

Beyond Greening the Grid

Innovations to address energy poverty



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Beyond Greening the Grid

- * Current focus is big
- * Parallel path solutions exist for those not currently served by any grid
- * Micro-grids and Clean Energy Stores offer low investment, high impact quick wins
- * 2012: International Year of Sustainable Energy for All



Energy poverty is expensive

- * Lack of access to productive energy sources and technology
- * Related feedback loop



Average Haitian families spend 10 – 20% of their annual income on energy for lighting and cooking.

Simple Solutions Exist

- * Cell phone
(US\$0.25/charge)
- * Kerosene
(US\$0.25 for one kerosene light/night)
- * Solar lamp
(US\$27) pays for itself in under two months



Simple Solutions Exist

- * Charcoal fuel
(up to US\$1/day)
- * “Miracle Stove” costs US\$1
more than typical stove
(25%)
- * Efficiency Savings: 25%
- * Payback: 4 days



Simple solutions exist



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Household level: The problem is not technology but access

- * Need physical and financial access
 - * Smart sourcing of good products
 - * Clean Energy Stores
 - * Energy Lending
 - * Consumer Credit



Innovations are improving both physical and financial access

- * Microfinance and telecommunications innovation provides insights
- * Plug and play products (reduced costs, LEDs and pv)
- * Distribution
- * Clean Energy Stores
- * Energy lending (Fonkoze)
- * Consumer credit (rent to own)
- * Internet + diaspora



Community Level: Room for tech and access improvement

- * Many stand-alone pv lighting solutions have been productized. No similar trend has yet emerged in microgrids. (Opportunity for a “Lighting Africa” for microgrids)
- * Issues w planning (design, generation mix) and operations (billing, theft) have existing and near-term technical solutions
- * Lack of financing (too large for MFI’s too small for project financiers)



Triple bottom line



Good for the Customer



Good for the Community



Good for the Environment

Conclusions

- * Big opportunities exist in small-scale clean energy products and services.
- * The market for small scale clean energy products is poised to explode based on improvements in technology and business models.
- * Further innovation and investment can help spur rapid growth.



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