

Mini - Grids

Opportunities for Rural Development in Africa

5 September 2013, Arusha, Tanzania

On the occasion of the Africa Electrification Initiative (AEI) Workshop
“Low cost on-grid electrification technologies” in Arusha, 3-4 September 2013

Venue:
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Workshop background

Given Africa's abundance of renewable energy resources, the widespread existence of isolated, expensive, highly-subsidised fossil-fuel based mini-grids on the continent, very low grid connection rates, the often low levels of electricity demand from households, the high costs associated with grid extension, the lack of reliable, centralised generation capacity and increasing levels of densification as a result of ongoing urbanisation, renewable energy- and hybrid-based mini-grids provide a practical, efficient energy access solution. The use of renewable energy technologies can also yield significant fossil fuel savings as well as increased price stability through the hybridisation of existing systems.

Renewable and hybrid energy mini-grids hold significant potential for the African energy sector: not only for increasing energy access, but also by enabling the increased use of renewable energy in the continent, with its benefits for local employment and economic development. Mini-grids are technically and increasingly also economically viable modern energy provision solutions in off-grid areas, and the hybridization of existing fossil-fuel based mini-grids can result in substantial savings – not only for consumers, but also for governments and parastatal utilities.

A “Mini-grid” is an isolated, low-voltage distribution grid, providing electricity to a community – typically a village or very small town. It is normally supplied by one source of electricity, e.g. diesel generators, a solar PV installation, a micro-hydro station etc., or a combination of the above.

Workshop aims

This workshop is an initiative of the Africa-EU Renewable Energy Cooperation Programme (RECP), in collaboration with The Africa Electrification Initiative (AEI), the Rural Energy Agency (REA) Tanzania, the World Bank, and the European Union Energy Initiative - Partnership Dialogue Facility (EUEI PDF) on the occasion of the Workshop “Low cost on-grid electrification technologies” in Arusha, 3-4 May 2013.

The RECP forms part of the Africa-EU Energy Partnership (AEEP), which is a long-term framework for structured political dialogue and cooperation between Africa and the EU on energy issues of strategic importance, reflecting African and European needs. The RECP was established to accelerate the use of the vast potential for renewable energy in Africa, meet future energy needs and increase access to modern and sustainable energy services on the continent. The RECP-Start-Up-phase is implemented jointly by the EU Energy Initiative - Partnership Dialogue Facility (EUEI PDF) and AFD.

Main workshop aims include:

- ▶ Share knowledge and experience on mini-grid technologies for applications in Africa
- ▶ Discuss critical success factors for mini-grid implementation in Africa
- ▶ Discuss recommendations and tools to improve the policy and regulatory framework for mini-grids
- ▶ Share knowledge and experience on best practice mini-grid applications
- ▶ Elaborate successful project development processes and operation models for mini-grids

Target groups

The target group of this workshop comprises:

- ▶ Senior decision-makers in public authorities engaged in energy sector planning
- ▶ Senior technical staff and energy sector practitioners in public authorities (Ministries, regulators, rural electrification agencies, energy utilities)
- ▶ Energy advisors, energy regulators, electrification engineers, officials from relevant standards authorities
- ▶ Private sector, project developers
- ▶ Local renewable energy business associations
- ▶ Civil society groups
- ▶ International and local NGOs
- ▶ Development partners

Workshop Organization

Inviting Organisation:

Africa-EU Renewable Energy Cooperation Programme (RECP)

Mr. Niklas Hayek
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Mr. Michael Franz
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Event Organisation:

WIP Renewable Energies

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Programme Outline

| | | |
|-------|--|---|
| 8:30 | Registration | |
| 9:00 | Welcome and opening remarks: Policies on rural electrification in Tanzania - Gissima Nyamo-Hanga, Rural Energy Agency, Tanzania | <i>Chair:</i> Niklas Hayek, EUEI PDF |
| 9:15 | Welcome by the organiser Niklas Hayek, EUEI PDF | |
| 9:30 | Keynote presentation: Mini-grids – An overview Izael da Silva, Strathmore University, Kenya | |
| 09:45 | The mini-grid policy toolkit Mark Hankins, African Solar Designs, Kenya | |
| 10:45 | Coffee break | |
| 11:00 | Regulation for Mini-grids in the SADC Region Simbarashe E. Mangwengwende, Independent Consultant, Zimbabwe | <i>Chair:</i> Michael Franz, EUEI PDF |
| 11:20 | Policy Roundtable Policy and regulatory aspects for mini-grid applications <i>Panellists:</i> - Izael da Silva, Strathmore University, Kenya - Simbarashe E. Mangwengwende, Independent Consultant, Zimbabwe - Benon Bena, Rural Electrification Agency, Uganda - Mark Hankins, African Solar Designs, Kenya | |
| 13:00 | Lunch break | |
| 14:00 | Small-scale mini-grids powered by Jatropha Leonard Pesambili, TATEDO, Tanzania | <i>Chair:</i> Dominik Rutz, WIP Renewable Energies, Germany |
| 14:15 | Mini-grids powered by Mini-hydro plants in Rwanda Dan Klinck, SOGEMR, Rwanda | |
| 14:30 | Success factors for minigrid project development Wiebke Krüger, Juwi, Germany | |
| 14:45 | Lessons learned on minigrid projects in India Debajit Palit, TERI, India | |
| 15:00 | Coffee break | |
| 15:15 | Project Development Roundtable Challenges and solutions for mini-grid implementation in Africa <i>Panellists:</i> - Leonard Pesambili, TATEDO, Tanzania - Gissima Nyamo-Hanga, Rural Energy Agency, Tanzania (tbc) - Dan Klinck, SOGEMR, Rwanda - Debajit Palit, TERI, India - Wiebke Krüger, Juwi, Germany | <i>Chairs:</i> Niklas Hayek, EUEI PDF Dominik Rutz, WIP Renewable Energies, Germany |
| 17:00 | Summary and conclusions of the workshop Gissima Nyamo-Hanga, Rural Energy Agency, Tanzania (tbc) | |
| 17:15 | Closure of the Workshop | |

List of Participants

| Surname | Name | Organisation | Country |
|---------------------|-----------------|--|-------------------------|
| Abdulaziz | Aisha | Kenya Renewable Energy Association (KEREAA) | Nairobi |
| Adam | Tim | TAREA (student) | Germany |
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| Jones | Clive | Power Providers Company Ltd | Arusha, Tanzania |
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| Lemondzhava | Tatia | World Bank Group | USA |
| Lukuba | Renatus | Sustainable in development issues-SDI | Mwanza Tanzania |
| Mangwengwende | Simbarashe | Independent Consultant | Simbabwe |

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| Murunga | Jacinta | GIZ | Kenya |
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| Othman | Ramadan | Ministry of Agriculture and natural resources | Tanzania |
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| Palit | Debajit | TERI | India |
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| Ratnayake | Chrisanta | Individual consultant | USA |
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| Yusuf | Harold | Women plus association | Manyara, Tanzania |