



VIENNA ENERGY FORUM 2013

One year after Rio + 20:
the energy future we want



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SUMMARY REPORT



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Federal Ministry for
European and International Affairs



International Institute for
Applied Systems Analysis
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Vienna Energy Forum 2013

One year after Rio+20: the energy future we want

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Summary Report



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
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SUMMARY REPORT

The Forum

The Vienna Energy Forum (VEF) 2013 brought together around 1,600 participants from 116 countries, including 20 ministers, high-level dignitaries, policymakers, experts and representatives from the private sector and civil society under the theme “One year after Rio+20: the energy future we want.” Over the two-and-a-half day conference, delegates were addressed by 110 eminent speakers and experts in a series of ministerial gatherings, high-level panels, plenary and parallel sessions.

Organized by UNIDO, the Austrian Federal Ministry for European and International Affairs and the International Institute of Applied Systems Analysis (IIASA), the conference covered the following key energy issues:

- Energy access
- Financing the energy future
- Policies and technologies
- The development of an energy sustainable development goal
- Sustainable energy in the post-2015 global development agenda

In examining these themes, the Forum set out to answer the following fundamental questions:

- Are we on the right track to implement the vision of Sustainable Energy for All by 2030 and what would be the potential benefits for development, health, education and the environment?
- How do we move from commitments to the provision of clean, reliable and affordable energy services in countries where it matters most?

- Do we have the policies and partnerships in place to guarantee a transformation towards sustainable energy?
- What energy future do we want beyond 2015, toward 2030 and thereafter?

This summary report is not intended to be a comprehensive record of the Forum, but rather it will focus on the highlights of the discussions and topics reviewed at the Forum. It will also set out recommendations on the way forward.

The Global Energy Debate

Since the VEF first took place in 2009, the importance of energy to the global development debate has risen considerably. There is now broad acceptance that any efforts to meet the world's future energy needs must take account of constraints imposed by economic and political instability, growing populations, diminishing resources and the threat of climate change.

In this context, two major interlinked issues are driving the agenda: the need to open up energy access to all and end energy poverty, and secondly, the need to ensure that our future energy requirements are met by clean, green and affordable power. It is clear that providing sustainable energy to all is the key to both of these questions, but there are considerable hurdles to overcome to achieve this. The 2013 Forum set out to assess the barriers to progress and explore some potential solutions in recognition of the vast challenges ahead.

Chief among these challenges is the fact that 1.3 billion people currently lack access to electricity and 3 billion continue to rely on solid fuels for heating and cooking. Without a solution to this problem, efforts to eradicate global poverty and inequality will be severely hampered. But it is becoming ever clearer that our current energy systems are woefully inadequate in this regard. Not only that, but they are also failing to deliver on energy security, or human and ecosystem health. Energy inefficiencies and high greenhouse gas emissions have a serious impact on health, education and development, while the potential benefits that would come from sustainable energy for all, such as sustainably powered small businesses, are not being realized.

Added to this, there is growing concern over the increasingly small window of opportunity that exists for stemming the rise of GHG emissions and the resulting global warming. This makes it all the more urgent that any new energy investment must be targeted to support sustainable energy for all. This urgency for action also means governments, business, and civil society from the developed and developing world need to come together in a concerted effort to change how we produce and consume our energy.

Central to current efforts to create new sustainable energy solutions is the United Nations Secretary-General's initiative Sustainable Energy for All (SE4All). It sets out to provide a

roadmap for achieving sustainable energy goals with three concrete targets to be reached by 2030: universal access to modern energy services, doubling the improvements of energy efficiency, and doubling the contribution of renewable energy to the global energy mix. These targets were endorsed at the 2012 Rio+20 summit and received a plethora of financial commitments from governments, development banks, international organizations and civil society.

The VEF 2013 gave policymakers, governments, business and civil society an important and timely platform to discuss where we are in the debate one year on from Rio and its outcome document, “The Future We Want”. It offered an opportunity too, to inform the post-2015 development agenda where new sustainable development goals will be set. At the same time, the Forum provided a high-profile arena for the energy debate amid ongoing negotiations on the Green Climate Fund, which will be critical to how funds are disbursed and served to keep the energy agenda high in policymakers’ minds ahead of the upcoming United Nations Sustainable for All Decade, 2014-24.

The Multiple Benefits of Sustainable Energy

The focus of the Forum was on action, in particular on the implementation of a “sustainable energy for all” agenda. Delegates discussed energy’s key role in addressing many of the challenges of our century, and looked at what kind of technology, finance, institutions and partnerships would be best in achieving a successful transformation of our current energy systems. The following is a brief summary of these discussions:

Energy is central to the most pressing economic, environmental and developmental issues of our century; sustainable energy is a prerequisite for global prosperity. Access to modern energy services is a critical requirement for the eradication of poverty and its negative consequences such as poor human development, reduced economic development as a result of limited education and health opportunities, and lower life expectancy because of indoor and regional pollution. Better access to modern energy would also improve gender equality, stimulate higher human capacity and more sustainable economic activities. Sustainable energy systems are also essential for addressing the pressing challenges of climate change. At the global level, the energy system—supply, transformation, delivery and use—is the dominant contributor to climate change. Energy system design, providing stronger incentives for reduced GHG emissions in supply and increased end-use efficiency, will not only be critical for reducing the risk of climate change but will also bring multiple benefits in productivity, employment, health, and improved livelihood.

The global sustainable energy agenda offers three excellent entry points on which to take concrete action: energy access (largely for developing countries), energy efficiency and renewable energy (for all countries). The discussion revolved around how to mobilize the \$40 to \$60 billion that is required to reach universal access, and the significantly larger

amounts of upfront investments needed to improve energy efficiency and increase the share of renewable energy in the global energy mix. The benefit of higher upfront investments would be lower longer-term costs because both efficiency and most renewables have no fuel and low operating costs. The figures required to meet the growing demand, and invest in the necessary maintenance of the energy system, are estimated at around \$2,500 billion total energy investments (or about 3 per cent of global economic output). This is an effort that will require the active participation of multiple stakeholders—to set the stage for the investments and to apply these investments where needed. The critical roles of both the public and private sectors were emphasized with the public sector playing a catalytic role and setting a conducive and enabling environment for the private sector to invest in and deploy the necessary technologies where most needed and with the greatest impact. The role of institutions and governance were highlighted throughout the conference.

Several sessions were dedicated to the “enablers” of the sustainable energy agenda: finance, technology and institutions. The common message in all of these discussions was that political will was essential to facilitate these enablers in doing what is required to help transform energy systems. The role of cities in a fast-urbanizing world was also highlighted as critical in making the necessary transformation in how energy is supplied. The consensus was that we have the knowledge, the financial resources and the technology to pursue sustainable energy for all paths but that many institutions and governance structures were not currently up to the task.

The Opportunity to Make a Difference

Many, if not all of the VEF participants, are already deeply engaged in the global processes that aim to support a transition to a sustainable energy for all. Much of the discussion was dedicated to contributing to the debates on the major ongoing intergovernmental processes mentioned above. The following are highlights of these discussions.

Climate Change: Negotiations on climate change have their own forum, therefore VEF 2013 did not focus on the negotiation process itself but examined ways in which on-the-ground action could raise the level of ambition and enhance the objectives of these negotiations. There was agreement that action should concentrate on areas that would bring multiple benefits. Most of the focus was on areas of economic productivity, competitiveness, employment, human and ecosystem health, and individual and national security. These are win-win high-impact opportunities that should be aggressively sought whenever possible and in this way, help the climate change, as well as the poverty and sustainable development global, agenda.

Global Development Agenda: The last global development agenda debate, which set up the Millennium Development Goals (MDGs), resulted in the exclusion of energy from the development goals. There was clear consensus at the Forum that this time around when

the post-2015 Sustainable Development Goals (SDGs) are set, energy should have a goal of its own. Because of the centrality of energy in all aspects of development, acting on energy brings multiple benefits across the board in other sectors, such as health, food security and gender, equality.

Sustainable Energy for All Decade: The resolutions of the General Assembly on Sustainable Energy for All—namely the declaration of 2012 as the United Nations Year for Sustainable Energy for All and then 2014-2024 as the United Nations Decade for Sustainable Energy for All, are clear signals of the global consensus to take action. These are calls for action on all—governments, businesses and civil society—to act and contribute to making sustainable energy for all a reality. However, the required transformation will not happen without government-driven policy backed by all stakeholders to ensure the right public- and private-sector investments take place and have the desired impact. The driving motivation behind any action should be the multiple benefits that result from a transformed energy system.

Energy and gender: Policy research and operational experience of several development decades clearly demonstrated that energy poverty is felt most acutely by women and girls who bear the responsibility for domestic tasks, such as collecting wood, coal, and animal or crop waste to use as energy sources. Exposure to smoke from hazardous methods of cooking, heating, and lighting kills nearly 2 million people annually, mostly women and children, and millions more suffer from exposure-related diseases.¹ Gender, therefore, should be considered as one of the key variables in energy policy that can support the transformation to the sustainable future we want. Without access to modern forms of energy, sustainable development cannot be achieved and gender plays a critical role in explaining these linkages. Greater efforts are needed to rethink the gender and energy paradigm and develop new approaches to gender and energy policies in the post-2015 development framework. At the same time, there is a need to take the discussion beyond the “household door”, recognizing gender as a key economic variable and promoting greater understanding of the gender dimension in the transformation of the global energy systems.

The Importance of Setting Goals

Setting goals and targets helps focus attention on the problem, the viability of the approaches to tackle them, and the viability of the solutions to monitor progress over a period of time. Given the level of ambition of the various intergovernmental processes, goals and targets are essential. The participants discussed the need to set ambitious goals that can motivate and mobilize action. The discussions on these were two-pronged: the global development agenda and the initiative of the United Nations Secretary-General to mobilize global action:

¹ <http://www.who.int/indoorair/info/briefing2.pdf>

Global Development Agenda: Several options were explored on what form an SDG for energy should take. There was consensus on the need to set one goal—Sustainable Energy for All—to be reached by three targets in the areas of energy access, energy efficiency and renewable energy. By setting one overarching goal it could encompass all issues related to climate change as well as poverty eradication and sustainable development outcomes. Intermediate targets could be set over the short and medium term to monitor progress.

Action on the Ground: There was broad support and endorsement for the Sustainable Energy for All (SE4All); the SE4All is underpinned by three inter-related goals on energy access, energy efficiency and renewable energy. Specifically, the goals are to achieve universal access to energy services, double the rate of energy efficiency improvement, and double the share of renewables in the global final energy mix by 2030. It was agreed that these goals were visionary and extremely ambitious but achievable with the appropriate policies and action plans. The three are closely linked and are inseparable; enhancing the synergies amongst the three improves the chances of success in reaching them and in helping SE4All become the transformative initiative that is aspired by those who conceived it. For example, vigorous efficiency improvement is a prerequisite for universal access and higher shares of renewables. Conversely, it would be next to impossible to achieve universal access without higher shares of modern renewable energy, especially in rural areas of developing countries. The three goals together can facilitate leapfrogging of developing parts of the world toward a sustainable future.

Promoting these synergies will be one of the main challenges of SE4All, along with the task of ensuring that it brings added value and a contribution toward a more sustainable global energy system. But it is an ambitious initiative that requires the participation of all stakeholders in order to succeed.

The Energy Future We Want: Making it all Happen

There was a consensus that the technical solutions by-and-large exist for us to move towards the three sub-goals. However, the discussions identified a number of barriers in adopting these solutions and furthering their market integration. Some of the areas that need specific efforts and actions are listed below:

- Political will
- Integrated approaches
- Cross-sectoral policies
- Renewed and strengthened institutions
- Finance—which can be tapped from various sources given the many multiple benefits of energy (also design of financial instruments that would remove the first cost disadvantage)

- Building capacities
- Research and Development
- Awareness—which is being increasingly recognized as a major challenge
- Advocacy
- Global action
- Public-Private Partnerships (PPPs)

The strategic importance of Public-Private Partnerships was stressed at VEF 2013, with panelists highlighting their ability to supplement public funds, address energy security challenges, and play to the various strengths of both public and private actors. PPPs have the potential to not only harness additional financing, a factor that was noted as key throughout the Forum, but can also expand into small-scale and bottom-of-the-pyramid projects, and policy development where such funding is most needed.

The VEF 2013 provided an opportunity for engaging in dialogue with strategic partners and leaders in the establishment of public-private agreements focusing on a variety of sustainable energy issues. Multiple such partnerships were agreed upon at the Forum in the form of Memorandums of Understanding (MoU) and Agreements:

- **UNIDO and UN Habitat** signed a general MoU on the promotion of cleaner urban industries and technologies through joint technical cooperation projects and programmes;
- **UNIDO and Philips** signed a declaration on May 29 agreeing to collaborate on innovative LED lighting solutions for poverty reduction through the Community Light Centres Programme in Africa;
- **The Austrian Government, UNIDO and the East African Community** also entered into partnership through the signing of an MoU on the establishment of the East African Centre for Renewable Energy and Energy Efficiency (EACREEE);
- **The ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE)** and the Austrian Development Agency signed an MOU on the next phase of the Centre, as well as with the Joint Research Centre of the European Commission during the Forum;
- **UNIDO and Brazil's Itaipu Binacional** used the VEF to announce their partnership agreement to work on creating an International Centre for Renewable Energies—Biogas Technologies (CI-Biogas) in Brazil.

Lunches hosted by OFID and IIASA, and the GEF CEO, provided further opportunities for strategic presentations, informal discussions and agreements between key partners and participants of the VEF.

Conclusion

Decisions on how we meet the world's energy needs are critical to our future prosperity, and to our ability to tackle poverty, inequality and climate change. Given the inability of the current fossil-fuelled system to move 3 billion people out of energy poverty and deliver a sustainable future, the VEF 2013 supports calls for concrete goals on sustainable energy for all, including a specific energy goal in the post-2015 SDGs.

Tangible and measurable benchmarks must be set as part of this energy goal in order to galvanize global action and to make sure that progress is on track. Strategic goals at the global level, such as the three overarching goals of SE4All; universal energy access, renewable energy and energy efficiency, are essential for encouraging global action and policy change. Related goals at the regional, municipal and local levels are equally important, needed to ensure that effective implementation and action is taken at all levels. The World Bank-led Global Tracking Initiative (see below), launched at VEF 2013, will play a key role in the assessment of progress made at both the global and local levels.

Achieving sustainable energy for all will require building new institutions, new financing mechanisms and policies that will create an entirely new energy system. To get there we need properly designed financing mechanisms for energy projects in developing countries and close cooperation between international institutions and between both energy exporter and consumer countries. At the same time, the role of innovative technologies will be critical in enabling the world to reach the goal of sustainability energy for all and should therefore be championed. Finally, affordability must be taken into account in the move towards universal energy access.

The VEF 2013 provided an important platform for all stakeholders to move the energy debate forward and contribute to the ongoing dialogue towards an energy framework for the Post-2015 Development Agenda. Specifically, the Forum produced six key recommendations.



KEY RECOMMENDATIONS

Energy in the post-2015 development agenda

1. **Global transformation toward sustainable energy is necessary and the window of opportunity for action is now:** the business-as-usual approach will not suffice; ample scientific evidence exists that the transformation to sustainable energy futures is feasible and presents multiple opportunities and benefits.
2. **Energy must be fully integrated into the global post-2015 development agenda:** as energy has a bearing on all dimensions of sustainable development.
3. **Global energy goal:** we support “sustainable energy for all” as the one global energy goal, with three supportive targets (universal energy access, doubling energy efficiency gains and doubling renewable energy by 2030).
4. **Energy goals at all levels:** we will work with national, city and local governments, regional organizations, and through the private sector, universities and civil society to set the overarching energy goals, consistent with the principle of common but differentiated responsibilities. We will also work with all stakeholders on a set of energy targets, indicators and drivers that encompass all dimensions of sustainable development, including gender equality.
5. **Gender-responsive policy frameworks:** We acknowledge that the participation of women at every level in the concretization of energy goals is central for truly sustainable energy outcomes. Women and girls are disproportionately affected by energy scarcity, thus it is critical to develop gender-responsive policy frameworks that take women’s productive and domestic needs and capabilities into account.
6. **Monitoring energy goals:** progress towards all the Sustainable Development Goals (SDGs) must be monitored with reference to set targets and timeframes; the Global

Tracking Initiative launched at the VEF 2013 can form the basis of monitoring energy goals.

7. **Continued effort is necessary:** the international sustainable energy community will keep itself involved in the elaboration of the post-2015 sustainable development framework.



SPECIAL EVENTS AND SIDE EVENTS

Special Event—Launch of the SE4All Global Tracking Framework

A new multi-agency study, led by the World Bank and the International Energy Agency (IEA), was presented at the Vienna Energy Forum 2013. The Global Tracking Framework report presents detailed country-level and global data that outline the scale of the challenges ahead on meeting the three Sustainable Energy for All (SE4All) objectives: universal energy access, doubling of the share of renewable energy and doubling the rate in the improvement of energy efficiency by 2030. The report, which is the first in a series that monitors progress towards the three objectives, defines measurable indicators to each objective, identifies what needs to change and outlines how progress can be made. The report was prepared by a team of energy experts from 15 agencies under the leadership of the World Bank and the IEA.

The panelists, who included Rachel Kyte, Vice-President, Sustainable Development at the World Bank, Vivien Foster, Sector Manager for Sustainable Energy at the World Bank, and Dan Dorner, Economist and Analyst at the IEA, presented the major outcomes of the report to a packed room. World Bank Vice-President Rachel Kyte called it a “milestone” on the road towards sustainable energy for all because it gave a baseline from which to track the progress of 170 countries and allowed the SE4All initiative to identify “high-impact” countries which are able to make the fastest progress towards SE4All objectives.

More information on the Global Tracking Framework report can be found at: <http://www.sustainableenergyforall.org/tracking-progress>.

Special Event—Thematic Consultations on Energy

The Vienna Energy Forum provided an excellent opportunity to discuss the outcomes so far of online consultations launched last year by the United Nations Secretary-General on

“The World We Want” post-2015. In the area of energy the consultations were led by the United Nations Secretary-General’s Sustainable Energy for All initiative in partnership with the United Nations Departments of Economic and Social Affairs (UNDESA), United Nations Industrial Development Organization (UNIDO), the World Bank and the United Nations Development Programme (UNDP) (see <http://www.worldwewant2015.org/>).

Major findings and recommendations were presented at the side event, which was moderated by Norway’s Minister of International Development Heikki Holmås. Panelists agreed that there is a common consensus for the inclusion of energy as a development goal into the post-2015 agenda and a growing general conviction that energy is an important element of global efforts to induce a paradigm shift towards poverty eradication, green economies and ultimately sustainable development. Liz Thompson, Executive Coordinator for the UNCSD Rio+20 Conference, Minoru Takada, Executive Office of the United Nations Secretary-General, Reid Detchon, Vice-President for Energy and Climate, United Nations Foundation and Irene Giner-Reichl, Austrian Ambassador to the People’s Republic of China further discussed what global goals, targets and indicators on energy should look like and what stakeholders, in particular the United Nations system, can do to advance a more integrated approach to energy within the post-2015 development framework.

Side Event—Water-Energy-Food Nexus

IIASA in collaboration with UNIDO and several international partners, including GIZ, BMZ, FAO, SE4All, OPEC and the Vienna Energy Club, organized a side event on the Water-Energy-Food Nexus on the margins of the Vienna Energy Forum. The theme of the side-event was “The Energy Future We Want—Including Water and Food in the Energy Debate”. The side event gave a platform to participants from the private and public sectors, researchers, policymakers and water/energy experts from various international organizations around the world, to discuss the links between water, energy and food, and explore some of the opportunities presented by this link to address major global development challenges. The programme was chaired by Dr Günther Fischer, Senior Research Scholar within IIASA’s Water Programme in Laxenburg, Austria.

The former Director General of UNIDO, Kandeh Yumkella and IIASA Director and CEO, Pavel Kabat led the debate. In his opening remarks, Mr Yumkella highlighted the opportunities this Nexus presents for integrated planning and implementation of programmes that address water, energy and food security. He underscored the importance of the continued partnership between UNIDO and IIASA and the latter’s focus on policy-driven research. Mr Kabat emphasized the importance of applied systems research to inform policy when addressing many of the challenges we face, such as climate change and rapid population growth.

Side Event—Africa-EU Renewable Energy Cooperation Programme (RECP)

Private Sector Cooperation: Matchmaking for win-win business opportunities in the renewables sector

In recent years, renewable energy markets have emerged in various African countries. To complement the limited delivery capacity of the public sector in renewable energy markets, the private sector has an important role to play by employing its resources, flexibility, and entrepreneurial skills to transform the energy sector. The Africa-EU Renewable Energy Cooperation Programme (RECP) side event provided an important space for participants to discuss how best to foster links between private-sector actors in the two continents and so create partnerships to further develop renewable energy markets on the African continent.

Participants also discussed what could be done from the donor side to support private sector cooperation. Some such cooperation programmes exist, for example the German government's project development programme, but few target the renewables sector. Participants also noted the lack of any mechanism to address the great potential for Africa-EU cooperation in the renewables sector.

A number of activities to increase business links between African and European private sector actors were suggested, including:

- Matchmaking between different actors
- Alerting African and European businesses about opportunities in renewables markets
- Organizing trade missions and trade fairs for African and European businesses
- Identification of renewable energy projects and support (“handholding”) e.g. with business plans, early stage project preparation, etc.
- Market research, e.g. through technology or subsector/market studies, value chain analyses, etc.

Participants saw the Africa-EU Renewable Energy Cooperation Programme's (RECP) as a well-positioned vehicle to develop such activities under its Private-Sector Cooperation component.

Side Event—GFSE: Sustainable Energy Solutions for All: Made in Austria

The sectoral and enabling Action Areas of the Sustainable Energy For All Initiative's (SE4All) Global Action Agenda provide a framework for multi-stakeholder actions across

all relevant economic sectors on a national and international level. The SE4All process poses challenges but also opens exciting opportunities for many actors in the energy field.

The side event presented Austrian expertise and engagement in energy for sustainable development. Examples of technologies, know-how and support instruments in the fields of renewable energy and energy efficiency were given, illustrating the contribution that Austria can make to the achievement of SE4All objectives. The event also highlighted the substantial opportunities available in developing countries for actors that decide to engage in the SE4All process. In this context, West Africa and the activities of the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) were presented as a prominent example. In addition, future opportunities for cooperation between Austrian actors in the energy and development cooperation fields and actors in developing countries were explored.

Successful sustainable energy solutions encompass, among others, appropriate technologies, well-targeted policies, sound involvement of local and regional actors, institutional strengthening, solid business models and adequate financial support. Austrian actors can contribute in building and interlinking these pillars. GFSE, in its turn, can play a catalytic role, involving relevant actors and making concrete SE4All opportunities materialize.

Side Event—Gender and Energy

Women's Leadership on Energy Justice in Productive Sectors

Organized by UNIDO's Gender Mainstreaming Steering Committee (GMSC) and Energy Branch and with the support of the SEED Initiative, the side event brought together a dynamic panel of practitioners, experts, and advocates who continued the debate on women's leadership and economic empowerment in energy. Among those in attendance were both UNIDO's Director General, Kandeh Yumkella, and Former President of Ireland and founder of the Mary Robinson Foundation—Climate Justice, Mary Robinson, reinforcing the centrality of gender in the energy agenda. As a result of the side event, there was a general consensus that in order to make a sustained impact on reducing poverty, energy strategies, policies and practices must empower women in both promoting their leadership and addressing the obstacles that currently deter their full and active participation. In this, several proposals on the way forward were identified. More specifically, these include the following:

- International organizations such as UNIDO have a responsibility to ensure women are included in the dialogue on global energy issues.
- Sustainability for Energy for All would be ideal to take leadership in addressing priority action areas.

- The debate on gender dimensions in energy should move past women's domestic roles in the household and be addressed in a more comprehensive manner.
- To enhance the economic opportunities for women, better quality and higher level education for women should be continually promoted and provided.
- For women to effectively participate in the economy, the basic and necessary skills, training, and technologies should be readily accessible.
- To ensure women's leadership, the political representation and participation of women at all levels should be encouraged.
- To ensure women are represented in local, national and international discussions, they should strategically organize themselves to form associations and networks.
- To further facilitate the transfer of knowledge, skill sets and information, women should invest in mentoring other women.
- To analyse the impacts and consequences of gender, statistics and data should be systematically collected at all levels (macro/meso/micro).
- To ensure decent work and social protection, working conditions that are flexible and favourable for women who also play a dual role of managing their household should be provided.

Side Event—European Commission's Joint Research Centre

Creating and sharing knowledge together on African Renewable Energy Sources

This side event was an opportunity to launch a second report devoted to renewable energies in Africa: The availability of renewable energies in a changing Africa² which focuses on the expected climatic, demographic and technological changes and how these will impact on the renewable energy production and deployment opportunities on the continent in the next decades. The analysis shows, for instance, that wind patterns are not foreseen to change in the mid-term and that continental hydropower will not be significantly altered.

The ongoing, consistent cost decrease in solar power generation is expected to more than compensate for a possible, slight efficiency decrease caused by the forecasted temperature rise (as changes in ambient temperature can have a small influence on the efficiency of PV systems). Excessive exploitation of fuel wood resources in combination with climate effects could accelerate the depletion of the biomass stock. Sustainability remains therefore crucial for the African bio-energy potential.

² <http://iet.jrc.ec.europa.eu/remea/availability-renewable-energies-changing-africa>

On this same occasion the European Commission's scientists have presented The African Renewable Energy and Technology Platform,³ designed to build a network of African research institutions dealing with renewable energy, including academic and research exchange programmes, as well as a new web map RE2nAF:⁴ tool for exploratory analysis of off-grid electricity production options in Africa.

On the margins of the VEF, the European Commission's Joint Research Centre (JRC) and the Centre for Renewable Energy & Energy Efficiency (ECREEE) of the Economic Community of West African States (ECOWAS) signed a Memorandum of Understanding (MoU) to enhance the cooperation and the development of common tools (e.g. country specific maps with renewable energy based electricity costs), validation of results and publication, reinforcing the network between the JRC and regional partners for African-related research activities in the field of renewable energies and energy efficiency.

Side Event—Regional Sustainable Energy Centres in Africa

Creating Regional Markets to Support the Decade of Sustainable Energy For All

On the margins of the Vienna Energy Forum, the Energy and Climate Change Branch of the United Nations Industrial Development Organization (UNIDO), in close partnership with the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) and the Global Forum on Sustainable Energy (GFSE), organized the side event “Regional Sustainable Energy Centres in Africa: Creating Regional Markets to Support the Decade of Sustainable Energy For All (SE4All)”. High-level representatives from the Global Environment Facility (GEF), UNIDO and the African Regional Economic Communities (RECs) discussed the added value and possible priority actions of a network of regional sustainable energy centres.

In this context, UNIDO Managing Director Philippe Scholtès emphasized the importance of the centres in the context of the Rio+20 process. He said that a green energy revolution would be needed in sub-Saharan Africa to meet the SE4All targets, requiring large-scale investments in sustainable energy infrastructure and services. He reiterated UNIDO's commitment to helping the RECs in the establishment of a network of regional sustainable energy centres.

GEF CEO Naoko Ishii confirmed the importance of economies of scale. In this regard she highlighted the achievements of the Energy Component of the GEF Strategic Programme for West Africa (GEF-SPWA) and spoke on the future role of regional approaches in the GEF-6 Programming Cycle. The GEF-SPWA, which is coordinated by UNIDO and ECREEE, is supporting 22 RE&EE projects in 16 countries with around \$40 million and leveraged

³ www.afretep.net

⁴ Ibid.

co-financing to the tune of \$468 million from a variety of international, regional, national, private and public sector partners and institutions.

Jesca Eriyo, Deputy Secretary General of the East African Community (EAC), stressed the importance of decentralized renewable energy solutions for rural areas and expressed her confidence that the East African Centre for Renewable Energy and Energy Efficiency (EACREEE) would be fully operational in 2014.

At the Vienna Energy Forum (VEF), The Austrian Federal Ministry for European and International Affairs, UNIDO and the East African Community (EAC) signed a Memorandum of Understanding on the establishment of the East African Centre for Renewable Energy and Energy Efficiency (ECREEE).

Side Event—International Atomic Energy Agency

Promoting a Sustainable Energy Future: The Role of the International Atomic Energy Agency

This side event provided an overview of the International Atomic Energy Agency (IAEA)'s recently achieved milestones and new initiatives to support member States in the development and implementation of their energy strategies. The discussion described the IAEA's energy planning tools and mechanisms to support capacity-building in member States, its work in the energy-economy-environment including the results of analysis and the development and use of indicators for monitoring sustainable energy development. It also highlighted the role of innovative nuclear technologies for sustainable energy development and the characteristics of the physical and institutional infrastructure needed to be in place for a successful, reliable, clean and safe nuclear power programme. These four topics were presented by representatives from the IAEA Planning and Economic Studies Section, International Project on Innovative Nuclear Reactors and Fuel Cycles, and the Integrated Nuclear Infrastructure Group, and are summarized below.

Energy Planning and Capacity-Building: the IAEA works to enhance the capacity of member States to perform their own analyses of electricity and energy system development, energy investment planning and energy–environment policy formulation and their economic implications. Assistance includes, transferring modern planning methods, tools and databanks; training for model set-up and application, including e-Training; and interpreting, synthesizing and applying model outputs to policy formulation.

Sustainable Energy Development Indicators: the IAEA has long experience in developing tools to support member States in monitoring the sustainability of current and prospect energy demand and supply, as well as to measure progress towards sustainable energy development. Energy indicators have been developed to address sustainable development in terms of economic, social and environmental dimensions. The indicators can

help identify critical aspects or consequences of the production and use of energy, and explore the sustainability of nuclear power.

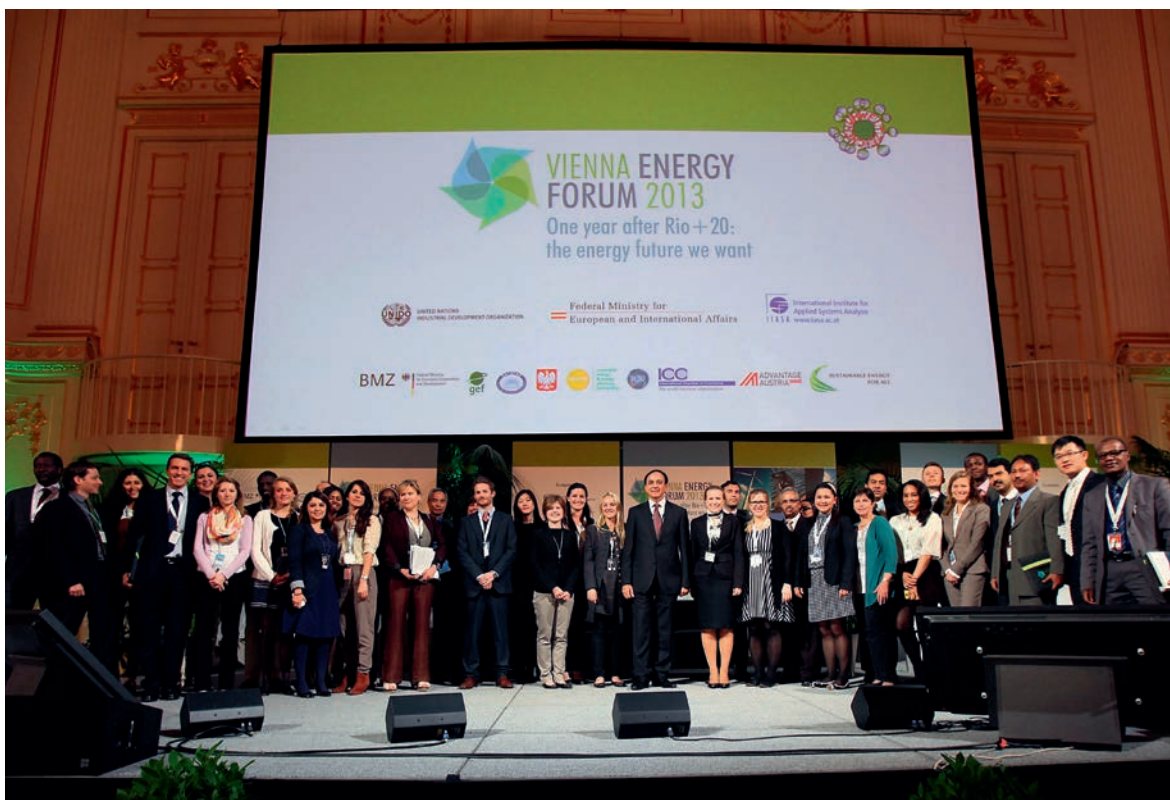
Innovative Nuclear Technology: the IAEA provides integrated services to Member States considering initial development of nuclear power or expansion of an existing nuclear energy programme. The support is orientated toward achieving sustainability of energy sources (including a nuclear component) within the present century. Activities are focused on nuclear energy sustainability and the development of national strategies for sustainable nuclear energy systems that cover: (a) National Long Range Nuclear Energy Strategies; (b) Global Nuclear Energy Scenarios; (c) Innovations; and (d) Policy and Dialogue.

Nuclear Power Development and IAEA Support: the IAEA addresses critical infrastructure issues affecting the progression of new nuclear power development programmes. Issues include the institutional support required to strengthen physical infrastructure and human resources, and the development of models for financing nuclear projects and developments in radioactive waste management.

VEF 2013—Key Partners and Agencies



VEF 2013—UNIDO Energy Team



Co-sponsors:



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