 2015; and Beyond Connections: Energy Access Redefined. Bhatia emphasized that energy access is not an end in itself but a means to many ends, urging a “shift in the energy access paradigm.”

Melanie Slade, IEA, addressed research gaps on energy efficiency in the context of Global Tracking Framework 2015, a multi-agency effort. She identified the need to demonstrate how energy efficiency contributes to high-level commitments rather than talking about energy efficiency in its own right.

Youba Sokona, Intergovernmental Panel on Climate Change (IPCC), called for collective effort to move away from preconceived solutions and approaches to energy access and energy efficiency.

Jacqueline Cramer, Director, Utrecht Sustainability Institute: noted that sound energy and climate science is crucial to politics; lauded the IPCC for improving its internal processes and procedures and adopting a communications strategy, thus contributing to trust building; and said more peer-reviewed sources on regions are needed in IPCC assessment reports to improve developing countries’ access to mitigation and adaptation funding.

John Christensen, Director of the UNEP Technical University of Denmark Partnership, discussed the Global Network on Energy for Sustainable Development, a South-South network with the objective of promoting sustainable development and poverty alleviation by expanding the knowledge base on environmentally sound provision of key energy services.

Jukka Uosukainen, Director, Climate Technology Centre and Network (CTCN), explained the CTCN’s purpose of filling the gap in technical knowledge through the provision of reliable and neutral information, and facilitating technology sharing and transfer.

Stephan Sicars, UNIDO, stressed the need for qualitative assessments providing information on sub-sectors where energy efficiency improvement is possible.

Sebastian Helgenberger, Institute for Advanced Sustainability Studies, Potsdam, called for mobilizing existing knowledge by making it usable and accessible.

Florian Bauer, REEEP, stressed the need for synthesizing and “translating” information for those who consume it, citing the example of the Climate Knowledge Brokers Group.

PUBLIC-PRIVATE PARTNERSHIPS FOR ENERGY EFFICIENCY: Mark Radka, UNEP, chaired the session.

In his keynote address, Michael Dickstein, Heineken, described what his company is doing on PPPs for energy efficiency with a particular emphasis on the fitting of solar panels on their Netherlands brewery. He drew attention to their corporate social responsibility strategy and how it looks at reducing CO₂ emissions in brewing, distribution and fridges.

Dickstein stressed that, in PPPs, every side needs to know their core competencies and noted the need to “win the hearts and minds” of neighboring communities. He noted four areas of opportunity in working with the public sector: accelerating permits procedures; harmonizing regulations and tax regimes; multiplying incentives; and investing in mutual understanding.

Kazuhiko Hombu, Professor of Tokyo University, and Executive Officer, TAISEI, discussed barriers to realizing energy efficiency, such as misunderstanding opportunity cost, and differences between countries and sectors. He described policies and measures for activating PPPs, including strong political commitment and adequate regulation for introducing best available technologies.

Andy Wehkamp, Netherlands Development Organisation (SNV), noted the use of climate finance for energy efficiency and presented a case study on small breweries in Burkina Faso where improved appliances had reduced wood burning and GHG emissions. She called for good communication, capacity building and education, for climate finance to be employed in a market-oriented way and for governments to play an enabling role.

In describing the United for Efficiency (U4E) brand, Steve Kukoda, Vice President, International Copper Association, noted the Association’s goals to reduce electricity consumption and CO₂ emissions, to be achieved through market transformations based on mandatory minimum efficiency standards. He said many markets in developing countries where the global growth in energy demand will happen do not have standards, and called for harmonizing standards regionally.

Jennifer Layke, World Resources Institute, explored what drives decision making in efficiency markets. She said awareness, technical capacity, certainty of savings, financial criteria and available capital are barriers to energy efficiency, and cited the Mexico City Partnership activities to build efficiency.

Wim Jonker Klunne, Energy and Environment Partnership, Southern and East Africa, highlighted the potential for energy savings, efficiency and generation at the government infrastructure level as an opportunity for PPPs. He stressed that financial viability is not enough to get a project off the ground and that the understanding of potential mutual benefits of PPPs is essential.

Noting that over half of the world’s population lives in cities, Paweł Wiktor, Consus Carbon Engineering, said contributions to energy efficiency are needed at the

government, industry and citizen levels. He noted the public sector may have access to long-term financing but lack the knowledge, whilst the private sector might have the know-how but not the resources. He suggested that revolving funds derived from public sources enable the completion of projects that have long return periods.

Comments from the floor regarded, *inter alia*: the need to plant more trees in Burkina Faso to mitigate air pollution; initiating projects only when all the funds are available; and trusting technologies as well as partners.

Irek Łazor, Polish Power Exchange, WSE Group, recapped that PPPs are a response to the challenges of all democratic economies and that market maturity is determined not only by the number of PPP projects, but also by the institutional and tax regulations that foster competition.

In closing, Peter Graham, Executive Director, Global Buildings Performance Network, concluded that PPPs work at different scales, and succeed when there is trust, standardization, harmonization and when partnerships are formed with complementary capabilities and understanding.

SUSTAINABLE TRANSPORT: Cornie Huizenga, Secretary-General, Sustainable Low Carbon Transport Partnership, chaired the session. He noted that this is the first event on transport at the VEF. Huizenga observed that the share of transport-related emissions is increasing and highlighted the Paris Process on Mobility and Climate.

Fidel Garcia Granados, City of León, Mexico, delivered a keynote speech, in which he described the city’s bus rapid transit (BRT) system, which not only improves mobility and accessibility, but also reduces energy consumption and improves environmental quality.

Sheila Watson, Federation Internationale de l’Automobile (FIA) Foundation, presented on the Global Fuel Economy Initiative, identifying the need to work together to get a step change in political commitments on the issue of fuel economy.

Jean-Pierre Loubinoux, Director General, International Union of Railways, indicated that sustainable transport is a crucial enabler for a number of SDGs, and energy efficiency and electrification are key to sustainable transport. He emphasized the EU-funded Merlin project on railway energy management in terms of new smart grid structures, noting that the European railway sector doubled its use of renewables from 2005-2010.

Noting that current electricity consumption in cars is the same as it was in the 1970s, Patrick Oliva, Michelin Group, stressed the need for clean, safe, affordable and accessible mobility. He said the transport sector must reduce its net emissions, and called for low-emissions zones at municipal level, joint commitments by industry and government, and private finance.

Calling for a holistic approach, Stephan Herbst, Toyota, explained that his company has partnered with the World Business Council for Sustainable Development and is working in six pilot cities on sustainable mobility solutions.

Michael Viktor Fischer, CEO, SMATRICES, emphasized that, in the future, new transport innovations in cities will be linked to electric mobility, resulting in reductions in CO₂ emissions, and less dust and noise pollution.

Minoru Takada, SE4All, Executive Office of the UN Secretary-General, highlighted SDG targets relating to transport and the High-level Advisory Group on Sustainable Transport established by the UN Secretary-General.

Maria Josefina Figueroa, Copenhagen Business School, called for considering “real world conditions,” noting that people in developing countries require accessible, non-motorized modes of transport and a diversity of services.

Calling for a more ambitious redefinition of mobility, Bruno Berthon, Managing Director, Accenture, said the specter of 2 billion cars on the road would be a “nightmare” and steps should be taken to avoid this.

During the ensuing discussion, various issues were raised, including: the need for enabling environments to accelerate the deployment of “the car of the future”; a lack of focus on decarbonization in the transport industry; the need to reduce electric vehicle energy consumption; and the reluctance of consumers to invest in new technology.

PRESENTATION OF THE VEF 2015 OUTCOME DOCUMENT

Pradeep Monga opened the session on Saturday afternoon, explaining that the VEF 2015 Outcome Document reflects discussions, is apolitical and comprises eight key messages that will be transmitted to the Third International Conference on Financing for Development, the UN summit on SDGs and UNFCCC COP 21. Luis Gomes-Echeverri introduced the eight key messages of the Outcome Document.

FINAL OUTCOME: In key message one, the Forum recommends the approval of the SDGs in September by the UN General Assembly, in particular SDGs 7 (access to sustainable energy) and 9 (sustainable industrialization). This message further cites major scaling up of action on the ground as key to the success of the 2015 global development debates.

Key message two links climate action to action on SDGs. This message describes the three major global debates in 2015 as a rare opportunity to link climate action and the SDGs.

Key message three states that two-thirds of energy efficiency potential will go untapped unless effective policies and measures are put in place to allow necessary action and investments.

Key message four underlines that, to meet energy efficiency and renewable energy potential, scaled up action and investments are needed in targeted areas, such as cities, and in key sectors such as industry, transport, power generation and buildings.

Key message five states that the nexus between energy, transport, food, water and health is inseparable is an essential contributor to social progress and human wellbeing, and needs to be approached in an integrated manner for adequate solutions.

Key message six states that greater effort is needed to strengthen the synergies between the three 2030 SE4All goals: (ensure universal energy access, double the global rate of improvement in energy efficiency and double the share of renewable energy).

Key message seven outlines that much of the potential for greater impact in climate and development action goes untapped because of lack of regulatory cohesion and lack of synergy between national and sub-national efforts. This

message highlights the need for regional approaches, such as regional centers, on renewable energy and energy efficiency, and cohesive policy actions for lowering transaction costs and promoting economies of scale for regional approaches.

Key message eight states that sustainable energy and women’s empowerment are mutually reinforcing goals and that empowering women to become agents of sustainable energy will be key to achieving truly inclusive and sustainable development.

Luis Gomes-Echeverri, invited participants to comment on the Outcome Document explaining that it will be posted online and written comments will be welcome. One participant called for improving education on sustainability in schools. Another requested strengthening the message of the importance of water in the context of energy efficiency and renewable energy.

Nebojsa Nakicenovic noted that the challenges relating to sustainable energy are enormous, with 40% of the global population still left behind. He emphasized the need for a major transformation or revolution, and for action to be accelerated on the ground.

CLOSING

Herbert Krauss, Ministry for Europe, Integration and Foreign Affairs, Austria, noted that increasing levels of participation in the VEF over the years indicates growing global awareness of energy issues.

Mohinder Gulati said trust and confidence need to improve alongside the willingness to find solutions, with the VEF creating an opportunity for people to come together, and share and exchange experiences and best practices.

Pavel Kabat praised the Government of Austria for supporting various international organizations, and called for a shift of rhetoric to a positive narrative that focuses on opportunities rather than challenges.

Thanking participants, Robert Zeiner highlighted growing networks, regional collaboration and the opportunity to share with others.

Li Yong brought VEF 2015 to a close at 3.25pm, thanking participants, commending the organizers, partners, participating governments and the city of Vienna, amongst others.

UPCOMING MEETINGS

Intergovernmental Negotiations on the Post-2015 Development Agenda – Sixth Session: The session is scheduled to focus on negotiating the outcome document of the September 2015 summit to adopt the post-2015 development agenda. **dates:** 22-25 June 2015 **venue:** UN Headquarters **location:** New York City, US **email:** dowlatshahi@un.org **www:** <https://sustainabledevelopment.un.org/post2015>

Island Energy Transitions: Pathways for Accelerated Uptake of Renewables: IRENA and the French Government, with the regional Government of Martinique, will convene this meeting on accelerating the uptake of renewables on islands. **dates:** 22-25 June 2015 **location:** Martinique **contact:** IRENA Secretariat **phone:** +971 2 417 9000 **email:** secretariat@irena.org

High-Level Event on Climate Change: The President of the UN General Assembly will convene this high-level event, with the aim of giving momentum and adding impetus to efforts to reach a global agreement in 2015 under the UNFCCC. **date:** 29 June 2015 **location:** UN Headquarters, New York **contact:** Office of the President of the UN General Assembly **www:** <http://www.un.org/pga/calendar/>

Our Common Future Under Climate Change: Organized by the UN Educational, Scientific and Cultural Organization (UNESCO), International Council for Science (ICSU) and Future Earth, in collaboration with a partnership of French organizations, this science-focused conference will examine the latest research around climate change. The event will touch upon: the state of knowledge on climate change; responding to climate change challenges; and collective action and transformative solutions. **dates:** 7-10 July 2015 **location:** Paris, France **contact:** Conference Secretariat **email:** science@commonfuture-paris2015.org **www:** <http://www.commonfutureparis2015.org/>

Third International Conference on Financing for Development (FfD): The conference will be held at the highest possible political level, including Heads of State or Government, ministers for finance, foreign affairs and development cooperation – and other special representatives. **dates:** 13-16 July 2015 **location:** Addis Ababa, Ethiopia **contact:** FfD Secretariat **www:** <http://www.un.org/esa/ffd/consultations/index.htm>

Intergovernmental Negotiations on the Post-2015 Development Agenda – Seventh and Eighth Sessions: The sessions are both scheduled to focus on negotiating the outcome document of the September 2015 summit to adopt the post-2015 development agenda. **dates:** 20-31 July 2015 **venue:** UN Headquarters **location:** New York City, US **contact:** Office of UNGA President **email:** dowlatshahi@un.org **www:** <https://sustainabledevelopment.un.org/post2015>

UN Summit for the Adoption of the Post-2015 Development Agenda: The UN Summit to adopt the post-2015 development agenda was mandated by UNGA on 25 September 2013 (Resolution 68/6). The Summit will be convened as a UNGA high-level plenary meeting, per Resolution 69/244 of December 2014. **dates:** 25-27 September 2015 **venue:** UN Headquarters **location:** New York City, US **www:** <https://sustainabledevelopment.un.org/post2015/summit>

South Africa International Renewable Energy Conference 2015 (SAIREC): The Government of South Africa, together with the South African National Energy Development Institute and the Renewable Energy Policy Network for the 21st Century (REN21) are hosting the event to gather ministers, decision-makers, civil society, academia and the private sector to discuss experiences and strategies for accelerating the global deployment of renewable energy. The event is aimed particularly at giving the African renewable energy industry opportunities to showcase its work and gain insights from other participants. **dates:** 4-7 October 2015 **location:** Cape Town, South Africa **contact:** REN21 Secretariat **email:** secretariat@ren21.net **www:** <http://www.ren21.net/Resources/EventCalendar/REN21NetworkEvents.aspx>

Innovation for Cool Earth Forum (ICEF): ICEF aims to address climate change through innovation by investigating what innovative measures should be developed, how innovation should be promoted and how cooperation among stakeholders could be enhanced. ICEF 2015 will bring together representatives of the business community, researchers and policymakers to take forward discussions on innovation. **dates:** 7-8 October 2015 **location:** Tokyo, Japan **email:** icfef-reg@congre.co.jp **www:** www.icef-forum.org

IEA Bioenergy Conference 2015: The conference will focus on recent research and market development in bioenergy, including: challenges across bioenergy value chains; and cross cutting topics. The conference is supported by the German Ministry of Food and Agriculture. **dates:** 26- 29 October 2015 **location:** Berlin, Germany **contact:** Fachagentur Nachwachsende Rohstoffe **phone:** +49-3843-6930-102 **email:** v.pelikan@fnr.de **www:** <http://ieabioenergy2015.org/>

IEA Ministerial Meeting: The IEA Secretariat will present the outcomes of the meeting of the Governing Board, providing an opportunity for member countries to agree domestic and/or collective actions in the field of energy policy. **dates:** 17-18 November 2015 **location:** Paris France **contact:** IEA Secretariat **email:** info@iea.org **tel:** +33-1-40-57-65-00 **fax:** +33-1-40-57-65-09 **www:** <http://www.iea.org/newsroomandevents/events/event/name-139194-en.html>

UNFCCC COP 21: The 21st session of the COP to the UNFCCC and associated meetings will take place in Paris. **dates:** 30 November - 11 December 2015 **location:** Paris, France **contact:** UNFCCC Secretariat **phone:** +49-228-815-1000 **fax:** +49-228-815-1999 **email:** secretariat@unfccc.int **www:** <http://www.unfccc.int>

GLOSSARY

COP	Conference of the Parties
GEF	Global Environment Facility
GHGs	greenhouse gases
IEA	International Energy Agency
IIASA	International Institute for Applied Systems Analysis
INDCs	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
PPP	public-private partnership
REEEP	Renewable Energy and Energy Efficiency Partnership
REN21	Renewable Energy Policy Network for the 21 st century
SDGs	Sustainable Development Goals
SE4All	Sustainable Energy for All
SIDS	Small Island Developing States
TERI	The Energy and Resources Institute
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
VEF	Vienna Energy Forum