

# Mini-Grids: Five Key Regulatory Issues

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# The Plan Today

- Issue #1: Licenses and Permits/Registrations
- Issue #2: How to Set Tariffs For Retail Customers
- Issue #3: When Should Happen When the Big Grid Connects to the Mini-Grid
- Issue #4: Connected Sales-Tariffs for Bulk Sales and Purchases
- Issue #5: Quality Assurance

# Views on Regulation

- “Regulation can provide a fertile ground. But regulation does not make a market” IFC official, January 2012.
- “The less we have to do with government, the happier we are.” Indian mini-grid developer, November 2012.
- “Where regulation is burdensome, success tends to depend on whom you know, rather than what you can do.” World Bank report 2009.
- “I cannot get financing unless I have a piece of paper that gives me official status.” Tanzanian mini-grid developer, 2012

# Issue #1: Licenses and Permits/Registrations

- Review of technical and financial competence to operate the mini-grid?
  - Realistic for a regulator to review 100-200 projects?
  - But developer may have no experience
- Differences between licenses and permits
  - Approvals (licenses) vs notifications (permits)
  - Size (generation capacity or number of customers)
  - Required info for the application
  - Periodic reporting requirements
  - Exclusive vs non-exclusive? For how long?
- Grant provisional licenses? For how long?

# Issue #2: How To Set Tariffs for Retail Customers

- Regulator must approve in advance?
  - Tanzania—yes (100 kW and larger); Rwanda-no
  - *De facto* regulation by gov't grant giver (Mali) rather than the regulator
- Reality: mini-grid's costs will be higher
- Tariffs based on the mini-grid's costs or capped at the “national uniform tariff”?
  - MP: “ I don't care what your regulations say. How do I explain to mini-grid customers why they are paying 4-5 times higher than their cousins in a connected main grid village?”
  - Operating subsidy if mini-grid tariff is limited to national uniform tariff—feasible or efficient?
- Tariff setting: community owned (too low) vs privately-owned (too high) mini-grids

# Issue #3: What Should Happen when the Mini-Grid Connects to the Main Grid?

- Possible options when the main grid arrives
  - Main grid operator takes over all retail sales (Nepal and Sri Lanka)
  - Mini-grid generator becomes a small IPP (Sri Lanka)
  - Mini-grid converts to a small power distributor (SPD) (Cambodia)
  - Mini-grid converts to a SPD and small IPP (Nepal)
  - Mini-grid goes out of business (with or without compensation)
- Technical/engineering requirements for each
- Emerging issue: ability of the SPD/SPP to operate in “islanded” mode
  - At what cost?

# Issue #4: Tariffs for Bulk Sales and Purchases by Connected Mini-Grids

- Tariffs for Bulk Sales by the SPP
  - Buyer's avoided cost, seller's cost or bid price
  - Who pays for premiums above buyer's avoided cost?
- Tariffs for Bulk Purchases by the SPP
  - For backup or supplemental power
  - Energy charge and demand charge (with or without a ratchet)

# Issue #5: Quality Assurance and Safety

- Balance need to protect consumer against imposing restrictions that limit innovation
- Voluntary Quality Assurance (QA) framework
  - levels of service;
  - protocols for measuring power reliability and quality
- Minimum technical standards or recommendations for mini-grids address safety (fire, electrocution) and reliability concerns.
  - Sri Lanka, IEC