IRENA
International Renewable Energy Agency

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INTERNATIONAL RENEWABLE ENERGY AGENCY
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Note of the Director-General
Renewable Energy and Jobs – Annual Review 2017

1. The macroeconomic, social and environmental benefits of renewables are increasingly relevant for countries exploring ways to stimulate growth while reducing the adverse impacts of climate change. The knowledge base on these topics, however, remains relatively limited and dispersed. IRENA has been undertaking analysis on renewable energy benefits since 2011 to bridge this knowledge gap. The Agency's work highlights the potential of renewables for economic growth, industrial development and job creation. IRENA has specifically developed a comprehensive and up-to-date knowledge base on employment in the sector that also supports informed policy-making (see suggested readings, below).

2. Through its Renewable Energy and Jobs – Annual Review series, IRENA provides a yearly analysis on the employment in the renewable energy sector. In its third edition, launched in 2016, IRENA estimated that nearly 8.1 million people were employed in the sector in 2015 (in addition to 1.3 million in large hydropower). The fourth edition of the Annual Review will be released to Members during the thirteenth meeting of the Council. The report will update IRENA's estimate for employment in the sector, as well as discuss key regional and global trends related to renewable energy jobs by country and by technology. It will explore the underlying aspects that drive job creation in the sector such as policy mechanisms, improvements in labour productivity and geographical shifts in industries. For the second year running, the report will include a thematic section on *Women in Renewable Energy Jobs* that draws on the findings of the *Women in Clean Energy Survey* jointly organised by IRENA with the Clean Energy Business Council (CEBC) and Bloomberg New Energy Finance (BNEF).

3. The preliminary findings of the Annual Review indicate that jobs in the renewable energy sector continue to grow and that employment is characterised by several key factors:

- Enabling policy frameworks remain a key driver for employment, as illustrated by the increasing deployment due to solar PV Feed-in Tariffs in China, the solar PV auctions in India and the wind Production Tax Credits in the United States.
- Greater deployment, mostly in Asia and the United States, and sluggish markets in Europe, continue to drive regional shifts in job creation, particularly in solar PV.
- Annual growth in renewable energy jobs has been slower than in previous years due to increasing labour productivity, mechanisation and more efficient and mature renewable energy value chains.
- As countries pursue greater integration of renewable energy in the national energy mix, skill gaps are limiting growth in certain markets. Effective scale up of renewables requires early anticipation of skills demand, and concerted efforts for capacity building at both individual and institutional levels.

- Mainstreaming gender in the renewable energy sector can help address the skill shortages in the industry. National level studies seem to suggest that the share of women in the clean energy workforce is higher than their share in the broader energy sector, but lower than their share in the economy. This year, IRENA's joint survey with BNEF and CEBC will highlight some of the actions the renewable energy industry can take to draw from a more diverse talent pool that includes women.

4. The growth of renewable energy over the past decade has already led to significant job creation in the sector. Looking forward, IRENA's latest report "*Perspectives for the energy transition – investment needs for a low-carbon energy system*" estimates that the renewable energy workforce, can rise from just 9.4 million in 2015 to more than 24 million in 2030 and 26 million in 2050 following an accelerated ramp up in deployment of renewables in line with global climate imperatives. For these benefits to materialize, government leaders will need to create enabling policy frameworks that attract developers and encourage investments in all segments of the renewable energy value chain.

Questions for discussion

- How important is employment creation a consideration when planning for greater renewable energy deployment?
- Given Member States' experience, which policies and measures have been most effective in creating renewable energy jobs?
- Which technologies and segments of the value chain (*e.g.* manufacturing, installations, operations and maintenance) have offered greater opportunities for job creation in Member States?
- Is the lack of skills considered an important issue in up-scaling renewables? How do Member States anticipate meeting education and training requirements for the renewable energy sector?

Suggested IRENA publications:

Perspectives for the energy transition – investment needs for a low-carbon energy system (2017)
Renewable Energy Benefits: Measuring the Economics (2016)
Renewable Energy and Jobs – Annual Review (2016)
Renewable Energy and Jobs – Annual Review (2015)
Renewable Energy and Jobs – Annual Review (2014)
The Socio-economic Benefits of Solar and Wind Energy (2014)
Renewable Energy and Jobs (2013)
Renewable Energy Jobs & Access (2012)
Renewable Energy Jobs & Access - Case studies (2012)
Renewable Energy Jobs: Status, Prospects & Policies (2012)