EMPOWERING LOW-INCOME HOUSEHOLDS IN A CLEAN ENERGY FUTURE

Jules Kortenhorst | May 18
UN Foundation - Rexel Foundation - Clean Energy Solutions Center Webinar

Transforming global energy use to create a clean, prosperous, and secure low-carbon future.
ENERGY PRODUCTIVITY & THE SHARE OF ZERO-CARBON ENERGY WILL DRIVE OVERALL SYSTEM CHANGE

Global primary energy demand, 2012-2050

Increase in share of zero-carbon energy % points p.a.

1 or more

~ 2°C

Well below 2°C

< 1

Well above 2°C

INDCs: 2013-2030

Historical: 1980-2014

< 3

3 or more

Improvement in energy productivity % p.a.

Footnote: We include here renewables, nuclear, biomass and fossil fuels if and when their use can be decarbonized through carbon capture and use or storage (CCS/CCU). However, if a large share of the increase is from the latter, more than 1% point is required since this does not reduce emissions to zero completely

Source: Enerdata (2015), Historic actuals
LOW-INCOME OPTIONS?

What options do low-income households have to participate in an efficient, clean energy economy?

Percentage of US Population
Illustrative only

Poverty

Struggling

$ 24,300 family of four
THIS PROBLEM REQUIRES US TO RETHINK HOW WE COLLABORATE

| Optimizing for short-term bill reductions | Optimizing for long-term energy independence |
| Working on behalf of low-income end users | Working with low-income end users, at the speed of inclusion |
| Multi-year master planning | Experimentation, nimble course-corrects |
| Top-down solutions | Bottom-up innovations |

EDF

NEW YORK DEPARTMENT OF PUBLIC SERVICE

SOLAR ONE

PAGE UNIVERSITY

Pace Energy and Climate Center

NYC

ENERGY EFFICIENCY FOR ALL

ASSOCIATION FOR ENERGY AFFORDABILITY INC.

NRDC

WE ACT FOR ENVIRONMENTAL JUSTICE

Lab Electricity Innovation Lab

cpc Community Preservation Corporation

conEdison

ROCKY MOUNTAIN INSTITUTE

CARBON SMOKEHOUSE
RMI is convening a social change lab in NY that strengthens the capacity of local partners to conceive, launch, and execute collaborative low-income focused solutions.

- 5 participant-led initiatives
- Support for innovative business models that serve LI
RMI is partnered with Fort Collins Utilities to design and support the pilot of a new utility business model.

- Utility-led, opt-out, on-bill tariff program for efficiency and solar.
- Participants benefit without incurring debt, at bill-neutral or better.
- Utility can realize net positive revenues.
- Supports community in its aggressive goals to reduce carbon emissions by 80% by 2030.
SHINE: REDUCING COSTS FOR COMMUNITY SOLAR

Community-Scale Solar Cost Reduction Potential
USc / kWh, PPA price

Source: RMI Analysis
RMI is co-developing market interventions to make home energy upgrades understandable and easier to adopt—enabling families to live in better homes with lower monthly costs

- FHFA’s Duty to Serve Rule
- Near Net Zero Energy Retrofits at Scale
- Scaling Residential Property Assessed Clean Energy (PACE) Financing
RWANDA LIGHTING ENERGY EFFICIENCY PROGRAM

RMI has developed for the Rwandan government in an LED lighting switch-out program that can save 20% of peak power demand and $20–25 Million per year in diesel cost.

**CURRENT SITUATION RWANDA**

- Utility is struggling financially
  - Dependent on high cost diesel power (30% of generation)
  - Has power deficit causing load shedding of 15–20%
- Lighting contributes more than 30% of peak load

**PROPOSED EFFICIENT FUTURE**

- 100% replacement of all light bulbs in the country with LEDs
- Peak savings of 30 MW (20% of peak)
- Total cost of $20 Million ($0.6/W or $0.02/kWh)
- Diesel savings of $20–$25 Million/year

Sources: World Bank, Rwanda Energy Group Residential Customer Lighting Survey, RMI analysis and interviews with Rwanda Energy Group