What should IRENA do in renewable energy technology cooperation?

This internal policy brief explores the potential role of IRENA in enabling international renewable energy technology cooperation based on a mapping and good practices study conducted in 2011 and 2012. International technology co-operation can involve R&D in researcher exchanges or collaborative R&D, it can be directed at demonstration of new technology in co-operation with private sector actors, or it can be in the field of policy, capacity development and public awareness.

What is already happening?

In 2011, IRENA conducted a survey among its members about renewable energy technology cooperation activities, as well as technology centres working in the field of renewable energy. IRENA also conducted a literature review, and, in collaboration with the National Renewable Energy Laboratory in the United States, held a workshop to review a number of collaborations. Good practices were investigated in a number of detailed case studies. The results are reported in a draft working paper[1].

The resulting mapping does not give a complete picture, but tells a story of much activity in some regions, countries, technologies and types of activities, and large gaps in others. It also indicates that the relevance of continuity in capabilities in different contexts is sometimes overlooked, and that coordination is largely absent. It seems that collaboration on policy, public awareness and training is much more common than on research, development and demonstration and on deployment of renewables.

Many programmes combine different types of activities in a single programme. Such a systemic approach is considered a good practice, as the different elements in the cooperation can reinforce each other; a capacity building activity can for instance enable the improved running of a deployment programme. Cooperation also works best when the reasons to collaborate of all partners are aligned, all have a deeply felt interest in the cooperation and the activities are conducted in the framework of a long-standing relation. Developed and developing partners should work on an equal footing. Although funding agencies are recommended to think well about a medium- to long-term exit strategy, they should stop when the results are achieved rather than when a project deadline has been reached, balancing accountability with flexibility.

Technology centres in many ways form the “condensation points” of any technology development, diffusion or transfer activities in developed and developing countries. Their function as places of education, R&D, capability development, information collection and analysis, and discussion of results is critical. In developing countries with low current capabilities in renewable energy, existing centres need to be enhanced to allow for even the most basic of capabilities required to operate, maintain and regulate renewable energy.

What are remaining needs in renewable energy technology cooperation?

Although much technology cooperation is taking place, by far not all needs are fulfilled. In many developing countries, technology centres are weakly developed and have poor links to government and the private sector; finance as well as industry. This hinders the maturing of a renewable energy

[1] Good practices for renewable energy technology cooperation: An investigation into country experiences. Draft IRENA working paper, May 2012.

innovation system where government, research and industry reinforce each other's work towards greater renewable energy diffusion and transfer. A well-networked, competent technology centre can enable that a renewable energy technology cooperation activity is better embedded in national policy priorities.

Especially in developing countries, data on renewable energy potentials and information on renewable energy technology in local languages are often not publicly available or non-existent. It happens that partners are not aware of good practices in renewable energy technology cooperation; there is a need to share information on what have been success factors in programmes. Lastly, there is no central location where an overview of technology collaborations and centres is kept. Although some redundancy in technology cooperation is not necessarily a bad thing, it is inefficient if similar activities are undertaken in the same region, when it unknowingly results in overlap, unproductive competition and lack of peer learning.

What could be activities that IRENA could undertake?

As an international organisation with membership from many countries in the world and an objective to promote technology cooperation in the field of renewables, IRENA is well-placed to either fill some of the needs itself, or catalyse further activities in them. It should be noted upfront that several international organisations and multilateral banks are already conducting such activities. IRENA should therefore coordinate explicitly with those already working on the matter. Below is a summary of activities that IRENA could undertake.

IRENA as a facilitator of technology cooperation to meet un-met needs: Stimulate RD&D cooperation, provide tools and training material for managing RE projects, help countries find funding.

IRENA as a promoter of strategic approaches in cooperative activities: Encourage continuity of activities, cooperation with private sector, good practices and regional cooperation.

IRENA as a coordinator and knowledge hub in renewable energy technology: Data repository, go-to place for independent information, effective dissemination, keep inventory of existing cooperation and centres.

IRENA as institutional support and provider of policy advice: Promote policy dialogue and learning, help countries establish centres and generate local innovation capacity.