



Global Forum on Sustainable Energy

Activity Report, August 2016 – October 2018

Imprint

Authors: Shruti Athavale, Leonardo Barreto Gómez, Anna Kassai

Published and produced by: Global Forum on Sustainable Energy, c.o. Österreichische Energieagentur – Austrian Energy Agency

Mariahilfer Straße 136, A-1150 Vienna, Phone +43 (1) 586 15 24, Fax +43 (1) 586 15 24 - 340

E-Mail: office@energyagency.at, Internet: <http://www.energyagency.at>

Layout: Austrian Energy Agency

Produced and published in Vienna

Reprint allowed in parts and with detailed reference only. Printed on non-chlorine bleached paper.

Foreword by the GFSE President

In July 2018, the High-level Political Forum of ECOSOC under the overall theme of “Transformation Towards Sustainable and Resilient Societies” reviewed progress towards the implementation of several SDGs, including SDG 7 on sustainable energy and adopted a Ministerial Declaration¹ (E/HLS/2018/1). In his closing remarks, the head of DESA (Department of Economic and Social Affairs), USG LIU Zhemin highlighted a “sense of urgency and the conviction that we must step up efforts to achieve the goals”.

Earlier in the summer, the REN21 Global Status Report 2018 (www.ren21.net) had provided evidence that – sadly enough – the year 2017 saw again a rise in global CO₂ emissions after three good years of apparent de-coupling of economic growth and climate emissions.

Finally, the IPCC Special Report, Global Warming of 1.5 Degrees, was presented in Incheon, Republic of Korea, in early October 2018. If there was a need for additional motivation to accelerate the sustainability transitions, this report provides ample food for thought. One of the key messages of the report is that we are already seeing the consequences of 1°C of global warming through more extreme weather events, rising sea levels and diminishing Arctic sea ice, among other changes.

Against this backdrop, GFSE’s mission continues to be highly relevant. We pledge to continue to do what we can to mobilize support for the transition to sustainable, resilient and inclusive energy systems as an indispensable dimension for peace and prosperity for all in the 21st century.

Ambassador Irene Giner-Reichl

¹ http://www.un.org/ga/search/view_doc.asp?symbol=E/HLS/2018/1&Lang=E

Table of Contents

| | | |
|-----------|--|-----------|
| 1 | Introduction | 2 |
| 2 | High-Level Conference on Regional Cooperation to Accelerate Sustainable Energy Innovation and Entrepreneurship in Developing Countries (3rd October 2018)..... | 4 |
| 2.1 | Side Event: Creating Opportunities for Sustainable Energy Investments and Businesses in Developing Countries (2 nd October 2018) | 5 |
| 3 | Vienna Energy Forum 2018..... | 8 |
| 4 | Vienna Energy Forum 2017 | 9 |
| 4.1 | Side Event: Trends and Challenges in Smart City Development - Experiences from Vienna (10 th May 2017)..... | 10 |
| 4.2 | Side Event: Showcasing Innovative Austrian Clean Energy Technologies (10 th May 2017)..... | 12 |
| 4.3 | Study Tour: Small Hydro Power in Austria (8 th - 9 th May 2017)..... | 14 |
| 5 | High-Level Seminar “Accelerating Sustainable Energy for All in LLDCs through Innovative Partnerships” (24th – 25th October 2016) | 15 |
| 6 | GFSE Policy Briefs..... | 16 |
| 6.1 | Policy Brief #4: Landlocked Developing Countries. Challenges and Priority Areas for Action | 16 |
| 6.2 | Policy Brief #5: Innovative Financing and Business Models..... | 18 |
| 6.3 | Policy Brief #6: Small Island Developing States | 19 |
| 6.4 | Policy Brief #7: Spotlight on the Interdependencies between SDG5 and SDG7 | 21 |
| 7 | Cooperation with Sustainable Energy for All (SEforALL) | 24 |
| 8 | Cooperation with REEEP..... | 25 |
| 9 | Information and Dissemination Activities | 26 |
| 10 | Additional GFSE Networking and Outreach Activities | 27 |
| 11 | Outlook on Future GFSE Activites | 29 |

1 Introduction

The Global Forum on Sustainable Energy (GFSE) is a neutral multi-stakeholder platform facilitating international dialogue on energy for sustainable development by taking into account the special interests and challenges of developing countries. GFSE aims at the establishment of a sustainable world energy system from a social, economic and environmental perspective.

GFSE contributes to both international discourse and information dissemination on sustainable energy. The multi-stakeholder platform plays a crucial role in facilitating sustainable energy projects by bringing together donors, investors and project developers. Their interaction creates new opportunities and enhances existing initiatives in the field of sustainable energy.

GFSE operates at the intersection of international energy discourse and diplomacy. Conferences and regional fora or workshops are the visible peak of the GFSE activities. GFSE activities can be grouped into three categories, namely networking, dissemination of information and facilitation of project initiatives.

1. GFSE is a networking agent

The Global Forum on Sustainable Energy interacts and networks with other energy initiatives and organizations in the energy field and thereby enhances synergies and complementarities. GFSE has been playing an active role in bringing together several energy-related initiatives, launched at the World Summit on Sustainable Development in 2002 in Johannesburg. GFSE works as an information provider and networking agent for multitude of stakeholders, including the Sustainable Energy for All initiative (SEforALL) of the United Nations.

2. GFSE informs on sustainable energy

GFSE prepares and initiates events devoted to the promotion of and dissemination of energy technologies in the renewable energy and energy efficiency fields in the context of sustainable development, and to showcasing and discussing inclusive solutions for the transition towards a sustainable energy system.

3. GFSE facilitates project initiatives

GFSE fosters partnerships and facilitates energy for sustainable development initiatives. It supports private-public partnerships by presenting opportunities and identifying investment and partnership possibilities.

History of GFSE Activities

Since its establishment in 1999, the Global Forum on Sustainable Energy has engaged in numerous activities and has significantly contributed to shape the national and international debate on sustainable energy and development.

The Vienna Energy Forum (VEF) developed out of a series of international and regional GFSE Meetings, which addressed different aspects of energy for sustainable development. Detailed records of these GFSE Meetings, including presentations and main outcomes, can

be found on our website www.gfse.at and in the GFSE Activity Reports 2012-2014 and 2014-2016.

More recent activities and publications of the Global Forum on Sustainable Energy are described in this report.

2 High-Level Conference on Regional Cooperation to Accelerate Sustainable Energy Innovation and Entrepreneurship in Developing Countries (3rd October 2018)

Under the Austrian Presidency of the Council of the European Union, the Austrian Ministry for Europe, Integration and Foreign Affairs (MFA), the United Nations Industrial Development Organization (UNIDO) and the Austrian Development Agency (ADA) co-organized the High-Level Conference on Sustainable Energy and Development. The conference was organized under the umbrella of the Global Network of Regional Sustainable Energy Centres (GN-SEC) and in conjunction with the Informal Meeting of the EU Directors General for Development Cooperation. The conference was also accompanied by a series of energy events from the 1st to the 5th of October 2018.

Some of the key outcomes of the conference were:

- „Tapping the potential of renewable energy and energy efficiency requires building the capacity of developing countries to implement policies and regulations, encouraging the involvement of the private sector, implementing solid business models and innovative financing approaches to make solutions affordable to low-income population.
- Regional cooperation in the sustainable energy sector can support the achievement of SDG-7, SDG-9 and SDG-13. Cooperation is essential to achieving the levels of innovation and societal change necessary to increase the uptake of renewable energy and energy efficiency technologies. Cooperation facilitates the exchange of knowledge, the strengthening of institutions, creation of markets, awareness raising, training of the workforce and support to companies.
- The regional renewable energy and energy efficiency centres (see GN-SEC) are designed as hubs for all kind of domestic and international partnerships. The regional sustainable energy centres are instrumental to the implementation of regional integration and partnerships between donors and regional economic communities on key sustainable energy issues and challenges. They act as hubs for international and regional partnerships with donors, development banks, regional standards institutions and international organisations, among others.
- Regional policy frameworks for renewable energy and energy efficiency including the setting of national targets and requiring the development of RES and EE action plans encourage the involvement of the private sector.“
(Source: GN-SEC Homepage)

Find more information about the High-Level Conference, its organisers and outcomes here: <https://www.se4allnetwork.org/event/high-level-conference-regional-cooperation-accelerate-sustainable-energy-innovation-and-0>.

The Global Forum on Sustainable Energy (GFSE) was not only a partner of this year's Vienna Energy Forum and thus present at the event, but GFSE also helped organize one

side event on Tuesday, 2nd October 2018 titled “Creating Opportunities for Sustainable Energy Investments and Businesses in Developing Countries” (see below for more information).

2.1 Side Event: Creating Opportunities for Sustainable Energy Investments and Businesses in Developing Countries (2nd October 2018)

The Global Forum on Sustainable Energy (GFSE) in cooperation with the Federal Ministry of the Republic of Austria for Europe, Integration and Foreign Affairs (BMEIA), the Austrian Development Agency (ADA) and the United Nations Industrial Development Organization (UNIDO) organized the Side Event: “Creating Opportunities for Sustainable Energy Investments and Businesses in Developing Countries”. The side event was organized as a pre-event of the High-Level Conference on “Regional Cooperation to Accelerate Sustainable Energy Innovation and Entrepreneurship in Developing Countries” on Wednesday, 3rd October 2018 in conjunction with the Informal Meeting of the EU Directors General for Development Cooperation in Vienna, Austria.

The side event brought together entrepreneurs in decentralized renewable energy technologies and financiers to share best practices, discuss challenges and bottlenecks, and exchange experiences. Financiers and investors presented innovative financing instruments and products (e.g. grants, loans, guarantees, equity, insurance) aiming at promoting sustainable energy and climate technology business and innovation in developing countries. At the end of the event, participants also discussed how regional cooperation can contribute to strengthening regional financing opportunities.



Figure 1: Panel Discussion of the Side Event on Creating Opportunities for Sustainable Energy Investments and Businesses in Developing Countries (Photo Credit: Rudolf Köstler/AEA)

In his opening remarks, Mr. Robert Zeiner (Director, Programmes and Projects International, ADA), highlighted the role of innovative finance schemes, the need for accelerated efforts, multilateral cooperation and regional centers in order to reach the development goals. Mr. Felice Zaccheo (Head of Unit, DG DEVCO) addressed the crucial role of private sector and the crucial interlinkages of energy with other sectors. Dr. Tania Rödiger-Vorwerk (Director General, Environment and Infrastructure, BMZ) addressed different development barriers such as the lack of bankable projects and large-scale infrastructure projects, while also presenting the Green People's Energy for Africa initiative. Mr. Marcus Wiemann (Executive Director, ARE), presented the conclusions from the 1st side event "Business Forum on Decentralized Energy in Developing Countries", which took place in the morning of the 2nd of October 2018.

Innovative financing schemes and new business models accompanied by appropriate technologies enable the provision of clean energy services to low-income populations in a more flexible and equitable manner. In the second half of the side event, the main financial challenges and bottlenecks that entrepreneurs face to scale-up their products were discussed by the panelists, namely:

- Mr. Michael Wancata, Member of the Executive Board of the Development Bank of Austria (OeEB)
- Mr. Daniel-Alexander Schroth, Adviser to the Vice President, Power, Energy, Climate and Green Growth Complex, African Development Bank (AfDB)
- Mr. Mahama Kappiah, Executive Director, ECOWAS Center for Renewable Energy and Energy Efficiency (ECREEE)
- Mr. Peter Storey, Private Financing Advisory Network (PFAN)
- Mr. Harald Hirschhofer, Senior Advisor, TCX Investment Management Company
- Mr. Charles Wetherill, Program Manager, Nordic Development Fund (NDF), and
- Mrs. Ana Hajduka, Founder & CEO Africa GreenCo.

The audience was given the chance to listen to various aspects of the above-mentioned challenges from different market actors. The crucial role of small- and middle-sized enterprises was addressed by Mr. Michael Wancata, as well as the importance of bankable projects, which are currently lacking on the market. Mr. Daniel-Alexander Schroth emphasized the need of bringing local financial intermediaries into the mix in order to optimally use the potential of private sector actors in the energy sector. As an example, Mr. Schroth pointed out that concessional guarantee is a key dimension on the mini-grid side; however, addressing barriers on the market intelligence side and policy side is equally important. Mr. Mahama Kappiah highlighted the benefits of the regional approach, which allows pulling funds together rather than distributing funds to individual countries. The regional sustainable energy centers also cooperate with development partners to establish renewable energy entrepreneurship facilities that provide training for entrepreneurs, advice on technical matters and project proposals and business management. Mr. Peter Storey addressed the need for bottom-up project development and the importance of loan finance cash flow. He also emphasized how important coaching and mentoring project developers and businesses to develop sound business plans and financial structures for their projects is. Mr. Harald Hirschhofer highlighted how the depreciation of local currencies can substantially affect the returns of renewable energy projects. Instruments that enable loans in local currencies hedge currency risks due to exchange rates are necessary. He further stressed the importance of incorporating currency risks at the early stage of the project. Mr. Charles Wetherill also indicated that innovative energy access models should account the costs and risks

more carefully. Ms. Ana Hajduka highlighted the problem of different realities in terms of guarantees and working business models in the regional context.

Some additional key messages of the side event were as follows:

1. Start-ups in the sustainable energy business face challenges to access finance to cover the up-front capital for projects.
2. There is a lack of pre-feasibility and feasibility studies on investment projects. Many project ideas have not been developed to the level of detail required by financial institutions. Financing to conduct feasibility studies and to prepare project proposals to seek financing is necessary
3. Early-stage support to start-ups through the provision of capital and risk-sharing mechanisms is necessary. At later stages, growth capital and debt are required for companies to expand their business
4. A portfolio of financial instruments focusing on SMEs and small-scale projects is required to scale up access to finance. These instruments include guarantees to reduce risk, blending instruments combining grants with loans, investment platforms to facilitate matchmaking between project developers and financiers and measures to improve the investment climate.
5. Development banks participate in equity funds focusing on renewable energy that work closely with local project developers and companies along the value chains to close funding gaps in small-scale energy projects.
6. The regional sustainable energy centres enable the creation of regional markets for on-grid and off-grid technologies. For this purpose, they support the development and implementation of regional policy and regulatory frameworks, encourage the development of an entrepreneurial ecosystem and collaborate with partners on business promotion.

3 Vienna Energy Forum 2018

As was the case with previous Vienna Energy Forums, the Global Forum on Sustainable Energy was also a partner of this year's Vienna Energy Forum 2018. During the follow-up to the event, GFSE organized a coordination meeting with relevant Austrian national stakeholders to disseminate the outcomes of the VEF2018, provided information about Austrian expertise and experience in the implementation of SDG7 ("affordable and clean energy"), and supported the drafting of the key outcomes of the high-level round tables as well as the plenary sessions.

The Vienna Energy Forum 2018 Special Session (VEF18) was held under the theme, "Powering Innovation for Prosperity" and was organized by the UN Industrial Development Organization (UNIDO), the Austrian Federal Ministry for Europe, Integration and Foreign Affairs (BMEIA), the Austrian Development Agency (ADA), the International Institute for Applied Systems Analysis (IIASA) and Sustainable Energy for All (SEforALL). In comparison to previous VEFs, this special session was organized to provide input to the formal review of SDG7 by the High-Level Political Forum on Sustainable Development (HLPF), which took place in New York in July 2018.

The Special Session, which brought together more than 300 guests, focused on the importance of energy system transformation, energy access, innovative climate technology, and partnership in increasing access to energy around the world. The plenary sessions and the high-level roundtable events also addressed the key role of small- and medium-sized enterprises (SMEs) and startups in the energy transition. In addition, the Global Network of Regional Sustainable Energy Centres (GN-SEC) and the regional initiatives elaborated on the approaches that are contributing to the scaling-up of clean energy. The high-level segment reflected on the role of the international community, the national experiences and the effective ways to contribute to the acceleration of the energy transition.

The key messages of the event can be read on the conference website: <https://www.viennaenergyforum.org/>

4 Vienna Energy Forum 2017

The Vienna Energy Forum 2017 brought together more than 1,650 high-level government officials, policy makers, representatives from Permanent Missions, as well as experts and representatives of the European Union, civil society, the private sector and development finance institutions from 128 countries to discuss the importance of sustainable energy for the implementation of the SDGs and the Paris Agreement. The numerous debates were led by more than 60 high-level speakers. The high-level panels, which took place in the Hofburg Palace from 11th - 12th May, were preceded by Side Events on 9th and 10th May at the Vienna International Centre. At the side events, 450 participants from 65 countries were in attendance. The Vienna Energy Forum 2017 was co-organized by UNIDO, IIASA, the Austrian Government, and SEforALL.

"Some of the key outcomes of the Vienna Energy Forum were:

1. 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.
 2. Energy is the key enabler for food security, health, land and water.
 3. 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.
 4. Affordable and clean energy is the biggest opportunity to mitigate and adapt to climate change. Technology transfer, investment, capacity building and institutions will help energy play its role in fighting climate change.
 5. Technological innovations are central for sustainable energy development. New concepts and game-changing technologies are being introduced, but the level of readiness remains uncertain.
 6. 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.
 7. 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.
 8. Energy is a crucial component for the implementation of the 2030 Agenda and the Paris Agreement, but also for meeting the energy security needs of various countries.
 9. 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."
- (Source: UNIDO/VEF)

Find more information about the Vienna Energy Forum 2017, its organisers and outcomes on the official website www.viennaenergyforum.org.

The Global Forum on Sustainable Energy (GFSE) was not only a partner of this year's Vienna Energy Forum and thus present at the event, but GFSE also helped organize two side events on Wednesday, 10th May 2017 to discuss trends and challenges in smart city development and innovative Austrian clean energy technologies (see below).

Furthermore, GFSE also helped UNIDO and the City of Vienna organize a two-day special study tour to support the on-going capacity building efforts in the field of Small Hydro Power (SHP) in several developing countries, namely Zambia, Guinea-Bissau, Madagascar and Cameroon.

Additionally, Ms. Irene Giner-Reichl, Austrian Ambassador to the People's Republic of China and Mongolia, President of GFSE and Vice-Chair of REN21, was a panellist in High-Level Panel II: The Energy, Food Security, Land, Water and Health Nexus as well as in the Launch Event "REthinking Energy: Accelerating the Global Energy Transformation" (organized by IRENA). She also participated in the Networking Event: Women for Sustainable Energy, aimed at further recognizing and promoting the catalytic role of women in the production and consumption of sustainable energy.

4.1 Side Event: Trends and Challenges in Smart City Development - Experiences from Vienna (10th May 2017)

Almost half of the world's population is already living in urban settings. Sustainable Development Goal (SDG) 11 recognizes the critical role of urbanization in sustainable development, but urging actors to make cities and human settlements inclusive, safe, resilient and sustainable. This trend offers increasing opportunities for actors at local, regional, national and international levels to work together to develop more inclusive and integrated pathways to city and urban planning development. Cities around the world are coming up with innovative solutions to integrate urban land use, transport, energy, and housing policies, to improve the lives of their citizens.

The side event, organized in cooperation by the Global Forum on Sustainable Energy (GFSE) together with Energy Center Wien/TINA Vienna, the Austrian Development Agency (ADA), the Austrian Energy Agency (AEA) and the Austrian Federal Ministry of Sustainability and Tourism (BMNT), aimed to encourage exchanges between city representatives and experts from all over the world on how to make cities smart, sustainable and livable for their inhabitants. This event looked at the concept of a smart city from various perspectives and contexts to discuss common challenges.

After some introductory statements, the moderator, Irene Giner-Reichl, Austrian Ambassador to the People's Republic of China and Mongolia, President of GFSE and Vice-Chair of REN21, gave the floor to the panellists, who spoke about the challenges in smart city developments around the world. The panellists exchanged experiences and discussed requirements and framework conditions for comprehensive solutions.



Figure 2: Panel Discussion of the Side Event on Trends and Challenges in Smart City Development - Experiences from Vienna (Photo Credit: Kerstin Schilcher/AEA)

The city of Vienna is one of the leaders in the development of urban city settings. In 2011, Major Häupl, the Major of Vienna, took the lead and launched the Smart City Wien Initiative with the objective of “utilising, continuously building on and internationalising the city’s strengths” (source: <https://smartcity.wien.gv.at/>). Ina Homeier, Smart City Coordination, emphasized that a key element of the initiative was the stakeholder process that brought together various actors, including research institutions, representatives from the private sector and academia, as well as policy-makers to discuss smart city solutions. Since 2014, the Smart City Wien Initiative is a legally binding strategy, thus paving the way for similar ground-breaking initiatives around the world. Lukas Lang, project manager at wien3420, presented Aspern Seestadt, one of Europe’s largest urban development projects and the City of Vienna’s innovation laboratory, as a best-practice example. It is expected that by 2028, the Urban Lakeside will be home to 20,000 people. Vienna’s Urban Lakeside is a new, multifunctional urban quarter with a high-quality living environment and generously sized spaces for offices, production companies and service providers, science, research and education.

Throughout the discussions, panellists emphasized the importance of coordination and collaboration among stakeholders. Carel Snyman, General Manager of Cleaner Mobility Programme at South African National Energy Development Institute (SANEDI), showed how smart city development cannot be carried out without the transformation of the transport system. Personal transport methods, such as overhead cable cars, can help to quickly move people out of dense areas. Using the city of Kampala, Uganda, as an example, Edison Masereka, Manager Business Development and Research at Kampala Capital City Authority, showed how simple renewable energy solutions can be adapted to local contexts to solve energy problems in the urban space. He further demonstrated how innovative financing tools, like pay-as-you-go schemes and microcredits, can make such technologies accessible to lower income households. Richard Woschitz, CEO at Woschitz Group, brought the private sector perspective to the side event. He presented how the introduction of wooden hybrid

buildings can positively change the architectural landscape by introducing sustainable building practices, while also leading to significant reductions in greenhouse gas emissions.

Panellists

- Ms. Ina Homeier, Project Leader “Smart City Wien”, Smart City Coordination MA 18, City of Vienna
- Mr. Lukas Lang, Project Manager, wien3420
- Mr. Edison Masereka, Manager Business Development and Research, Strategy Management & Business Development Department, Kampala Capital City Authority
- Mr. Carel Snyman, General Manager of Cleaner Mobility Programme, South African National Energy Development Institute (SANEDI)
- Mr. Richard Woschitz, CEO, Woschitz Group

More information on the event, agenda and presentations can be found on the [GFSE website \(Activities 2017\)](#).

4.2 Side Event: Showcasing Innovative Austrian Clean Energy Technologies (10th May 2017)

The private sector offers unique solutions to overcome the pressing challenges of climate change. Innovative and holistic solutions, for example solutions that are tailored to the local context and the needs of the local populations, are needed. Technological, political and social innovations are needed to transform the energy system. In many countries, suitable clean energy solutions exist, but they have not obtained market-wide penetration due to a lack of regulatory frameworks and funding to scale them up. In order to enable a full transition to clean energy in developing countries, multiple actors have to be involved to provide effective and sustainable solutions.

The side event, organized in cooperation with the Global Forum on Sustainable Energy, ADVANTAGE AUSTRIA (Austrian Federal Economic Chamber), the Austrian Development Agency (ADA), the Austrian Energy Agency (AEA) and the Austrian Federal Ministry of Sustainability and Tourism (BMNT), brought together different stakeholders including representatives from the private sector and international organizations, to discuss clean energy solutions for the developing world. The event showcased examples of innovative technologies from Austria that could be deployed in developing and emerging countries, while also emphasizing the importance of effective partnerships to strengthen local energy systems.



Figure 3: Panel Discussion of the Side Event on Showcasing Innovative Austrian Clean Energy Technologies
(Photo Credit: Shruti Athavale/AEA)

Federico Villatico Campbell, Climate Technology Manager at UNIDO, highlighted that as a result of its well-established network of consultants, Climate Technology Centre and Network (CTCN) is able to single out what has worked, bring together the necessary stakeholders and include inputs/lessons learned from previous initiatives in order to maximize project success. CTCN can help pair up promising projects in developing countries with expertise and financing options from the developed world.

As the development level of emerging countries continues to improve, these countries have a growing demand for heating and cooling. The company SOLID - solarinstallation+Design offers turn-key solutions, ranging from construction and consulting, to tackle such energy challenges. As Robert Soell, Head of Project Development at SOLID, mentioned, the realization of projects is often hindered by barriers such as lack of available data, lack of awareness about solar thermal energy, as well as high investment costs. The right, innovative and appropriate technology can help support the diffusion of renewable energy sources in developing and emerging countries.

As Manfred Stockmayer, Carbon Asset Manager at Likano Climate Protection Projects, demonstrated, it is absolutely necessary to involve local stakeholders in the development process to generate local value and acceptance. Robert Buchinger, CEO of Sunlumo Technology, emphasized the need for developing solar technologies for making solar energy affordable for everyone and for creating affordable mini-grid systems for rural areas.

Panellists

- Mr. Federico Villatico-Campbell, Climate Technology Manager, Climate Technology Centre & Network (CTCN)
- Mr. Andreas Feichtinger, Area Sales Manager EMEA, Gildemeister Energy Solutions

- Mr. Manfred Stockmayer, Carbon Asset Manager, Likano Climate Protection Projects
- Mr. Robert Soell, Head of Project Development, SOLID - solarinstallation+Design
- Mr. Robert Buchinger, CEO, Sunlumo Technology

More information on the event, agenda and presentations can be found on the [GFSE website \(Activities 2017\)](#).

4.3 Study Tour: Small Hydro Power in Austria (8th - 9th May 2017)

In order to support the on-going capacity building efforts in the field of Small Hydro Power (SHP) in several developing countries (Zambia, Guinea-Bissau, Madagascar and Cameroon), a special two-day event was organized by UNIDO, the City of Vienna and the Global Forum on Sustainable Energy (GFSE) on Tuesday, 9th May 2017. The idea of the study tour was to increase awareness on the services provided by UNIDO's SHP Programme as well as to learn from the Austrian SHP experience.

Mr. Rudolf Huepfl, Senior Adviser on Energy for Development & GFSE Advisor, held a presentation on Austrian experiences in SHP development and lessons learnt. Austria, as one of the early developers of hydropower with about 2800 SHP grid-connected sites, offers a lot of know-how in this field. After two short presentations, participants of the study tour were given the opportunity to visit several SHP sites in and outside of Vienna, thereby giving them the chance to gain first-hand insight into the facilities and their operations. The event brought together numerous UNIDO project managers and coordinators, Austrian small hydropower operators and experts, as well as representatives from the public and private sector.

5 High-Level Seminar “Accelerating Sustainable Energy for All in LLDCs through Innovative Partnerships” (24th – 25th October 2016)

Based on the outcomes of the second UN Conference on Landlocked Developing Countries (LLDCs) in November 2014, the UN Office of the High Representative for Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (OHRLLS) together with the Government of Austria (Austrian Ministry for Europe, Integration and Foreign Affairs and Austrian Development Agency) and in cooperation with UNIDO and Sustainable Energy for All (SEforALL) organised a high-level seminar on LLDCs on 24th – 25th October 2016. The overall objective of the seminar was to take stock of the achievements made by LLDCs in achieving sustainable energy for all, identify existing drivers and remaining barriers for the scaling-up of renewable energy and energy efficiency markets, industries and innovation. Discussions focused on reviewing the effectiveness of the current regional and international support and partnership frameworks and suggest priority actions and practical solutions to strengthen implementation capacities of LLDCs. The high-level seminar provided a platform to exchange best practices and develop adapted solutions to overcome remaining barriers, and focused on ways how multi-stakeholder partnerships could support LLDCs in tackling these barriers in achieving sustainable energy for all.

As stated in the Activity Report 2014 – 2016, the Global Forum on Sustainable Energy provided expert input to the priority areas of the Vienna Programme of Action and to the challenges and priorities as communicated in the Nationally Determined Contributions (NDCs) of LLDCs.

In addition, GFSE participated in the second session of the high-level seminar, where lessons learned from the implementation of EU Directives on renewable energy and energy efficiency were presented. During the session, the importance of regional organisations, not only in the development of regional policies and targets, but also in the design of regional processes, the definition of common procedures and methodologies, that will facilitate greater policy coherence and promote the exploitation of synergies between energy efficiency, renewable energy and energy access, but also ensure a nexus approach between energy and related sectors, was emphasized. The European Union’s tool for structured dialogue and experience exchange processes, so-called Concerted Actions, were presented as a good practice example for confidential knowledge-sharing that could be useful for LLDCs. Concerted Actions assist EU Member States in the cost-effective implementation of European legislation in the areas of renewable energy, energy efficiency and energy performance of buildings, to develop common approaches and to coordinate solutions wherever beneficial.

6 GFSE Policy Briefs

The Global Forum on Sustainable Energy develops policy briefs on particular topics of global relevance in the context of sustainable energy and development, which serve as tools to aid the interaction and knowledge exchange between private and public stakeholders on all levels, policy makers and technical experts.

All policy briefs are available on the [GFSE website \(Services > Policy Briefs\)](#).

6.1 Policy Brief #4: Landlocked Developing Countries. Challenges and Priority Areas for Action

The thirty-two heterogeneous landlocked developing countries (LLDCs), located in South America, Europe, Africa and Asia, face a number of special challenges that are associated with their lack of direct territorial access to the sea, which often coincides with remoteness from world markets, difficult topography and tropical or desert ecology. Landlockedness has been shown to be a major contributor to extreme poverty, high dependence and low economic growth. In many cases, additional factors like deficient infrastructure, inefficient logistics systems, weak institutions and high vulnerability to the effects of climate change (increased land degradation and desertification) aggravate the situation.

16 of the 32 LLDCs are classified as least developed countries (LDCs), and LLDCs' economies are characterized by weak growth rates, limited productive capacities and a non-diversified export structure - typically a heavy reliance on a very limited number of low-value bulky commodities for their export earnings, which makes them highly vulnerable to external shocks. The remoteness from major world markets is not only a principal reason why LLDCs have not been very successful in mitigating the side-effects of their location, but also a distinguishing feature from European landlocked countries.

Improving energy infrastructure and ensuring access to affordable, reliable and renewable energy and related technologies are imperative in enhancing productive capacity to achieve sustained economic growth and sustainable development. There exists enormous potential for increased renewable energy use and energy efficiency measures within the landlocked developing countries. Through energy saving initiatives, LLDCs have the potential to cut their energy demand by approximately 25% and save billions of dollars per year. On average, the proportion of renewable energy in the total final energy consumption is 53% for the LLDCs, while in seven of these countries renewable energy accounts for less than 10% of the final energy consumption. However, inadequate access to financial resources and inappropriate financial incentives (or disincentives) continue to be the largest barriers for the energy sector in the LLDCs. Landlocked developing countries need to rapidly expand access to reliable, modern energy services in order to alleviate poverty and promote growth and development.

The GFSE Policy Brief provides an in-depth analysis to the priority areas of the Vienna Programme of Action for LLDCs for the Decade 2014-2024 and to the challenges and priorities as communicated in the Nationally Determined Contributions (NDCs) – which, as part of the Paris Agreement, contain the voluntary climate objectives and measures to jointly

achieve the agreed global target of limiting global temperature increase to well below 2°C – of LLDCs.

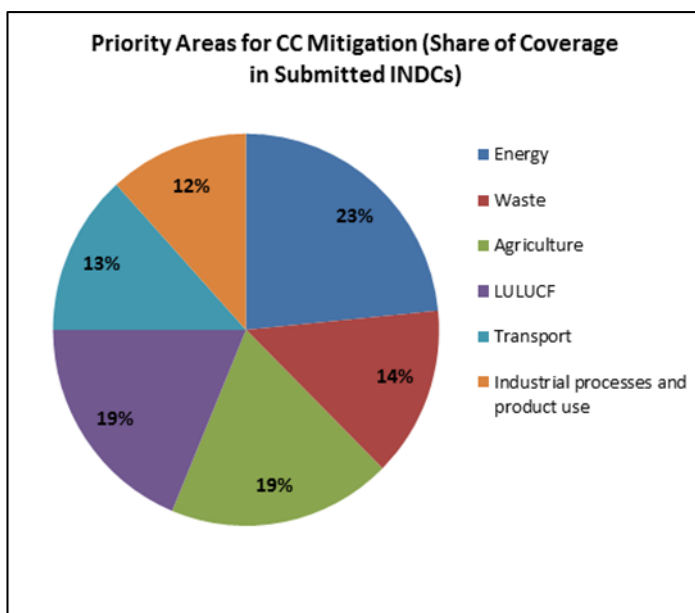


Figure 4: Priority Areas for Climate Change Mitigation (Share of Coverage in Submitted INDCs)

The policy brief concludes by identifying the needs and challenges for the future:

- International support for financing and technology transfer is a key demand in submitted NDCs of landlocked developing countries.
- Concrete projects, to a large degree supported by international finance, technical assistance and technology, will be required for the full implementation of the NDCs.
- Capacity building and stronger cooperation in research and development will be needed in the focal areas for climate change mitigation and adaptation.
- The vast majority of LLDCs foresee mitigation policies and measures in the energy, agriculture and LULUCF sectors, which shows the critical importance of these areas for a sustainable development pathway.
- Enhancing adaptive capacity and resilience to the adverse effects of climate change is particularly important in the water, agriculture and energy sectors of LLDCs.
- Cross-sectoral, holistic approaches linked to the development priorities of LLDCs will be needed to take account of existing interdependencies (e.g. the water-energy-food security nexus) and tap the potential for environmental and development co-benefits.
- A strengthening and diversification of economic activities in LLDCs, based on the efficient use of sustainable energy sources, are needed to reduce dependencies and transaction costs.
- Stronger regional cooperation and capacities can mitigate barriers to e.g. renewable energy and energy efficiency investment, markets and industries.
- Knowledge networks and regional centres of excellence can substantially enhance the existing knowledge base and support the development of innovative solutions and technologies.

- Innovative and cross-sectoral partnerships, as well as multi-level and holistic solutions will be needed to simultaneously address the climate, energy and development challenges.

Due to the previously-mentioned dependence of LLDCs on transit countries, a closer regional cooperation and knowledge exchange, stronger regional integration and the creation of coherent regional policies have the potential to improve connectivity, enhance interregional trade and achieve both environmental and sustainable development goals. In this regard, there exist numerous opportunities for collaboration between national and international actors.

6.2 Policy Brief #5: Innovative Financing and Business Models

The GFSE Policy Brief #5 looks at available innovative financing and business models, which are addressing the risk poor segments of the population face for energy poverty. The policy brief also looks at how these models tackle liquidity constraints and expensive access to credit, which limit the ability of the poor to undertake large up-front investments, notably on energy efficient equipment and/or renewable energy solutions.

New business models, innovative financing schemes and appropriate technologies enable the provision of clean energy services to low-income populations in a more flexible and equitable manner. Innovative business models are necessary that adequately address the customer interface in the areas of sales, payments, service and disposal of energy efficiency and renewable energy products in a cost-effective manner. The combination of business models, appropriate technology, affordable financing schemes and sound policy frameworks also enables entrepreneurial opportunities in energy efficiency and renewable energy and provides opportunities for the development of local value chains. This implies, among others, that access to affordable finance needs to be made available not just to consumers, but along the local value chain to organisations that manufacture, assemble, install and maintain energy efficiency and renewable energy technologies. Pro-poor public-private partnerships (PPPs) can combine public and private financing to serve low-income markets, overcoming government budgetary constraints and allocating project risks between the public and private sector.

Developing and emerging countries need to tap into decentralised energy solutions in order to bring energy access to their citizens. Renewable energy technology-based solutions, which are not yet affordable, should be supported by access to financing. Through innovative business models, major unexploited market potentials for renewable-based solutions can be further exploited. However, in order to do so, actors must address the related existing challenges, including the economic viability of projects in developing countries, financing and up-scaling beyond pilot projects, the lack of available infrastructure for renewable energy technologies and appropriate incentives to step up investments in off-grid electricity solutions. In developing and emerging countries, business models need to be adapted to the local circumstances, which include adaptation to the financial and regulatory environment and to the existing institutional mechanisms. One main challenge in developing strong new business models is the significant investment of time and resources needed. Local banks and other institutions in developing and emerging countries often lack the necessary capacity and resources to develop new business models that will be self-sustaining over a longer period of

time. A bottleneck to long-term sustainability of business models is their ability to be scaled up and replicated.

The 5th GFSE Policy Brief highlights the various benefits and drawbacks of business models, which, broadly speaking, can be divided into two main categories: (a) ownership models, which focus on financing and risk mitigation, and (b) service models, which focus on providing specified services and highlight the different methods of operation and maintenance. Furthermore, it looks at existing innovative financing mechanisms for sustainable development, such as mobile phone enabled pay-as-you-go (PAYG) or lease-to-own models.



Figure 5: Types of Business Models

Business models and innovative financing models targeting women, a fact that is examined in more detail in the policy brief, should be developed to help women achieve economic empowerment by becoming involved in renewable energy and energy efficiency value chains. The policy brief lists a number of interesting modern models that take into consideration the gender implications of access to clean energy services.

The policy brief concludes that the development of new financial instruments is frequently hindered by a lack of information and resources. Many smaller institutions often lack the capacity and experience with innovative financing mechanisms to create further such instruments. Additionally, a lack of investment to design new business models and financing mechanisms limit innovation, thereby increasing upfront costs related to their introduction. Business models for new renewable energy technologies that are being used today will require a long time to establish a track record (i.e. build up trust) through trial and error processes. Establishing standards or key performance indicators for the use of innovative financing mechanisms can help to lower perceived risk of investment related to new instruments. Combining public and private actor expertise, when designing innovative financing or business models, would help to get more information about the performance of these instruments, thereby building up trust and credibility for the long-term.

6.3 Policy Brief #6: Small Island Developing States

The GFSE Policy Brief #6 explores the specific needs and challenges of the Small Island Development States (SIDS), the impacts of climate change, and the importance of a sustainable energy mix. It also presents a number of renewable energy and energy efficiency projects in the SIDS that are meant to demonstrate the various measures countries are taking to increase renewable energy integration and to promote energy efficiency.

The Small Island Developing States (SIDS) can be characterized as a group of countries facing specific environmental, economic and social challenges and vulnerabilities that are linked to their geographical location. SIDS cover three main regions, namely the Caribbean, the Pacific, and the Africa, Indian Ocean, Mediterranean and South China Sea (AIMS). These regions each have their own regional bodies to which the SIDS in that respective geographical region belong to, namely the Caribbean Community (CARICOM), the Pacific Islands Forum (PIF) and the Indian Ocean Commission (IOC). Many of the SIDS are members (or observers) of the Alliance of Small Island States (AOSIS), a coalition of small island and low-lying coastal countries, which functions primarily as an ad hoc body negotiating and advocating for the SIDS at the United Nations (UN). Furthermore, nine of the SIDS (Guinea-Bissau, São Tomé and Príncipe, Comoros, Kiribati, Solomon Islands, Timor-Leste, Tuvalu, Vanuatu, and Haiti) are classified as Least Developed Countries (LDCs)² by the United Nations.

SIDS tend to confront numerous constraints on the road towards a sustainable development pathway, including high transport costs – caused by long distances, remote locations and deficient infrastructure conditions – for the import and export of resources, limited natural resources, as well as high energy and infrastructure costs. Their isolated position and the small size of their domestic markets make them dependent on international trade and especially sensitive to external shocks. In addition to these challenges, Small Island Developing States are especially vulnerable to climate change impacts and environmental dangers, such as sea level increases, erosion of coastlines, biodiversity loss, and destruction of coral reefs critical to food security and economic welfare, as well as altered rain patterns and extreme weather events. Many countries are now taking the necessary steps to mainstream climate change and mitigation as well as adaptation measures into their national development framework.

Though Small Island Developing States contribute to less than one per cent of global GHG emissions, they are especially susceptible to climate change induced vulnerabilities. These threats not only put the achievement of the Sustainable Development Goals at risk, but they also negatively impact future development efforts of the SIDS. Associated sea-level rise threaten the very survival of certain low-lying SIDS, while rising ocean temperatures and acidification damage coral reefs, thereby affecting the subsistence and livelihoods of their citizens. Despite the national and international efforts to counter climate change effects, unsustainable agricultural practices and the lack of integrated approaches to coastal and marine resource management are exacerbating the vulnerabilities of the SIDS. Furthermore, rising ocean temperatures are negatively affecting fisheries, further increasing the gap between supply and demand putting a strain on food security. The economies of SIDS heavily depend on coastal and marine resources; thus, sustainable resource management should be promoted to develop environmentally and ecologically sound policies.

Most of the SIDS already rely heavily on oil and other fossil fuel imports, a fact that will continue to put a heavy burden on the already-strained economies, especially when growing populations and the want for economic growth are taken into consideration. A stronger diversification of the energy sector of the Small Island Developing States is needed in order

²Least developed countries (LDCs) are low-income countries confronting severe structural impediments to sustainable development. They are highly vulnerable to economic and environmental shocks and have low levels of human assets. <https://www.un.org/development/desa/dpad/least-developed-country-category.html>

to reduce fossil fuel import dependence. In order to reduce their dependence on imports, some of the SIDS countries have set voluntary commitments to achieve certain targets, with the help of development partners and the United Nations, of The Barbados Declaration on Achieving Sustainable Energy for All.

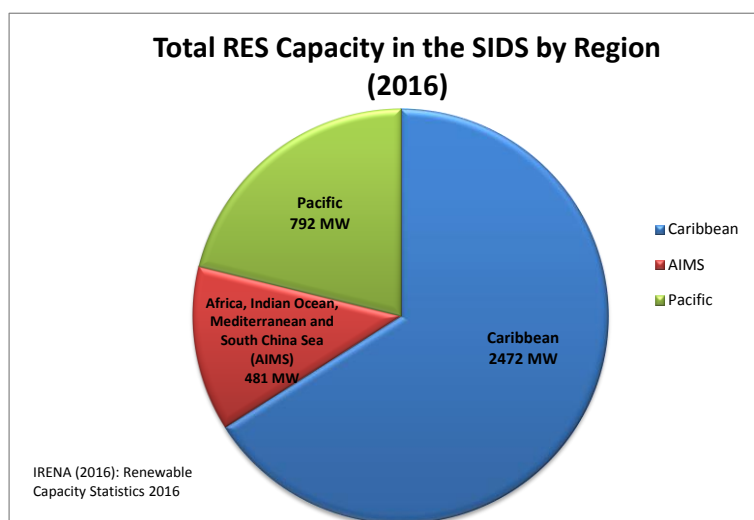


Figure 6: Renewable Energy Capacities in the SIDS

In the future, renewable energy will play a crucial role in transitioning to a sustainable future and in guaranteeing energy security of the Small Island Developing States, while also contributing to the achievement of the Sustainable Development Goals. Regional cooperation via centres for renewable energy and energy efficiency, like the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE) and the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE), can help to strengthen efforts undertaken in the SIDS through the exchange of best practices and innovative solutions. Soft barriers for renewable energy and energy efficiency can often be addressed more (cost-)effectively through regional approaches. In this regard, regional centres can help strengthen and complement already existing national activities in knowledge management, awareness raising as well as policy and capacity development. There exists great potential in the integration of renewable energy sources and the implementation of energy efficiency measures to decrease this economic burden.

6.4 Policy Brief #7: Spotlight on the Interdependencies between SDG5 and SDG7

The GFSE Policy Brief #7 provides an overview on selected international goals and programmes dedicated to the achievement of gender equality, while also providing a list of barriers and good practices that are working to break these down.

Poverty eradication is one of the greatest global challenges. The Sustainable Development Goal (SDG) 1 calls for an end to poverty in all its manifestations by 2030. It also aims to ensure social protection for the poor and vulnerable, increase access to basic services and support people harmed by climate-related extreme events and other economic, social and

environmental shocks. Poverty needs to be addressed from a multi-sectorial perspective. This involves creating jobs, supporting inclusive and sustainable business, and improving policy frameworks, among others. The responsibility lies not only with governments but also with the private sector, civil society and other actors.

Energy, especially access to clean, affordable energy (SDG 7), is considered to be an enabler to tackle poverty. Energy poverty is keeping people poor by having a detrimental impact on their health and safety and denying them the possibility to pursue education or business opportunities, among others.

Though energy efficiency and renewable energy sources have substantial potential to ameliorate the living conditions of poor-income households by stimulating growth and creating new jobs, women are still more likely to suffer from poverty than men due to a lack of access to education, employment and property ownership. Despite the fact that limited gender-disaggregated data on energy access exists (Dutta, Kooijman, Cecelski, ENERGIA, & Energy, 2017), most studies still confirm that increased access to modern energy services can help transform the lives of both women and men. This being said, since women and girls spend most of their time performing basic time-consuming subsistence tasks (i.e. collection of firewood and water, cooking) in developing and emerging countries, better access to sustainable energy can significantly empower them. Ensuring that women and girls have energy access is about women's rights — and therefore it is a fundamental human rights issue. Its importance is also acknowledged in SDG 5 on achieving gender equality and empowering women and girls. Empowering women is one of the key elements to achieve SDG 7. Full and equal participation of women in all energy-related matters may also help speed up the energy transition, which is happening at a much too slow pace all over the world.

Lack of gender equality is a major obstacle to sustainable development. Since women are more likely to live in poverty than men due to unequal access to paid work, education and property, it becomes increasingly important to address the role access to clean energy services can play in women's economic empowerment. By empowering women to become producers and suppliers of clean energy services, women can help lift their families and communities out of poverty. In addition, securing additional income sources encourages women to reinvest them within their communities and become entrepreneurs as well.

Though women entrepreneurs, especially in developing countries, play a significant role in boosting economic growth and development, they face numerous challenges in acquiring the necessary access to capital and other financial services. Business models and innovative financing models targeting women should be developed to help women achieve economic empowerment by becoming involved in renewable energy and energy efficiency value chains. Such schemes can enable the provision of clean energy services to low-income populations in a more flexible and equitable manner.

It is also necessary to involve women in the development and implementation of energy policies, projects and programmes, ensuring that their views and experiences are reflected in the resulting measures and promotion of social and economic empowerment along energy value chains. The involvement of women at the decision-making level as well as at the implementation level in the energy sector is essential. However, barriers such as a lack of

access to finance, deeply ingrained cultural and social norms, and a lack of high-quality data on quantifiable measures of women's empowerment are hindering progress.

Despite strides made towards ensuring that women have the same rights and opportunities as men, much still needs to be done. Tackling the challenge of gender equality needs to start in the educational system, so that efforts are taken to make sure that girls take an early interest in technology, science, mathematics and engineering (STEM). Increasing female participation in such sectors can help boost the bargaining power of women at future stages of employment.

Better and more systematic data collection is needed for improved monitoring and communication of progress made towards achievement of SDG5. Gender statistics and other relevant data should be harmonized across countries to ensure comparability and that international targets are being met. Having such data could help hold governments accountable for the commitments they make towards gender equality.

Financial support, which takes a gender-equal approach, needs to be drastically scaled up. Donors from the private sector can play an important role by becoming more involved in international initiatives. Clear criteria to monitor gender equality commitments should be set as milestones within projects and programmes.

7 Cooperation with Sustainable Energy for All (SEforALL)

The Sustainable Energy for All (SEforALL) Initiative creates new opportunities for cooperation between international organizations, public institutions, academia, the private sector and civil society initiatives. GFSE actively supports the SEforALL Initiative acting as an information broker and networking agent between international and national stakeholders, and thereby enabling future cooperation and experience exchange processes. GFSE is in regular contact with representatives of SEforALL and pinpoints current possibilities for cooperation.

GFSE acts as an information broker for Austrian stakeholders and enterprises in the energy and related sectors about ongoing campaigns and programmes of SEforALL. GFSE regularly informs stakeholders in the energy sector about new publications and/or initiatives of SEforALL through its newsletters and events.

8 Cooperation with REEEP

The Renewable Energy and Energy Efficiency Partnership (REEEP) is also an important cooperation partner of GFSE.

In conjunction with the publication of the GFSE Policy Brief #5: Innovative Financing and Business Models (see Chapter 6.2), GFSE worked in collaboration with REEEP to publish an article on GFSE's website on REEEP's work on the water-energy-food nexus, specifically on powering agrifood value chains. This article can be found on the GFSE website [here](#).

Additionally, Mr. Martin Hiller, Director General of REEEP, moderated the side event on "Creating Opportunities for Sustainable Energy Investments and Businesses in Developing Countries" on 2nd October 2018, which was organized as a pre-event under the High-Level Conference on "Regional Cooperation to Accelerate Sustainable Energy Innovation and Entrepreneurship in Developing Countries" (see Chapter 2.1). GFSE actively participates in disseminating events, publications and projects of REEEP through the bi-annual GFSE newsletters.

9 Information and Dissemination Activities

The website of the Global Forum on Sustainability (www.gfse.at) serves to inform national and international stakeholders about latest developments, initiatives and events regarding the global efforts to develop a sustainable energy system and ensure universal energy access, about activities of GFSE and important publications. Important news, such as the yearly launches of the REN21 Global Status Report, the outcomes of the Vienna Energy Forum and SEforAll Forum, as well as the conclusions of the COP23 in Bonn in November 2017, are regularly published on the cover page in the form of newsbuttons.

The GFSE website features top news on its cover page, an introduction to GFSE, its main activities over the years, and a service section. With its bi-annual newsletter, GFSE updates interested followers on recent events, policy developments and other topics ranking high on the development agenda. Furthermore, the website provides the possibility to institutions and organisations to promote their own sustainable energy events, which are incorporated into the event calendar. A selection of relevant links displays the global network of GFSE and might act as a starting point for research on sustainable energy topics or potential partner institutions.



Figure 7: Homepage Snapshot of the Global Forum on Sustainable Energy

All [GFSE news](#) and [newsletters](#) are available on our website.

10 Additional GFSE Networking and Outreach Activities

Since late 2012, GFSE is a member of the global network REN21 as a non-governmental organisation, and GFSE-President Irene Giner-Reichl has been acting as one of the REN21 vice-chairs since January 2013. GFSE actively participates in networking and outreach activities of REN21, notably through supporting the launch of the Global Status Report (GSR) through various PR-activities and by providing inputs to the regular REN21 newsletters.

In her capacity as GFSE-President and Vice-President of REN21, Irene Giner-Reichl dedicates herself to promoting the three goals of Sustainable Energy for all. She i.a. facilitated outreach meetings at the Austrian Embassy in Beijing and did media-launches of the GSR 2017 and 2018 at the respective meetings of the Eco Forum Global in Guiyang (www.efglobal.org) in June 2017 and July 2018.

In fall and spring 2016/2017, she supported CREIA (Chinese Renewable Energies Industry Association) at events aiming at building consensus with a view of amending the Chinese Renewable Energy law.

She co-moderated the elaboration of the Declaration that was adopted by consensus at the Mexico International Renewable Energy Conference (MEXIREC) in September 2017 (<http://www.ren21.net/mexirec-2017/>).

At the Energy Africa Conference 2017 in Denver she presented a study on China's presence in the energy sector of African countries; based on this presentation, an academic version that she co-authored with Prof. Luka Powanga (of the Colorado School of Mines, Denver), will be published in the peer-reviewed Journal of Energy.

Since 2018, GFSE-President Irene Giner-Reichl is a member of the International Advisory Council of the Eco Forum Global in Guiyang. In this capacity she moderated a Plenary Session at Eco Forum 2018, led by UNIDO, to discuss possibilities for creating shared standards on carbon-neutral infrastructure along Belt and Road.



Figure 8: Moderation of a Plenary Session at the Eco Forum 2018 by GFSE-President Irene Giner-Reichl

11 Outlook on Future GFSE Activities

The transformation of the energy system to not only achieve the sustainability objective "clean and sustainable energy" (SDG7), but to also contribute to the climate protection goals (SDG13 and the Paris Agreement) requires innovative technologies and business models, new skills, as well as effective financing mechanisms and energy and climate policy instruments. In addition to government initiatives, the private sector plays a key strategic role. This requires the establishment of local companies in developing countries that are active in the field of renewable energies and energy efficiency, as well as cooperation with international companies that have the necessary know-how in order to implement technology solutions adapted to the local context. Austrian actors in the energy and climate protection sector and in related areas such as environmental technology, construction and infrastructure as well as in development cooperation have comprehensive, internationally sought-after know-how, innovative concepts and products, and are world market leaders in some environmentally relevant technologies. Promoting cooperation between Austrian actors and relevant actors in developing and emerging countries is an important task. Through this cooperation, a contribution can be made to achieving the sustainability goals.

For many years, the Global Forum on Sustainable Energy (GFSE) has played an important information and brokering role vis-à-vis Austrian and international actors. It actively investigates relevant topics for the establishment of a sustainable energy system in developing and emerging countries and offers a platform for the exchange of experiences and for awareness raising. As such, the Global Forum on Sustainable Energy will continue its successful cooperation with Sustainable Energy for All Initiative (SEforALL), REN21 and REEEP, while also intensifying cooperation with other stakeholders in the energy and related sectors.

In order to promote renewable energies and energy efficiency as well as climate protection measures in developing and emerging countries, capacity building and knowledge transfer for various actors, promotion of technology innovations, training and education of local workers, private sector development, innovative climate finance instruments, support for the integration of women, young people and the poorest groups in the energy sector and energy and climate policy as well as the establishment of an active international network are important. The information and communication work carried out by the GFSE, the preparation of specialist content as a basis for discussion and the coordination and involvement of Austrian actors contribute significantly to strengthening international initiatives in the field of sustainable energy and climate protection. In this way, Austria's comprehensive expertise in the fields of energy, climate protection and related environmental issues can be used more effectively, and international actors can benefit from experienced partners.

Among other things, the GFSE will continue to make contributions through the dissemination of best-practice examples, network building, and the support of initiatives that act at the interface between gender (SDG5) and sustainable energy (SDG7) and the continued support of the Global Network of Regional Energy Centres (GN-SEC).

Next to these activities, targeted research and development of policy briefs and background papers about critical topics – for example, initiatives on sustainable energy and climate protection, social innovations, cross-cutting issues such as the energy-water-agriculture-gender nexus, development of the private sector, innovative climate financing instruments –

can complement and enrich this dialogue and provide a good basis for decision making. Through the development of such documents, GFSE will support to bridge the gap between policy-makers and practitioners in the actual implementation of sustainable energy solutions.

© Global Forum on Sustainable Energy