



SUMMARY OF THE FIFTH ASSEMBLY OF THE INTERNATIONAL RENEWABLE ENERGY AGENCY: 17-18 JANUARY 2015

The fifth Assembly of the International Renewable Energy Agency (IRENA) took place from 17-18 January in Abu Dhabi, United Arab Emirates (UAE), with more than 1,000 participants in attendance. Key issues considered included: the presentation of the annual report by the Director-General; institutional matters; and renewable energy and climate change. Ministerial roundtables addressed the transformation of the power sector and energy security while programmatic discussions were held on renewable power generation costs and off-grid renewable energy deployment. The Assembly reappointed Adnan Amin as IRENA's Director-General for a second four-year term.

On Sunday, the Abu Dhabi Fund for Development (ADFD) and the IRENA/ADFD Project Facility announced the provision of US\$57 million in concessional loans for five renewable energy projects in Argentina, Cuba, Iran, Mauritania, and Saint Vincent and the Grenadines.

Over a dozen side events and pre-Assembly events were held from 16-18 January covering various topics, including challenges and opportunities in Latin America, environmental impacts of renewable energy technologies, and renewable energy produced by the sea.

This report summarizes discussions and outcomes of the fifth session of the IRENA Assembly, including: two ministerial roundtables; programmatic discussions on renewable power generation costs and off-grid renewable energy deployment; and strategic discussions on renewable energy and climate change. It also includes summaries of selected pre-Assembly events.

A BRIEF HISTORY OF IRENA

The statute establishing IRENA was adopted on 26 January 2009 and entered into force on 8 July 2010. IRENA's purpose is to promote the widespread and increased adoption and sustainable use of all forms of renewable energy. IRENA currently has 139 member states, including the European Union (EU), with 35 states in the process of becoming members.

PREPARATORY CONFERENCE: The Preparatory Conference for the Foundation of IRENA was held from 10-11 April 2008, in Berlin, Germany. Delegates from 60 countries expressed support for the creation of an international agency

for renewable energy, and discussed issues such as objectives, activities, organizational structure, and financing for the new agency. Two preparatory workshops for IRENA followed in Berlin on 30 June and 1 July 2008, focusing on IRENA's work programme, statutes and finances.

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FINAL PREPARATORY CONFERENCE: This meeting took place from 23-24 October 2008, in Madrid, Spain. Delegates concluded discussions on IRENA's statute, resolving issues such as financing, criteria and procedures for selecting the Interim Director-General and the interim headquarters, and design of the initial phase of IRENA.

FOUNDING CONFERENCE: IRENA's Founding Conference took place on 26 January 2009, in Bonn, Germany, where 75 countries signed the IRENA Statute.

PREPCOMS 1-5: The Preparatory Commission of IRENA met five times between January 2009 and April 2011, following the founding conference. During these meetings, delegates discussed next steps for IRENA, designated Abu Dhabi, UAE, as the interim headquarters, and appointed Adnan Amin (Kenya) as Interim Director-General. Delegates also decided that Bonn, Germany, would host IRENA's Innovation and Technology Centre, and Vienna, Austria, would host IRENA's liaison office for cooperation with other organizations active in the field of renewable energy. Delegates further addressed issues such as the initial work programme, financial regulations, staff regulations and the budget.

FIRST ASSEMBLY: The first session of the IRENA Assembly was held from 4-5 April 2011, in Abu Dhabi. The Assembly focused on, among other things: election of the Council; work programme and budget for 2011; rules of procedure; transitional arrangements; staff and financial matters; and organization of the second session of the Assembly. The Assembly also elected Adnan Amin as the Director-General, and included a High-Level Segment attended by over 50 ministers.

SECOND ASSEMBLY: The second session of the IRENA Assembly convened from 14-15 January 2012 in Abu Dhabi. Delegates adopted decisions on, *inter alia*: work programme and budget for 2012; secondment of personnel; ethics and conflict of interest; and the ADFD. Two ministerial roundtables were also held on the proposed medium-term strategy of IRENA and IRENA's cooperation with the private sector.

THIRD ASSEMBLY: The third session of the IRENA Assembly took place from 13-14 January 2013 in Abu Dhabi. Delegates adopted the Agency's 2013 budget and work programme, along with a Medium-term Strategy. Taking into account the multi-year nature of IRENA's activities, members also endorsed a two-year programming and budgeting cycle. The third Assembly also confirmed IRENA's commitment to action based on the UN Secretary-General's Sustainable Energy for All (SE4ALL) initiative. Two ministerial roundtables took place on "Financing of Renewables for Development" and "Renewable Energy Costs and Benefits."

FOURTH ASSEMBLY: The fourth session of the IRENA Assembly was held from 18-19 January 2014 in Abu Dhabi. Key issues considered included: work programme and budget for 2014-15; the procedure for appointing the Director-General; the IRENA Renewable Energy and Jobs Report; renewables readiness assessments (RRAs); and the IRENA/ADFD Project Facility. Agreement was reached to endorse the IRENA Communiqué on the Africa Clean Energy Corridor. A signing ceremony took place during the Assembly for 23 new members to join the Global Atlas for Renewable Energy initiative. A high-level event on public support for renewable energy and launch of the Coalition for Action took place, along with a high-level event

on the costing of renewable energy and launch of the Renewable Costing Alliance.

REPORT OF THE ASSEMBLY

The fifth session of the IRENA Assembly opened on Saturday morning, 17 January. The President of the fourth session, Pedro Joaquín Coldwell, Deputy Minister of Energy, Mexico, welcomed participants noting the clear need for an intergovernmental agency that acts as a global convener on renewable energy matters. He reported on the Executive Strategy Group Meeting of Renewable Energy in Latin America, which took place on Friday, 16 January, noting broad support for IRENA to develop a positive agenda to engage with countries in Latin America.

ORGANIZATION OF WORK

ELECTION OF OFFICIALS: The Assembly elected Yoichi Miyazawa and Yasuhide Nakayama (Japan) as Co-Presidents of the fifth session. Vladimir Shkolnik (Kazakhstan), Davis Chirchir (Kenya), Mike Allen (New Zealand) and Guillermo Shinno (Peru) were elected as Vice-Presidents. The Assembly elected Italy as Rapporteur.

Co-President Miyazawa noted that IRENA's membership has grown in four years, which demonstrates the high expectations for renewable energy. He emphasized that IRENA needs to play a central role in leveraging the full potential of renewable energy and looked forward to a lively discussion during the Assembly.

Co-President Nakayama emphasized that Japan is the second largest contributor to IRENA and is determined to play a leading role in renewable energy deployment with US\$850,000 provided in 2014. He highlighted support to more than 50 developing countries for renewable energy deployment, as well as his country's emphasis on human resource development. Nakayama said US\$1.5 billion had been pledged to the Green Climate Fund (GCF), which would also support renewable energy deployment.

Adnan Amin, Director-General, IRENA, thanked Mexico for its able Presidency during the fourth session and congratulated Japan on its election as fifth Assembly President. He observed that the story of renewables is rapidly evolving, noting increasing membership in IRENA with 139 members and 35 states in the process of accession.

ADOPTION OF THE AGENDA: The Assembly adopted the agenda (A/5/L.1).

CREDENTIALS COMMITTEE: The Assembly appointed the following nine members to the Credentials Committee: Angola, Cameroon, Czech Republic, Denmark, Fiji, Japan, Jordan, Sierra Leone and Yemen.

OBSERVER PARTICIPATION: The Assembly agreed to grant observer status to the listed applicants (A/5/L.2) as circulated by the Secretariat.

ANNUAL REPORT OF THE DIRECTOR-GENERAL

IRENA Director-General Amin presented the report on the implementation of the work programme and budget for 2014-2015 (A/5/3), stressing that innovation, new financial mechanisms and dramatically lowered costs mean "renewable energy poses a positive disruptive momentum to the global energy system." He described various actions IRENA has taken to support governments in their transition to a renewable energy future by providing advice and assistance, and serving as a

global hub for international cooperation. He highlighted the Small Island Developing States (SIDS) Lighthouses Initiative and the Africa Clean Energy Corridor as examples of regional action, and pointed to a number of thematic, regional and country publications, notably the Rethinking Energy report and the REmap 2030 Renewable Energy Roadmap.

COUNTRY INTERVENTIONS: Many members commended IRENA for its work and progress in 2014 and highlighted national renewable energy initiatives.

Noting the contribution of pioneering legislation in his country, Germany pointed to “a historical turning point for renewable energy,” adding that price declines have now made renewables competitive in developing countries as well. He highlighted the need to reinvent power systems, address market design and develop new grids.

The UAE expressed satisfaction with IRENA’s work in 2014 and called for disseminating the outcomes of reports and initiatives. He said IRENA in 2015 should focus on the competitive cost of renewables and noted the need for a clear role for IRENA aimed at bringing together donors in this sector. He said the UAE is keen to focus work on islands and electricity networks.

Spain noted that 14.2% of energy consumed in Spain is from renewables and highlighted coordination with IRENA and Latin American countries on renewable energy and the need to reinforce IRENA’s global activities.

Turkey stated that, as holder of the 2015 G20 Presidency, his country would leverage synergies between the G20 and IRENA, with a focus on promoting energy access in Sub-Saharan Africa and assessing the influence of falling oil prices on renewable energy investments.

Samoa recalled the outcome document of the Third International Conference on SIDS, the SIDS Accelerated Modalities of Action (SAMOA) Pathway, which promotes renewable energy as a vital component of sustainable development, climate mitigation and resilience in SIDS. Grenada encouraged IRENA to develop investor prospectuses for individual SIDS and highlighted the goal of mobilizing US\$500 million for clean energy development under the SIDS Lighthouses Initiative. New Zealand highlighted donor commitments to SIDS, including through the IRENA Lighthouses Initiative and the 2013 Pacific Energy Summit. Barbados announced that it had joined the Lighthouses Initiative and aimed to achieve 40% renewables by 2030.

Baron Waqa, President, Republic of Nauru, announced that through a solar energy project to be funded by the UAE, his country aims to provide more than half of its electricity from renewables by 2020.

Italy noted his country’s efforts to strengthen cooperation between Europe and Africa with the Ministerial Conference on Energy held in October 2014 in Rome, Italy, to discuss sustainable energy in Sub-Saharan Africa.

During an IRENA-supported wind energy resource assessment, Namibia said it had recognized the importance of long-term regional planning for attracting renewable investments, as opposed to costly short-term solutions.

South Africa said it aimed to achieve universal energy access by 2025 and invited delegates to the South Africa International Renewable Energy Conference in October 2015.

Planning to become an East African energy hub, Ethiopia said it is close to reaching 100% renewable energy use in electricity generation. Niger and Angola expressed interest in closer collaboration with IRENA.

Sultan Ahmed Al Jaber, UAE Minister of State, reported on several milestones achieved by his government and IRENA, including the IRENA/ADFD partnership to provide concessional loans for renewable energy projects in developing countries. Fiji expressed gratitude for the ADFD funds and, with Tonga, highlighted activities of the Pacific Islands Forum.

Norway remarked that hydropower should be more consistently categorized as renewable energy in IRENA’s reporting. The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) noted synergies with IRENA’s work in Asia and the Pacific and stressed regional power trade as a means to achieve grid parity.

Israel called on IRENA to collaborate with multilateral environmental agreements to prevent duplication of efforts. Yemen reported on tax exemptions on renewable energy products. Bangladesh observed that home solar system use is increasing in his country through private sector investment and proposed further support of cost-effective renewable energy options for developing countries.

The Assembly then adopted the annual report of the Director-General as contained in document A/5/3.

APPOINTMENT OF THE DIRECTOR-GENERAL

Introducing this item, Ramón Méndez, IRENA Council Chair, outlined the report of the Seventh Meeting of the Council (C/7/SR/1), in which the Council unanimously recommended Adnan Amin’s reappointment for a second four-year term. He invited the Assembly to consider the recommendation.

Director-General Amin reflected on the past four years, observing that IRENA has developed into an agile, inclusive organization that is responsive to the needs of members and supports transformational change in the energy sector. He reported that dramatic changes in the global energy sector have shaped the progression of IRENA’s work, citing: the Fukushima nuclear disaster; reduction of renewable energy technology costs; the emergence of new markets; and increased recognition and contribution of renewable energy in the global energy mix. He emphasized the need for IRENA to lead the energy revolution noting the demand created by climate change for decarbonizing the energy sector.

Many members took the floor to express support for Director-General Amin, lauding his stewardship of IRENA. Director-General Amin was then reappointed for a second four-year term.

PROGRAMMATIC DISCUSSION: RENEWABLE POWER GENERATION COSTS

Henning Wuester, IRENA, introduced this item (A/5/DN/1), emphasizing that long-term economic strategies will drive the transition to a sustainable future, as well as toward policies that affect energy pricing. He highlighted challenges, noting that the cost of capital is still very high and perceived risk and barriers are preventing investments from reaching the scale required. He added that fossil fuel subsidies are estimated to be five times higher than for renewable energy. He noted that although oil prices have halved in the past few months, only 5% of power generation is fueled by oil so price decreases will not have much

impact, and explained that renewables present a “safe haven” where cost trends are known in advance.

Michael Taylor, IRENA, presented a renewable energy cost analysis noting that dynamic markets for solar and wind are seeing rapid deployment. He said IRENA’s Renewable Cost Alliance established in 2014 is going strong and that renewables are competing head to head with fossil fuels in terms of costs, without the imposition of subsidies. He said within four years the price of solar photovoltaic (PV) has decreased considerably and onshore wind power is proving highly competitive in terms of power generation costs.

Italy noted that targeted renewable energy technologies are helping countries to meet policy goals for secure, reliable energy, and that a dynamic analysis of the costs of renewables is needed to determine the appropriate level of support. He said the absence of easily accessible data could be a significant barrier in the deployment of renewables and that in-depth knowledge of costs is needed to contribute to the long-term development of strategic policies.

Uruguay observed that investor perception of risk is a significant factor and said his country has taken action to minimize perceived risk. He said agreement had been reached on a state energy policy and long-term power purchase agreements with the state corporation, which holds a transmission and distribution monopoly.

Emphasizing that renewable energy costs are at the core of competitiveness, China highlighted differentials in operation costs, grid connection costs and capacities of renewable energy power generation as important factors.

INSTITUTIONAL MATTERS

CREDENTIALS COMMITTEE’S REPORT: Following a report of the Committee’s Chair, Iya Tijani, (Cameroon), the Assembly took note of the report, as contained in document A/5/4.

COUNCIL ELECTION: Council Chair Méndez reported on regional consultations held between June and November 2014. The Assembly then adopted the list of proposed Council members for 2015 and 2016, as contained in document A/5/DC/L.1.

RULES OF PROCEDURE FOR SUBSIDIARY ORGANS OF THE COUNCIL: The Assembly took note of the Secretariat’s note on rules of procedure of the Assembly and of the Council (A/5/5), and adopted decision A/5/DC/L.2 on amendments to the rules of procedure.

STAFF PROVIDENT FUND: The Assembly took note of the Fund Management Board’s Annual Report and Audited Financial Statements (A/5/6), as well as the Report of the Provident Fund Management Board on Amendments to the Charter and Administrative rules of the IRENA Staff Provident Fund (A/5/7) and adopted decision A/5/DC/L.3. The Assembly also took note of the revised Investment Policy of the Staff Provident Fund (A/5/8) and adopted A/5/DC/L.4.

STAFF REGULATIONS AND RULES: The Assembly adopted decision A/5/DC/L.5, taking note of the new and amended staff regulations and rules, and the proposed amendment to Staff Regulation 4.3(a), as contained in the Director-General’s report (A/5/9).

SECONDMENT: The Assembly took note of the Report of the Director-General on Secondment and related matters

(A/5/10). Germany invited member states to continue seconding staff to the Innovation Technology Centre.

ADMINISTRATION OF JUSTICE: By adopting decision A/5/DC/L.6, the Assembly approved the amendments of the Rules of Arbitration, as contained in document A/5/11, and requested the Director-General to report again on the operation of the arbitration system at its seventh session.

REPORT OF THE ETHICS OFFICER: The Assembly took note of the report of the ethics officer on the implementation of the policy on ethics and conflict of interest, as contained in document A/5/12.

AUDITED FINANCIAL STATEMENTS: The Assembly took note with appreciation of the audited financial statements for 2013 and external auditor reports (A/5/14) and the Secretariat’s report on the implementation of the audit recommendations (A/5/13).

CONTRIBUTIONS FOR 2015: The Assembly considered a report of the Director-General regarding the adjustment of contributions for 2015 due to the expanded membership of IRENA (A/5/15). Germany, supported by the UAE, called on member states to allocate the resulting reimbursements as voluntary contributions to IRENA. The US cautioned that it might not be able to uphold its growing fixed-rate contribution to IRENA, recalling that the contribution is an exception to its zero nominal growth policy for international organizations. The Assembly endorsed Germany’s proposal and adopted decision A/5/DC/L.7.

PROGRAMMATIC DISCUSSION: OFF-GRID RENEWABLE ENERGY DEPLOYMENT

Director-General Amin highlighted the key challenge of creating an environment that allows for scaling up and accelerating the pace of modern energy expansion, particularly for off-grid deployment. He said that US\$25 billion must be invested annually compared to the US\$9 billion currently invested. Amin called for moving away from a project-based approach and toward a market-based approach of deployment, as well as making capital accessible to small-scale energy access projects.

Kandeh Yumkella, Special Representative to the UN Secretary-General and CEO, SE4ALL, noted that energy is now central to the development agenda as proposed goal 7 of the Sustainable Development Goals (SDGs) (on ensuring access to affordable, reliable, sustainable and modern energy for all). Emphasizing implementation, he said off-grid solutions connect energy to the social development agenda at the community level, stressing that seed financing for project development and enhancing entrepreneurship capacity will be crucial.

Rabia Ferroukhi, IRENA, highlighted the International Off-grid Renewable Energy Conference (IOREC) platform, a global forum to discuss pathways to renewable energy deployment aimed at identifying key barriers and drivers for stand-alone and mini-grid deployment. She highlighted key messages from IOREC 2014, including the need for: delivering affordable capital; private sector participation; and consideration of tariffs for mini grids.

Dolf Gielen, IRENA, discussed technology and economics, highlighting the opportunity for renewables in off-grid systems, with rapidly developing hardware and decreasing costs. He highlighted challenges, including: limited data for planning;

concerns over grid stability; and characteristics of some diesel-based grids, which limit uptake. He noted that stabilization and plug-and-play solutions could help facilitate uptake and emphasized the need for upfront financing.

Bangladesh shared experiences from a solar PV dissemination programme, noting that 10% of the population has benefited. On factors that had led to success, he cited: an innovative financing structure; an ownership model; cost-effective, standardized technical design; after-sales services; and in-country micro-financing experience.

Ghana observed that six million people live in remote rural communities in her country and that it is difficult and uneconomical to provide electricity to them via the national grid. She highlighted an off-grid electrification programme, which has particularly benefited remotely located schools and health centers.

Germany highlighted support for the development, installation and operation of 250 renewable energy mini-grids in 17 countries. She emphasized that IRENA's activities in off-grid/mini-grid systems are vital to support the project development and preparation phase to guarantee broad private sector engagement. She said the IRENA RRAs, in cooperation with national governments, could provide a good platform to establish policy frameworks and strengthen private investor confidence.

Japan noted that most off-grid projects are not large enough to attract private sector investment. He elaborated on the promotion of technological development to expand the introduction of renewable energy, including offshore wind power and the establishment of the Joint Crediting Mechanism to disseminate technologies globally.

The Republic of Korea highlighted an off-grid programme aimed at providing electricity in the long term to more than 100 small- and medium-sized islands around the Korean peninsula.

Iran noted that 99% of the population has access to electricity with 10% coming from off-grid power generation. The UAE called for IRENA to focus on off-grid solutions, design specific projects and disseminate best practices. Peru observed that his country has been awarded a tender for the provision of 500,000 stand-alone solar PV systems for off-grid rural and remote areas.

Australia highlighted investment in renewable energy in remote and rural areas through the Regional Australia's Renewables Initiative, which lowers the risk associated with investment.

South Africa explained that the country has an 85% electrification rate mainly from the grid and that 10% of the unmet need would target rural and informal urban areas through off-grid solutions. He highlighted challenges relating to maintenance of hardware and access to energy efficient products, especially in rural areas.

Vice-President Guillermo Shinno concluded the session by reiterating that off-grid systems can be competitive in comparison to traditional systems and that governments must find energy solutions.

STRATEGIC DISCUSSION: RENEWABLE ENERGY AND CLIMATE CHANGE

IRENA Director-General Amin welcomed the strategic discussion as the first substantial session on climate change at a meeting of the IRENA Assembly. He affirmed his conviction that falling costs and the mounting urgency of climate change

have made it increasingly clear that renewables will play a key role in decarbonizing the energy sector. He underlined IRENA's engagement with the GCF, Climate Technology Centre and Network and Climate Investment Funds, adding that his Agency, although not directly involved in negotiations under the UN Framework Convention on Climate Change (UNFCCC), is providing knowledge and tools to help countries accelerate renewable energy deployment as part of their national strategies.

Christiana Figueres, Executive Secretary, UNFCCC, stressed that the transition to renewables is already underway, unstoppable and "stands on its own two feet" outside of the climate negotiations. Moreover, she said that renewable energy and climate policy exist in a mutually reinforcing "virtuous cycle" and encouraged participants to ensure a strong agreement in Paris and a prominent place for renewable energy in countries' Intended Nationally Determined Contributions. Figueres added that falling oil prices represent a limited threat to renewable investment and, in fact, offer a watershed moment to remove fossil fuel subsidies and direct budget savings into renewable energy infrastructure investment.

Rómulo Acurio Traverso, Deputy Representative for Climate Change, Peru, highlighted the success of the 20th session of the Conference of the Parties (COP 20) to the UNFCCC, held in Lima, Peru, in capitalizing the GCF, engaging stakeholders prior to and throughout the conference, and working towards a legally-binding agreement with the Lima Call for Climate Action. He invited all governments and stakeholders to contribute to the Lima-Paris Action Agenda to maintain the momentum.

Ségolène Royal, Minister of Ecology, Sustainable Development and Energy, France, said the incoming COP 21 Presidency is an honor but also an obligation to succeed. She added that her country is working to adopt a new energy model, aiming to triple the share of renewable electricity generation by 2020.

Stressing the importance of renewables in decarbonizing a growing economy, Germany reported that up to half of all greenhouse gas (GHG) emission reductions in his country could be attributed to additional renewable energy deployment.

Reporting practical actions taken by his company, Steve Howard, Chief Sustainability Officer, IKEA, observed that current low oil prices present an opportunity to send a real signal for sustainable investments by introducing carbon pricing.

The UAE said IRENA should be involved in the mobilization of funds for actions on climate change and, with the Republic of Korea and Mali, called on IRENA to improve countries' access to the GCF by forming a partnership with the fund to finance renewable energy projects. Japan reiterated its commitment to supporting technological innovation for renewables, including wind power.

Iran urged IRENA to develop bold actions in the climate change dialogue to promote renewables and to use REmap to raise awareness among policymakers. The UK urged IRENA to make a case for renewables in green growth and to support technical expert meetings in this regard.

PROGRAMMATIC PRESENTATION: RESOURCE GATEWAY TO RE KNOWLEDGE

The Secretariat presented REsource, an open platform that compiles IRENA's data on renewable energy statistics, policies, markets and other topics into a single online access point. The

Secretariat demonstrated how policymakers and investors could use the tool to customize graphs, tables and data sets suited to their unique planning needs. IRENA Director-General Amin remarked that the tool provides trusted and easily accessible information to remove technical and procedural barriers that are slowing the deployment of renewables. Norway, Germany, the Republic of Korea and India welcomed the tool, underlining the value of transparent, quality information. India recommended that member countries be contacted to verify the data, citing the need to ensure consistency with figures published in other sources. The Assembly took note of the presentation.

REPORT OF THE CHAIR OF THE COUNCIL

IRENA Council Chair Méndez reported on Council matters since the fourth session of the Assembly. He highlighted programmatic, institutional and administrative matters and noted that the Council's findings will inform the biennial programme of work 2016-2017 and review of the medium-term strategy. He identified key reflections from the Council, including the need for: member feedback to ensure responsiveness to changing needs; and to balance achieve between ambition and available resources. The Assembly took note of the Council Chair's Report.

STRATEGIC DISCUSSION: FINANCING THE AGENCY: STRATEGY FOR THE FUTURE

IRENA Director-General Amin presented the report on financing (A/5/16), which provides perspectives emerging from consultations on the future role and funding opportunities for the Agency. He highlighted, *inter alia*: prioritization of climate change, including through the provision of knowledge products to countries; risk mitigation instruments; and policy frameworks to advance the business case for renewables. He underscored the growing voluntary contributions from countries, saying that the diversification of funding through these and other sources is crucial to meet the Agency's growing scope and ambition.

Germany and France urged IRENA to diversify funding mechanisms and take advantage of emerging energy financing. Japan supported by France and the UAE encouraged the IRENA Secretariat to coordination activities with other relevant international energy agencies to avoid overlap. The UAE called on IRENA to launch new initiatives involving states in line with national plans and noted the need to review its five-year strategy. The US urged the Secretariat to focus on energy access, trade and financing in the 2016 budget and work programme.

IRENA/ADFD PROJECT FACILITY

IRENA Director-General Amin introduced the Report of the Chair of the Advisory Committee on the second project cycle (A/5/17), and reported that the Committee had selected eight projects for the ADFD's second cycle funding. He emphasized that selection was based on replicability, innovation, transformative capacity and sustainability, and said that geographical distribution, technological diversity and alignment with government priorities had also been taken into consideration.

Amin listed Egypt, France, Kuwait, New Zealand, the Republic of Korea, Swaziland, and Trinidad and Tobago as states that would serve on the third project cycle Advisory Committee. He said Argentina, Jordan, Mauritania, Pakistan and Portugal would serve as alternates.

In a video address, Ilona Antoniszyn-Klik, Minister of Economy, Poland, reported that 80 pre-proposals were received, out of which 32 were shortlisted by the panel of experts and 22 selected by the committee for full proposal submission. Out of the 19 submitted, she reported that the following five projects had been selected for funding: Argentina, Cuba, Iran, Mauritania, and Saint Vincent and the Grenadines.

The ADFD reported that: funding in the second cycle amounting to US\$57 million includes a surplus of US\$7 million from the first cycle; and beneficiaries would receive reduced interest rates of 1-2% for a 20-year loan period with a five-year grace period.

The second ADFD funding cycle recipient countries expressed their gratitude and the Assembly took note of the report of the IRENA/ADFD Project Facility (A/5/17).

MINISTERIAL ROUNDTABLES

On Saturday afternoon and Sunday morning, ministerial roundtable discussions took place in parallel with the Assembly on "Power Sector Transformation" and "The Role of Renewable Energy in Energy Security."

POWER SECTOR TRANSFORMATION: This roundtable convened on Saturday afternoon. IRENA Director-General Amin noted that even though the rapid growth of renewable energy technology is creating opportunities for energy supply in rural areas, policymakers are finding it difficult to keep up with the rapid rate of technological advancement. Utility companies, he added, are now challenged to ensure constant and cost-effective energy. He highlighted the need for new business models, collective policies for efficient energy targets and technological solutions to energy storage.

Panel Presentations: Rainer Baake, State Secretary for Economic Affairs and Energy, Germany, chaired the discussions. Zhang Liying, State Grid Corporation, China, reported on the Smart-Grid Programme to promote clean energy. She highlighted the implementation of ultra-high-voltage AC transmission through a new line of standard-setting, step-up transformer and the optimization of energy storage solutions in the Shanghai power grid through a sodium-sulfur battery system.

Boris Schucht, 50Hertz, shared lessons for integrating renewables into the grid, including: legal and procedural frameworks; synchronized development of renewables and the grid; public acceptance; and innovative market design to trigger infrastructure investment.

Dolf Gielen, IRENA, said that while wind and solar could be scaled up significantly with little change to the grid in most countries, major changes would be needed to incorporate more than 30% renewables in the power mix, as projected in many countries by 2030. In order to address this challenge, he underscored the need to set renewable energy targets in tandem with long-term, flexible grid design, "smart technology," and advanced battery storage.

Ministerial Discussions: Moderator Baake invited members to debate technological, financial and policy issues related to transforming the power sector.

The European Commission cited the need to accelerate massive growth of smart metering to make electricity consumers active participants in the energy system. Latvia supported further regional cooperation and governance in planning large infrastructure, noting the proposed concept of an “energy union.”

On renewable energy integration, Germany and Switzerland said developing countries could avoid challenges faced by developed countries by integrating smart grids that allow flexibility and synergies of variable energy sources. Morocco and Peru preferred regionally integrated grid systems. Italy called for increased research and development for cutting edge technologies to ensure efficiency and increased accessibility and Cyprus stressed the need for market incentives. The Russian Federation and Senegal emphasized the importance of training and capacity building and pointed to IRENA’s capacity to enhance the exchange of expertise and experience. Armenia suggested student exchange and educational platforms to host young engineers.

THE ROLE OF RENEWABLE ENERGY IN ENERGY SECURITY: This roundtable was held on Sunday morning. IRENA Director-General Amin said renewables would play an increasingly important role in diminishing the risks arising from fossil fuel price and supply volatility, and the narrow geographical range of fossil fuel suppliers. He reported on IRENA’s ongoing cost and benefit analyses of renewables and their contribution to energy security.

Panel Presentations: Amos Hochstein, Special Envoy and Coordinator for International Energy Affairs, US Department of State, chaired the ministerial roundtable. He noted that to address energy security there is a need for political goodwill, good governance, and policies and regulatory frameworks that encourage private sector investment in energy.

Miguel Arias Cañete, EU Climate Action and Energy Commissioner, observed that the EU imports over half its energy requirements and that the current events along the EU’s eastern border have raised concerns regarding supply continuity and energy prices. He reported on the Energy Security Strategy, signed in June 2014, with a view to implement long-term strategies for regional energy security.

Maria van der Hoeven, Executive Director, International Energy Agency (IEA), said renewables require new ways of thinking about energy security, noting that they shift attention from geopolitical risks to new concerns related to weather and climate variability, unpredictability and grid integration. She said that, at the same time, renewables generate benefits by diversifying energy sources, providing domestic supply and improving long-term security.

Brian Dames, Eskom, South Africa, highlighted the role the SE4ALL initiative can play in delivering energy access and mitigating climate change in Africa, where the regional integration of energy systems is critical to ensuring security, competitiveness, economic growth and skilled employment. He cautioned against the overreliance on any individual energy source or a one-size-fits all solution, and shared success stories from South Africa, which has attracted US\$14 billion in investment for 4000 MW of new renewable energy capacity by encouraging cost-competitiveness under its Renewable Energy Independent Power Producer Procurement Programme.

On renewable energy policy in an era of lower oil prices, van der Hoeven urged fossil fuel subsidy cuts, carbon pricing and

long-term policy frameworks, adding that, “nothing is as volatile as oil prices.” Panelist Cañete underscored the need for regional energy targets, regional integration and market-oriented energy policies.

Ministerial Discussions: Several participants described national and regional strategies to ensure energy security. Malaysia observed that the Plan of Action for Energy Cooperation 2010-2015 of the Association of Southeast Asian Nations aimed to seek strategies and actions for ensuring greater energy security and sustainable energy development.

Latvia said the EU is working to promote energy security by maintaining the competitiveness of the sector and learning from lessons, including the over-subsidization of the energy sector and the lack of adequate investment in research and development. She announced the Energy Union Conference of the EU Energy Ministers to be held on 6 February 2015 in Riga, Latvia.

Egypt called on IRENA to support harmonization of regional policies and market strategies in order to achieve free trade in energy, and Italy suggested an analysis of market-oriented policies that facilitate the development of renewables. Kuwait encouraged IRENA to facilitate links between renewable energy and labor markets, while reducing costs, diversifying energy sources and attracting foreign investment.

REPORTS FROM MINISTERIAL ROUNDTABLES

IRENA Vice-President Davis Chirchir chaired this session. Reporting on the ministerial roundtable on “Power Sector Transformation,” Baake noted, among other things, the need for upgrading and upscaling grids, and for flexibility of renewable energy integration from supply and demand perspectives. He highlighted challenges in technological innovation, capacity and transfer, market integration, energy storage and institutional, and national and regional policies. Members, he added, had urged IRENA to analyze legal, technological and management aspects of grid integration and facilitate information exchange and best practices.

Reporting on the ministerial roundtable on “The Role of Renewable Energy in Energy Security,” Hochstein noted that: despite the decreasing cost of renewable energy, the cost of integration into grids is significant and requires private and public sector cooperation; and energy security is a concern for both producers and consumers, requiring international cooperation for solutions and technological innovations. He reported requests to IRENA to support actions to increase the share of renewables in energy markets, strengthen local and regional access, facilitate dialogue and information exchange, and develop human and technical capacity for renewable energy integration.

The Assembly took note of the reports from the ministerial roundtables.

ARRANGEMENTS FOR THE SIXTH SESSION OF THE ASSEMBLY

The Assembly designated Egypt as the President of the sixth session of the IRENA Assembly, to be held from 16-17 January 2016 in Abu Dhabi. Bangladesh, Cuba, Mauritius and Sweden were designated as Vice-Presidents.

CONCLUSIONS AND CLOSING

Director-General Amin concluded that there is stronger evidence than ever that, irrespective of the volatility in other

energy markets, IRENA member states share a positive outlook of a renewable future. Vice-President Chirchir commended delegates for their strong sense of ownership and said that the exchange of positive experiences from around the world is a good basis for going forward. He closed the fifth session of the IRENA Assembly at 6:45 pm.

SELECTED PRE-ASSEMBLY EVENTS

On Friday, 16 January 2015, a number of pre-IRENA Assembly events took place throughout the day. Selected events are summarized below.

RENEWABLE ENERGY IN LATIN AMERICA: CHALLENGES AND OPPORTUNITIES

Executive Strategy Group Meeting on Renewable Energy in Latin America: Ramón Méndez, Ministry of Industry, Energy and Mining, Uruguay, chaired this meeting. Adnan Amin, Director-General, IRENA, reporting on Latin America's potential for wind, solar and geothermal power, stated that scaling up of renewable investments requires, *inter alia*: developing a business case for renewable energy technologies; creating enabling regulatory and administrative frameworks to promote investment; and addressing infrastructure constraints. He highlighted IRENA's work with the Central American Integration System (SICA) to implement: its Clean Energy Corridor concept in Central America; RRAs; and the Regional Market Analysis initiative.

Gurbuz Gonul, IRENA, presented the main elements of IRENA's Working Paper on Renewable Energy in Latin America, noting that although solar and wind energy are gaining momentum in renewable energy investments, vast geothermal resources remain largely unexploited. He affirmed IRENA's support to tackle challenges in the renewable energy transition by assessing key priorities to be addressed and strengthening collaboration within the region.

In the ensuing discussion, Uruguay reported on potential collaboration between the Latin American and Caribbean region and IRENA. He mentioned geothermal energy and technical aspects of integrating variable renewable energy as new challenges. Recalling the SE4ALL target on universal energy access, the Latin American Energy Organization (OLADE) said that even 10% of the population without access to energy by 2030 would be too much. She warned that falling oil and gas prices could hamper renewable investments.

Drawing attention to the social and environmental impacts of hydropower, Costa Rica called for ensuring that affected communities benefit at all stages of a project cycle. She pointed to the costs of integrating additional variable renewable energies. Mexico said that progress could be made at little cost by harmonizing standards across the region.

Peru estimated that off-grid PV solar energy could raise access to energy in rural areas from 70-96% within a decade. He highlighted IRENA's role in developing approved methodologies, providing a platform for coordination and analysis, capacity building and financing projects.

Panama said that the breakthrough of solar energy in his country demonstrated the importance of financial viability. El Salvador said it aimed to increase the geothermal share in the

country's energy mix from 25-35% within the next three years. He invited IRENA to support the Geothermal Regional Training Programme, recently renewed with a broader donor base.

The International Geothermal Association (IGA) drew attention to the Geothermal Development Facility for Latin America, launched at UNFCCC COP 20 by 14 donors, which provides funding in the region for surface studies, exploration drillings and infrastructure. Mexico reported on financing available from the Inter-American Development Bank for renewable energy projects.

SICA said renewable energy expansion in the region requires a shift from state-run, supply-driven to demand-driven models that consider end-user needs. OLADE reported on Uruguay and Jamaica's initiatives to replace firewood stoves with biogas stoves and urged IRENA to promote experience sharing in the region.

Colombia reported on a bi-national project with Ecuador to boost the use of geothermal energy from Chiles volcano.

Chair Méndez summarized the discussions, noting that the following areas would be considered for inclusion in the IRENA work programme for Latin America: surveys of renewable energy sources; technical support for expansion of renewable energy; assessment of appropriate policies; assessment of social impacts of renewable energy expansion; energy storage systems and access to energy; research and development to bridge the human capacity gap; harmonization of renewable energy standards and regulations; and development of hydropower and biomass energy.

Director-General Amin said the Chair's summary would be compiled as a communiqué to guide IRENA's engagement with Latin America and announced plans to organize the third IOREC and Exhibition in Latin America in 2016.

REmap Mexico Report Preview: Roland Roesch, IRENA, presented the Secretariat's study on renewable energy innovation in Latin America and the Caribbean. He reported on recommendations, including: enhancing linkages with other innovation-related policy fields; fostering information exchange among researchers, policymakers and market actors; rewarding basic research and development, particularly at universities; and bringing good ideas to the market through public-private partnerships and public tenders. Pointing to a case study in Chile, he illustrated how IRENA can help develop policy frameworks tailored to the specific innovation mode of a country.

Highlighting challenges faced by SIDS in connecting their power grids with other countries, Cuba suggested that IRENA work with Caribbean countries on storage options and integration of variable renewable energy into grids. Argentina reported on wind, geothermal and hydropower projects in Patagonia, highlighting the planned Nahueve Hydropower Project at Los Carrizos. The International Energy Forum noted that, despite progress made, enhanced regional planning for an integrated market of renewables remains a challenge.

Recalling the findings of the global REmap 2030 study, Director-General Amin said a target of 30% renewables by 2030 was not only technically achievable but also economically viable. Focusing on countries representing three-quarters of global energy consumption, he portrayed REmap as complementary to IRENA's work in developing countries.

Dolf Gielen, IRENA, reported that Mexico could triple its renewable energy growth between 2010 and 2030 if all measures in the REmap report are implemented. He said the package could save money while leading to a 46% share of renewables in power generation in 2030, with solar and wind energy presenting the greatest opportunities for growth.

Leonardo Beltrán Rodríguez, Deputy Secretary for Planning and Energy Transition, Mexico, introduced the country's recent energy market reform, designed to facilitate private investments and raise the share of renewables to 35% by 2024. With population growth of 1.5 million per year and increasing urbanization, he said that both central and decentralized models would be required. Beltrán Rodríguez emphasized Mexico's potential for geothermal, wind and solar energy, highlighting that average daily irradiation in Mexico is double that of Germany.

In the ensuing discussions, participants enquired about cost implications of shifting from non-renewable to renewable energy and mechanisms to ensure stable supply, noting the unreliability of wind power. Mexico responded that his country ensured supply by alternating between solar energy during the day and wind at night. He added that the National Center for Energy Control carries out needs assessments for infrastructure expansion to ensure energy supply meets demand. On prices, he reported cost reductions of 10% for domestic and 16% for industrial users in 2014.

RENEWABLE ENERGY PRODUCED BY THE SEA

Dolf Gielen, IRENA, opened the session. Ruud Kempener, IRENA, discussed the technological status and outlook for ocean energy, observing that most marine technologies are in their infancy. He noted that the huge potential of oceans remains untapped and that tidal stream and wave energy are the closest to commercialization, with more patenting taking place for the latter. Kempener highlighted key barriers, including technical, economic, environmental, social and infrastructural.

Nicolas Fichaux, IRENA, presented the Global Atlas for Renewable Energy, which aims to bridge the divide between countries that have access to data sets, expertise and financial support to evaluate their national renewable energy potential and those that do not. He described the Atlas as a global spatial data analysis consisting of information compiled by IRENA. He highlighted prospects for marine energy, noting challenges, including the complexity of ascertaining economic potential and the need to reduce risk and provide more information to investors. Fichaux emphasized the need for improved resource data to move towards large-scale deployment.

Stéphane Tromilin, French Agency for Development, discussed tidal and wave energy in the context of developing a roadmap for large-scale deployment in India. He estimated that quick assessment costs, where data is available, could range from between €50,000 and €200,000. He noted that although tidal energy is more established, wave energy has a much larger potential and that several countries have already launched research and development programmes, and adopted supportive funding mechanisms for these technologies. As a next step, he said a study would identify financial schemes to promote these technologies and provide grants for pilot projects, as well as financial incentives for small-scale projects.

Martine Kubler Mamlouk, Deputy Permanent Representative of France to IRENA, discussed fostering marine energy development by mapping potentials and needs. She noted efforts aimed at collaborating with national agencies to complete and harmonize databases, observing that in Martinique, an exercise had highlighted available data as well as gaps. Mamlouk observed that reliable information on renewable energy potential is key for policymakers and investors and identified three types of information: general data; pre-diagnostic data, which takes account of all parameters; and a detailed site study.

ENVIRONMENTAL IMPACTS OF RENEWABLE ENERGY TECHNOLOGIES

Henning Wuester, IRENA, presented an overview of IRENA's environmental projects and proposed future direction. Linus Mofor, IRENA, described how this work promotes the widespread adoption and sustainable use of renewable energy technologies by facilitating collaborative action and providing tools to support policymakers and investors. He also emphasized the need to close knowledge gaps by establishing the facts and debunking myths surrounding renewable energy.

Asiyah Al Ali, IRENA, presented results from IRENA reports on: the impacts of solar, wind and geothermal deployment; end-of-life analysis of solar PV technologies; and the environmental impact of renewable energy technologies on migratory species.

Marietta Sander, Executive Director, IGA, reviewed the environmental aspects, challenges and solutions of geothermal energy development. She said that minimal land use, contaminants and GHG emissions make geothermal relatively benign when compared with many other energy technologies. She further noted that while the drilling and construction of geothermal plants create a great deal of noise, these and other social impacts can be mitigated through extensive analysis, monitoring and consultation with local communities, developers and governments.

Steve Sawyer, Secretary General, Global Wind Energy Council, underscored that wind power plants release no GHGs, waste or pollution, and use only negligible amounts of water during their operation. He added that wind generates very low emissions when considered on a life-cycle basis, with a median energy payback of just 5.4 months. He said that although there are local exceptions that may be addressed on a case-by-case basis, the threat of wind turbines to bird and bat populations in orders of magnitude is lower than that from buildings, power lines and cats. Sawyer said that studies have failed to show health impacts from noise, infrasound or other factors, adding that such studies have only revealed a correlation between reported health impacts and anti-wind activism.

Sven Teske, Greenpeace International, presented Greenpeace's use of strategic environmental impact assessments to explore alternative renewable energy scenarios in different countries. He explained the process by which these assessments put renewable energy transition into a regional and local context, underscoring that context is critical to building social acceptance, reducing impacts and taking decisions to foster environmentally-friendly energy technologies. He offered Greenpeace's support for offshore wind power in the North Sea as an example, saying that noise and other impacts from wind farms were far less than from the oil rigs they would replace.

Franco Sansone, Enel Green Power, described how his company is incorporating solutions to mitigate the social and environmental impacts of geothermal operations in Italy and the US. He said his organization has designed an abatement system, which reduces the emission of mercury and hydrogen sulfide by 80%, and harnessed architectural solutions to mitigate the visual impacts of geothermal infrastructure on the landscape. Sansone added that hybrid solar-geothermal plants, such as the Stillwater plant in the US, could generate innovative cost savings and environmental co-benefits.

During the ensuing discussion, moderated by Rabia Ferroukhi, IRENA, Sawyer agreed on the need to address psychological and political barriers, but highlighted that renewables are held to a much higher standard than fossil fuels. Teske urged balanced comparisons of renewable and conventional energy technologies, noting that land for wind and solar power can be used for agriculture or other land uses as well. Wuester closed the session, soliciting future comments and views from stakeholders for advancing IRENA's environmental work programme and stressing the need to increase the level of assessment and counter myths that pose a barrier to advancing renewable energy.

UPCOMING MEETINGS

Renewable Energy Training Week – First Edition: This training aims to build capacity for regulatory decision making at national and regional levels, and support the creation of enabling regulatory environments for the deployment and integration of renewable electricity generation resources. **dates:** 25-29 January 2015 **location:** Abu Dhabi, UAE **contact:** IRENA Secretariat **phone:** +971-2-4179000 **email:** info@irena.org **www:** http://www.irena.org/

Global Atlas Training Session – Latin America: This session is for invited experts involved in national-level planning for renewable energy deployment, and aims to enable policymakers to better understand the added value of geospatial analysis, including its use in the development of support policies for wind and solar energy deployment. **date:** 2 February 2015 **location:** Lima, Peru **contact:** IRENA Secretariat **phone:** +971-2-4179000 **email:** info@irena.org **www:** http://www.irena.org/

The Energy Union Conference of the EU Energy Ministers: The Latvian Presidency in collaboration with the European Commission is organizing this event to encourage the discussion among EU energy ministers, representatives from the EU institutions and international organizations, academics and other energy policymakers on the new EC initiative for the creation of a European Energy Union, its key elements and concept. **date:** 6 February 2015 **contact:** Latvian Presidency **location:** Riga, Latvia **email:** energy.conference2015@em.gov.lv **www:** www.eu2015.lv

RE-Invest India: The First India Renewable Energy Global Investment Promotion Meet and Expo will provide a platform for the global investment community to connect with stakeholders in India. **dates:** 15-17 February 2015 **location:** New Delhi, India **contact:** Ministry of New and Renewable Energy **phone:** +91-11-24365619 **email:** gkumar.mnre@nic.in **www:** http://www.re-invest.in

UNFCCC ADP 2-8: The eighth meeting of the second session of the *Ad Hoc* Working Group on the Durban Platform for Enhanced Action (ADP) will convene in February. **dates:**

8-13 February 2015 **location:** Geneva, Switzerland **contact:** UNFCCC Secretariat **phone:** +49-228 815-1000 **fax:** +49-228-815-1999 **email:** secretariat@unfccc.int **www:** http://unfccc.int

Mexico WindPower 2015: The fourth edition of the annual Mexico WindPower will include: high-level presentations on the development of Mexico's wind power potential; discussions on wind energy technology and solutions; and a 5,000 square meter exhibition for products and services for the wind industry. **dates:** 25-26 February 2015 **location:** Mexico City, Mexico **contact:** Pat Hazan-Tessler **phone:** +1-301-493-5500 **email:** tessler@ejkrause.com **www:** http://mexicowindpower.com.mx/

Energy Efficiency Working Group Seminar on Smart Grids: The Energy and Climate Partnerships of the Americas will hold this seminar to provide training and update knowledge on the integration of distributed energy resources to the electrical system. **dates:** 11-13 March 2015 **location:** Santiago, Chile **contact:** Juan Cruz Monticelli **email:** jmonticelli@oas.org **www:** http://ecpamericas.org/Events/?id=529

South-East European Exhibition on Energy Efficiency and Renewable Energy: This exhibition will promote the latest energy developments in relation to renewable energy and energy efficiency, and related services, and encourage their large-scale implementation in South-East Europe. In parallel, the same venue will host the Smart Cities Exhibition and Conference for South-East Europe. **dates:** 11-13 March 2015 **location:** Sofia, Bulgaria **contact:** Zdravka Kazanlieva, Via Expo **phone:** +359-32-960011 **email:** office@viaexpo.com **www:** http://viaexpo.com/en/pages/ee-re-exhibition

Africa Future Energy Forum: Meeting under the theme "Unlocking Africa's Energy Potential," this forum will address: how to meet the energy demand of Africa's economies and close the energy access gap; the ideal energy mix for Africa's energy future; whether the gap between existing infrastructure and investment required to increase energy accessibility can be bridged; and whether African governments are ready to provide the necessary leadership and governance to bring about an energy revolution in Africa. **dates:** 18-19 March 2015 **location:** Nairobi, Kenya **contact:** Rudinov Vincent **phone:** +971-4-3116300 **email:** rudinov.vincent@mci-group.com **www:** www.africafutureenergyforum.org

Berlin Energy Transition Dialogue: This conference will provide a platform for meeting key energy decision makers from all over the world, stimulating a dialogue on experiences, proven solutions and best practices worldwide. Lessons learned from the German Energiewende will also be presented. It will feature panel sessions on incentive schemes, financing, grid development, financing, market integration and other specific aspects of energy policy. **dates:** 26-27 March 2015 **location:** Berlin, Germany **phone:** +49-30-88667400 **email:** info@energiewende2015.com **www:** www.energiewende2015.com

Island Energy Transitions: IRENA and the French government, together with the regional government of Martinique, will hold a meeting on accelerating the uptake of renewables on islands. Participation is by invitation only. **dates:** 8-9 April 2015 **location:** Martinique, overseas region of France **contact:** IRENA Secretariat **phone:** +971-2-417-9000 **email:** info@irena.org **www:** http://www.irena.org

Energy Efficiency Global Forum 2015: The second Global Forum will bring together energy efficiency executives and policymakers from across sectors, disciplines and borders to:

discuss the latest technology and information and develop “best practices,” policies and strategies for implementing energy efficiency strategies; and integrate effective policies and business practices into actionable plans for the next generation of energy efficiency. **dates:** 12-13 May 2015 **location:** Washington DC, US **contact:** Becca Rohrer **phone:** +1-202-530-2206 **email:** brohrer@ase.org **www:** <http://eeglobalforum.org>

Second UN SE4ALL Forum: The second annual SE4ALL Forum will continue the momentum from the launch of the UN Decade of SE4ALL (2014-2024) in June 2014. The SE4ALL initiative aims to, by 2030, ensure universal energy access to modern energy services, double the global rate of improvement in energy efficiency and double the share of renewable energy in the global energy mix. **dates:** 17-21 May 2015 **location:** New York City, US **contact:** Office of the Special Representative of the Secretary-General Global Facilitation Team, SE4ALL **email:** forum@se4all.org **www:** <http://www.se4all.org/>

World Hydropower Congress 2015: Hosted by the International Hydropower Association (IHA), the 2015 Congress will focus on discussing and debating strategies for the hydropower sector over the next 35 years, and examining how sustainably developed hydropower can address climate change, and energy and water security. **dates:** 19-21 May 2015 **location:** Beijing, China **contact:** IHA Central Office **phone:** +44-20-8652-5290 **www:** <http://www.hydropower.org/congress>

European Biomass Conference and Exhibition: The 23rd European Biomass Conference and Exhibition will provide an opportunity for professionals working along the entire biomass value chain to present and discuss the latest developments in the industry. **dates:** 1-4 June 2015 **location:** Vienna, Austria **contact:** ETA-Florence Renewable Energies **phone:** +39 055 5002280 ext. 221 **email:** biomass.conference@etaflorence.it **www:** <http://www.eubce.com/>

Ninth Meeting of the IRENA Council: Tentative dates for this meeting of the IRENA Council were announced at the IRENA Assembly. **dates:** 10 or 11 June 2015 **location:** Abu Dhabi, UAE **contact:** IRENA Secretariat **phone:** +971-2-417-9000 **email:** info@irena.org **www:** <http://www.irena.org>

42nd Sessions of the UNFCCC Subsidiary Bodies: The 42nd sessions of the Subsidiary Bodies to the UNFCCC and the ninth meeting of the second session of the ADP are expected to take place in June 2015. **dates:** 1-11 June 2015 **location:** Bonn, Germany **contact:** UNFCCC Secretariat **phone:** +49-228 815-1000 **fax:** +49-228-815-1999 **email:** secretariat@unfccc.int **www:** <http://unfccc.int>

Asia Clean Energy Forum 2015: The Asia Clean Energy Forum (ACEF), organized since 2006, seeks to provide a space for sharing best practices in policy, technology and finance to support climate and energy security in the region. Pre-forum events of the 2015 ACEF include the IOREC and the Quantum Leap in Wind Workshop. **dates:** 16-20 June 2015 **location:** Manila, Philippines **contact:** Asian Development Bank **phone:** +63-2-632-4444 **www:** <http://asialeds.org/events/asia-clean-energy-forum-2015>

INTPOW Renewable Energy Forum: How can companies and nations change and prosper in the wake of the energy revolution? How will the changes impact Norway and the Norwegian renewable energy industries? These and other topics will be discussed in detail by national and international experts on renewable energy, business development, investment and

governance. **date:** 22 September 2015 **location:** Oslo, Norway **contact:** Jon Dugstad **phone:** +47-95-72-85-80 **www:** <http://event.intpow.com>

South Africa International Renewable Energy Conference 2015 (SAIREC): This conference will gather ministers, decision makers, civil society, academia and the private sector to discuss experiences and strategies for accelerating the global deployment of renewable energy. The event is aimed particularly at giving the African renewable energy industry opportunities to showcase its work and gain insights from other participants. **dates:** 4-7 October 2015 **location:** South Africa **contact:** REN21 Secretariat **email:** secretariat@ren21.net **www:** <http://ren21.net/>

IEA Bioenergy Conference 2015: The 2015 International Energy Agency Bioenergy Conference will center on recent research and market developments in bioenergy, including: challenges across bioenergy value chains; and cross-cutting topics, such as environmental sustainability, socio-economic issues and trade. The conference will include a special session dedicated to industrial developments and applications. **dates:** 26-29 October 2015 **location:** Berlin, Germany **contact:** Fachagentur Nachwachsende Rohstoffe e.V. (FNR) **phone:** +49-3843-6930-165 **email:** v.pelikan@fnr.de **www:** <http://ieabioenergy2015.org/>

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

Sixth Session of the IRENA Assembly: The sixth session of the IRENA Assembly will consider, *inter alia*, the Agency’s work programme for 2016/2017 and review its medium-term strategy. **dates:** 16-17 January 2016 **location:** Abu Dhabi, UAE **contact:** IRENA Secretariat **phone:** +971-2-417-9000 **email:** info@irena.org **www:** <http://www.irena.org>

For additional meetings, see <http://energy-1.iisd.org/>

GLOSSARY

ADFD	Abu Dhabi Fund for Development
COP	Conference of the Parties
GCF	Green Climate Fund
GHG	Greenhouse gases
IOREC	International Off-grid Renewable Energy Conference
IRENA	International Renewable Energy Agency
PV	photovoltaic
RE	Renewable energy
RRA	Renewables Readiness Assessment
SE4ALL	Sustainable Energy for All
SIDS	Small Island Developing States
UAE	United Arab Emirates
UNFCCC	United Nations Framework Convention on Climate