

## Minigrid Viability Gap and Structures for Electrification

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# Background



**Goal:** Achieve universal energy access in Ghana, in part with mini-grids

**Issue:** There is a viability gap between national tariff and mini-grids costs

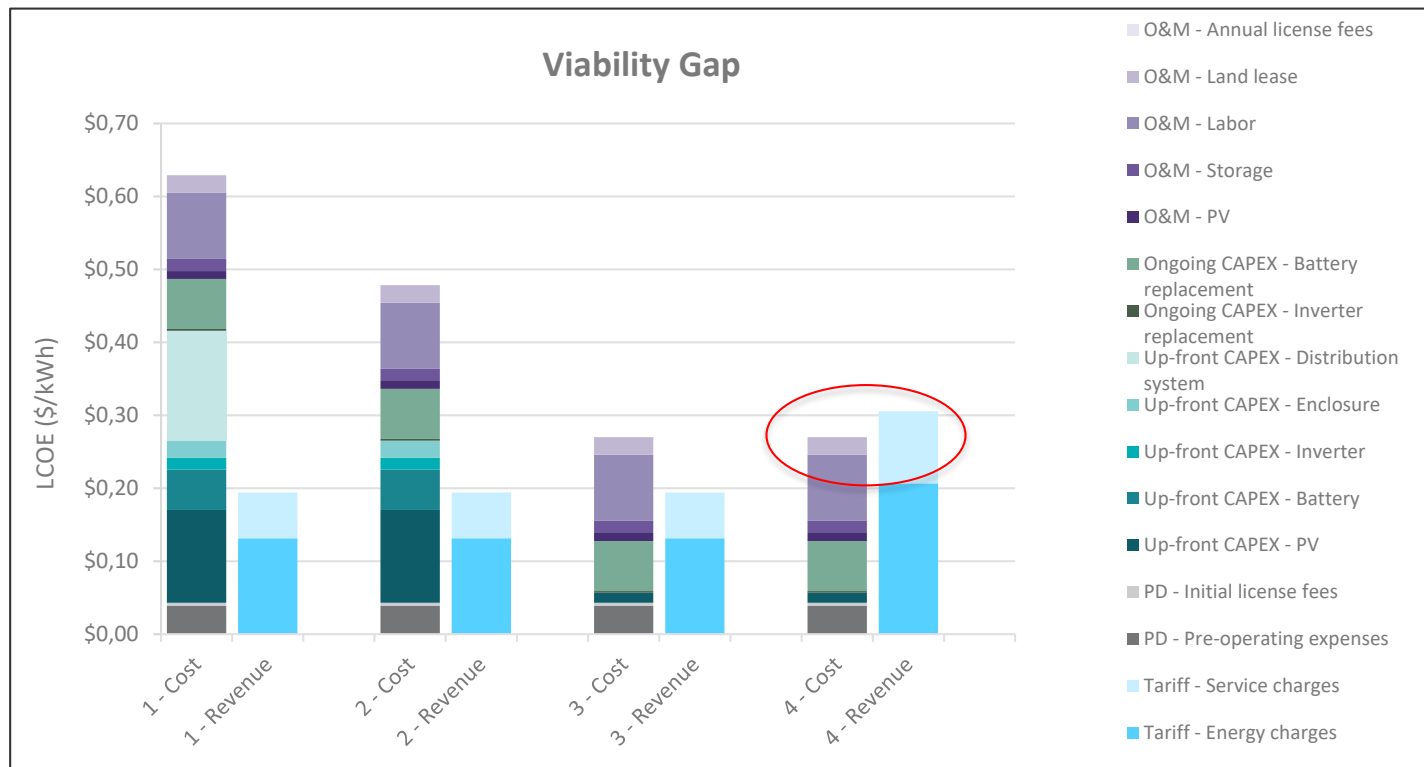
**Scope:** Analyze viability gap and possible structures and considerations for energy access programs

**Purpose:** Provide information to support Government of Ghana decision making



# Results: Example Portfolio

- 200 systems
- 6.8 MW PV
- 15 MW storage
- **Totals**  
 CAPEX = \$21 M  
 Life cycle cost = \$36 M  
 Tariff revenue = \$11 M  
 Viability gap = \$ 25 M  
 (~\$500+/connection)
- **LCOE**  
 Cost- \$0.63  
 Tariff- \$0.19  
 Viability gap- \$0.43



Base Case

Distribution Subsidy

Full CAPEX Subsidy

Full CAPEX Subsidy with 10% Tariff Growth

# A Range of Options for Subsidy Design

- Subsidize to cover capital or operational costs; either for generation and/or distribution

