

The Outcomes of the 1st Off-Grid Renewable Energy Conference

Dolf Gielen, Director IITC

9th Annual Club-ER Meeting, Abidjan, 11 December

About IRENA



International Renewable Energy Agency

Established April 2011

The intergovernmental RE agency

Mission: Accelerate deployment of renewable energy

Mid-term strategy: Hub, voice and source of objective information for renewable energy

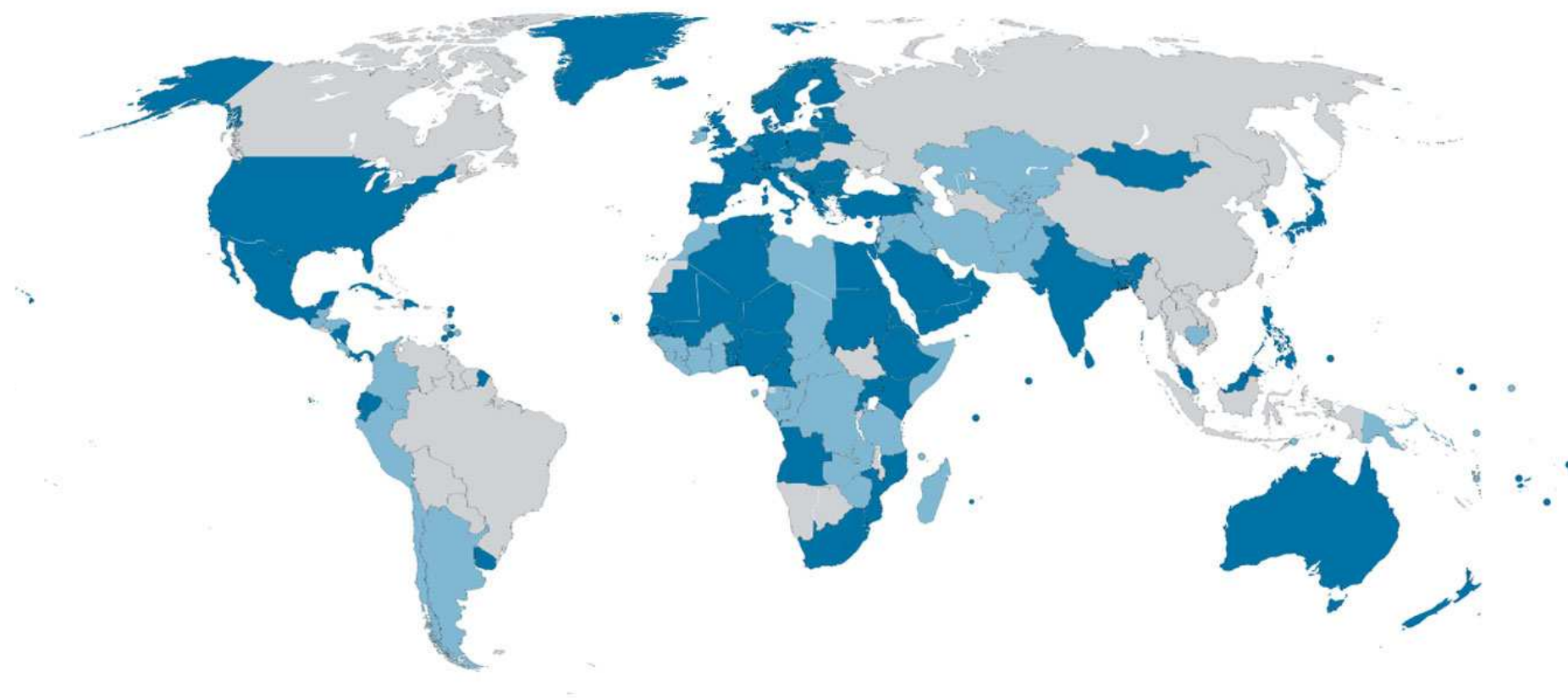
Members: 158 countries are engaged; 103 ratified member countries and EU

Mandate: Sustainable deployment of the six RE resources
(Biomass, Geothermal, Hydro, Ocean, Solar, Wind)

Location: Headquarters in Abu Dhabi, United Arab Emirates
Innovation and Technology Centre IITC, Bonn, Germany

Director-General: Adnan Amin

IRENA Membership



-  Members of the Agency
-  Signatories/applicants for membership

International Off-grid Renewable Energy Conference



Two-day conference with focus on scaling up of rural electrification in developing countries through deployment of off-grid systems (mini-grid and stand-alone)

Objective

- Platform to share experiences, lessons learned and best practices from across the developing world
- Identification of key barriers

Participants

- 350 delegates from more than 80 countries
- 30+ Representatives from African Rural Electrification Agencies
- Speakers with experience from over 25 countries

- November 1-2 Accra, Ghana
- Co-organized by IRENA, ECREEE and ARE
- Conference and exhibition
- Eight sessions:
 - Regulations and Market development
 - Policies and incentives
 - Effective and innovative business models
 - Financing off-grid renewable energy systems
 - Off-grid renewable energy technologies to meet basic needs
 - Off-grid renewable energy systems: technologies and costs
 - Innovative energy system design
 - Innovation and findings in the field of off-grid renewable energy

Key Outcomes (I/III)

-
- Electrification levels are rising, but not fast enough (+10% in 10 years in Club-ER countries)
 - Off-grid renewables have the potential to fill the demand-supply gap and supplement grid supply for achieving rural electrification
 - Need to bring off-grid renewables into the mainstream
 - Several successful innovative business and financing models exist- but scaling up is required for a significant impact
 - An Enabling Regulatory Framework (creating “ecosystems”) is the main driver for upscaling
 - There is a need for political commitment and dedicated policies to support off-grid renewable energy-based rural electrification
 - Target driven growth strategy is important- but targets should be pragmatic

Key Outcomes (II/III)

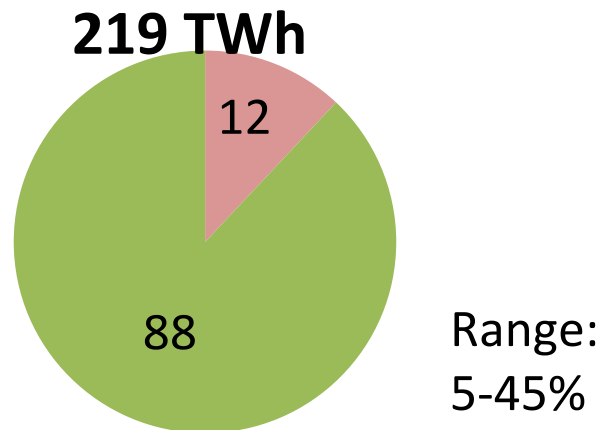
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- Local banks play an important role in extending access to credit for households and businesses. Accessibility to long-term affordable finance designed to consumer cash-flow is vital.
 - Off-grid RE is becoming increasingly cost-competitive but support is required (e.g. Import duty, VAT exemptions). Market distortions should be avoided (e.g. kerosene subsidy)
 - Raise awareness regarding the benefits of off-grids - not only for lighting but also for productive uses
 - Encourage capacity building initiatives for public institutions, financing agencies, communities, private sector etc.
 - Increase cooperation between the public sector and other stakeholders to identify the challenges being faced by actors across the value chain

Key Outcomes (III/III)

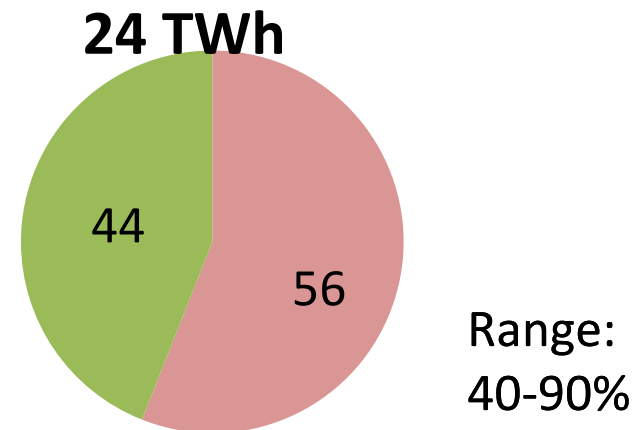
- Rapidly falling cost of minigrid and offgrid systems
 - Cheaper than diesel power
 - A range of technologies: biomass, mini hydro, solar-PV, mini and medium size wind
 - However micro-utilities can be expensive (up to EUR 1.2/kWh)
 - Therefore business models needed, not only technology
- Emergence of hybrid power systems
- Design systems so grid integration is possible
- Solar PV lighting solutions
 - Learn from other regions, eg Bangla Desh (60 000 systems/month)
 - Quick payback, eg 6 months in Kenya
 - Battery cost are significant

Prospects for decentralized generation for 2030

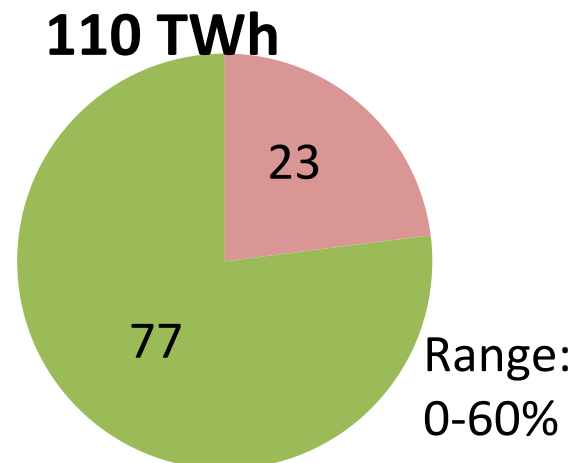
Southern Africa: Urban



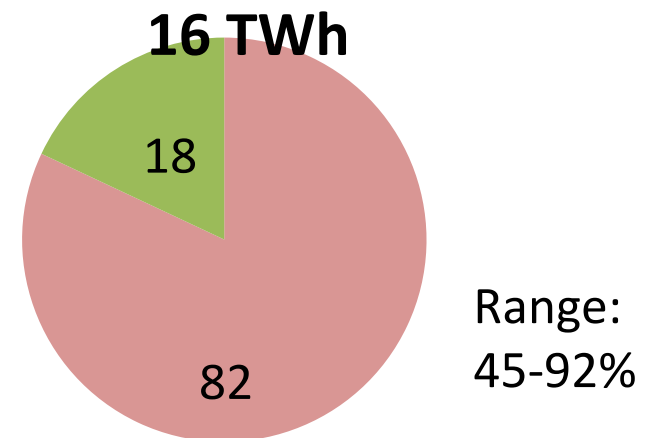
Southern Africa: Rural



Western Africa: Urban

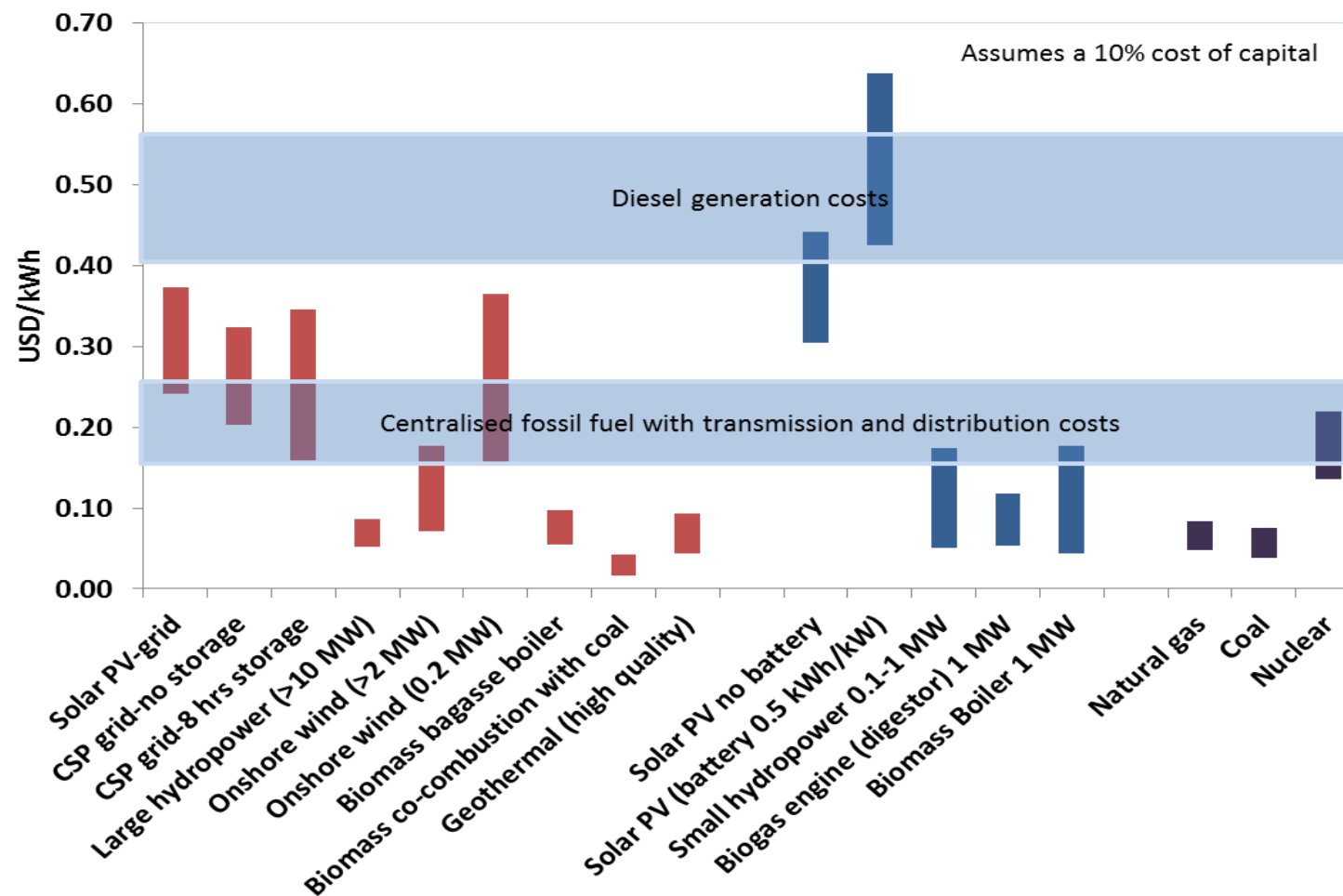


Western Africa: Rural

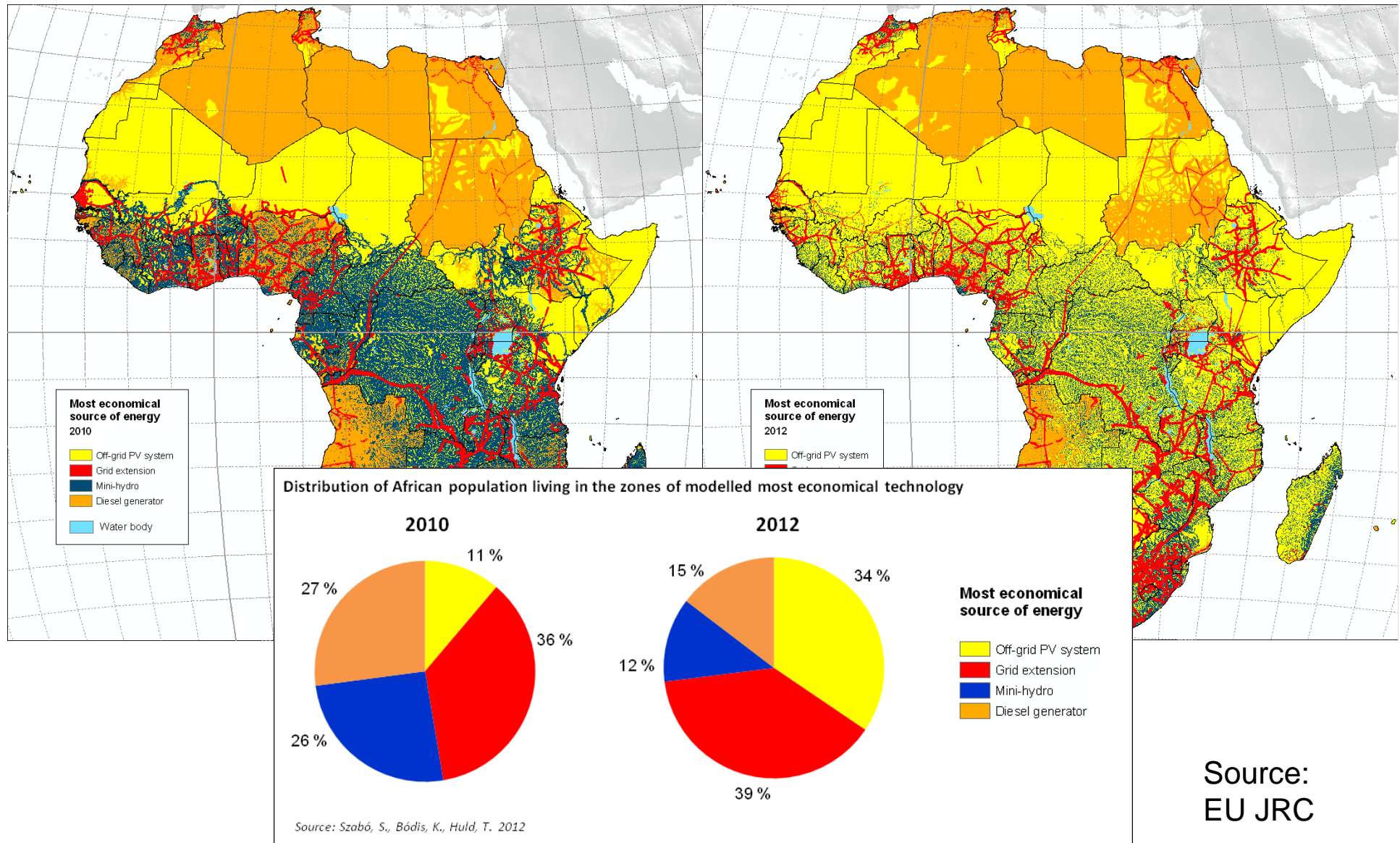


■ Decentralized ■ Centralized

Cost Competitiveness of RE



Role of Off-grid RE



Source:
EU JRC

Policy Assessment

- RE tariffs setting
- RE targets setting
- RE Policy evaluation



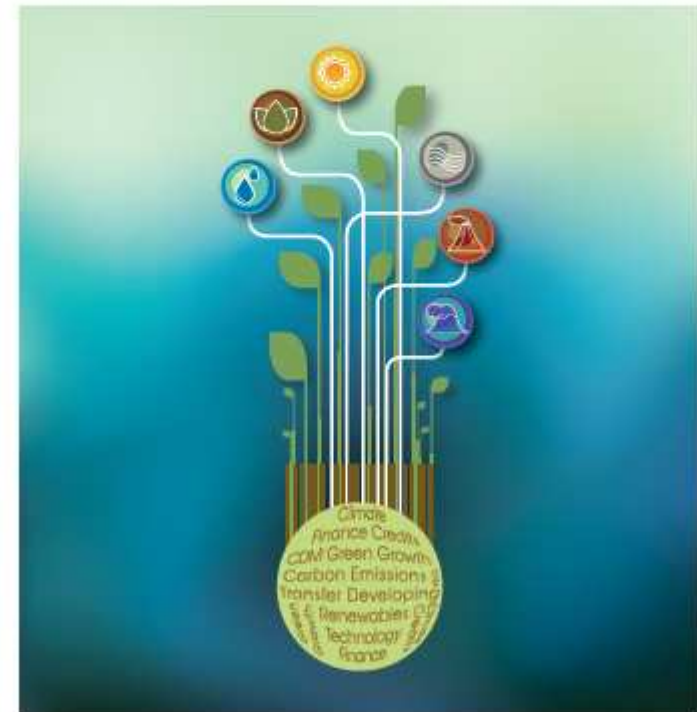
IRENA Handbook on Renewable Energy
Nationally Appropriate Mitigation Actions (NAMAs)
for Policy Makers and Project Developers

Renewable Energy Employment

- Report on Renewable Energy Employment:
Analysis, Trends and Markets

Renewable Energy Economic Value

- Analysis of economic value creation from RE
- Policy recommendation to maximize value creation
- Policy tools and case studies



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We welcome suggestions for inclusion

+ Course

Courses

Grid Integration of Renewables – Seminar for Experts with Engineering-Technical Tasks

This seminar will focus on the important aspects of grid integration of renewables into all voltage levels of the transmission and the distribution grid. It will detail the tools and methodologies.

[Read More](#)

Subject: **All Renewables** | Region: **Europe** | Country: **Germany** | City: **Berlin** | Course Language: **English** | Course Start Date: **11 Mar 2013** | Course Type: **Professional Development** | Course Duration: **10 Days** | Course Delivery: **Face to Face** | Qualification Awarded: **Certificate** | Registration Deadline: **10 Jan 2013** | Institution: **Renewables Academy (IRENAC)** | [Course Link](#)

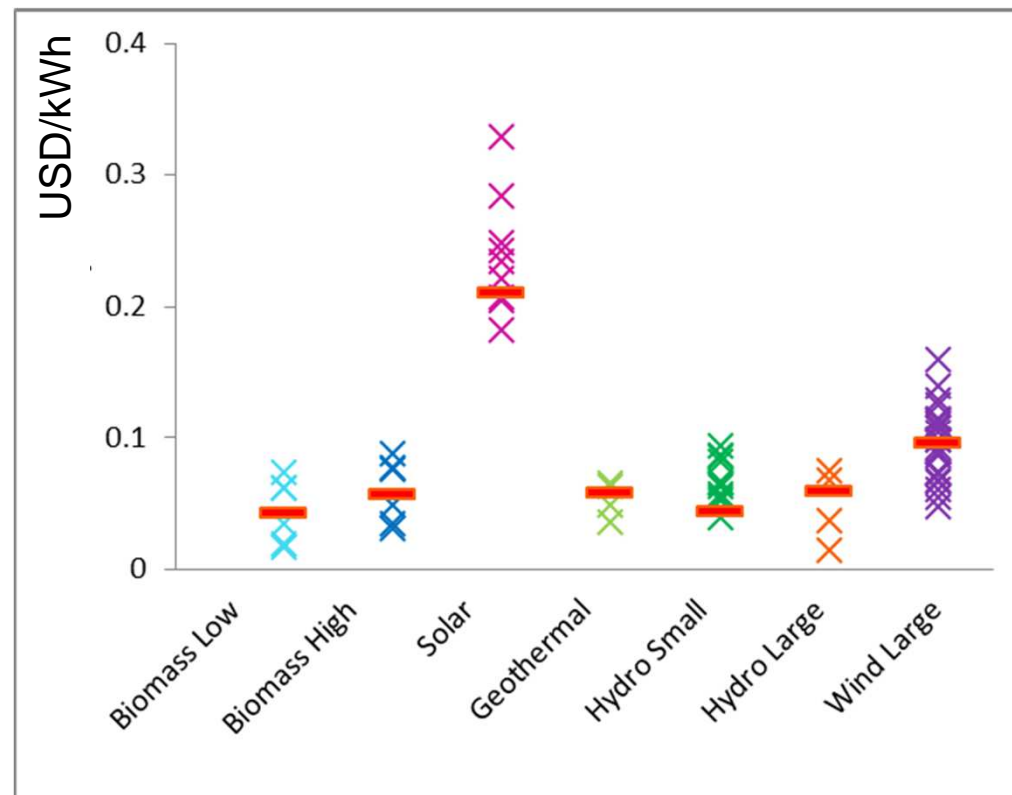
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IRENA – Africa Energy Planning Initiative



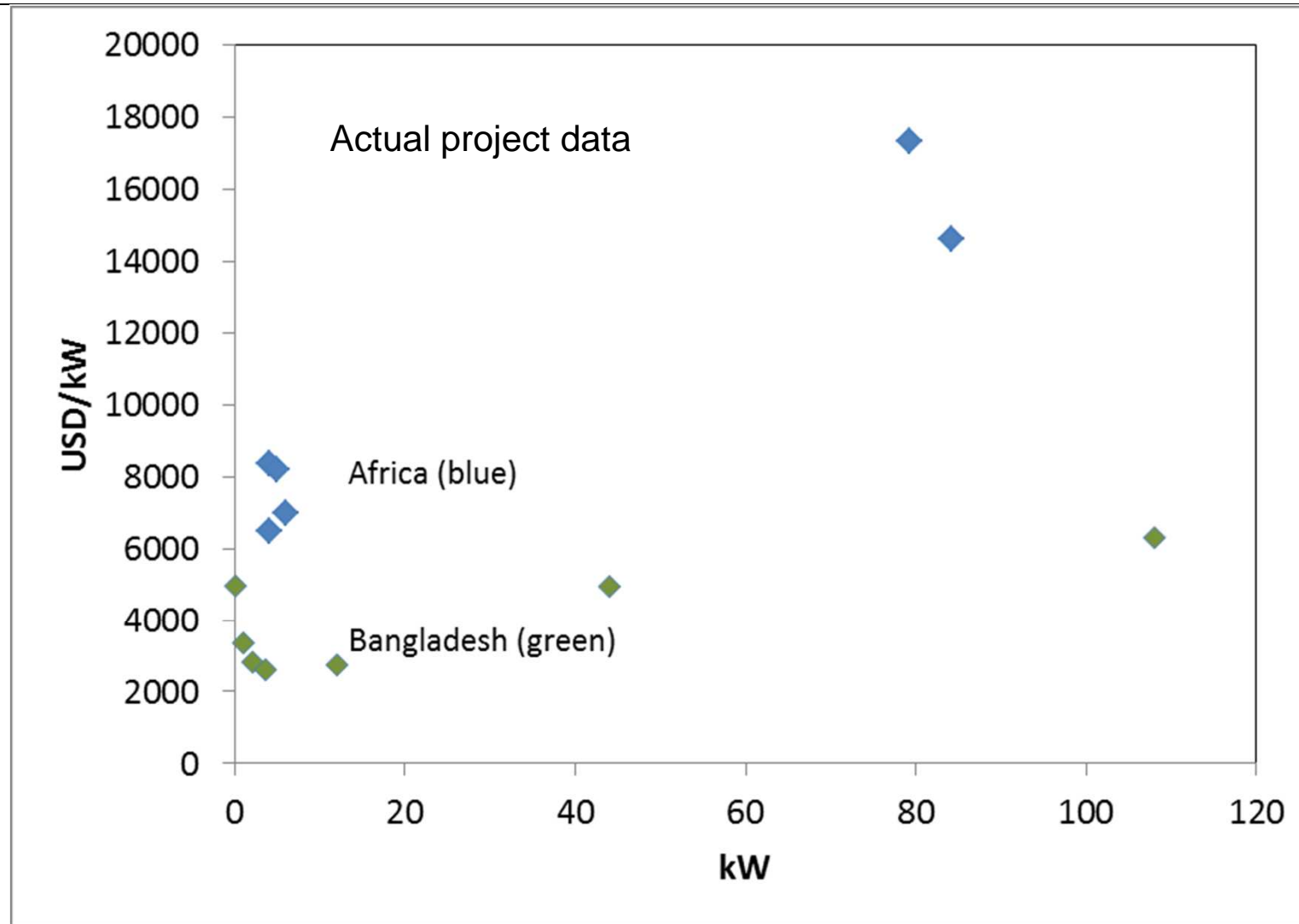
- ECOWAS/WAPP power sector model and SAPP power sector model
 - Workshop Johannesburg, 19-20 November (in cooperation with SANEDI)
 - Workshop Abidjan, 10-13 December (in cooperation with ECREEE - ONGOING)
- Similar models are being developed for Central, East and North Africa
- Outreach/application through regional organizations, capacity building
- Cost of renewables for power generation (regional details) – release January 2013
- Island operation/mini-grid studies (grid stability, transition roadmaps)
- Requests for in depth analysis for African countries
 - Energy planning toolbox
 - Grid stability
 - Macro-economic impacts
 - etc.

Cost of renewable electricity supply in Africa



Source: IRENA, forthcoming

PV off-grid installed costs Africa and Bangladesh



Limited data availability, some very expensive projects Source: IRENA/GIZ¹⁶



THANK YOU !



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