Improved Energy Access through Mobile

Bellagio, 24th May 2012
Charlotte Ward
The GSMA represents the interests of mobile operators worldwide. Spanning 219 countries, the GSMA unites nearly 800 of the world’s mobile operators, as well as more than 200 companies in the broader mobile ecosystem, including handset makers, software companies, equipment providers, Internet companies, and media and entertainment organisations.

The GSMA produces industry-leading events such as the Mobile World Congress and Mobile Asia Congress.

We are focused on innovating, incubating and creating new opportunities for our membership.
Within the GSMA, **The Development Fund** exists to accelerate economic, social and environmental development through the use of mobile technology. We believe that providing tangible, accessible mobile services to people in developing countries improves people’s lives.

We combine the industry expertise of the GSMA and its members, with our own development skills and those of international agencies and non-profit organisations to incubate and replicate the deployment of innovative, sustainable and scalable mobile services.
We are focused on innovating, incubating and creating new opportunities for its membership.

**HORIZONTAL PROGRAMME**

**VERTICAL PROGRAMMES**

- **mWomen**
  - closing the mobile ownership gender gap

- **mLearning**
  - anytime, anytime learning through the mobile channel

- **Mobile Health**
  - extending the reach and reducing the cost of healthcare

- **mAgri**
  - giving small-holder farmers timely, relevant and actionable information

- **Mobile Money for the Unbanked**
  - Accelerate the availability of mobile money services to the unbanked who live on less than US$2 per day.

- **Green Power for Mobile & Community Power from Mobile**
  - extending the coverage, reducing the cost and minimising the environmental impact of mobile networks by championing renewable energy, and enabling rural energy access through mobile

**Phase 2 - mfamer**

**Phase 2**

**Connectivity**
- Shared access to voice & data:
Leverage mobile technology & infrastructure to enable access to rural energy services while improving the business case for network and tower operators.
1.4 Billion people lack access to electricity

Off-grid energy market US$400 Billion
A large-scale distributed energy grid exists already near off-grid communities
Mobile coverage & connectivity extends beyond water & electricity access

<table>
<thead>
<tr>
<th>Country</th>
<th>% Pop with access to electricity</th>
<th>% Pop with access to clean water</th>
<th>% Pop with mobile coverage</th>
<th>% Pop with mobile connection</th>
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</tbody>
</table>

Largest addressable markets by population

Source: IEA, UN, GSMA

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Why should Mobile care?

- 550 M off-grid connections & growing
- 640K off-grid towers worldwide end 2012
- <$4 ARPU spending up to 40% of that on phone charging
- Theft of energy & grey market pose significant challenge to ESCO model
- All Value Added Services for rural areas have energy requirements
Three aspects of Mobile enabling sustainable energy access off-grid

1. **Infrastructure:**
   a) Leveraging existing power equipment
   b) Mobile is the anchor client for an ESCo delivering energy solutions via micro-grid or energy hub

2. **Distribution network:** Leveraging mobile operators’ extensive rural agent networks of airtime & mobile money for sales and financing

3. **Payment technology:** Using familiar methods (scratch cards & mobile money) to pay for energy and water access
Challenges facing the growth of “CPM”

- Understanding energy needs & ability to pay
- Accounting for diversity across geographies

- Supporting ESCOs to create effective scaling
- Trial multiple business models
- Engaging mobile sector

- A supporting policy framework
- Quantifying the opportunity
- Access to R&D capital for large scale trials (3rd party support)
Know the customer

- Baseline customer research is critical
- Appropriate payment models
- Low income customer = high risk-aversion
- Energy hub or Grid delivery

Support evolution of scalable business models

Analyse demonstrated projects for sustainability
Engage with the mobile sector

- Dialogue between Mobile, ESCo & Community
- Define clear commercial benefits
  1. BTS energy solution
  2. Community energy solution
- Ability to scale following proof of concept

Understand motivations & risks of mobile sector

Quantify benefits & costs to energy & mobile sector
Roles & demands of stakeholders

- **ESCo**
  - 24/7 power to mobile
  - Last-mile delivery
  - Community engagement

- **Mobile**
  - Internal business cases
  - Proof of concept
  - Scale & 24/7 service

- **Investors**
  - Fund commercial trials: models & technologies
  - Various innovative funding mechanisms

- **Market Facilitators**
  - Engage Governments
  - Collaborative research
  - Technical assistance
Thank you