Ghana's Energy Sector:
Opportunities for Research to Guide Policy Design and Implementation

N.D.K. Asante
Director, Technical Regulation
Ghana Power Sector

- Reforms initiated in late 1990s
  - Sector unbundled
    - Independent Grid Operator – GRIDCo
  - Regulators Established
    - Technical – Energy Commission
    - Commercial – PURC

- Status of Grid
  - Inadequate generation capacity
  - Tariff “under-recovery”
  - Chronic power shortages
Meeting Demand Growth

Increased Power Generation (new power plants)
⇒ Attractive tariff (cost recovery)
⇒ Assurance of payment (ability/willingness to pay)
⇒ Availability of fuel

Reduced Energy Losses
⇒ Investment in transmission & distribution
⇒ Reduced power theft

Increased Energy Efficiency in End Use
⇒ Behaviour change of consumers
What Tariff is “Sustainable”? 

- Cost recovery + ROI is easy to calculate, but what about
  - Equity: level of income, regional pricing
    - Survey of power pricing in ECOWAS region, indexed to income levels and cost of living
  - Ability/Willingness to pay: What motivates this and is there a deviation between Ability & Willingness
    - Are Ghanaians able but unwilling to pay? If so why?
    - Is quality of service really the key to increased willingness to pay?
Increasing Energy Efficiency

- The Energy Commission promotes the Efficient use of Energy
  - Switch to CFLs and now LEDs
  - Ban of import of used refrigerators and air-conditioners
  - Standards and Labelling programme for lighting, refrigeration and air-conditioning

- Results mixed
  - Successful elimination of incandescent bulbs
  - Interest in LED bulbs prior to any legislation
  - Success of refrigerator rebate programme
  ...but
  - Complaints about cost of efficient appliances
  - Resurgence of used refrigerating appliances
  - Poor choices in building design
What motivates “Energy Saving”?

- Is electricity price in Ghana too low to motivate energy saving?
  - What role can “smart metering” systems play in motivating saving?
  - Will prepayment metering motivate saving (by reducing non-payment)?

- Is there a cultural imperative working against energy saving?
  - Are awareness creation and public education campaigns the key tools required?
Universal Access to Electricity

Will require private sector participation
⇒ Economic tariff (cost recovery) or Subsidy
⇒ Assurance of payment (ability/willingness to pay)
⇒ Availability or access to capital

Ghana has a “policy” of equal tariffs throughout the country, and this has been applied to:
- Petroleum Products
- Electricity Services
- Water Services
- Gas Transmission Service
Uniform Tariff

Some Contradictions
- Off-grid electrification requires higher tariff
- Poor rural communities appear willing & able to pay
- Higher tariff not permitted because it is anti-poor

Questions
- Is uniform tariff or its level the problem?
- Is rural willingness to pay “sustainable”?
Thank You