Energy Access for African Development

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UK
• Importance of energy access
• Potential for renewable energy
• Barriers
• How the UK is helping
African needs more energy

Economic growth

- Growing faster than OECD, Latin America, Eastern Europe and Middle East
- Power outages – cost to enterprises 6-16% of turnover

Energy demands increasing

- Demand for power growing, e.g. by 4.5% 2001-2005
- Sub-Saharan installed power capacity is 68GW – same as Spain
- Investment of $40bn / pa is required for electric power, currently only $11bn
Energy Access

• Only 20% in Sub-Saharan Africa have modern energy

• African population of 1 billion in 2009 – could double by 2044
Why energy access is important for development

• Increased study for children after dark – extra hour per day

• Quality energy for community services  
  - health facilities and schools

• Reduce 1.6 million premature deaths per year from cooking fuel indoor smoke

• Women and children avoid time spent collecting fuel wood  
  – up to 8 hours per day

• Businesses operate for longer hours and can expand – producing jobs and growth
a new recognition - Sustainable Energy for All

Universal access to modern energy services by 2030

- High level commitment

- Energy access featured in new potential post 2015 international development goals
Increased access through off-grid renewables

• Expect 60% of additional generating capacity to come from off-grid or mini-grid renewables – IEA
  such as micro-hydro, solar, biomass

• Cost effective
  ➢ In East African households spend $57 per year on kerosene lamps, candles, and battery torches*
  ➢ $20-40 solar lamps can payback in 8-11 months compared with kerosene lamps*

• Reduces emissions compared to fossil fuel alternatives

• Private sector is well placed to deliver

* Lighting Africa
Barriers to energy access from renewables

- High up-front capital costs for users
- Perceived high risk profile prevents investment – e.g. limited access to working capital
- Immature markets – e.g. distribution chains and networks
- Lack of knowledge or capacity
- Unclear policy or regulatory environments – e.g. mini-grids
## UK Assistance – complementary initiatives

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<td>Increase carbon finance for community and household projects</td>
<td>Purchase carbon emission reductions</td>
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<td>2. Results Based Finance (RBF)</td>
<td>Test approaches that pay for results delivered through off-grid renewables</td>
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<td>3. Renewable Energy and Adaptation to Climate Technologies (REACT)</td>
<td>Support businesses that deliver clean energy products to rural communities</td>
<td>Seed funding</td>
<td>Reduce risk profiles; working capital; demonstrating commercial business models.</td>
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1. A Carbon Market Finance programme – a preview; subject to approval

Aim: Increase carbon finance for community and household projects

- Expand and develop methods that reduce transaction costs – e.g. for solar, micro-hydro, biogas

- Demonstrate methods through practical projects – purchasing carbon emission reductions e.g. create a track record; demonstrate project types not already successful in CDM; maximise private sector involvement

- Disseminate experience for use in future carbon markets

- through the WB CFU Ci-Dev Initiative
2. Results Based Financing -
Aim: Test payment for results delivered through off-grid renewables

• Incentive payments for delivery of near-commercial clean energy products/services

• Move suppliers along learning experience curve; move products along cost reduction curve

• Portfolio of RBFs (e.g. solar lights, PV systems, biogas) -
  first 7 RBFs calls for participation end 2013

• Second tranche RBF designed later this year
3. REACT (East Africa) –
Aim: Support businesses that deliver clean energy products to rural communities

- Challenge fund – businesses respond to a call for investment ideas

- 4 broad business areas emerging:
  - End user financing and affordability
  - Rural distribution chains
  - Small IPPs and mini-grids
  - Traditional fuel alternatives
**Sum Up**

- Increased access to modern energy produces high development benefits
- Growing high level support for increased access
- Private sector has an important role in increasing access through renewable energy
- Donors can support business development – test different approaches for potential scale up
- Carbon finance has a role – need to find ways of reaching communities and households