



## **IRENA's Road Mapping Activities**

### **Introduction**

The International Renewable Energy Agency (IRENA) is an intergovernmental organisation dedicated to renewable energy. In accordance with its Statute, IRENA's objective is to "promote the widespread and increased adoption and the sustainable use of all forms of renewable energy". This concerns all forms of energy produced from renewable sources in a sustainable manner, which include bioenergy, geothermal energy, hydropower, ocean, solar, and wind energy. As of July 2012, the membership of IRENA comprises 159 States and the European Union (EU), out of which 101 States and the EU have ratified the Statute.

### **IRENA's road mapping activities**

The aim of IRENA's road mapping activities is to assist governments in energy planning for more efficient and effective renewable energy technology innovation and energy technology deployment strategies. The road mapping exercise identifies prospects, technological barriers, financing, development and policy needs for the deployment of renewables within a given context between 2012 and 2050. The outcome of IRENA's roadmaps is the development of a list of activities and associated indicators to accelerate the sustainable deployment of renewables.

The road map activities can be grouped in three categories: 1) in-depth background analyses on the different regional and topical issues, 2) stakeholder engagement, and 3) dissemination and implementation. The background analysis reports provide a brief overview of existing literature, a quantitative analysis of a potential pathway towards increasing the deployment of renewables within the given sector, country or region, and a description of the technology road mapping activities and outcomes. This document forms the basis for stakeholder workshops.

The stakeholder workshops allow for engagement with a broad range of different stakeholders, and their objective is to identify and prioritise action items to accelerate the deployment of renewables. Furthermore, the stakeholders are asked to develop indicators to monitor progress regarding the different action items. Typically, around three workshops are organised per road map whereby each workshop discusses a different regional or topical issue. Each workshop consists of a group of 10 to 50 representatives from industry, government, consultancy, equipment suppliers, academics, NGO's, finance institutions and other international organisations which are invited to discuss the future opportunities for renewable energy within the given context. Based on input from these stakeholder workshops, a workshop output report is drafted. These workshop output reports, together with the background analysis, form the basis for the technology roadmap. The workshop output reports and the technology roadmap are sent back to the involved stakeholders, as well as a wider audience for feedback and additional comments.

The final step of the technology road map is a wider dissemination of the publication, and a broader discussion with policy makers and member states on how the action items within the technology



roadmap can be implemented and materialized. Road maps are typically updated every couple of years to evaluate progress made, and adjust priority areas according to any external changes.

The roadmaps are developed by IRENA's Innovation and Technology Centre, but they complement and are supported by activities that are undertaken by the other programmes within IRENA. For example, IRENA's technology briefs and regional strategies and scenarios provide technical input for the road maps, and IRENA's Renewable Readiness Assessments assess the extent to which institutional systems are in place to put some of the road map activities into practice.

Given the road mapping activities of other organisations, IRENA's takes care that its road mapping activities create added value. IRENA's road mapping activities have a number of unique features:

- IRENA's membership has almost global coverage, which means that our global technology road maps consider a wide range of regional issues that impact the deployment of renewables. As such, IRENA's road maps have also increased involvement of developing countries.
- IRENA's road maps take a systemic approach, and consider how different renewable energy technologies interact within a given context. So far, IRENA is developing a number of road maps with a sectoral focus (manufacturing, cities, and grids and storage), which allows an investigation of the interaction between different renewable energy technologies, and how each technology can either reinforce or restrict the deployment of other renewable energy technologies.
- IRENA's road maps focus on areas where more information is required. For example, IRENA has two road maps that are focusing on the deployment of renewable energy in end-use sectors (manufacturing and cities), as these sectors have a high potential but limited information is available on how renewables deployment can be accelerated in these sectors.
- IRENA's road maps are based on active government engagements, and allow for the transfer of lessons, best practices and an understanding of each other's concerns and barriers across different countries, regions, and sectors.

### **IRENA's road maps overview**

Up to July 2012, IRENA is developing or involved in the following road maps:

- Energy road maps for the islands of Tonga and Nauru;
- Sectoral road map on renewables deployment in the manufacturing sector;
- Sectoral road map on renewables deployment in cities;
- Sectoral road map on renewables, smart grids, and storage;
- Global road map on doubling the share of renewables in the context of United Nations Secretary-General initiative on Sustainable Energy for All.



## **IRENA's experiences and lessons learned**

Since the start of IRENA's technology road map activities, a number of lessons are learned:

- Active engagement of stakeholders in the workshop is key in creating buy-in for the action points;
- Active country engagements of a wide geographical scope are of importance for global road maps on renewable energy issues, because many opportunities and barriers are determined by local conditions that need to be taken into consideration;
- A road map cannot be developed in isolation, but needs to be supported by a range of other activities within the organisation in order to provide input into the analysis, the stakeholder engagements, and the eventual implementation of the recommendations of the technology road map.