VIENNA ENERGY FORUM 2017

REPORT

SUSTAINABLE ENERGY FOR THE IMPLEMENTATION OF THE SDGs AND THE PARIS AGREEMENT

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
EUROPE INTEGRATION FOREIGN AFFAIRS FEDERAL MINISTRY REPUBLIC OF AUSTRIA
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SUSTAINABLE ENERGY FOR ALL

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FOREWORD

Li Yong – Director General,
United Nations Industrial Development Organization (UNIDO)

The Vienna Energy Forum 2017 has confirmed that the Sustainable Development Goals are tightly interwoven; none can be achieved without addressing the others. It has also stressed that we need to better steer the course towards the 2030 Agenda for Sustainable Development and the Paris Agreement. This requires that we all join forces in a common effort towards these goals. In this regard, I am pleased that the event was able to attract these very experts, practitioners and policy-makers who lead the way.

Sebastian Kurz – Federal Minister for Europe,
Integration and Foreign Affairs, Austria

Congratulations to the co-organizers on the success of the 2017 Vienna Energy Forum and a warm welcome to Ms Rachel Kyte, who attended the VEF for the first time in her capacity as CEO of SEforAll! The participation of UN Deputy Secretary General Amina Mohammed was a particular highlight and is thoroughly appreciated by Austria. As for the implementation of the SDGs and the Paris Agreement, we are on the right track but much more needs to be done, forces have to be joined and the work has to be accelerated.

Martin Ledolter – Managing Director,
Austrian Development Agency (ADA)

Cooperative and regional approaches, which harness synergies between SDG 7 and related SDGs and build on each partner's strengths, are our best chance to achieve access to both affordable and sustainable energy for all by 2030. It goes without saying that the Austrian Development Agency stays committed to further advancing the transition to a sustainable energy system in our partner countries. By mobilizing all stakeholders and engaging in new and innovative alliances, the Vienna Energy Forum 2017 has played a significant role in accomplishing this goal.

Pavel Kabat – Director General and Chief Executive Officer,
International Institute for Applied System Analysis (IIASA)

Research is already beginning to tease out the interactions between the climate and development targets of the Paris Agreement and Agenda 2030. The Vienna Energy Forum 2017 provided a vital opportunity for exchanging knowledge on these linkages and how policymakers can exploit the synergies while avoiding trade-offs, particularly in the area of energy.

Rachel Kyte – Chief Executive Officer of Sustainable Energy for All (SEforALL), and Special Representative of the UN Secretary-General for Sustainable Energy for All

The Sustainable Development Goals agreed upon in 2015, together with our commitments under the Paris Agreement, herald an era of urgent action to ensure sustainable energy for all. We need to secure a decarbonized, decentralized and digitalized energy system that meets the needs of everyone – we cannot leave anyone behind. This is achievable, but will require enormous discipline and focus. Sustainable Energy for All marshals evidence, benchmarks progress, connects partners and tells stories of success. We are an engine room of a global movement of governments, civil society organizations and companies all committed to turning the words on the page into power in people's lives.

BACKGROUND AND OBJECTIVES

The Vienna Energy Forum (VEF) is a biennial, global and multi-stakeholder forum with a mandate of exploring 21st century developmental challenges from the perspective of sustainable energy and providing a platform for debate on practical solutions to these challenges. The VEF was born in 2008 of a joint initiative by the Austrian Government, the International Institute for Applied Systems Analysis and the United Nations Industrial Development Organization, with the aim of exploring how energy can contribute to meeting global developmental challenges.

The first four Forums focused on different perspectives of this discussion and have been major contributors to the design of the SEforALL goals and to Vienna's becoming a Global Energy Hub:

- In **2009,** in the context of the unfolding financial crisis, the Forum looked at an integrated energy agenda beyond 2020 under the theme "Towards an integrated energy agenda beyond 2020: Securing sustainable policies and investments". The most central of the Forum's six key recommendations foresaw the creation of an Energy Development Goal, which aimed to achieve universal energy access by 2030.

- The theme selected for the **VEF 2011**, "Energy for all – Time for action", focused on the UN Secretary General's Sustainable Energy for All Initiative, which had developed between the VEFs in 2009 and 2011. It aimed to generate tangible results that would lead to action on the ground. Thanks to the Forum, the 2030 energy goals of universal access, energy intensity reduction and a global renewable energy mix obtained more substance and started gaining momentum.

- The **VEF 2013**, with the theme "One Year after Rio+20: The energy future we want", addressed the topic of sustainable energy in the context of negotiating the Post-2015 Development Agenda. It contributed to the advancement of the Post-2015 Development Framework and clearly positioned sustainable energy therein.

- The thematic focus of the **VEF 2015** was "Sustainable Energy for Inclusive Development". The Forum provided a high level platform for leaders, policy-makers and energy practitioners to engage in an interactive dialogue on key specific sustainable energy issues, such as policies, markets, finance and technologies. At the same time, the Forum generated concrete inputs for the anchoring of sustainable energy for inclusive development in the 2030 Development Agenda and for the successful conclusion of a comprehensive and effective climate agreement.

THE FORUM

1500+
PARTICIPANTS

100+
COUNTRIES

60+
HIGH-LEVEL SPEAKERS

8
HIGH-LEVEL PLENARIES

19
SIDE EVENTS

8
LAUNCH EVENTS

50+
IGOs AND NGOs

15+
EXHIBITORS

The fifth Vienna Energy Forum (VEF) 2017 was held from 9 to 12 May, 2017, at the Vienna International Centre (VIC) and the Hofburg Imperial Palace in Vienna. It was attended by over 1,650 participants from 128 countries, including the Prime Minister of Tuvalu, ministers, high-level government officials, Permanent Mission representatives, chairs of the regional groups, donors, as well as representatives of the European Union (EU), the private sector and development finance institutions. The event was organized by the United Nations Industrial Development Organization (UNIDO), the Federal Ministry for Europe, Integration and Foreign Affairs of Austria (BMEIA), the Austrian Development Agency (ADA), the International Institute for Applied Systems Analysis (IIASA) and Sustainable Energy for All (SEforALL).

The thematic focus of the Forum was "Sustainable Energy for the Implementation of the SDGs and the Paris Agreement", with an emphasis on discussing and highlighting the importance of the linkages between climate and development as well as the synergies among the SDGs, and the importance of joint and integrated approaches for a successful implementation. The Forum also explored the role of innovation in opening up new avenues for achieving SDG 7 "Ensure access to affordable, reliable, sustainable and modern energy for all" and related SDGs.

The Main Plenary on May 11 and 12 consisted of high-level panel discussions considering a range of important issues, including energy efficiency, sustainable cities, the role of energy in the 2030 Agenda and its critical role for developing countries in the fight against poverty and climate change, the main drivers of sustainable energy across key sectors, and business models and innovative approaches to unlock finance from available sources and to support sustainable energy investments and implementation.

The Main Plenary was preceded by side events which took place on 9 and 10 May in the VIC and Andromeda Tower. A total of 19 side events, co-organized by 23 institutions, brought together leaders and experts in the field of energy from around the world to discuss how to facilitate policymaking and implementation, capacity development, knowledge management and awareness-raising, as well as encourage investment in clean and innovative energy solutions, thereby directly contributing to the Forum's mandate. The Forum also incorporated eight launch events, three special events, two spotlight events, two networking events, 17 exhibitors, the Financial Times Editorial dinner event, and a study tour.

SUSTAINABLE ENERGY, SDGs AND THE PARIS AGREEMENT

The aim of the VEF 2017 was to contribute to the debate of the SDGs and the Paris Agreement and to their successful implementation. Many of the SDGs are either deeply affected by energy or in which energy is a critical enabler. The VEF 2017 served as a platform for discussion which will contribute to understanding what works best for the implementation phase of the SDGs as well as for the Paris Agreement. It was also an opportunity to discuss and highlight the importance of learning more about the linkages between climate and development as well as the synergies among the SDGs. This showcased the importance of joint and integrated approaches for achieving these global agreements.

The Role of Energy in the 2030 Agenda for Sustainable Development, with a Focus on Poverty

The year 2015 went down in history as a major landmark in the global development agenda. The endorsement of the Sustainable Development Goals (SDGs) and the United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement will undoubtedly have a major transformative effect on the fight against climate change and on the global development agenda for years to come.

For the first time, there is a global agreement on priorities for development with an actionable agenda and a global commitment to reach important goals by 2030. Also for the first time, the climate change agreement includes a global commitment for domestic action through the Nationally Determined Contributions (NDCs) and a major campaign for accelerated action on the ground.

The success of these remarkable global achievements will depend heavily on the capacity of countries to develop and implement programmes that address the objectives in an integrated, measurable, and comprehensive manner. Achieving this requires not just incremental improvements, but a transformation of our key systems such as energy, production, consumption, livelihoods, and equality. Most importantly, success will depend on the capacity of countries to tackle one of the most pressing age-old problems: the need to eradicate poverty and eliminate inequality, particularly with respect to gender.

Access to affordable and clean energy is a key enabler for progress in meeting the 2030 Agenda. We are in the middle of a fundamental clean energy transition which at its heart is also an economic transition. The recognition of this from both the public and private sector is crucial to ensure the successful implementation of the 2030 agenda and the Paris Agreement. On the local scale, clean energy must work cohesively with and for entrepreneurs. Countries should consider various enabling policies that go beyond pilot projects to

scale-up clean energy technologies as well as targeted financing to meet the needs of small and medium sized enterprises (SMEs). Additionally, the inclusiveness aspect of achieving these global agendas must also address women and youth whose wellbeing are in many ways directly connected with access to clean energy.

The temporal dimension of accomplishing the SDGs expresses the urgency of achieving the tangible milestones by 2020, 2030, all the way up to 2050. Addressing these holistically will help governments, large scale corporations, SMEs and society to produce innovative solutions in order to achieve the 2020, 2030, and 2050 goals.

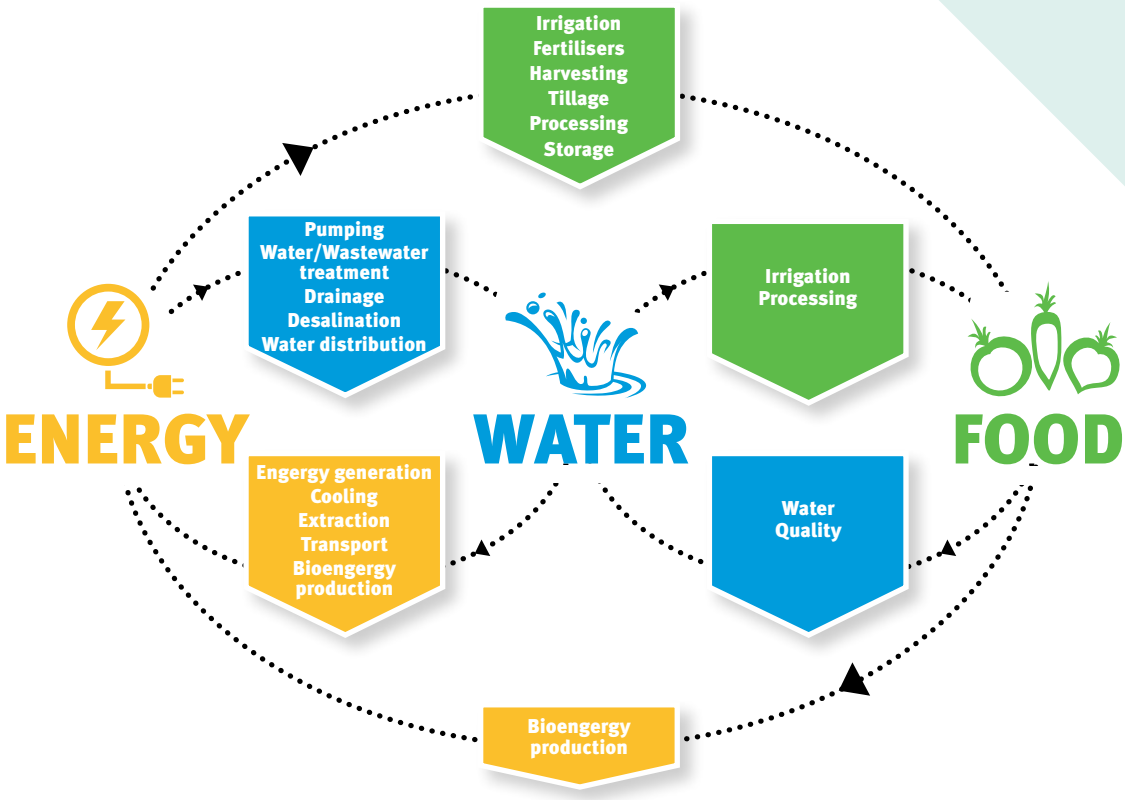
Considerations for achieving the 2030 agenda:

- Improving affordable and clean energy access to women and youth
- Finding ways to engage underemployed youth in producing and sharing innovative technologies
- Developing genuine horizontal and vertical -government and public partnerships to achieve achieving universal and clean energy access.

The Energy, Food Security, Land, Water, and Health Nexus

It is eminent to acknowledge that only a very short period of time is left to realize the importance of integrated Energy, Food Security, Land, Water and Health projects – the Nexus –and that the next 2-3 years will be of great importance. Therefore, the modeling of real-life interdependencies, the practical interlinking of SDG's and the development of cost-effective solutions, both from the financial as well as the socio-economic point of view, will have to be the achieved milestone for success.

Traditional approaches, i.e. "Silo project implementation" have proven to be less (positively) impactful. For example, statistical, monitoring and evaluation analysis of food-related projects provide evidence based conclusions that most of the losses are caused through bad/no cooling facilities as well as inadequate transportation, thus leading to the implication that Nexus thinking is not only driven through and by science but also through practicality. The nexus approach with all its benefits steps up related assistance, including grants to establish models that employ nexus thinking, such as solar water pumps for agricultural irrigation.



Moreover, universal health coverage cannot be achieved without universal energy access. Energy is linked to health through providing reliable power to health facilities in developing countries and improving health through air pollution reduction from clean energy sources and improved energy efficiency. Thus, countries should consider health impacts and benefits when making energy policy decisions. Also, energy and water are interlinked as both enablers and consumers for one another. Whether it is energy from hydropower dams or energy demand for water purification, the two are inherently interconnected as key components of sustainable development and public health. In extreme cases, reliable access to energy can prevent contamination catastrophes from spreading throughout regions and communities.

Therefore – from advocacy to project financing recipients, incentives, grants and loan financing (eg. Angel and/or Impact financing) developing under the conditions of integrated sustainable solutions are the cornerstones to avoid and prevent silo-styled solutions.

Nevertheless, recognition of the hindrances in the implementation of the Nexus approach is crucial to maximize its flow within sectors. One of the main hindrances for its implementation is the establishment of a system which supports integrated solutions that are developed through traditionally regulated systems. Its replacement through the development and installation of goal-driven scenarios could lead to an accelerated implementation process of the Nexus approach.

The transfer of infrastructure, know-how solutions and their investments from high- income to lower-income countries would address a number of evident, existing and known problems and thus accelerate the development of the Nexus approach.

The Nexus approach would require:

- Understanding of cross-sector interdependencies and the growing demand for water, energy and land resources
- Incentives for ministers and policy-makers to work across sectors
- Investment in education to produce more experts on nexus linkages

Sustainable Cities and Communities

More than half of the world's population now lives in urban settings, and urbanization is expected to persist and intensify in the years to come. As a result, cities will be either drivers of, or barriers to, sustainable development. The services and infrastructure created to respond to the needs and demands of urban residents will be drivers not only for local consumption and production, but also for the demand of global resources. This makes cities and urban settings central to international efforts of sustainable development in decades to come.

When implementing projects in cities, development organizations need to look at win-win opportunities in addressing multiple SDGs and New Urban Agenda through city action within different sectors, such as the food-water-energy nexus. Through an integrated approach towards urban planning, cities can tackle challenges such as low-density patterns and rising urban sprawl that result in the increase of public expenditure, traffic congestion, noise and air pollution, socio-inequality, health and other sustainability issues.

Reorienting planned investments towards green and resilient infrastructure will allow cities not to be locked into unsustainable patterns of growth. Coordinated action on the ground requires strong governance systems and policy structures that link national, regional and local action. Through city-to-city knowledge exchange, the capacity of municipal bodies can be built to improve commitment and consistency of implementation and attract additional sources of financing.

Innovative bottom-up solutions are widely available when addressing urban challenges. To ensure the wide market use of innovative technologies, the role of the private sector needs to be further explored and strengthened through models such as private-public partnerships and crowd funding. Public financing that supports research and development should be increased to further facilitate innovation in cities.

Actions needed for creating sustainable cities are:

- Decarbonizing the transport sector through more electric automobiles and use of public transport
- Facilitating coordination between municipal administrations, regional and national authorities such that policies and programmes reinforce one another
- Improving comprehensive energy efficiency in buildings, its appliances and types of lighting

SDG 7: Affordable and Clean Energy and SDG 13: Climate Action

The adoption of the Paris Agreement in December 2015 after years of negotiations was a major achievement and provides the path for addressing climate change in a meaningful way. The energy component will be central in this effort. One of the cruxes of the agreement can be found in the commitment of countries to take climate action, spelled out in the Nationally Determined Contributions (NDCs). For most, if not all, of the NDCs, energy appears as one of the pillars for implementation. This will greatly contribute to the plight of countries in mitigating and adapting to climate change. Examining the direct links between energy and climate change as well as the various actions that need to be taken will ensure the fight against climate change will not be too late in picking up the pace to meet the Paris Agreement.

For example, Small Island Developing States are extremely vulnerable to climate change. A single adverse climate event can set back their economic growth. However, other regions are impacted in diverse ways, therefore a one size fits all approach is not applicable.

The social and inclusive features of achieving these two SDGs cannot be left out. The political commitment is crucial to strengthen the role of women that will help to deliver country commitments that accounts for the gender equality dimension. To strengthen the role of women in the energy sector, it is important to increase the impact of women in clean energy value chains and to support entrepreneurship with innovative models. Additionally, identifying innovative investment solutions which enables investment in energy efficiency for low income countries will ensure that all regions will have an equal cut of the pie to try and achieve their respective country targets.

Achieving SDG 7 (Energy) and SDG 13 (Climate Action) will need:

- Promoting renewable energy and energy efficiency as key enabling factors for alternative livelihood systems in areas prone to climate disasters
- Capacity building, such as tailor made programmes on renewable energy training, to strengthen the local manufacturing industry capacity and maintenance.
- Partnerships across different sectors and geographical borders will unlock the rapid deployment of clean energy systems needed to combat climate change.


Martin Ledolter

INNOVATION, SDGs AND THE PARIS AGREEMENT

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The VEF 2017 explored the role of innovation in opening up new avenues for achieving SDG 7 “Ensure access to affordable, reliable, sustainable and modern energy for all” and related SDGs. The implementation of these goals and of the 2015 Paris Climate Agreement calls for an unprecedented global transformation process that extends far beyond the energy sector. Innovation is urgently needed to drive this transformative agenda; scaling up clean energy technologies is a challenging task that requires innovation to reduce costs, improve performance, and accelerate diffusion. Pioneering technologies and innovative programmes require appropriate business models and financing to achieve the needed scale of global change and sustainable development. Catalysts such as supportive policies, capacity building and enabling frameworks ensure that innovation will happen in order to find answers to current and future challenges. Holistic solutions rather than single energy technologies are sought to ensure a truly sustainable energy development path.

The Pioneering Role of Innovative Technologies

Disruptive, game-changing technologies, technology transfer mechanisms and their sustainable impact have high footing in the 2030 Agenda. This is the first generation that has the technology to solve climate change and related issues of sustainability. New concepts and changing business models are being introduced, but the level of readiness remains uncertain. Current development strategies need to be continuously updated to reflect newly available technological innovations.

To illustrate, renewable energy technologies have achieved amazing results. It has established itself around the world as a mainstream source of energy, improved its cost-competitiveness compared to traditional sources of energy and global investments for it is at a new record level, some of which was unthinkable no more than just 5 years ago. The energy transition is already happening. Technology and innovative business models are already happening, but much more is needed to keep up to speed with the cutting-edge and game changing technologies that exist but aren't fully deployed. The challenge is to devise solutions which adapt and capture opportunities offered by the variety of diverse maturity, needs, enabling environments of different technologies, sectors, markets and countries.

Industry is in a unique position. It is the largest global energy consumer and the main engine for technology innovation, with great potential to drive the benefits for a global transition to affordable, reliable, sustainable and modern energy for all. Additionally, digitization and the internet of things can achieve extraordinary levels of energy efficiency and increased deployment of renewable energy in infrastructure and industry.

Particularly for developing countries, the transition towards low-carbon energy must take place at the lowest possible cost. In some cases, frugal innovations, which are driven by demand, imitation and low-cost competition in emerging markets, could support progress on providing access to affordable, clean energy for low-income and middle-income populations.

Successful innovative technologies and its deployment across the industrial landscape, whether it is existing state-of-the-art or incremental or disruptive, rely on conducive 'ecosystems'. Entrepreneurs, investors, research institutions, civil society and governments are the key to the energy transition equation. This will have scaled-up positive additions to achieve the common goal of the SDGs and the Paris Agreement.

Catalyzing actions needed for deploying innovative technologies:

- Accessibility
  New on-grid and off-grid distribution channels that decentralize and bring the supply of energy closer to the demand

- Efficiency
  Innovations in the internet of things and block chain can significantly increase energy efficiency in the industrial sector as well as unban infrastructure

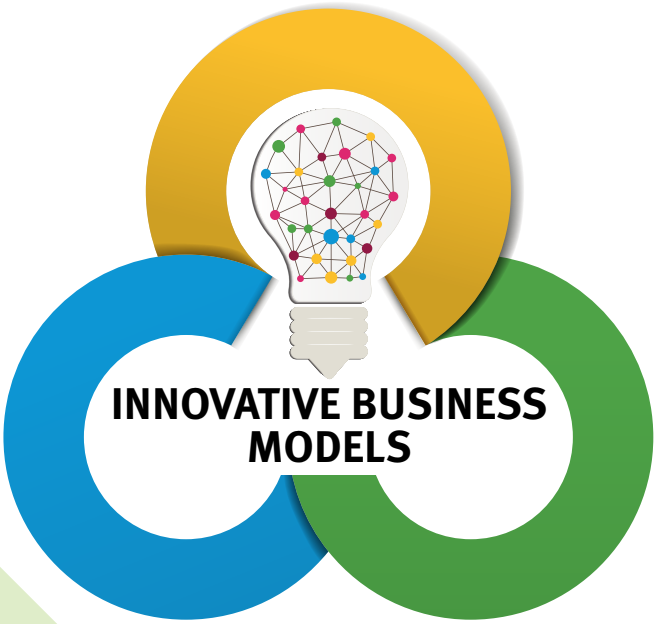
- Clean Energy
  Development of new sources of clean energy and improving existing sources must continue in order to drive down costs and maintenance.

Financing Innovative Business Models

Easy money and innovation can expand sustainable business models. Bringing together supply and demand for financing as well as capitalizing on the apt use of financial resources is key to achieving the SDGs and the Paris Agreement. There is currently about $391 billion ($243 billion private and $148 billion public according to CPI Global Landscape of Climate Finance 2015) of annual spending towards climate action, including investment in renewable energy. A larger share of the current spending is attributed to the private sector, but with the public sector being the engine behind the climate finance architecture.

A key to financing climate action is creating ways to add economic value to climate smart investments that will drive universal and clean energy access. The private sector holds the potential to seize the market opportunity that clean energy represents which can be scaled-up and replicated. Private companies, governments and investors can come together in making business a significant contributor to closing the clean energy access gap. The regulatory environment defined by the public sector is highly instrumental in attracting private actors and making clean energy business models successful.

Moreover, resource-efficient and innovative financing solutions allows for upscaling of public and private sector financing for sustainable energy investments.



Particularly smaller projects and bottom-of-the-pyramid solutions often need tailored approaches and multifaceted solutions to make promising projects bankable. Apart from that, Private Public Partnerships will be a fundamental part of creating multi-stakeholder financial platforms. These platforms have the potential to multiply current funding for clean energy projects by demonstrating public commitment and risk mitigation.

On the private sector side, driving sustainable solutions depends on innovative and inclusive business models that can be scaled up, replicated, and are self-sustaining. These business models exist already and are ripe for financing from financial institutions, development banks, and private investors. The financial resources necessary to accomplish SDG 7 and the Paris Agreement also exist, yet the appropriate instruments are not being applied in a way that enables new businesses to blossom and large-scale projects to move forward. This represents a collective opportunity for collaboration and partnerships between the public and private sector to provide such solutions.

Solutions for successful financing of innovative business models:

- Agile regulatory environments defined by the public sector are highly instrumental in attracting private actors and making clean energy business models successful.
- Supporting local banks and credit institutions with the assessment of technology, project risks and the design of suitable financial products.
- Business models of frugal energy solutions that focus on capacity building and the inclusion of marginalized low-income people.

Catalysts for Innovation

Catalytic enabling framework conditions are critical for spurring, absorbing and adapting innovative technologies, business models, and financing instruments. Effective policy and regulatory frameworks, inclusive business policies, and social innovation that promote new forms of social organization, capacity building programmes and support for business development are all essential pieces of the required overall enabling framework.

A piece of the jigsaw can be seen in the dedicated national and regional institutions that develop regional markets with common standards that can create economies of scale and local value chains. They can also help drive inefficient technologies and appliances out of the market.

The trend towards open innovation allows for better linking of innovation systems to actual problems in markets and society. Understanding and addressing the underlying problems in their local context will ease the facilitation of multi-stakeholder cooperation and vicariously learning through experience exchange processes.

Although, some governments set boundaries for creating the market, and so there is a need to find a proper mix between regulatory conditions and market forces. Every country has a different level of potential for renewable energy and energy efficiency and varying levels of innovation at the national level. Finding optimal solutions and innovations suited for each is extremely important and facilitating the knowledge exchange between countries of similar needs is paramount. This calls for decentralized, tailor-made solutions for achieving clean energy goals at the local and national level.

The private sector, on the other hand, provides a diverse range of catalysts for innovation. Large companies spend significant resources on research and development. They also invest more and more in start-ups and partnerships with established players offering complementary technologies and services. An example of this is energy companies coupling with companies providing intelligent ICT solutions for smart grids thus increasing the base for innovation.

Mechanisms for stimulating innovation:

- Demonstration of political commitment by setting ambitious targets and providing the incentives to business
- Targeting support instruments to facilitate costly market research for low-income customer segments
- Decentralizing energy systems

Innovation for Appropriate and Sustainable Solutions

Given the countless possibilities for innovation, financing, and policy making, the design of their frameworks and linkages must ultimately be human-centric. Empowering communities with clean energy enables sustainable, resilient, and better lives. The role of human capital and the culture of doing business is the glue that makes innovation actually work on the ground. Policy innovation which considers the most human component can trigger fast and transformative change. Regional cooperation can enable this.

From the energy angle, energy systems must become more resilient and adaptive to change, while ensuring that the transition towards clean energy remains affordable, particularly for low-income populations and the current refugee crisis. As of 2013, there were approximate 767 million people living under the international poverty line $1.90 per day (World Bank, 2016). The current refugee crisis, where UNHCR claimed that there are 21.3 million refugees around the world, and in which the Middle East and North Africa (MENA) have been major sources of refugees (UNHCR, 2015; 2014). This is a case in point of how urgently innovative energy solutions are required to ensure energy access and reliable energy supply for displaced persons. Additionally, it is important to consider how capacity-building efforts can create new prospects for the future.

Strengthening the resilience and adaptive capacity of energy systems will be essential for managing anticipated and unanticipated future developments, safeguarding the reliable supply of modern energy services, and maintaining income-generating activities under changing conditions. Innovation allows developing countries to capture these benefits and reconcile these competing demands at lower cost. Frugal innovations, among other options, can play an important role in making the energy system sustainable and resilient, exploiting local ingenuity and working laterally around problems, while ensuring that energy services are affordable.

Deploying appropriate and sustainable solutions beckons:

- A bottom-up approach that is driven by the population most affected by an energy or climate change crisis.
- A human centric approach which includes ownership and open communication which incorporates the views of the most affected.
- A better understanding of the local context, community structures and preferences to improve penetration of renewable energy and energy efficiency innovations in developing countries

MINISTERIAL SEGMENT

Energy accessibility and energy security is widely agreed to be the crucial component of the 2030 Agenda and the Paris Agreement. Aligning international agendas between countries and national agendas within them can streamline and focus the efforts in accomplishing this milestone.

Many countries have devised programs to remain on track; however, solutions are not scaling up fast enough. Governments must effectively communicate the benefits of alternative sources of energy, and disseminate information to the public with the private sector to promote adoption of clean energy in an affordable way. Additionally, tailoring sustainable solutions according to specific national needs are vital in ensuring success in meeting the global agreements set forth. Gaining the trust of investors to carry policy supporting renewable energy is the biggest challenge of the public sector. Another challenge is choosing the right technology, not only in terms of acquisition but also operation.

Governments must provide strong leadership by opening channels and incentives for partnerships and funding. Generating a resource pool dedicated to fighting climate change through clean energy will require coordination and cooperation from many stakeholders across multiple sectors. The elements of trust, confidence and transparency are essential enablers for the means of implementation and are key components for creating genuine partnerships.

The applications of these solutions ought to be country specific according to their levels of susceptibility to negative climate change impacts and energy security needs. For instance, small island developing states (SIDS) are among the most vulnerable countries to climate change, yet they also present opportunities for leapfrogging into the broad use of renewable energy. Diplomatic partnerships and multi-lateral financial institutions have made the biggest contribution towards the progress of renewable energy in SIDS.

However, a different approach to larger countries with higher population density and fewer resources may not be able to capitalize on the same type of energy technologies. Deciphering the means of implementation which encompasses the diversity of the needs of countries will bring them closer in achieving the 2030 Agenda and the Paris Agreement.

What is needed:

- Trust, confidence, and transparency across and within countries
- Tailored sustainable solutions according to the specific needs of countries
- Financial platforms and public-private partnerships that will facilitate implementation

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BUSINESS VOICES FOR SUSTAINABILITY

The role of business of all scales has been established as the driver of innovation, technical know-how, and efficiency. While financial resources and technologies are necessary for energy transitions, it is also critical to ensure that products are designed to cater to local climates and the needs of the population. Small and medium enterprises (SMEs) are the backbone of developing economies with keen insights on the needs of individuals at the local level. Universal renewable energy can be achieved by enabling SMEs to foster creative solutions to energy access, sustainability, and efficiency.

However, pilot projects are not enough to achieve the ambitious development goals, mechanisms for scaling up are not being embraced to their full potential. Enabling frameworks such as policies and financial platforms geared toward scaling up frugal innovations are required for transformative change to happen.

Businesses big and small will almost certainly face the question: compete or cooperate? If affordable energy for all is to be achieved, businesses must first cooperate in research and development to drive down the cost of technologies across the board. Only then should they compete to sustain the level of economic efficiency needed for growth.

Large corporations also have a significant role in distributing the cutting edge of energy efficient technologies and providing opportunities to leap frog. They can set international standards for sustainability by making it a benchmark for competitiveness. Thus, transforming the sustainability practices of multinational corporations would create “ripple effects” across supply chains.

The urgency of the fight against climate change has also led businesses to actively seek out public-private partnerships (PPPs). PPPs can be a catalyst for transformative shifts in market strategies since they often involve risk mitigation instruments from the public sector.

From clean cooking stoves to LED lighting to personal robots, the private sector can offer the technical solutions needed for achieving SDG 7 and the Paris agreement

Action items for scaling up business models:

- Scaling up pilot projects
- PPPs and to catalyze green business models
- First collaborate, then compete

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SIDE EVENTS AND SPECIAL EVENTS

1. Meeting Energy Goals by 2030. What Needs to Happen?

This side event was organized by the World Bank. This session took an in-depth look at progress on sustainable energy around the world, and identified priorities in the coming years. The discussion focused on the Global Tracking Framework, a global dashboard for monitoring progress towards the sustainable energy-related goals for 2030, as well as the recently launched RISE (Regulatory Indicators for Sustainable Energy), an initiative which measures progress in energy access, energy efficiency and renewable energy in 111 countries.

2. Strengthening the Empirical Evidence: Gender Inclusive Energy Policies Enabling Progress towards the SDGs

This side event was organized by UNIDO and ENERGIA and chaired by Ms. Sheila Oparaocha, ENERGIA. This side event brought together researchers, policy makers and practitioners to reflect on the state of the art of empirical evidence on energy interventions that are delivering on gender impacts as well as the ones that are not. The discussion emphasized the importance of strengthening robust empirical evidence to substantiate the business case for taking a gender-responsive approach to SDG 7, among other crucial aspects of gender inclusive energy policies.

3. Energy Access Redefined: Emerging Findings from the Global MTF (Multi-Tier Framework) Survey

This side event, organized by the World Bank, discussed the preliminary results of the new Multi-Tier Framework (MTF) currently underway in 15 high access deficit countries around the world. The Global Energy Access Survey is the first survey to apply the new MTF Methodology for measuring energy access. This session provided a preview of how Kenya and Rwanda- the first two countries to have completed the survey- are using the collected data in planning and policy making.

4. Innovative Business Models to Attract Sustainable Energy Investment for LDCs and SIDS

This event was organized by the Global Environment Facility (GEF). The objectives of this GEF-led side event were to (1) foster a discussion on strategies to support sustainable energy development including micro-grid systems with broader financial support from the private sector in LDCs and SIDS; and (2) review high priority areas for strengthening government policy and regulation that will transform fossil energy based systems to renewable energy based systems in LDCs and SIDs. This event highlighted the success of the business model employed by the GEF, as made evident by the GEF's financial support for new government policy initiatives, institutional development, capacity building, and technology transfer for renewable energy and energy efficiency.

5. Multisectoral Capacity Building as Precondition to Implement NDCs and to Reach SDGs

This side event deepened the discussion and provided some answers regarding how to take action for NDC implementation. Capacity development was a point of emphasis, and innovative capacity development approaches and the importance of climate knowledge brokers were discussed.

6. Clean Energy for Migrants and Vulnerable Groups

This side event was organized by UNIDO, EUEI PDF and the Austrian Federal Ministry for Europe, Integration and International Affairs. The event examined the links between energy, development and migration by looking at the possibilities of new and innovative mechanisms for meeting the energy needs of migrants, refugees and vulnerable groups on a sustainable basis. The necessity for tailored approaches, given the diversity of experiences and situations among migrants and vulnerable groups, was emphasized, as well as the importance of furthering and fostering the private sector to support the energy needs of these groups.

7. Improving Energy Access: Harmonizing Counting Methodologies to Monitor Progress for Access to Electricity

This side event, organized by KfW and GIZ, harmonized various counting methodologies for access to electricity which brought together different reporting needs, different project types and approaches for consideration. The panellists agreed that it is advisable to align these various tracking methodologies as much as possible. This event demonstrated that there is broad acceptance of the presented monitoring approach and that elements of the multitier framework will be further detailed as more granular information becomes available.

8. Technology Transfer to Foster Inclusive and Sustainable Industrialization

This side event was organized by UNIDO. The event looked at best practices, opportunities, and challenges of technology transfer primarily based on examples from the African continent as well as some mechanisms enhancing technology transfer involving policy makers, industry representatives, and academia. There are many challenges inherent in addressing the increase in energy needs, economic growth and the need for environmental conservation, and technology transfer is part of the solution to these challenges.

9. Measuring Access to Modern Cooking Energy: Developing a Monitoring Framework to Measure Access to Modern Cooking Energy Services

This side event was organized by EnDev and the World Bank. The discussion centered on the utility of the Multi-Tier Framework (MTF) as a universal tracking tool, and the challenges in measuring the progress of access to modern cooking energy in terms of results achieved so far as well as the methodology and harmonisation of a universal framework. The panelists concluded that proxies will be needed in broader national or HH surveys, that the MTF can contribute more detailed and nuanced information to the SDG reporting, and that the institutions are committed to finalise the MTF to be applicable for data evaluation obtained from global/HH surveys.

10. Policy and Innovation for Energy and Climate Change: Achieving a Low-Carbon Society

This side event was organized by UNIDO, the New Energy and Industrial Technology Development Organization (NEDO), Japan, and the Innovation for Cool Earth Forum (ICEF), Japan. The event discussed practices, concepts, and policies to promote innovation for climate change or to tackle climate change itself which includes profound insights and expertise from multiple players. Key elements in promoting technology and innovation development were presented, including the promotion of sound domestic/peer competition for better performance by visualizing efforts and providing incentives, the provision of tax incentives for the promotion of private R&D investment, and the importance of building an international framework where contributions and efforts to develop innovative technologies would receive higher evaluation.

11. Regional Incubation Networks to Accelerate Sustainable Energy Innovation, Entrepreneurship and Industrial Development

This side event was organized by UNIDO. The side event gathered a heterogeneous group of experts of sub-regional promotion centres and networks. They took stock of the existing situation in the sustainable energy private sector in the various regions and discussed the potential role of sub-regional approaches and incubation networks to promote sustainable energy innovation, entrepreneurship and industrial development. The panellists concluded that there is a need to promote an enabling environment so as to attract the private sector and that mentorship programmes are necessary to develop new companies that would fill the regional gaps and bring added value to the local economy. They further determined that local expertise needs to be strengthened through capacity building and information sharing.

12. Micro-Grids Bringing Mega Change

This side event was organized by the Swedish Energy Agency and InnoVentum. The purpose of this event was to address the changes that are brought to the energy sector by deployment of micro-grids in developing and developed countries. Among other key findings, the panel concluded that financing micro-grid projects as well as the acceptance of the technology by the local population are important factors that must be accounted for during the planning phase.

13. Scaling up Energy Efficiency Financing: Lessons Learned from the Climate Investment Funds

This side event was organized by the CIF. This event featured three case studies of CTF-financed energy efficiency projects from India, Mexico, and Turkey to provide demonstration, deployment, and transfer of low-carbon technologies in renewable energy, energy efficiency, and sustainable transport, and also shared perspectives on the role of public finance in unlocking the energy efficiency market.

14. Trends and Challenges in Smart City Development: Experiences from Vienna

This side event was organized by GFSE, TINA Vienna GmbH, the City of Vienna, ADA, and the Austrian Ministry for Agriculture, Forestry, Environment and Water Management (BMLFUW).This event looked at the concept of a smart city from various perspectives and contexts to discuss common challenges, learning from the example of the City of Vienna, from city strategy and policy as well as infrastructure planning to concrete examples and technological solutions. The panel highlighted that cities present a unique opportunity for the transition to a low-carbon sustainable future, as cities are responsible for approximately 75% of global emissions and account for approximately 80% of annual energy consumption.

15. Future Energy Scenarios for sub-Saharan African cities: Unlocking Opportunities for Climate Responsive Development

This event was organized by EUEI-PDF and ICLEI – Local Governments for Sustainability. The main objective of the session was to discuss three main challenges which city administrations in sub-Saharan Africa face in the transition to a sustainable energy supply for urban settlements: informality, capacity and funding. Given the exponential population growth expected in Africa, it is highly important to consider the rapidly growing energy needs therein, and establish a plan of action to put cities on a pathway towards clean, green, sustainable and inclusive growth.

16. Working with Business Leaders to Catalyze Action on Energy Efficiency and Change

This side event was organized by UNIDO and Carbon Trust. This session discussed participation between business leaders, Government officials and investors to a clear and disciplined vision of how to further mobilize energy efficiency in the key industrial sectors and set out actions for how to reach this goal.

17. Global Research Initiatives in Support of the 2030 Development Agenda and the Paris Agreement

This side event was organized by IIASA. This side event presented three major ongoing global research initiatives (The World in 2050 (TWI2050), Integrated Solutions for Water, Energy and Land (ISWEL), and Climate and Development Links (CD Links)) hosted at IIASA in collaboration with various institutions across the globe and focused on exploring pathways to achieve the SDGs.

18. Showcasing Innovative Austrian Clean Energy Technologies

This side event was organized by GFSE, Austrian Economic Chamber (WKO), BMLFUW, and ADA. The event showcased examples of innovative technologies from Austria that could be deployed in developing countries, while also emphasizing the importance of effective partnerships to strengthen local energy systems.

19. Promoting Women to Advance the Global Energy Transition

This side event was organized by REN21 and UNIDO, and chaired by Ms. Irene Giner-Reichl, GFSE, who stated that one effective way to accelerate the global energy transition would be to address the under-representation of women in the energy sector This side event will identify factors fostering gender balance in the energy sector which is fundamental to a timely attainment of SDG 7 on sustainable energy. It will also contribute to HLP 1: The role of Energy in the Post 2015 Development Agenda and show that women are crucial actors for reaching SDG 7 while advancing SDG 5 on gender equality and women's empowerment.

20. Clean Technology Innovation and Entrepreneurship Day: UNIDO/GEF Global CleanTech Innovation Programme for SMEs and Start-ups (GCIP)

This special event provided an excellent platform for GCIP alumni from all participating countries to showcase the innovations as well as for investors and private sector partners to share some insights on how they are engaging with innovators and what opportunities there are for SMEs and start-ups with front-running technologies. Moreover, the event demonstrated how GCIP, the world's largest clean technology innovation and entrepreneurship support programme in developing countries and economies in transition entitled, is creating sustainable and measurable impact in terms of GHG emission reductions, clean jobs creation and CleanTech Industry expansion.

21. The Private Financing Advisory Network (PFAN) Clean Energy and Climate Investment Forum & Official Launch

This special event served as a platform for match-making between investment-ready proposals for low carbon, climate resilient projects and businesses with prospective investors. For this special event PFAN has hand-picked the most promising project proposals from its existing portfolio for introduction to investors. The proposals were presented by the respective developers and scrutinized by a jury of eminent clean energy and climate experts and investors at the Forum to compete for the PFAN Global Awards. The special event coincided with the formal launch of the PFAN under UNIDO and REEEP hosting.

22. Climate and Development Links Horizon 2020: National decarbonization roadmaps for achieving climate change and sustainable development objectives

This special event organized by IIASA and the CD-LINKS Consortium revolved around the research project "Linking Climate and Development Policies- Leveraging International Networks and Knowledge Sharing". The special event introduced the most recent outcomes of the project and presented the energy and policy measures required to reach the well below 2°C target, and compare them with the current NDCs. Additionally the speakers assessed the implications of the NDC for the SDGs and analyzed how more stringent climate action could foster an energy transformation with positive additional feedbacks with regard to the SDGs.

Launch and Spotlight Events

1. Electrification Accelerator

This launch spotlight event was jointly organized by UNIDO, SEforAll and ENEL. A new accelerator on electrification was launched, with the goal of accelerating the efficiency of electrification and improving access to energy in rural areas. This accelerator aims to foster a quicker pace of electrification in areas of need worldwide.

2. Launch of the State of Electricity Access Report 2017: Energy Access and the Race to Meet Sustainable Energy Goals by 2030

This launch event was organized by the World Bank. This session launched the State of Electricity Access Report (SEAR) 2017. This first edition of the SEAR is a narrative on energy access integrating lessons learned with insights drawn from emerging off-grid innovative business and delivery models to prompt stakeholders for action.

3. REthinking Energy: Accelerating the Global Energy Transformation

This spotlight event was organized by IRENA. The session highlighted the third edition of the REthinking Energy report, which emphasises that accelerating the pace of the energy transition and expanding its scope beyond the power sector will not only reduce carbon emissions, it will improve lives, create jobs, achieve development goals, and ensure a cleaner and more prosperous future.

4. Global Cleantech Innovation Index

This spotlight event was organized by UNIDO, CTG, WWF and GEF. This session provided an exclusive preview of the Global Cleantech Innovation Index (GCII), and presented the preliminary findings of the GCII 2017 report, and in particular the country profiles developed in collaboration with the eight partner countries of the Global Cleantech Innovation Program (GCIP). The GCII reviews the existing environment to promote entrepreneurial cleantech start-ups that will commercialize clean technology innovations over the next 10 years.

5. Igniting Solar Energy Markets

This launch event was organized by SNV. This session launched the Call to Action: Igniting Solar Energy Markets, a call to engage partners to join forces to fast track universal energy access in less developed markets. The call aims to disseminate 5 million Global Lighting certified solar lanterns to the Bottom of the Pyramid in 5 countries within 5 years.

6. Green Technology Choices: The Benefits, Risks and Trade-Offs of Energy Efficient Technologies

This launch event was organized by UN Environment/ International Resource Panel. The new report, "Green Technology Choices: The Benefits, Risks and Trade-Offs of Energy Efficient Technologies" was presented by the International Resource Panel, and this report sheds light on the impacts of a large-scale transformation in energy production and use options, not only on greenhouse gas emissions, but also on other aspects of the environment, human health and natural resource use.

7. Poor People's Energy Outlook 2017 – Financing National Energy Access: A Bottom Up Approach

This spotlight event was organized by Practical Action. The 2017 edition of Practical Action's Poor People's Energy Outlook (PPEO) was presented in this session. PPEO 2017 delves into the mix of funding needed to realize the people-centred national energy access plans outlined in PPEO 2016. PPEO 2017 also looks at the mix of technologies and funding required to achieve national and global energy access goals – and the roles of civil society and the private and public sectors in making this a reality.

8. Launch of World Small Hydropower Development Report

This launch event was organized by UNIDO and ICSHP. This session launched the World Small Hydropower Development Report with the objective of increasing the contribution from small hydropower in countries' total energy mix by strengthening policy on energy planning and guiding investors in this sector.

9. Networking Event: Women for Sustainable Energy

There were two networking events, organized by UNIDO, the UNIDO Gender Office, GWNET, ECREEE and ENERGIA, focusing on "Women for Sustainable Energy". These events provided a platform for participants to exchange knowledge and deliberate on the impacts of socio-cultural norms and perceptions of gender that create classifications of "men's only" and "women's appropriate" jobs in the energy sector, as well as to discuss and connect ideas surrounding women's economic empowerment and sustainable energy access.

Annex

Participants in the Main Plenary

OPENING SESSION

Mr. Michael Linhart, Secretary General, Ministry of Foreign Affairs, Austria

Ms. Maria Vassilakou, Vice-Mayor of Vienna, Austria

Mr. LI Yong, Director General, United Nations Industrial Development Organization (UNIDO)

Ms. Rachel Kyte, Chief Executive Officer of Sustainable Energy for All (SEforALL) and Special Representative of the UN Secretary-General for Sustainable Energy for All

Mr. Pavel Kabat, Director General and CEO, International Institute for Applied Systems Analysis (IIASA)

H.E. Mr. Andrä Rupprechter, Minister of Agriculture, Forestry, Environment and Water Management, Austria

H. E. Mr. Piyush Goyal, Minister of State for Power, Coal, New and Renewable Energy and Mines, India

Ms. Amina Mohammed, Deputy Secretary General, United Nations

THE ROLE OF ENERGY IN THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT, WITH A FOCUS ON POVERTY

Chair:
Mr. LI Yong, Director General, United Nations Industrial Development Organization (UNIDO)

Panellists:
Ms. Amina Mohammed, Deputy Secretary General, United Nations

Mr. Adnan Amin, Director General, The International Renewable Energy Agency (IRENA)

Ms. Tania Rodiger-Vorwerk, Deputy Director General, Directorate 31, Federal Ministry of Economic Cooperation and Development (BMZ)

Ms. Paula Caballero, Global Director, Climate Program, World Resources Institute (WRI)

Mr. Martin Ledolter, Managing Director, Austrian Development Agency (ADA)

Ms. Radha Muthiah, CEO, Global Alliance for Clean Cookstoves

Ms. Rachel Kyte, Chief Executive Officer of Sustainable Energy for All (SEforALL) and Special Representative of the UN Secretary-General for Sustainable Energy for All

THE ENERGY, FOOD SECURITY, LAND, WATER, AND HEALTH NEXUS

Chair:
Mr. Pavel Kabat, Director General and CEO, International Institute for Applied Systems Analysis (IIASA)

Panellists:
H.E. Mr. Csaba Kőrösi, Ambassador and Director of Environmental Sustainability, Office of the President of Hungary

Mr. Faris Hasan, Director, OPEC Fund for International Development

H.E. Ms. Irene Giner-Reichl , Ambassador, Permanent Representative of Austria to China and President of the Global Forum on Sustainable Energy (GFSE)

Mr. Al Binger, Interim-Executive Director, Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE)

Ms. Deidre Herbst, Environmental Manager, Eskom

Mr. Hans Olav Ibrekk, Policy Director, Section for Energy, Ministry of Foreign Affairs of Norway

SUSTAINABLE CITIES AND COMMUNITIES

Chair:
Mr. Philippe Scholtès, Managing Director, Programme Development and Technical Cooperation; and Director ad-interim, Department of Energy, United Nations Industrial Development Organization (UNIDO)

Panellists:
Ms. Diana Urge-Vorsatz, Director, Center for Climate Change and Sustainable Energy Policy, Central European University

Mr. Ahmed Badr, Executive Director, Regional Center for Renewable Energy and Energy Efficiency (RCREEE)

Ms. Heather Adair-Rohani, Technical Officer, Department of Public Health, Environmental and Social Determinants of Health, World Health Organization (WHO)

Mr. Kamel Ben Naceur, Director, Sustainability, Technology and Outlook, International Energy Agency (IEA)

Ms. Kari Aina Eik, Secretary General, Organization for International Economic Relations (OiER)

Mr. Dhakal Shobhakar, Head of Department of Energy, Environment and Climate Change, Asian Institute of Technology

SDG 7: AFFORDABLE AND CLEAN ENERGY & SDG 13: CLIMATE ACTION

Chair:
Mr. Ajay Mathur, Director General, The Energy and Resources Institute (TERI)

Panellists:
Mr. Peter Traupmann, Managing Director, Austrian Energy Agency (AEA)

Mr. Edward Mungai, CEO, Kenya Climate Innovation Centre

Ms. Sheila Oparaocha, International Coordinator and Programme Manager International Programs, ENERGIA

Mr. Martin Keller, Head, National Renewable Energy Laboratory (NREL)

Mr. Robert Zeiner, International Director Programmes and Projects International, Austrian Development Agency (ADA)

Mr. Mark Radka, Head of the Energy and Climate Division at UN Environment

THE PIONEERING ROLE OF INNOVATIVE TECHNOLOGIES

Chair:
Ms. Christine Lins, Executive Secretary, REN 21

Panellists:
Ms. Helga Prazak-Reisinger, Program Manager "Flagship Energy-Industry", Austrian Institute of Technology

Mr. Jaideep Prabhu, Professor, Cambridge University

Mr. Yoichi Kaya, President, Research Institute of Innovative Technology for the Earth (RITE)

Mr. Solomone Fifita, Interim-Director, Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)

Mr. Tom Delay, Chief Executive Officer, Carbon Trust

Mr. Getahun Moges, Executive Director, Ethiopian Energy Authority

Mr. Santiago Creuheras, Director General for Energy Efficiency and Sustainability, Deputy Ministry for Planning and Energy Transition, Mexico

FINANCING INNOVATIVE BUSINESS MODELS

Chair:
Ms. Mafalda Duarte, Manager, Climate Investment Funds, World Bank

Panellists:
Ms. Barbara Buchner, Executive Director, Climate Policy Initiative (CPI)

Ms. Miriem Bensalah Chaqroun, President, General Confederation of Moroccan Enterprises

Mr. Christoph Frei, Secretary General, World Energy Council (WEC)

Ms. Andrea Hagmann, Member of the Executive Board, Development Bank of Austria

Mr. Kudakwashe Ndhlukula, Executive Director, SADC Centre for Renewable Energy & Energy Efficiency (SACREEE)

Mr. Aaron Leopold, Global Energy Representative, Practical Action

CATALYSTS FOR INNOVATION

Chair:
Mr. Martin Hiller, Director General, Renewable Energy and Energy Efficiency Partnership (REEEP)

Panellists:

Mr. Kazuo Furukawa, Chairman, New Energy and Industrial Technology Development Organization (NEDO)

Mr. Mikhail Chudakov, Deputy Director General, International Atomic Energy Agency (IAEA)

Mr. David Walker, Group Chief Development Officer, DNV GL

Ms. Maria Sandqvist, Executive Director, Swedish Smart Grid

Mr. Reinhard Haas, Professor, Institute of Energy Systems and Electric Drives, Vienna University of Technology

Mr. Bazmi Husain, Global Chief Technology Officer, ABB Ltd

INNOVATION FOR APPROPRIATE AND SUSTAINABLE SOLUTIONS

Chair:
Mr. Kandeh K. Yumkella, Chief Executive Officer, Former Special Representative of the UN SG for Sustainable Energy and former Director General of UNIDO

Panellists:
Ms. Meagan Fallone, Chief Executive Officer, Barefoot College

Ms. Anda Ghiran, Global Energy and Sustainability Policy Manager, Johnson Controls

H.E. Mr. Virachai Plasai, Former Chair of G77 & Permanent Representative of Thailand to the UN, Kingdom of Thailand

Mr. Mahama Kappiah, Executive Director, ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE)

Ms. Vivien Foster, Global Lead for Energy Economics, Markets & Institutions for the World Bank Group's Energy and Extractives Global Practice

Ms. Fiona Wollensack, Project Manager, EU Energy Initiative Partnership Dialogue Facility (EUEI-PDF)

Ministerial Segment

Chair:
Ms. Tania H. Rödiger-Vorwerk, Deputy Director General, Directorate 31, Federal Ministry of Economic Cooperation and Development (BMZ), Germany

Panellists:
H. E. Mr. Enele Sopoaga, Prime Minister of Tuvalu and President of the SIDS DOCK Executive Council

H.E. Mr. Khaled Fahmy, Minister of Environment, Egypt

H.E. Mr. Ibrahim Saif, Minister of Energy and Mineral Resources, Jordan

H.E. Mr. Aziz Rebbah, Minister of Energy, Mines and Sustainable Development, Morocco

H.E. Ms. Jabulile Mashwama, Minister of Natural Resources and Energy, Swaziland

BUSINESS VOICES FOR SUSTAINABILITY

Chair:
Mr. Kandeh K. Yumkella, Former Special Representative of the UN SG for Sustainable Energy and former Director General of UNIDO

Panellists:
Ms. Abze Djigma, CEO, Abze Solar / Ambassador for Renewable Energy, Burkina Faso

Mr. Maher Ezzeddine, CEO, Ideanco, United States

Ms. Sally Uren, CEO, Forum for the Future, United Kingdom

Mr. Adolfo Larach-Foster, CEO, Cohersa-Cohessa, Honduras

Ms. Sami Haddadin, Director of IRT at Leibniz University Hannover and Creator of FRANKA EMIKA

Ms. Barbara Kreissler, Director of Professional lighting in the Public and Government Affairs Department at Philips Lighting, the Netherlands

CLOSING SESSION

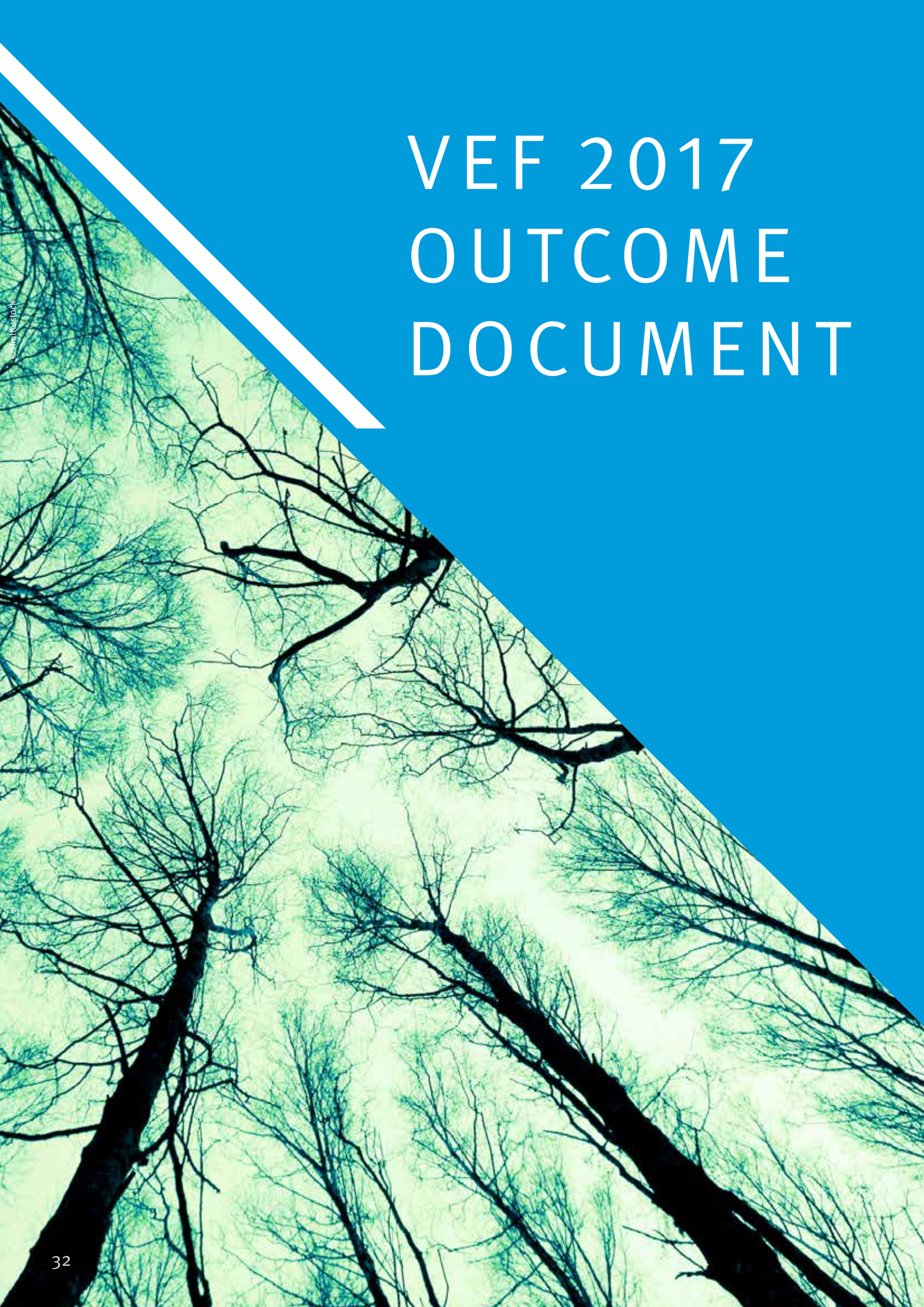
Mr. Philippe Scholtès, Managing Director, Programme Development and Technical Cooperation; and Director ad-interim, Department of Energy, United Nations Industrial Development Organization (UNIDO)

Mr. Robert Zeiner, Director, Programmes and Projects International, Austrian Development Agency

Ms. Monika Weber-Fahr, Chief Operating Officer, Sustainable Energy for All (SEforALL)

Mr. Luis Gomez-Echeverri, Senior Research Scholar, International Institute for Applied Systems Analysis (IIASA)

VEF 2017 OUTCOME DOCUMENT



KEY MESSAGES

Key Message 1

Long-term integrated strategies for the future

Many of the capital investments we make today have a very long replacement time, therefore the energy choices we make today will lock us into a development path for decades to come. Long-term integrated strategies are imperative to cover all SDGs. The deadline set for the SDGs highlight the urgency of moving forward now, if we are to achieve tangible milestones by 2020, 2030, and 2050. The vision for 2050 for sustainable development must shape the decisions made today.

Key Message 2

The nexus approach in enhancing multi-sectoral interlinkages

Energy is the key enabler for food security, health, land and water. From food refrigeration to wastewater treatment, energy is a basic requirement for rapid and healthy development. The urgency of the implementation phase of the SDGs and the Paris Agreement highlights the need for a holistic approach, which mitigates the trade-offs while positively enhancing the numerous interlinkages between these sectors.

Key Message 3

Innovative infrastructure needed for sustainable cities

With the global megatrend of rapid urbanization, its proportionally growing energy demand and corresponding greenhouse gas emissions, cities are calling for innovative approaches to urban design and transformative change. One of the solutions could be innovative infrastructure that uses renewable energy in an efficient way to cope with the rising demand of energy without detrimental impact on the climate and the environment.

Key Message 4

Affordable and clean energy's huge potential for climate action

Affordable and clean energy is the biggest opportunity to mitigate and adapt to climate change. The majority of the Nationally Determined Contributions see the energy sector as a vital component to achieving the objective of the Paris Agreement. Technology transfer, investment, capacity-building, and institutions will help energy play its role in fighting climate change.

Key Message 5

Current development strategies to reflect new technological innovations

Technological innovations are central for sustainable energy development. New concepts and game-changing technologies are being introduced, but the level of readiness remains uncertain. This is the first generation that has the technology to solve climate change and related issues of sustainability. Current development strategies need to be continuously updated to reflect newly available technological innovations.

Key Message 6

Tapping into existing financial resources

Sustainable solutions depend on innovative and inclusive business models that can be scaled up, replicated, and are self-sustaining. These business models exist already and are ripe for financing by financial institutions, development banks, as well as private investors. The financial resources necessary to accomplish Sustainable Development Goal 7 and the Paris Agreement also exist, yet the appropriate instruments are not being applied in a way that enables new businesses to blossom and large-scale projects to move forward. This represents a collective opportunity for collaboration and partnerships between the public and private sector to provide such solutions.

Key Message 7

Governments ability to stimulate innovation through political commitment and target setting.

Governments are able to stimulate innovation by demonstrating political commitment and setting ambitious targets and plans to provide the incentives to realize those goals; supporting research and development in cross sectoral innovation and providing platforms to deliver technologies and integrated solutions that respond to the differentiated needs of users; and by developing the energy system based on an integrated network rather than a top down approach.

Key Message 8

Multiple level approach for sustainable solutions

Recognizing that innovation works at multiple levels, and that it can trigger fast and transformative change, target setting and regional cooperation can further ensure that results of innovation trickle down through all levels. Additionally, women are the best placed agents to absorb innovation and successfully turn it into higher income and better lives. Private sector players can also help drive down the cost and increase the efficiency and speed of mainstreaming of innovation.

Key Message 9

Tailoring enablers for the means of implementation

Energy is a crucial component for the implementation of the 2030 Agenda and the Paris Agreement, but also in meeting the energy security needs of various countries. The elements of trust, confidence and transparency are essential enablers for the means of implementation. Additionally, tailoring sustainable solutions according to specific national needs are vital in ensuring the success in meeting these global agreements.

Key Message 10

The role of the private sector as a driver of innovation

The role of the private sector in implementing the SDGs and the Paris agreement is growing, and the public sector should embrace it as the driver of innovation. The design of policy should incorporate the needs of small and medium-sized enterprises in developing countries. This can be done alongside the creation of frameworks which enable new entrepreneurs to create quality and cost effective solutions which can address energy and sustainability demands simultaneously.

VIENNA ENERGY FORUM 2017

For further information on the Vienna Energy Forum, please contact us or visit our website:

viennaenergyforum.org

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