Remarks

by

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for the

**Annual Report of the DG on the implementation
of the Work Programme and Budget
2016-2017**

at the

**IRENA 8th annual Assembly**

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Madam President,

Excellencies,

Distinguished Delegates,

Ladies and Gentlemen,

Let me begin by welcoming you once more to this session of the Assembly, which has assumed such a central significance in the guidance and the role in how the Agency has evolved over the years. Every session of our Assembly is an auspicious occasion that provides the needed political impetus and direction to our efforts, as we take the opportunity to reflect, stand united, and consider the future.

Not so long ago, this young Agency was entrusted with a mission to become a voice of renewable energy to promote its business case and demonstrate its value. Seven years later, at the end of the 2016-2017 programmatic cycle – and the end of our first Medium-term Strategy – we can say with confidence that the voice of renewables is strong and heard all over the world. Our global renewable energy family, accounting for 154 Members and 26 States in Accession, is well-poised to drive the energy transformation needed to achieve the objectives of sustainable development and climate change, enshrined in the historical global agreements reached in 2015.

The 2030 Agenda for Sustainable Development and the Paris Agreement on climate change place renewable energy at the heart of the global effort to secure a prosperous and inclusive future for all. This has far-reaching implications for all of us. The shift from one energy system to another is not simple and, undoubtedly, it will take many years before the current system is transformed. But the transformation of the current energy system is gaining pace and is unstoppable. The developments during the past few years exceeded the expectations of even the most optimistic supporters. Falling costs and rapid innovation have spurred investments, transforming renewable energy from niche to an economically and technically preferable solution.

This has become a self-reinforcing process. Our analysis of the cost patterns for wind and solar has found that every doubling of cumulative installed capacity reduces prices by 20%. Today we are releasing the latest *Renewable Power Generation Costs* report. Findings of this report are based on IRENA’s real-life project database that now contains over 15,000 projects representing some 1,000 GW of capacity in 147 countries. The cost of utility-scale solar PV electricity has fallen by 73% since 2010, and record low prices in Chile, Mexico, Peru, Saudi Arabia and the UAE have made USD 3 cents/kWh the new benchmark. Onshore wind projects are now routinely commissioned at USD 4 cents/kWh, with the global average of USD 6 cents/kWh.

Policies and regulations remain crucial to advancing market development. A significant recent trend has been the gradual shift in the power sector from tariff-based mechanisms to auctions. At the end of 2016, at least 67 countries had held such auctions, up from only six in 2005. IRENA’s project and auction data suggest that, by 2020, all currently commercialised renewable energy power generation technologies will be fully competing with traditional sources by generating in the range USD 3-10 cents/kWh.

We are observing a similar trend emerging in battery storage technologies. Electric vehicle battery costs have fallen 73% between 2010 and 2016, and IRENA estimates that the overall storage costs could fall by over 60%by 2030 for different technologies. These trends, combined with similar trends in renewable generation storage and smart technologies are opening a range of options that seemed a distant future only a couple of years ago. Only a couple of days ago, Xcel Energy’s 2017 filing for the U.S. state of Colorado showed the median bid price for wind plus storage was USD 2.1 cents/kWh, and for solar plus storage was USD 3.6 cents/kWh. As far as we know, these are the lowest renewables with storage bids in the U.S. to date. [Early indications are that the median bid for wind with storage appears to be lower than the operating cost of all coal plants currently in Colorado, while the median solar with storage bid could be lower than 74% of operating coal capacity.]

Cost declines for key technologies also have a major impact on finance flows. Later today in the Ministerial Round Table we will share with you the outcome of our work on analysing investment trends. But let me highlight a couple of points. Since 2012, renewable power capacity installations have exceeded non-renewables by a rising margin and, in 2016, they represented 60% of all new power-generating capacity. Investment reached a comparable milestone in 2015 when renewable power technologies for the first time attracted more finance than non-renewable power technologies. In 2016, more than 90% of investment came from private sources, of which 40% was from project developers. But the analysis also highlights the important enabling role of public finance, especially from development financing institutions, which account for the majority of public investment.

Falling solar and wind power costs in particular reduced the total value of renewable energy investment, as each dollar of investment financed more capacity than in previous years. Our latest data shows that, in 2016, 162 GW of new renewable capacity was added to the global mix, representing an 8.8% increase, and surpassing 2000 GW of renewable generation worldwide. Most notably, around 70%of the increase in 2016 took place in the Global South, with 58% in Asia and 12.1%in Africa where the capacity additions doubled compared to the growth in 2015.

Excellencies,

Ladies and Gentlemen,

These are remarkable advances, but the achievement of sustainable development and climate objectives therefore requires a seismic shift in the way we produce, distribute and consume energy. In March 2017, we launched the *Perspectives for Energy Transition* analysis on possible pathways and investment needed to reach the objectives of the Paris Agreement. This study, developed at the request of Germany as the G20 Presidency and undertaken jointly with our IEA colleagues, shows that ambitious deployment of renewable energy, in conjunction with energy efficiency measures, could account for around 90% of the energy-related carbon emission reductions needed by 2050. To reach this level of decarbonisation, we estimate that the share of renewable energy would need to increase from around 15% of primary energy supply in 2015 to 65% in 2050. Achieving this transformation is not simply a question of replacing fossil fuels with renewable energy sources. System design and operation must be moulded to accommodate the rise of renewables, rather than adapting new technologies to the existing system.

The additional investment for such a transition would require around 0.4% of global GDP in 2050. But this investment would more than pay off with 0.8% growth of global GDP in 2050 and 26 million employed in the sector. Countries increasingly recognise the opportunities that transformation of the current energy system can bring. IRENA’s annual renewable energy job reviews are a powerful tool for demonstrating this. The 2017 review shows that the renewable energy sector supported 9.8 million jobs globally. Solar PV is the largest employer with 3.1 million jobs worldwide, a 12% increase from the 2016 job review. Such positive messages are of vital importance as countries look for avenues to transform their energy systems.

Deployment of renewable energy will be key to the countries’ ability to ensure prosperity and inclusion, and to fulfil our common commitment to securing universal energy access. Cost-effective business models based on the modular nature of renewable energy are now meeting a range of economic and social needs in remote communities. Analysis has also shown that technological innovation and new business models will reduce the costs of producing electricity from renewable mini-grids by more than 60% in the next two decades. These are transformational developments that are changing the economic models and social patterns of the past.

These developments also place special importance on IRENA’s strategic role as an advisory resource for countries. As countries look to simultaneously meet different developmental and climate objectives, we continue to raise awareness of the possibilities that renewable energy offers to ensure that policy-makers and other stakeholders have the latest and most accurate knowledge for informed decision-making. We have worked with over 30 countries to advance the Renewable Readiness Assessment (RRA) process to support the development of enabling frameworks and we continue to refine the methodology to adapt to global developments and local circumstances. For instance, Tanzania’s RRA process was expanded to include an assessment of job creation potential, and the Assessment in the Philippines provided valuable insights into the mini-grid development. In the course of this biennium, we also piloted combined RRA and REmap methodology to simultaneously consider the current barriers as well as deployment potentials. The *Renewable Energy Outlook* for Thailand launched recently shows options for renewables power generation, thermal and bioenergy use, and transport development to reach its set target of 30% by 2037. But the report also shows how this target can be increased by additional 7% with more aggressive development plan. RRA/REMap work is being completed in Egypt as well and will soon be presented to the Egyptian government and Egypt’s president.

Our regional activities spread the globe, stimulating greater cross-border collaboration and promoting economies of scale. In the past two years, the work in Africa was expanded to the West, with the Clean Energy Corridor action agenda being approved by the ECOWAS Energy Ministers in 2016, and endorsed at the Heads of State Summit in June 2017. The South East Europe action agenda was outlined in the High-Level Communique released in January 2017, and followed by the Central Asia Ministerial Communique of June 2017 released during the EXPO in Astana, Kazakhstan. IRENA’s engagement with ASEAN was re-energised in the First Dialogue with the ASEAN Ministers in September 2017 in the Philippines, where we mapped out our long-term cooperation with a view to scaling-up renewables in the ASEAN region. In December, we had extensive and fruitful discussions with OLADE Ministers in Buenos Aires, Argentina. We continue to work closely with SIDS, with a special effort in 2017 to support Fiji presidency of COP23 as well as the AOSIS launch of the Island Renewable Energy Initiative, IREI. And yesterday, we released *Renewable Energy Prospects for the European Union* which identifies cost-effective renewable options, spanning all EU Member States and different sectors and technologies, that would allow countries to meet — and potentially exceed — the EU’s proposed 27% renewables target for 2030.

This direct engagement with countries and regions enables us to enrich our knowledge products and ensure that they remain policy-relevant and reflective of realities on the ground. In the course of this biennium, we released 70 briefs, working papers, analyses and reports. This body of work, buttressed by our global membership, gives us the authority and credibility to be a strong voice of renewables. Some of these knowledge products I have mentioned today have been extensively communicated in the course of the year, but many have less visibility, even though they still form an important piece of the knowledge puzzle. For instance, since 2011, we have released around 30 technology briefs. This short, timely and informative library is used internally as a source of information for analytical and advisory work, but also by different audiences - our brief on ocean technology was, for instance, “recommended reading” in one of the U.S. congressional hearings, and our biofuels brief was used by the European Parliament to illustrate this technology has progressed. Another recent example is IRENA’s report on *Decentralised Solutions for Agrifood Chain* which was used as a basis for one of the High-Level Roundtables on SDG2 - Zero Hunger - at COP23. These are just two examples of the reach of our work, and we have strengthened our communication and outreach efforts, so that each of our products have a similar story to tell.

This body of work, buttressed by our global membership, gives us the authority and credibility to be a strong voice of renewables. We have fulfilled this role in many settings worldwide. The renewable energy voice is heard in intergovernmental and multilateral institutions and initiatives such as the United Nations, G7, G20, and the Clean Energy Ministerial among others. We are also grateful to all our Members who have invited us to contribute to, and participate in different events, initiatives and projects. This engagement gives us a unique sense of the profound change that we are seeing underway globally. In this context, I am particularly pleased that, on the margins of the Assembly, we will be launching an initiative on geopolitics of energy transformation, to gain a better understanding of the implications of the changing dynamics.

Ladies and Gentlemen,

We are acutely aware that close collaboration with Members and engagement with a wide range of partners is vital to the success of IRENA’s mission. Here, strong engagement with the private sector actors is playing an indispensable role. We have increased our efforts to facilitate this engagement in many facets of our work and the private sector actors are regular participants in our workshops and conferences, and constant contributors to a range of programmatic activities such as costing, grids, finance, and project development among others. I am very pleased that, in the course of this biennium, IRENA’s Coalition for Action has grown in numbers and engagement [and I am also pleased that many of its members are participating in this Assembly]. Among other things, we undertook two successful communication campaigns in 2017 during the Berlin Energy Transition Dialogue and the Fiji-led COP 23 that took place in Bonn.

I mentioned in the beginning that over 90% of investment in renewables comes from the private sector. Many companies are opting for renewable energy as part of their corporate strategy and already some 120 major corporations have committed to 100% renewables as part of the RE100 initiative - we are on it as member of the board. Combined, this is electricity demand of over 150TWh/yr, driving the further deployment of renewables. With the support of the Coalition of Action and the World Business Council for Sustainable Development among others, we are working on a Global Reference Index for Corporate Sourcing of Renewable Energy to capture this information. This will be the first comprehensive global report on the subject to communicate the latest trends and give recognition to leading companies. We expect that work to trigger a greater engagement of the private sector actors and bring a better understanding of barriers to, and solution for corporate sourcing.

As we close the biennium, I would also like to reflect on the resources generously provided by our Members to allow us to fulfil the commitment we made two years ago in the Work Programme. I am also very pleased to inform you that 99% of the Agency’s core resources have been utilised or committed, making it the highest level of performance to date. I would also like to recognise generous contribution of voluntary resources we received in the course of the biennium from the European Commission, France, Germany, Italy, Japan, the Netherlands, Norway, the Republic of Korea, Sweden, the United Arab Emirates, and the Walloon Region of Belgium. They allowed us to go an extra-mile in fulfilling the mission entrusted to us by all of you.

Excellencies,

Ladies and Gentlemen,

Sometimes, in the course of history, decisive action by the international community sparks movements for change. The establishment of our Agency stands out as a shining example of the foresight of its Members. Its forward-looking mission and a positive agenda harness the power of modern markets and the potential of new technologies. It looks at today's energy problems and sees tomorrow's opportunities. It addresses today's energy shortages and shows the way to energy abundance.

A new energy system is emerging with renewables at its heart, and IRENA has to play its part in this global effort. We enter the next chapter with confidence that, with your support and active engagement, united behind IRENA’s mission, we are setting the stage for success.

Thank you very much.