

INTERNATIONAL RENEWABLE ENERGY AGENCY

Tenth meeting of the Council

Abu Dhabi, 23 – 24 November 2015

Note of the Director-General

**Renewable energy statistics:
Support to monitoring progress towards national and international
development goals**

1. Renewable energy statistics support the energy transition by showing how renewables contribute to energy supply and energy security and reduce the environmental impacts of energy production. Other data also show how renewables contribute to economic development by creating income and employment and providing energy services to those most in need. In general, good renewable energy data help to demonstrate progress and increase the credibility of the sector for investors, policy makers and the general public.

2. IRENA has developed databases on a number of topics, including: capacity, production, trade and consumption; costs and investment flows; income and employment; policies and measures; and patents and standards. This data provide a foundation for many IRENA outputs, such as market analyses, renewable energy roadmaps, and technical guidelines. Countries have been increasingly requesting assistance in improving the quality of their renewable energy data as part of their Renewables Readiness Assessments (RRAs). At a broader level, IRENA's renewable energy data are also used to increase awareness of the benefits and potential of the sector and to support the provision of advice on policies, planning and investment.

I. The collection of renewable energy statistics at IRENA

3. One part of IRENA's data collection effort is the systematic collection of statistics for capacity, production, trade and consumption of renewable energy. This is done using an electronic questionnaire sent to countries annually, asking for their latest statistics about capacity, electricity and heat production, off grid-capacities and energy balance. The questionnaire asks for detailed information only about renewable energy and it is the only request for data that is sent to countries every year. This systematic approach to collecting renewable energy statistics was approved in the 2013 as well as in subsequent work programmes. Countries have been invited to nominate a statistical focal point to complete and return the questionnaire and 78 have done so to date.

4. IRENA has started its third data collection cycle. In previous cycles, the number of countries providing data has increased from 41 in 2013-2014 to 73 in 2014-2015. For data collection, IRENA actively collaborates and coordinates with other international organisations to avoid duplication and minimise the reporting burden on countries. For example, most International Energy Agency (IEA) members simply send the relevant tables from their IEA questionnaires to IRENA along with the

more detailed renewable energy data that is requested in a few places. A similar process is also being developed for countries that are members of other regional organisations, e.g. the Latin American Energy Organization (OLADE), the Asia-Pacific Economic Cooperation (APEC) and the Southern African Development Community (SADC). IRENA also shares the data it collects with other agencies, where there is better coverage of countries or particular technologies.

5. The data collection process benefits from the goodwill and willingness of individuals and institutions of IRENA Members to complete and return the IRENA statistics questionnaire. However, it has not yet been possible to establish reliable channels of communication with all IRENA Members, which would be instrumental in receiving national renewable energy data. To get a complete picture of global and regional trends, IRENA supplements the data received from countries with secondary data collected from other sources. The collection of secondary data, however, can make the compilation of statistics more time-intensive and can potentially lead to higher error rates.

6. The nomination of statistical focal points by all IRENA Members would considerably improve the timely production of renewable energy statistics, particularly as the database is expanding beyond capacity statistics to include production, consumption and energy balance data. Statistical focal points could also be instrumental in defining and targeting future capacity building activities in this area. Members are encouraged to nominate statistical focal points and engage in the process of data collection and validation.

II. Statistical products

7. The main statistical products delivered so far by IRENA include country profiles, the statistics database available on the REsource platform, and printed compilations of statistics. The IRENA country profiles were first produced for 165 countries and areas in 2013, and they present statistics and qualitative information drawn from the IEA-IRENA Policies and Measures Database. The profiles have been downloaded over 140,000 times since 2013 and have been widely quoted.

8. The statistics database was first launched in January 2015 and was updated in June 2015. It presents statistics for renewable electricity generating capacity by technology and for all countries and areas in the period 2000-2014. There are currently approximately 6,000 monthly visitors to the database. A printed compilation of these statistics in three languages (English, French and Spanish) was also released in June, and a more comprehensive collection of renewable energy statistics is currently being prepared.

9. IRENA's statistical products are continuously improving in terms of the coverage and detail, and they are the only freely-accessible source of renewable energy data that covers every country and all renewable technologies in great detail. These statistics are also now being used more often as a source of data for analyses both within and outside the Agency. However, the widespread use of secondary data - even if from official sources - can potentially detract from the credibility of these statistics for the countries where there has not been a process of formal data collection and validation.

III. IRENA statistical capacity building activities

10. Almost all countries in Europe and North America send renewable energy statistics to IRENA, the quality and validity of the database for this part of the world is therefore high. Most other countries that share statistics are in South and East Asia and South America. The availability of renewable energy statistics from other regions is generally weaker. A lack of capacity in renewable energy statistics sometimes accounts for these weaknesses, and many countries have indicated this in activities such as

RRAs. IRENA has responded to some of these needs by providing assistance through workshops, presentations and ongoing communications.

11. In the current biennium, IRENA's statistical capacity building activities are focused on the production of manuals or guidelines, such as the renewable energy definitions and terminology that has been produced and the bioenergy manual that is being prepared. In light of the experiences gained from data collection over the last three years, it is proposed in the next work programme to shift capacity building activities towards providing training in the countries and regions where data is currently weak. This will be implemented in collaboration with sub-regional and international organisations, some of which have already made concrete proposals for joint activities, e.g. IEA, the Food and Agriculture Organization (FAO), APEC, SADC, the Secretariat of the Pacific Community (SPC) and the United Nations Economic Commission for Africa (UNECA).

IV. Monitoring progress towards international development objectives

12. An increased use of renewable energy has been mentioned as part of countries' efforts to combat climate change and make progress towards broader sustainable development goals. Renewable energy appears as a specific sector of interest in many Intended Nationally Determined Contributions (INDCs) submitted for the process of negotiating a new global climate agreement. It is also mentioned specifically in the 2030 Agenda for Sustainable Development, where a new Sustainable Development Goal for energy (SDG 7) is presented with the following targets to achieve by 2030:

- 7.1 Ensure universal access to affordable, reliable and modern energy services.
- 7.2 Increase substantially the share of renewable energy in the global energy mix.
- 7.3 Double the global rate of improvement in energy efficiency.
- 7.a Enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.
- 7.b Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.

13. The 2030 Agenda also notes that national statistical offices in developing countries may need capacity building to improve monitoring of these targets, particularly in African countries, Least Developed Countries, Small Island Developing States and landlocked developing countries.

14. IRENA is participating in the discussions and development of the indicators for SDG 7, which will be finalised and submitted to the United Nations Statistics Commission in March 2016. In collaboration with other agencies working on SDG 7 (e.g. UN-Energy, SE4All, World Bank and IEA), IRENA also stands ready to assist countries with the collection and compilation of all renewable energy data necessary to report progress on any of the above targets (or for any commitments made under INDCs) with a likely focus on those countries and regions mentioned above.

V. Developing renewable energy statistics for the future

15. Experience has shown that at least some official renewable energy statistics exist in many countries, from sources such as national electricity companies, regulators and research agencies. However, it has at times been challenging for IRENA to validate this information and compile a global database of renewable energy statistics that are comparable between countries and meet international standards. In future, any weaknesses in statistical capacity in countries may also limit their ability to report reliably on progress towards the SDGs and present credible requests for assistance with their implementation. IRENA is seeking a stronger engagement with countries to assist with improving the quality and availability of their renewable energy statistics and the timely transmission of such data to the Agency.

Guiding questions

16. The session will focus on the following guiding questions:

- Would countries support a more concerted effort to provide renewable energy statistics, by agreeing to nominate statistical focal points to more effectively engage with IRENA (if they have not already done so)?
- What guidance could countries provide regarding the development of national capacities to collect better renewable energy statistics, particularly in terms of priorities and sources of support for such activities?
- Taking note of the targets for SDG 7 (on energy), how can IRENA provide the most effective support at the national and international level to the collection and compilation of renewable energy statistics in support of monitoring these targets?