EE↔EA: The Virtuous Circle of Energy Efficiency and Energy Access

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How does energy efficiency support energy access?
**EA+EE: The Basics**

**Energy Access** is providing un- or under-served households, businesses and communities with new or enhanced access to reliable, affordable, and adequate modern energy services.

**Energy Efficiency** is requiring less energy to maintain or improve a given level of energy service.
## Access + Efficiency: Indicative Impacts

### ACCESS (EA) Objectives

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### Indicative Impacts

- **Improved Policies and Programs**
- **Development and Expansion of Markets**
- **Improved Quality of Energy Service**
- **Reduced Cost of Energy Service**
Super-Efficient Appliances Drive Cost and Performance Benefits for Off-Grid Energy Systems

SHS Purchase Price Based on Appliance Type

*Systems provide energy for 4 lights, a 19” color TV, a radio, and mobile phone charging
* Appliance use assumption: lights = 4hrs/day, TV = 3hrs/day, radio = 6hrs/day, mobile phone = 1 charge per day

Super-Efficient Appliances Drive Consumer Value of Off-Grid Energy Systems

Impact of Super-Efficient LED Technology on the Price of Daily Lighting Service (lumen-hour/day/dollar), Indicative Grameen Shakti SHS configurations, 2004 to 2013

Source: CLASP analysis (forthcoming)
How does energy access support energy efficiency?
• Economics of off-grid energy are unique—and uniquely favorable to energy efficiency
  o Expensive but cost-effective energy, the payment terms of which are often front-loaded
  o Limited energy supply
  o Extraordinarily poor, price-sensitive consumers
• The off-grid solar business model places extraordinary “first price” emphasis on end-use super-efficiency
• Recent analysis: “… development of appliances for off-grid applications should lead to a major acceleration of energy efficiency improvement rates globally, potentially doubling the global rate of improvement in energy efficiency technology.” (Van Buskirk, R. 2015)