

# Levelised Costs of Renewable Energy: What if costs continue to drop?

*Recent developments and policy implications up to 2015*

**Invitation only workshop jointly organised by IRENA and IEA-RETD**  
**Friday 26 October 2012, Robert-Schuman-Platz 3, Bonn (BMU building), GERMANY**

**Background, scope and objectives:** Over the last few years the cost of Renewable Energy Technologies has dropped significantly while volumes of RET deployment are increasing. At the same time the impact on the electricity systems to integrate larger shares of renewables has become more transparent. These developments are reflected in studies and research conducted by IRENA, IEA-RETD among others.

If prices continue to drop and volumes continue to increase, it is of up most importance to have a look at the impact on the immediate consequences for policy makers and other stakeholders. What do these developments ask from policy makers and others today and in 5 years? What should actors do today to prepare for the potential of additional costs reductions and increased volumes up to 2015?

With this in mind, IRENA and IEA-RETD aim to bring together industry, scientists and policy makers to discuss the recent developments in generation costs of energy.

The workshop aims to:

- (1) Give an update on latest research by providing accurate information on RET and non-RET costs (including system integration costs) while offering a platform to critically challenge this information,
- (2) Raise awareness and address potential misperceptions of renewable energy development by facilitating the dialogue on the consequences for policy makers and other stakeholders (utilities, TDOs, investors, financiers) up to 2015, and
- (3) Prioritize actions needed in the next 3-5 years which further anticipate future developments and avoid situations that are difficult to control and that could lead to inefficiencies.

**Target group:** Industry, scientists and policy makers

**Output:** Workshop proceedings consisting of executive summary of discussion (4-5 pages), Chatham house rules apply

**Format:** 15-20 min. presentations, followed by 5 min. Q&A; then several 5 min. interventions and subsequent discussion

**Date:** Friday, 26 October 2012, 9.00 – 17.15 hrs

**Location:** Room 1-150, IRENA Innovation and Technology Centre, Robert-Schumann-Platz 3, D - 53175 Bonn, Germany

**Access & Hotels:** Please see the 'Information and logistics package'.

**For further information and registration please contact:**

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## AGENDA

IRENA IEA-RETD Workshop on Levelised Costs of Energy Friday October 26th 2012, Bonn	
08.30	<b>Registration</b> Coffee and tea
09.00	<b>Opening by the workshop moderator</b> Matthew Kennedy, Co-chair IEA-RETD Sustainable Energy Authority of Ireland
09.10	<b>Introduction to the workshop, objectives and outlook</b> Dolf Gielen, Director IRENA Innovation and Technology Centre (IITC) Hans Jörgen Koch, Chair IEA-RETD and Deputy State Secretary, Danish Energy Agency
09.20	<b>Short introduction round</b>
	<b>Session 1 – Levelised costs of energy: presentation of recent IRENA and IEA-RETD work</b> How far have RET costs come down compared to non-RET? What can be expected in the next 5 years?
09.30	<b>Cost status and determining factors for renewable power generation</b> Michael Taylor, IRENA
09.50	<b>IEA-RETD Study on Cost and Business Case Comparisons of Renewable versus Non-Renewable technologies</b> Methodology and interim results of the comparison of business cases between RE and non-RE technologies in selected countries Mercedes Mostajo, PRYSMA S.A. (on behalf of IEA-RETD)
10.10	<b>Discussion / interventions</b> The discussion will focus on the following topics: <ul style="list-style-type: none"> <li>• Experts: What are your responses to the presented figures and conclusions, where do you agree, where do you disagree?</li> <li>• Policy makers/financers: In case costs drop down like presented, what would that mean for your decision making?</li> </ul> Interveners: <ul style="list-style-type: none"> <li>• Athanasia Arapogianni, EWEA</li> <li>• Marco Baroni, IEA</li> <li>• Christoph Kost, Fraunhofer</li> <li>• Marietta Sander, International Geothermal Association</li> </ul>
11.00	<b>Coffee and tea break</b>
	<b>Session 2 – System integration costs</b> What are the technical and cost impacts on the electricity system due to the integration of increased shares of renewables? How significant are those costs and can they become potential show stoppers for RE deployment?
11.30	<b>System integration costs - External costs of system integration for variable RE, comparing options on equal power quality</b> Carsten Hoyer-Klick, German Aerospace Centre, Institute of Technical Thermodynamics

11.45	<b>The need for storage and backup capacity - The value of renewable balancing power and storage</b> Renée Heller, Ecofys Netherlands BV
12.00	<b>The TSO/DSO perspective</b> Anders Bavnthøj Hansen, Energinet DK
12.15	<b>Discussion / Interventions</b> Interveners <ul style="list-style-type: none"> <li>• Matthias Herrmann, E.ON</li> <li>• Jami Hossain, World Wind Energy Association/WinDForce Management Services Private Ltd</li> <li>• Simon Müller, IEA</li> </ul>
13.00	<b>Lunch</b>
	<b>Session 3 – Electric vehicle prospects for accelerated deployment of renewables</b> Is it timely or too early to think about the integration of electrical transport with the electricity system? Will there be enough electric vehicles in the next years to make a difference? What are the cost effects?
14.00	<b>Introduction on recent IRENA work</b> Michael Taylor, IRENA
14.10	<b>IEA-RETD Project RETRANS – The co-evolution of the electricity and transport sector</b> Thomas Dederichs, Bundesnetzagentur (on behalf of IEA-RETD)
14.25	<b>Transportation work</b> Carsten Hoyer-Klick, German Aerospace Centre, Institute of Technical Thermodynamics
14.40	<b>Status of EV and battery development</b> Francisco Carranza, Nissan Europe
14.55	<b>Discussion / Interventions</b> <ul style="list-style-type: none"> <li>• Konrad Pütz, Transnova</li> <li>• Andreas Zucker, European Commission, JRC Institute for Energy and Transport</li> </ul>
15.45	<b>Coffee and tea break</b>
16.00	<b>Session 4 - Consequences for policy makers and other stakeholders</b> Which conclusions can be drawn from the cost discussions? Are stakeholders aware of the developments? What should be done now to prepare for the situation in 3-5 years? Interveners: <ul style="list-style-type: none"> <li>• Dolf Gielen, IRENA</li> <li>• Hans Jörgen Koch, Chair IEA-RETD and Deputy State Secretary, Danish Energy Agency</li> <li>• Martin Schöpe, BMU</li> <li>• Maria Sicilia, Ministry of Industry, Energy and Tourism, Government of Spain</li> </ul>
16.45	<b>Summary, conclusions and next steps</b> Matthew Kennedy as Moderator Dolf Gielen, IRENA Hans-Jörgen Koch, Chair IEA-RETD and Deputy State Secretary, Danish Energy Agency

17.15	<b>Closure</b>
	<b>Drinks</b>

#### **IRENA**

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 and includes bioenergy, geothermal energy, hydropower, ocean, solar and wind energy.

As of May 2012, the membership of IRENA comprised 158 States and the European Union (EU), out of which 94 States. For further information please visit: [www.irena.org](http://www.irena.org)

#### **IEA-RETD**

RETD stands for "Renewable Energy Technology Deployment". RETD is a policy-focused, technology cross-cutting platform that brings together the experience and best practices of some of the world's leading countries in renewable energy with the expertise of renowned consulting firms and academia.

The mission of RETD is to accelerate the large-scale deployment of renewable energies. It is currently comprised of nine countries: Canada, Denmark, France, Germany, Ireland, Japan, the Netherlands, Norway, and the United Kingdom. Hans Jørgen Koch, Deputy State Secretary, Ministry of Climate and Energy, Danish Energy Agency, serves as Chair of the RETD.

The RETD Implementing Agreement is one of a number of Implementing Agreements on renewable energy under the framework of the International Energy Agency (IEA). The creation of the RETD Implementing Agreement was announced at the International Renewable Energy Conference in Bonn, 2004. For further information please visit: [www.iea-rettd.org](http://www.iea-rettd.org).