

Community Power from Mobile: The Ecology Foundation

By Declan Murphy

Affordable electric power is the underlying currency of all global society. Delivering electric power to off-grid rural communities is a challenge well under way in developing countries.

Many approaches are being tried, but the most pragmatic is to use existing infrastructures to facilitate power generation in communities. The goal is to roll out low cost energy systems to empower the lives of millions of people within the next decade. In this context, the mobile communications industry has already proven the ability to reach off-grid populations rapidly and affordably. Now, many rural areas have an infrastructure poised for further positive social impact, the delivery of micro power to communities!

The Ecology Foundation has been developing concepts and models for sustainable and affordable micro power since 2008 and has collaborated with GSMA to pilot systems in 2011. The approach is simple and effective; to extract about 10% of the excess power generated at existing operator base stations and deliver this directly to off-grid communities. The communities' initial usage for power would be for cell phone charging followed by domestic lighting and eventually micro businesses. This in turn supports the usage of local base station traffic; a win-win relationship.

There are a few important factors to consider in order to deliver this concept successfully:

- Proper charging solutions
- Trained human resource
- A strong supply chain
- Partnerships with key organisations

There can be many different models for this concept. The easiest and most efficient model is:

- The Ecology Foundation (TEF) and Mobile Operator select suitable base station sites
- TEF appoints a local 'Energy Agent'. The energy agent is provided with sufficient training for maintaining daily activities as well as being the first level of local social networking
- TEF sets up an energy kiosk.
- TEF delivers energy services to community as follows:
 - Individual / multiple phones charging.
 - Airtime sales (free charging if bundled with airtime)
 - Household electric lanterns & battery exchange service
 - A micro-finance institution can assist local community with purchasing household lighting devices.

As the sites will be located at remote areas, creating a strong supply chain will be a challenge for TEF. TEF can partner with existing organisations to overcome the supply chain constraints. An overall delivery model as follows:

Figure 18. Delivery Model



