



Tuesday 2:00 Panel Discussion
Rural Electrification Programs in
Clean Energy Development

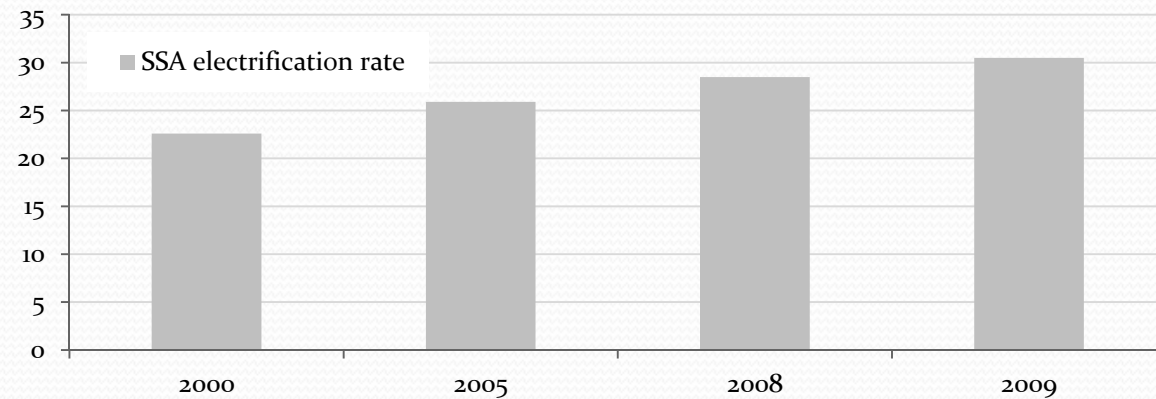


Clean Energy Development in Rural Electrification Programs

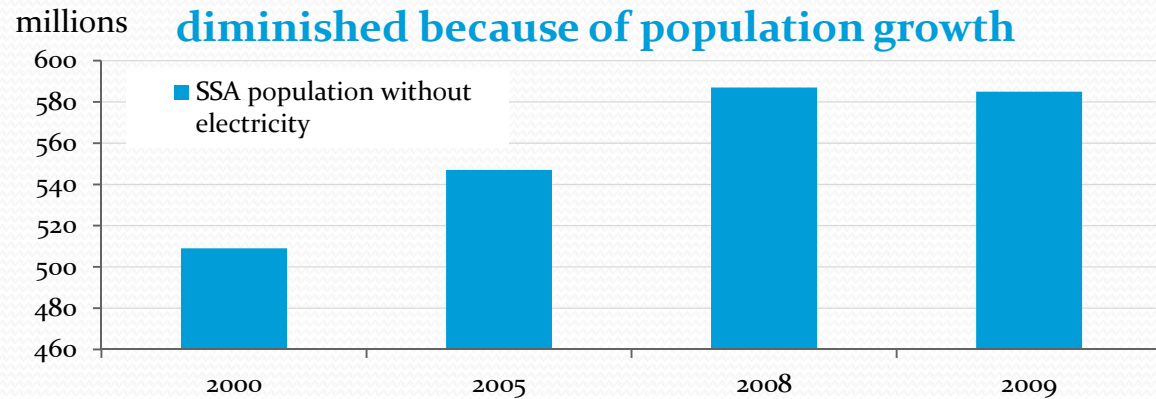
- East Africa can do what East Asia has achieved in universal access over a period of about 10-15 years
 - China, 66% to 99% from 1989 to 2000
 - Vietnam, 50% to 92% from 1996 to 2007
 - Lao PDR, 16% to 74% from 1995-2011
- Key to success:
 - Strong government commitment
 - Right balance between financing, subsidy and cost-reflective tariff
 - Utility-led planning and implementation
 - Community participation – Rural Cooperatives
 - Sustainable energy resources and financing

Electricity access story – (so far) less optimistic

SSA electrification rate slowly growing...



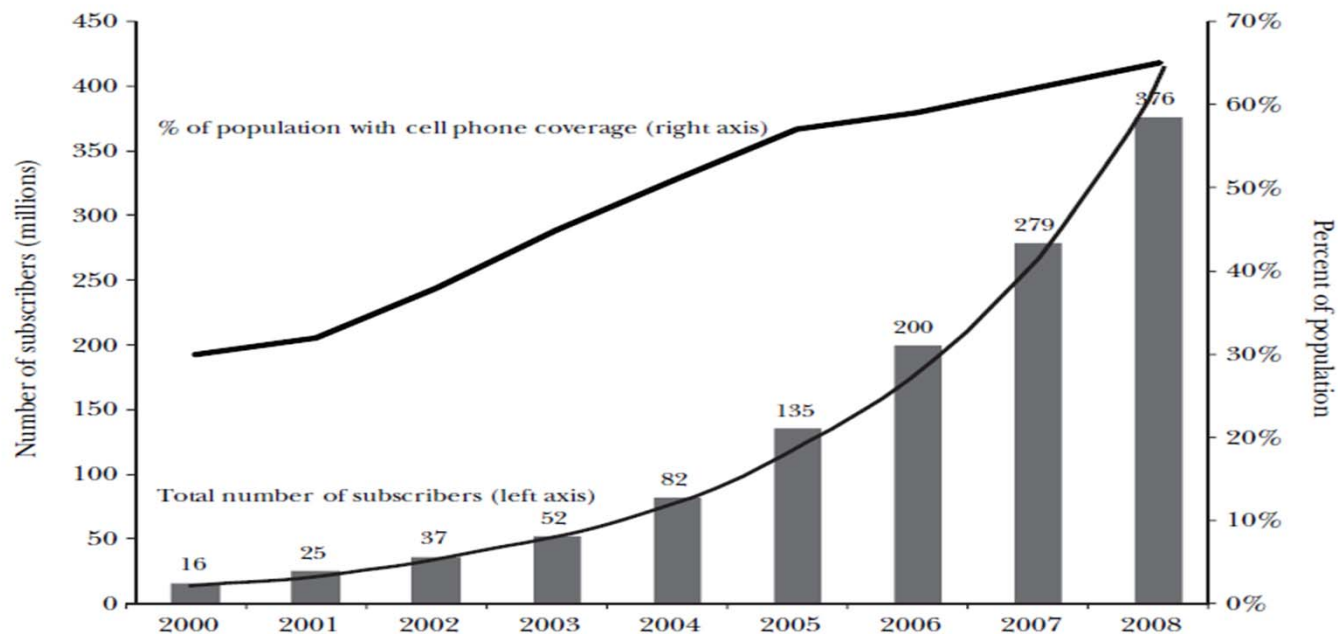
...but SSA population without electricity has not diminished because of population growth



Source: International Energy Agency

Cell phone story – is there an equivalent in the energy sector?

Number of Cell Phone Subscribers and Cell Phone Coverage in Sub-Saharan Africa, 2000–2008



Sources: Mobile phone subscription data are provided by Wireless Intelligence. The percentage of the population with mobile phone coverage is provided by GSMA.

Notes: “Mobile phone subscribers” are active SIM cards rather than individual subscribers. One individual could have multiple SIM cards for different cell phone service providers, thereby potentially inflating the total number of individual users within a particular country. “Cell phone coverage” refers to having cell phone service in one’s area (being able to get a signal.)



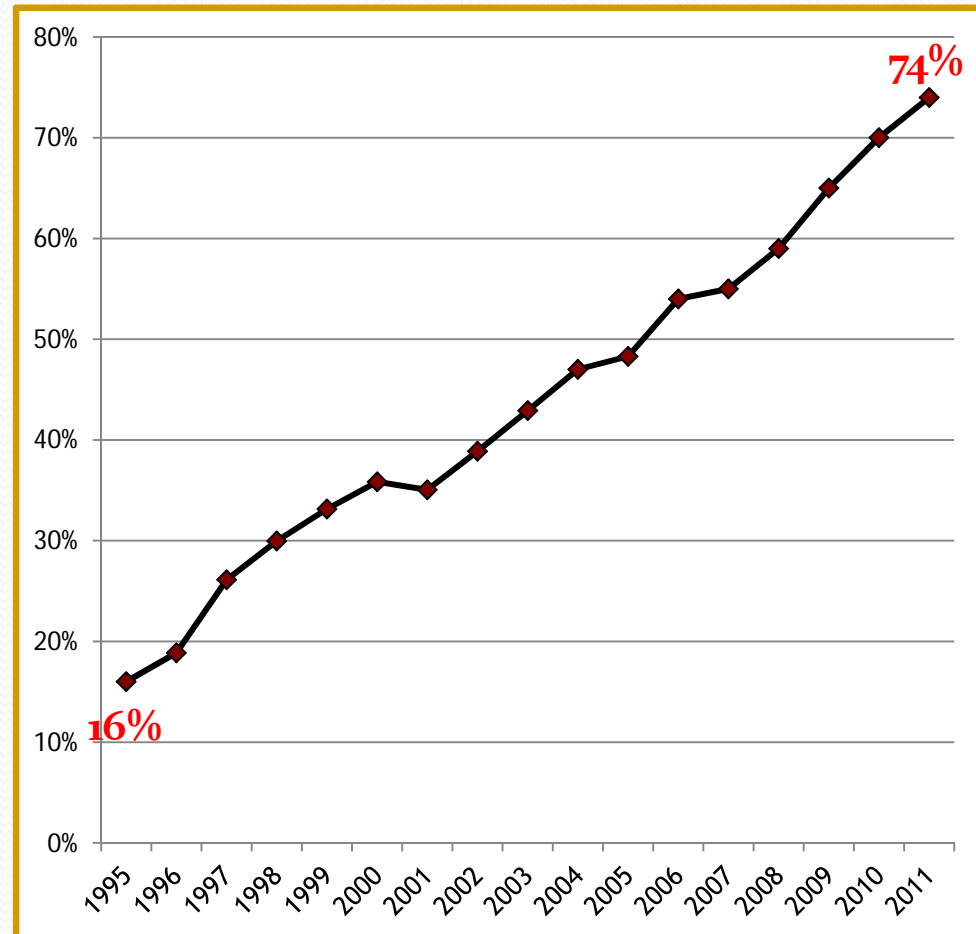
Rural Electrification in Laos

Socio-Economic Context

- GDP per capita: **\$1010** in 2010
- Population: about 6.5 million, **1.3 million households** in 2011
- Poverty incidence: **28%** below \$1.25/day in 2008

World Bank Support:

- Five (5) rural electrification projects since 1987





Lao Rural Electrification – How?

1. Government commitment:

- Clear targets: **70%** by 2010; **80%** by 2015 and **90%** by 2020
- Striking a balance between financing, subsidy and cost-recovery tariff
 - Concessional lending to EdL for grid extension, Hydropower export revenue dedicated to rural electrification
 - Tariff reforms
 - Settlement of circular debts (mostly governmental agencies)

2. Utility-led grid extension: by Electricité du Laos (EdL) and achieved fast expansion of grid coverage

- Corporate culture dedicated to accountability for results, from headquarters to branch offices
- Strong implementation capacity, as a result of **Capacity building** for planning, design, and implementation to deliver

Lao Rural Electrification – How?



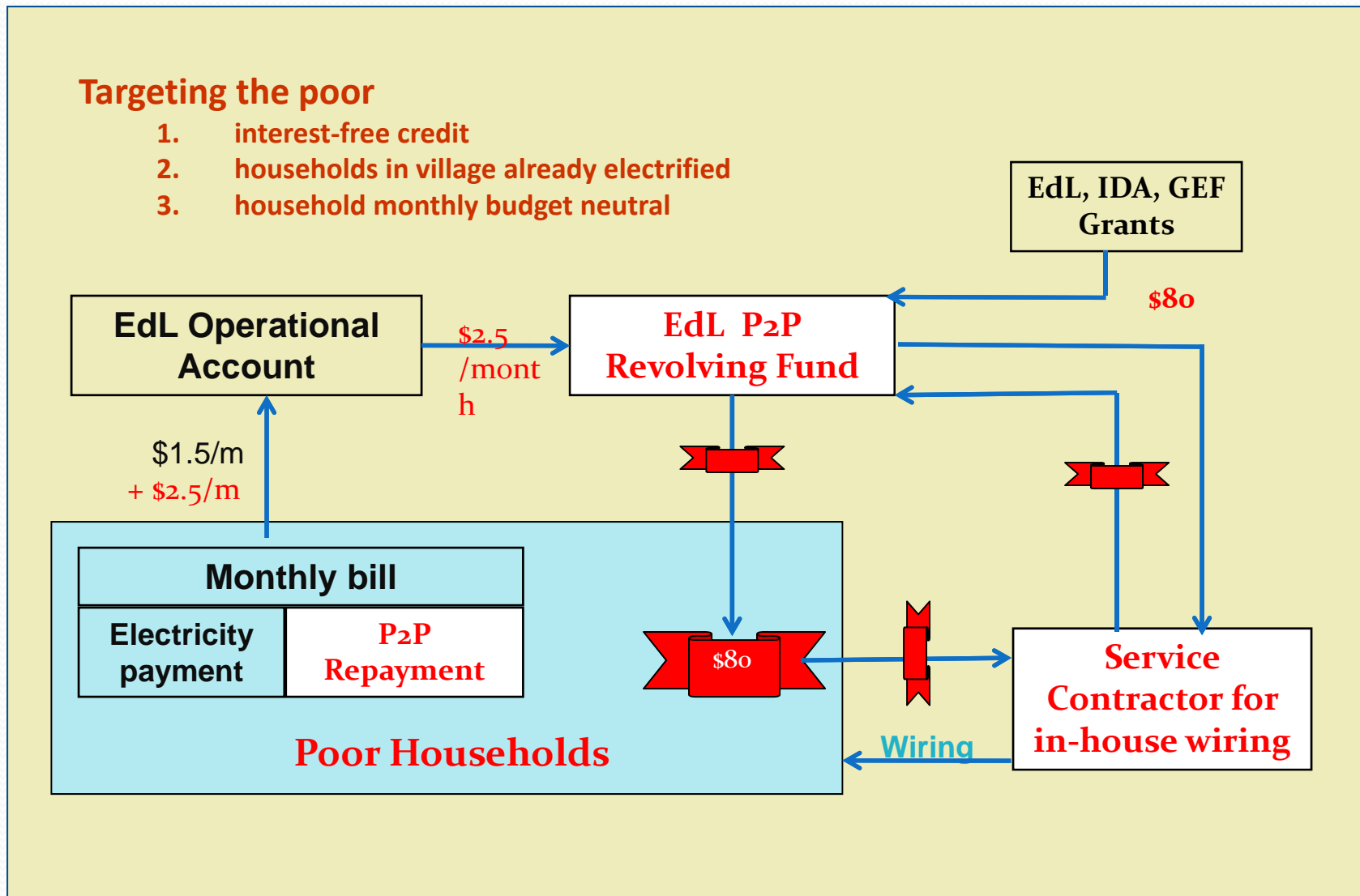
3. **Power to the poor (P2P) program –targeting the gender dimension of rural electrification**
 - **Village Screening** - Maximize social economic impacts
 - In villages electrified, **20-40%** of households not connected to the grid because they can't afford the connection charges (**\$80-100**) as shown by 2004 Survey

4. **Off-grid Electrification – based on solar photovoltaic, micro-hydro, and biomass and implemented by both the public and private sectors.**
 - **Innovative lease-purchase scheme.** Households have a choice of a range of solar PV sizes and pay an installation fee (lowest US\$16), then lease the system and make a monthly payments of about (US\$1-3) over five or ten years. They become the owners of the system at the end of the leasing period.
 - Small amount of electricity provided by solar PV systems are changing their lives, including enabling significant levels of increased income generation.

Power to the Poor – Ideas

Targeting the poor

1. interest-free credit
2. households in village already electrified
3. household monthly budget neutral



Power to the Poor - Results

Example: Phosaad Village

- Grid to village in 2002
- 270 households
- 63 not connected by 2008
- **Power to the Poor:** connected all the 63 households in in one month (02-03/09) in 2009, achieved 100% connections in the village



Power to the Poor – Results

- **Power to the Poor:** pilot in 2008 and mainstreamed into the EdL's rural electrification projects since 2009.
- **Results:** by June 2011
 - Implemented in **488 villages**
 - **Average access rate** increased from **80%** to **98%**
 - Connected **16,632** poor households, including **1,042 female-headed** households.



Thank You and Look Forward
to Learning Your Success in
Clean Energy Development

from Junhui Wu