ENABLING ENERGY ACCESS THROUGH ENERGY EFFICIENCY

Mark Hopkins
UN Foundation

THREE WAYS ENERGY EFFICIENCY CAN DELIVER ACCESS

- ***Extend the Grid*** – by improving generation efficiency and deploying more efficient end-use applications to reduce system demand and free-up power for new connections to those currently without access

- ***Improve Energy Service*** – by modernizing distribution systems and installing more efficient end-use equipment in disadvantaged communities to improve reliability, power availability and payment

- ***Enable Remote Applications*** – by integrating highly efficient end-use appliances and equipment as part of renewable energy systems to lower overall system cost and enable more energy service

São Paulo Slum Electrification & Loss Reduction Pilot

In Brazil, 37% of urban residents live in slums & lack decent energy service

International Copper Association
U.S. Agency for International Development
AES Electropaulo and product manufacturers
Local community organizations

Critical Community Access Problems

Inefficient and overloaded transformers
Illegal connections and theft of power
Lack side street, alley and park lighting
Inefficient lighting and appliances

WHAT WAS DONE AND THE RESULTS

- Involved the community and conducted an awareness campaign
- Replaced transformers and cables, and installed public lighting
- Rewired homes for safety; installed meters, CFLs, solar water heaters, and replaced refrigerators

✓ ***Removal of illegal connections and proper rewiring resulted in a 90% rate of customer payment***

✓ ***The average household savings ~ 200 kWh/month, in some households a 50% reduction***

✓ ***This pilot project has been scaled up and now is benefiting over one half million households & businesses***

THREE MAJOR BARRIERS AND IPEEC RECOMMENDATIONS

Lack of Documentation

BARRIER - Many EE projects document energy and cost savings, and co-benefits; virtually none connect EE to its impact on energy access

Recommendation

Develop evaluative methods, field projects, disseminate results

Lack of Technology Options

BARRIER - The efficiency of end-use devices determines the size/cost of renewables; except in lighting, there are few commercially available ultra-low demand options

Recommendation

Organize public-private partnership to develop ultra-low demand end-use options

Lack of Policy Focus

BARRIER - EE is the least cost way to free up existing power and make renewables affordable; yet, policy makers seldom incorporate EE into energy access decisions

Recommendation

Campaign to reach key policy makers to require EE energy access programs