

Southern Africa Region Workshop for Energy Experts on:
'Application of the renewable energy to rural electrification in Africa'.

Cape Town, Republic of South Africa, 20 to 24 February 2012



www.euei.net

“European Union Energy Initiative for Poverty Eradication and Sustainable Development (EUEI)”.

EUEI is a joint commitment by the European Union Member States and the European Commission.

The European Union launched EUEI in September 2002 at the Johannesburg World Summit on Sustainable Development (WSSD).

“The goal of the EUEI is to contribute to providing the access to energy necessary for the achievement of the Millennium Development Goals, particularly, but not exclusively, that of halving the number of people in extreme poverty by the year 2015. It is also part of the EU response to achieve universal access by 2030 in the context of the Sustainable Energy for All initiative”.



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**Scientific and Technical Support to Sustainable Energy Development in
Africa: Rural Electrification, Renewable Energy and Communication
RENAF project**

Scientific and Technical Support to Sustainable Energy Development in Africa: Rural Electrification, Renewable Energy and Communication RENAF project

ACTIVITY 1

Rural electrification projects
assessment by consolidated
technical and socio-economic
base developing

ACTIVITY 3

Provide an improved channel
of communication for the
results and activities of the
EUEI

ACTIVITY 2

AFRETEP platform

**Scientific and Technical Support
in Africa: Rural Electrification,
RE**

AFRETEP tasks

Building a network of African research centres, universities, NGO, companies and other organizations.

ACTIVITY 2

AFRETEP platform

MAIN GOAL

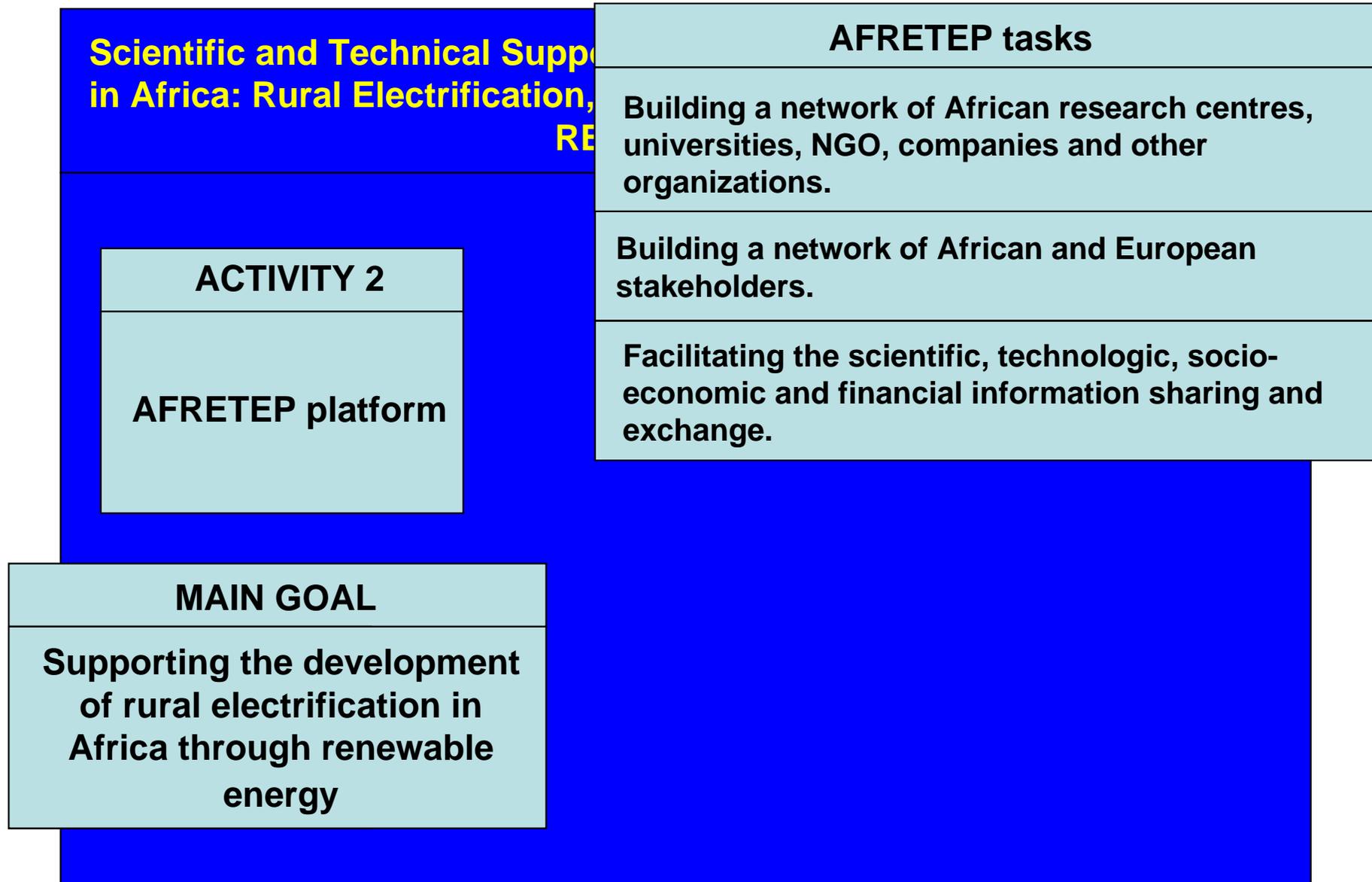
Supporting the development
of rural electrification in
Africa through renewable
energy

PARTNERS

1	Centre d'Etudes et de Recherches sur les Energies Renouvelables (CERER)	Senegal
2	Centre for Renewable Energy and Energy Efficiency (ECREEE)	Cape Verde
3	University of Dar es Salaam, College of Engineering and Technology	Tanzania
4	Ecole Nationale Supérieure Polytechnique (ENSP)	Cameroon
5	University of Botswana, Centre of Study in Renewable and Sustainable Energy	Botswana
6	Ecole Doctorale Sciences et Technologies de l'Eau, l'Energie et l'Environnement	Burkina Faso
7	Makerere University, Centre for Research in Energy and Energy Conservation (CREEC)	Uganda
8	Kwame Nkrumah University of Science & Technology, Technology Consultancy Centre	Ghana
9	Ministry of Mines, Centre for Research and Development	Ethiopia
10	Community Research and Development Center (CRDC)	Nigeria
11	National Institute of Meteorology, Solar Radiation Centre	Mozambique
12	Polytechnic of Namibia, Renewable Energy & Energy Efficiency Institute	Namibia

INCOMING PARTNERS

1	Stellenbosch University, Centre for Renewable and Sustainable Energy Studies	South Africa
2	Ministry of Energy and Mines, Department of Energy for planning and promotion of Renewable Energy	Burundi
3	Agence de Développement de l'Electrification Rurale (ADER)	Madagascar
4	Rural Electrification Authority	Zambia
5	Ministério dos Recursos Naturais Energia e Ambiente	São Tomé e Príncipe
6	Seychelles Energy Commission	Seychelles
7	Kigali Institute of Sciences and Technology (KIST)	Rwanda
8	Université de Dschang, Laboratoire d'Ingénierie des systèmes Industriels et Environnement	Cameroon
9	Ministry of Scientific Research and Innovation (MINRESI), Non Conventional Energies Section (SENC)	Cameroon
10	SONELGAZ, Centre de Recherche et de Développement de l'Electricité et du Gaz (CREDEG)	Algeria
11	Ministry of Energy	Mozambique
12	UNIVERSITE DE LOME, Faculté Des Sciences	Togo
13	Agence Sénégalaise d'Électrification Rurale, Faculté Des Sciences	Senegal
14	Energy Research Centre of the University of Cape Town	South Africa





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African Renewable Energy Technology Platform, AFRETEP



The African Renewable Energy Technology Platform (AFRETEP) aims at building a network of African research institutions dealing with renewable energy.

OBJECTIVES AND ACTIVITIES

The AFRETEP is one of the activities foreseen within the project "Scientific and Technical Support to Sustainable Energy Development in Africa: Rural Electrification, Renewable Energy and Communication". It is a three years project funded by the European Commission. The overall objective of this project is to contribute to understand the potential for renewable energy options in Africa for increased access to electrification in rural areas.

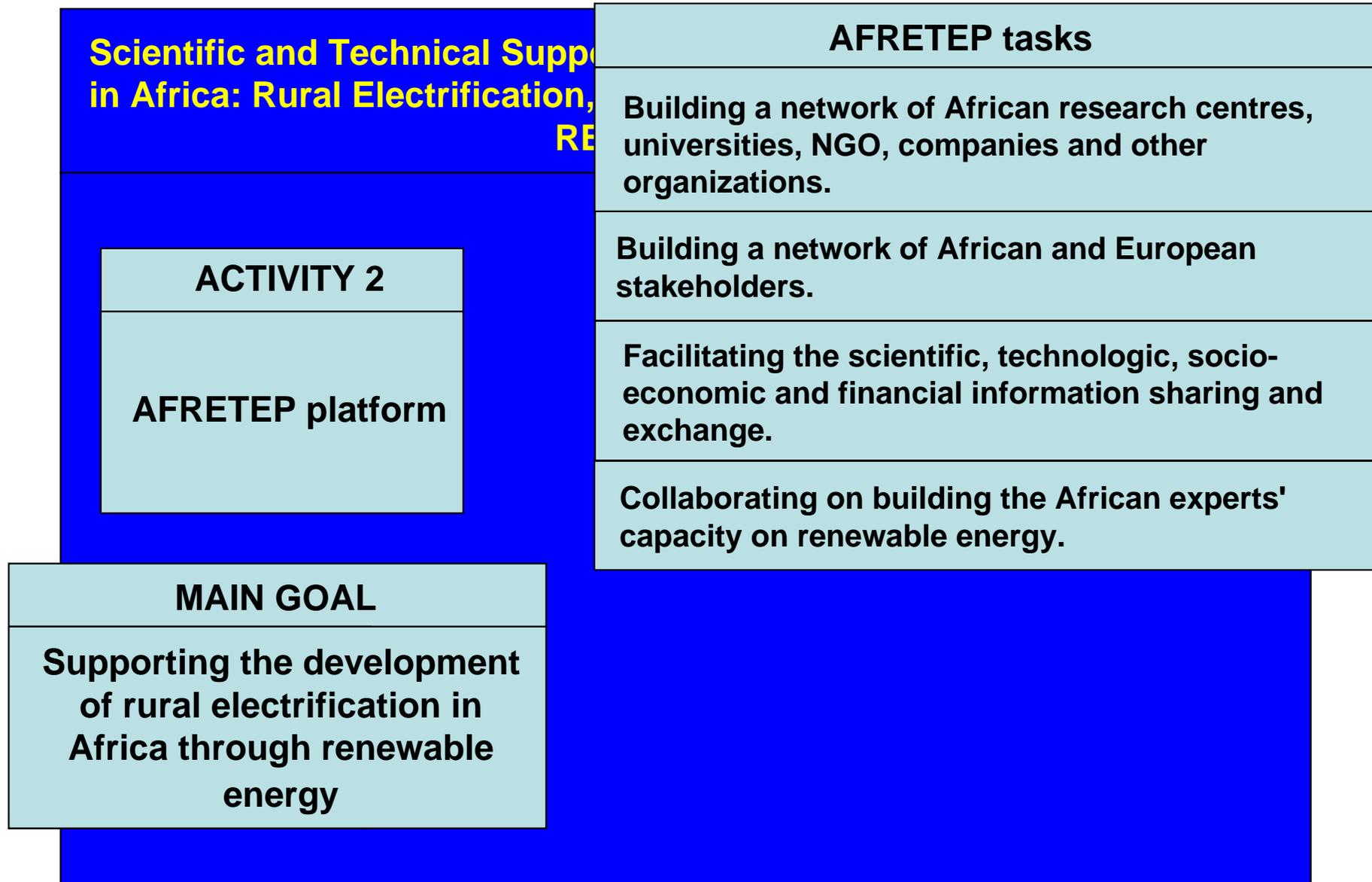
WG Navigation

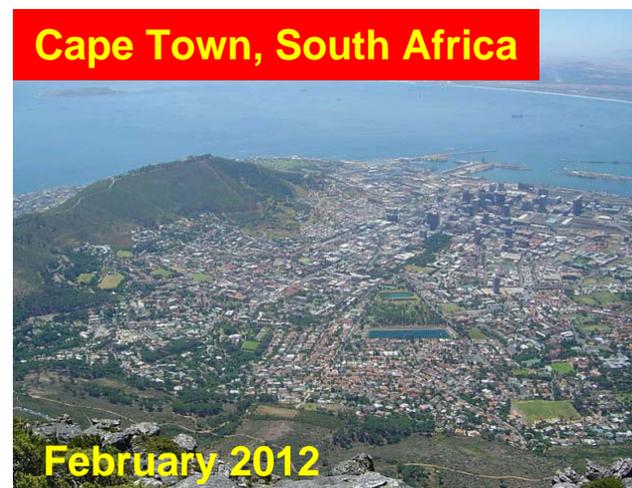
- ▶ [WG Documents](#)
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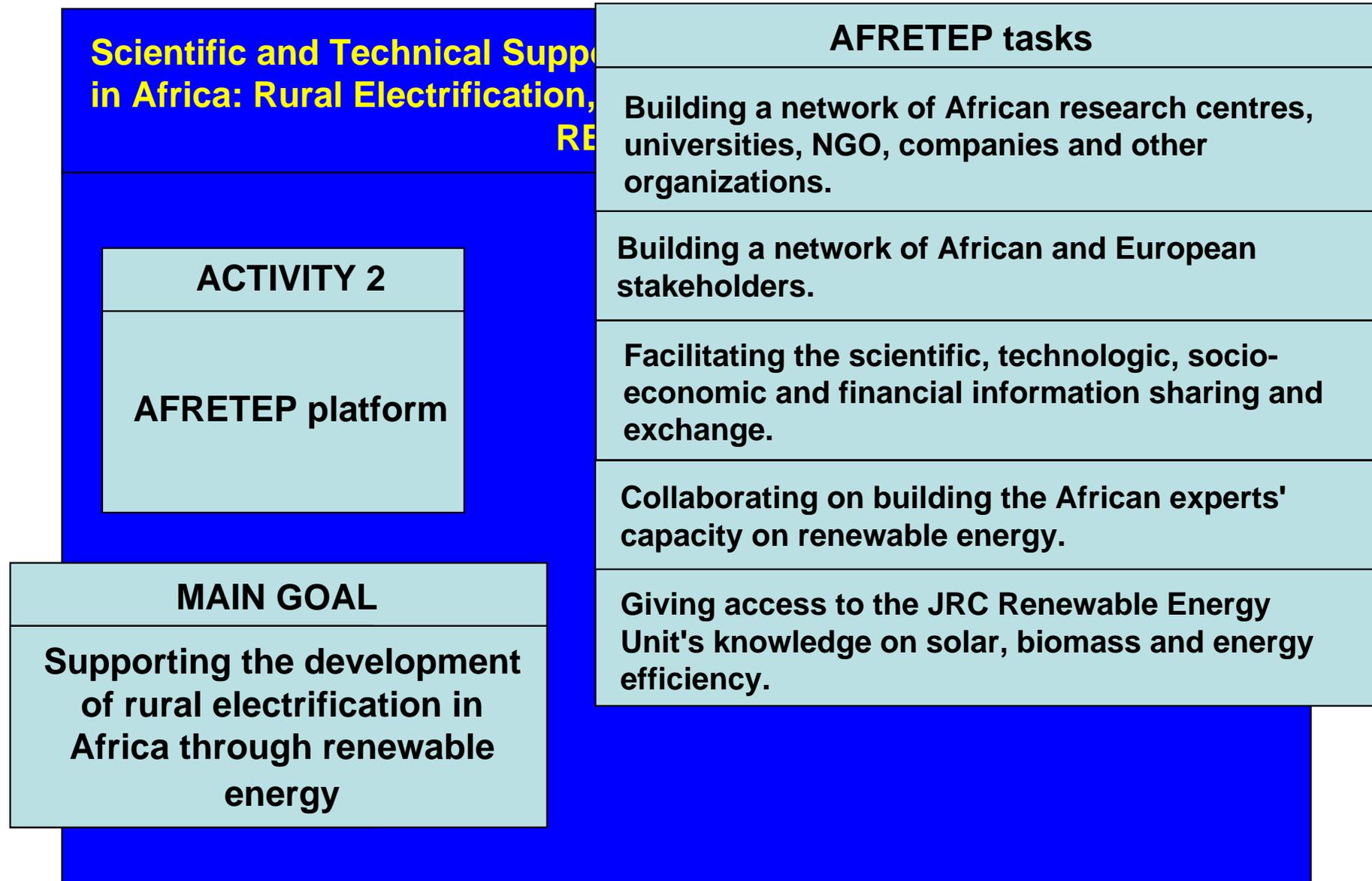
Working group pages

- ▶ [Map and Data Sources](#)
- ▶ [PVGIS - Photovoltaic Geographical Information System](#)
- ▶ [Processed GIS data](#)

Actions





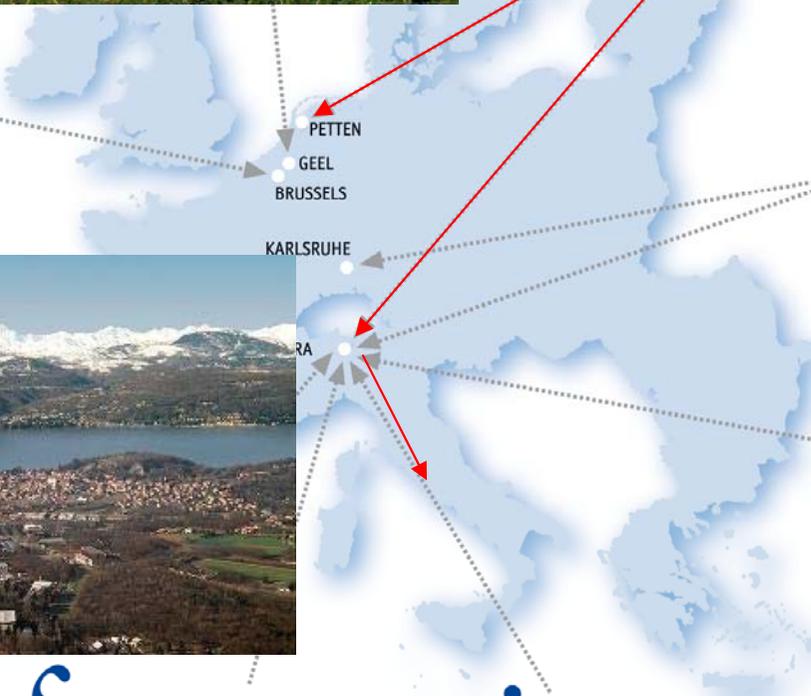


EUROPEAN COMMISSION JOINT RESEARCH CENTER

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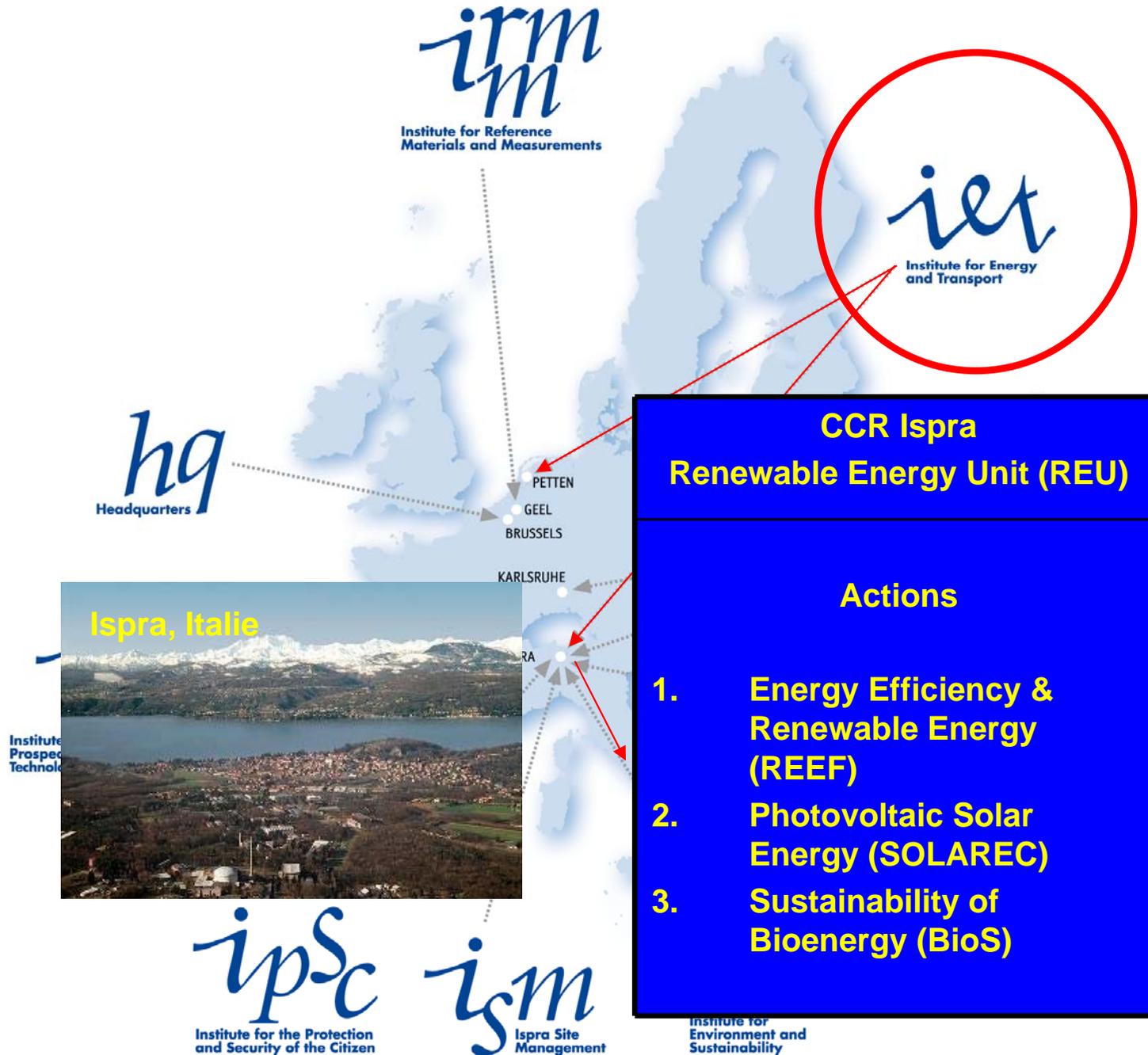
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Prospect
Technol

ihp
Institute for Health
and Consumer Protection

ipsc
Institute for the Protection
and Security of the Citizen

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Ispra Site
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Environment and
Sustainability



Energy Efficiency & Renewable Energy (REEF)

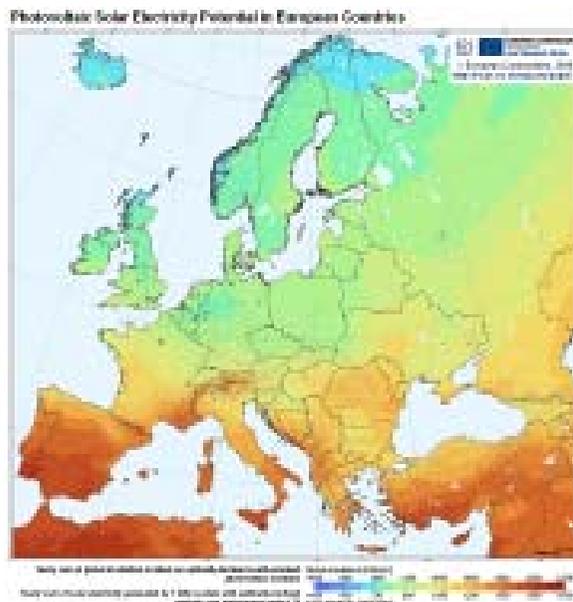
Action Leader Dr Paolo Bertoldi

- 1. Policy Support for Energy Services Directive**
- 2. *The Covenant of Mayors*: methodologies and guidelines for Sustainable Energy Action Plans (SEAPs) and emission inventories**
- 3. Lighting Initiatives to reduce lighting energy use in the commercial and industrial sector and street lighting**
- 4. Energy performance and Renewable Energy in Buildings**
- 5. AFRETEP: rural electrification using renewable energy in Africa**
- 6. European Union Codes of Conduct for Information and Communication Technologies (ICT)**

Photovoltaic Solar Energy (SOLAREC)

Action Leader Dr Nigel Taylor

- European reference lab for PV performance
- ISO 17025 accreditation, with full traceability to SI units and best-in-class uncertainty levels



Facilities:

- 6 indoor solar simulators for performance evaluation of cells and modules
- 2 climatic chambers for lifetime testing
- Large outdoor test field, including tracking systems, building-integrated PV and meteo tower
- PV-GIS solar resource analysis tool

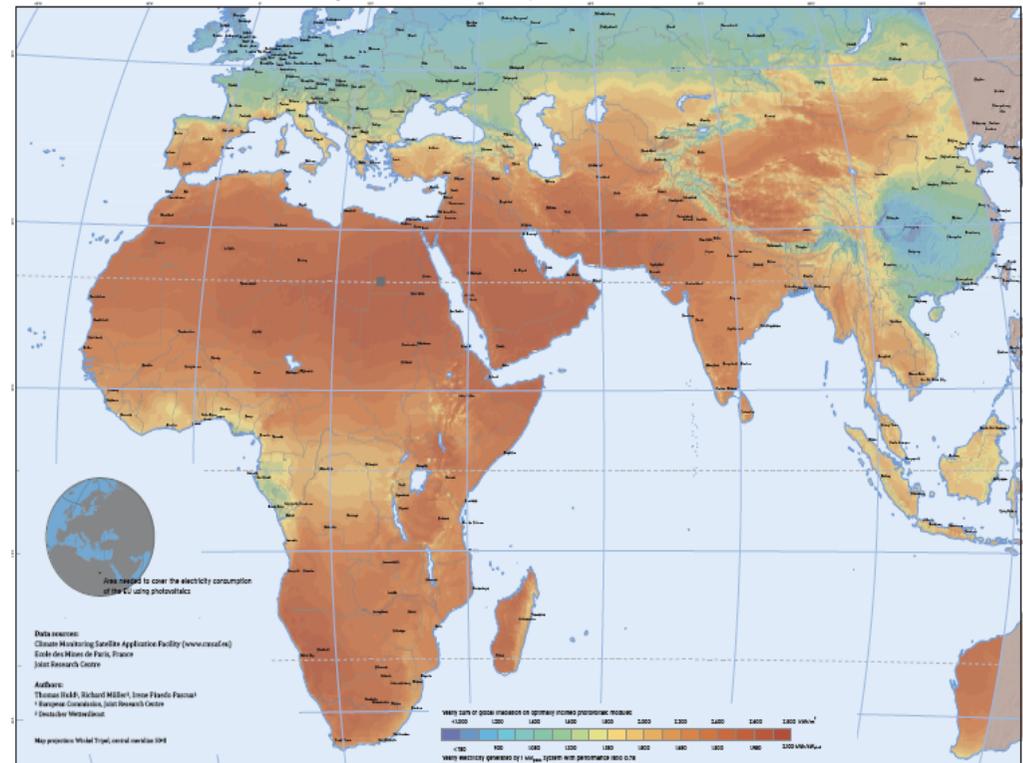
Top labs worldwide for PV device calibration



PVGIS tool

- Version 4 released in 2010, with a new solar radiation database based on CM-SAF* data
- New temperature database for Africa
- Support PV vs. diesel study for AFRETP project
- Solar radiation data for SES renewables grid integration model

Photovoltaic Solar Electricity Potential in Europe, Africa and Asia



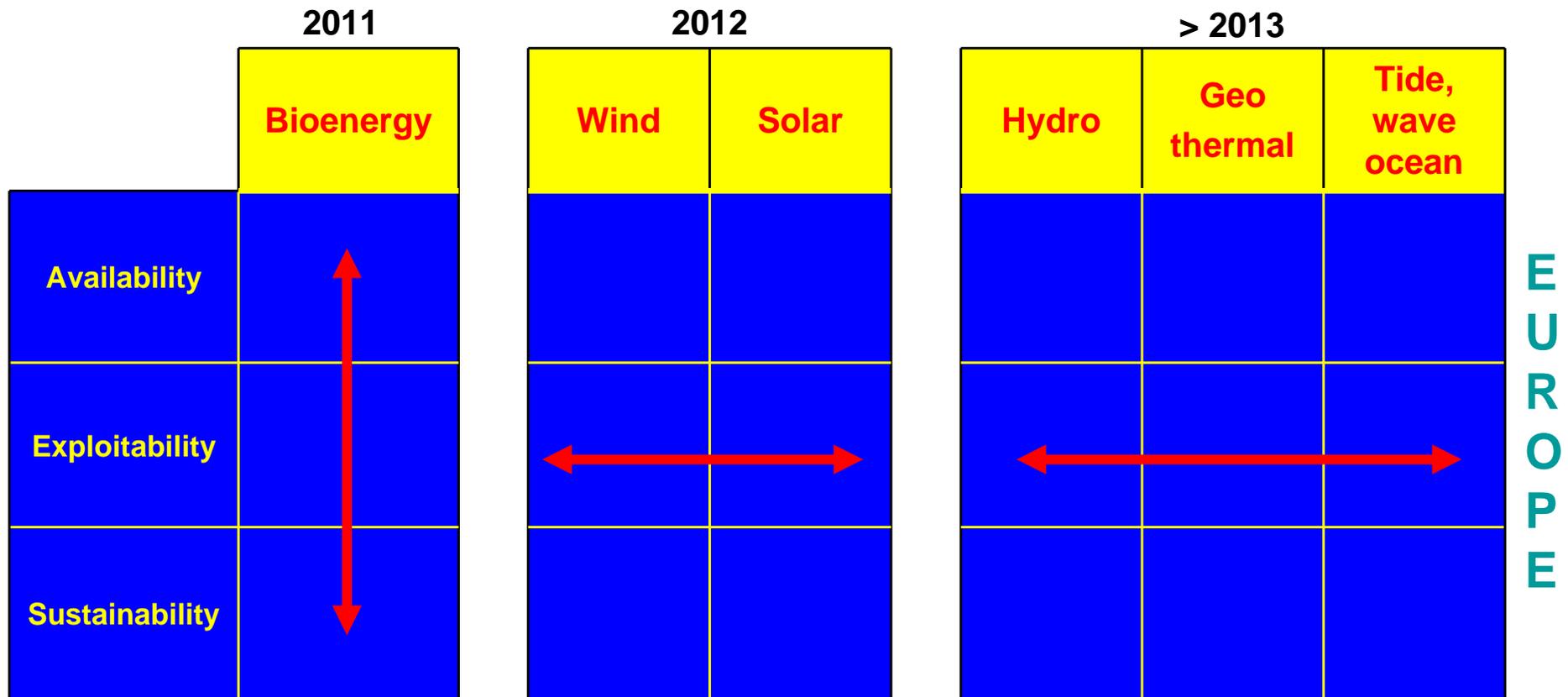
PVGIS Success Factors

- **Simple interface: 2 clicks and you have results**
- **Easily understood results: energy production in kWh**
- **Immediate access:**
 - Relevant information is not buried 8 menu levels deep
 - No registration needed
 - It's free!

Sustainability of Bioenergy (BioS)

Action Leader Dr Fabio Monforti-Ferrario

2011	BIOENERGY
Availability	<ul style="list-style-type: none">- Mapping- Resources estimation
Exploitability	<ul style="list-style-type: none">- Integration in grids- Costs of collection- Future penetration
Sustainability	<ul style="list-style-type: none">- Impact on water- Sustainability on agriculture



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↙ AFRICA

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