

# **Workshop on green mini-grids**

Opportunities for rural development in Africa

***Cotonou, Benin***

***21 March 2014***

## **Executive Summary**



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## Workshop organisation

### *Inviting Organisation:*

**Africa-EU Renewable Energy Cooperation Programme (RECP)**

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### *Event Organisation:*

**WIP - Renewable Energies**

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**The presentations held at this workshop are available at the website:**

<http://euei-pdf.org/fr/activites-de-dialogue/atelier-sur-les-mini-reseaux-verts>

## Agenda

### Welcome remarks

M. Christophe Kaki, Director of the Minister Cabinet, Ministry of Energy, Petroleum and Mining Research, Water and Energy Development.

S.E.M. Josep Coll, Ambassador, Head of the Delegation of the European Union in the Republic of Benin.

Niklas Hayek, Project Manager, EUEI PDF

### Session 1: Policy and regulatory aspects for mini-grid applications

#### **Presentations:**

David Lecoque, Business and policy advisor, Alliance for Rural Electrification: Mini-grid Policy Toolkit

Simbarashe E. Mangwengwende, independent consultant, Zimbabwe: Regulation for Mini-grids in the SADC Region

Abdou Ndour, Enda-Energie-Environnement-Développement, Senegal: Public-Private Partnership on mini-grids

#### **Round Table:**

##### *Panellists:*

David Lecoque, Business and policy advisor, Alliance for Rural Electrification

Godfrey Nzamujo, Songhai Center, Benin

Simbarashe E. Mangwengwende, independent consultant, Zimbabwe

Abdou Ndour, Enda-Energie-Environnement- Développement, Senegal

Yaovi Charles Koumpale, Director General, Agence Béninoise d'Electrification Rurale et Maîtrise d'Energie (ABERME)

##### *Moderator:*

Niklas Hayek, Project Manager, EUEI PDF

### Session 2: Mini-grid project development - challenges and solutions in Africa

#### **Presentations:**

Xavier Vallvé, Trama Tecno Ambiental, Spain and Yuri Handem, DuraEnergy S.A.R.L, Bissau: Micro Grids with Solar generation - Lessons learned and critical success factors for Africa

Ousmane Ouattara, Mali Folkecenter, Mali: Powered mini-grids in Mali

Caroline Nijland, FRES, The Netherlands: Lessons learned on mini-grid projects in West Africa

Oladotun Tokun, Solarmate Engineering, Nigeria: Mini-grids in Nigeria

Géraldine Pallière, GERES, Benin: Consideration of the productive demand in mini-grids

**Round Table:**

*Panellists:*

Caroline Nijland, FRES, The Netherlands  
Ousmane Ouattara, Mali Folkecenter, Mali  
Xavier Vallvé, Trama Tecno Ambiental, Spain  
Yuri Handem, DuraEnergy S.A.R.L, Bissau  
Géraldine Pallière, GERES, Benin  
Oladotun Tokun, Solarmate Engineering, Nigeria

*Moderation:*

Krystel Dossou, Organisation des Femmes pour la gestion de l'Energie, de l'Environnement et la promotion du Développement Intégré (OFEDI)

## Conclusions and recommendations of session 1: Policy and regulatory aspects

- Countries should choose an operator model and develop a regulatory framework so that business models adapted to the needs of the project can develop
- In order to increase investment, we must have rules through which it is foreseen that the investor would be fairly compensated in case the mini-grid is absorbed by the national grid
- Public Private Partnerships can attract private investors and allow the African private sector to gain experience with mini-grids
- Governments and regulators must demonstrate their willingness to develop mini-grids in their territory
- The establishment of a rural electrification agency with adequate funds facilitates the deployment of mini-grids
- Technology and IT resources exist and should be integrated into national electrification plans
- Hybrid mini-grids have many advantages in terms of public health, security of supply and the economy
- Private actors (including banks), public institutions and local communities must work together so that successful projects can develop
- In order to reduce the cost and duration of transactions, government agencies should establish a tax incentive, simple and quick procedures, one-stop shop for all information, standardized documents (regarding energy purchase agreements)
- Policy makers and regulators should incorporate "best practices" in their strategies and regulations
- General policies on decentralization should be made.

## Conclusions and recommendations of Session 2 Mini-grid project development

- The potential for deployment on a larger scale should be considered from the initial phase
- The link to financial institutions remains a key challenge for the private sector and NGOs who want to develop mini-grids
- Quality problems can be solved by standardizing equipment and applying specific standards
- Community participation is essential for the sustainability of the project (e.g. maintenance), to clarify property rights, willingness to pay and investment protection
- The viability of the project can be significantly improved when the productive use of energy is addressed
- Project development requires structures and engaged local partners
- Social management is important: the energy produced must be shared without conflicts among consumers who are connected to the mini-grid.
- An appropriate tariff is essential for the viability of the project
- Public support for the Project remains important
- The tariff payment options are 1. Prepayment or 2. Payment at a later stage
- Often the predicted load and the real load differ - planning allows to analyze the load before implementation
- Maintenance (such as replacement of batteries, inverters, etc) and the size of the mini-grid must be considered when planning
- The effectiveness of the equipment for electricity generation should be central to the choice of equipment
- Corruption is often a barrier to the implementation of projects
- Capacity building and training among communities are key
- Operators should diversify their customers

**Annex I: Participants list**

No.	Prénom	Nom	Organisation	Pays
1	Abbas	ABOULAYE	Autorité de Réglementation du Secteur de l'Electricité (ARSE)	Togo
2	Kandine	ADAM ABORAK	Ministère de l'Energie et du Pétrole	Niger
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