Hybrid ESCO Model:

Tower Energy Services & Community Add-on

Green Power for Mobile Myanmar Working Group

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Andy Schroeter, CEO
Sunlabob Renewable Energy, Ltd.
andy.schroeter@sunlabob.com

Sunlabob Renewable Energy

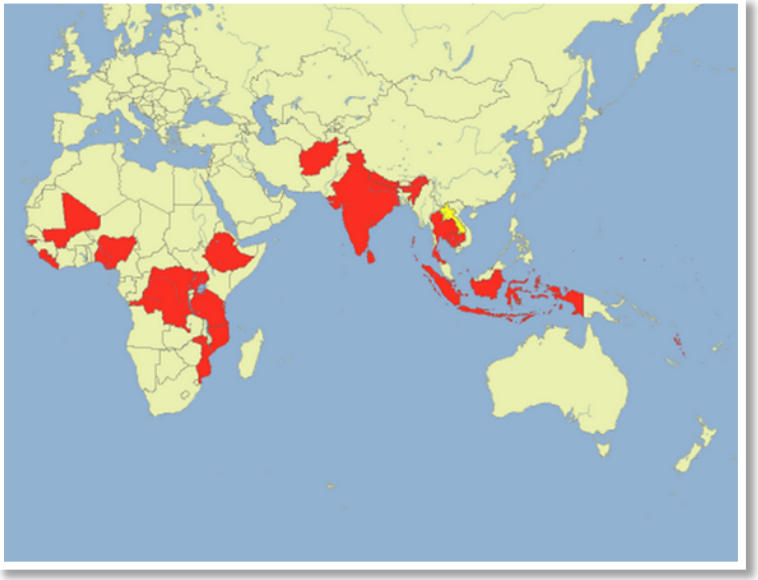
RELITEC
Reliable Energy Solutions

Sunlabob: Off-Grid RE Experts

- **Founded in Laos in 2000,** expert in off-grid renewable energy
- **Internationally-focused**: throughout 20+ countries in ASEAN, Pacific islands, Africa, India
- **Deep experience** in some of world's most challenging rural environments
- **Innovative community-based ESCO model:** combining energy provision with local capacity-building and training
- **Cutting-edge hybrid systems:** maximizing fuel efficiency for decentralized grids

About Sunlabob









Relitec: Telecom-Solar Experts

- Founded in Myanmar since 2011; including in-country solar BTS implementation/optimization projects
- 20+ years of international telecommunications experience
- 20+ years of international solar PV / solar thermal experience
- Trained local workforce; ability to scale-up to meet deployment demands





ESCO Opportunity: Myanmar

- Unprecedented tower roll-out timeline and demands
- 6,000+ towers to be built off-grid in 5 years
- Operators and towercos in need of energy supply that is:
  - Reliable
  - Affordable
  - Safe
  - Insulated from risk
  - Practical – financially, logistically, environmentally
  - Modular, flexible, scalable
  - Not a CAPEX burden

RE-hybrid ESCO solution offers:

- technically, operationally and financially sustainable option

Why Outsource to ESCO?

- **Off-grid experts:** Energy is managed by ESCO with multi-industry, multi-country experience with off-grid renewable energy
- **Reliable**: Hybrid systems offer uninterruptable energy supply at optimized efficiency (cost, performance)
- **Upgradable:** ability to scale-up energy supply with additional tenants and demand
- **Specialized engineering and modeling** achieves most economic RE/diesel ratio
  - Proven diesel/cash savings on hybrid retrofitting of gen-sets in Myanmar (ex: 22kW operator saving $250,000 over 20 years)
- **Focus is on business model, not technology:** ESCO is technology independent and flexible to specific requirements

Why Outsource to ESCO?

- **Protection from risks of diesel**: price increase, safety, maintenance, fuel delivery
- **O&M peace of mind:** responsibilities and most risks lie with ESCO, not customer
- **CAPEX reduced & predictable OPEX**: Power Purchase Agreement (PPA) on a kWh or flat monthly rate

Extra benefits:

- **Positive public image:** “Green” reputation and GHG reductions
- Opportunity for **value-added community-level impacts** (see next slide – Community Energy Hubs)

ESCO: Tower-Community Power

Challenge: ~10% mobile penetration; ~30% electrification

Unique opportunity for telecoms infrastructure and industry to contribute to the urgent need for rural electrification in Myanmar…

- **Community energy services:** ESCO sells excess energy to nearby communities via Energy Hub (central charging station and productive uses)

Benefits

- Electricity fundamental to economic growth
- Operators/towerco's viewed as "enabler"
- Increased community trust and improved in-country reputation
- Potential increase in customer base and mobile phone usage
- Risks held by ESCO

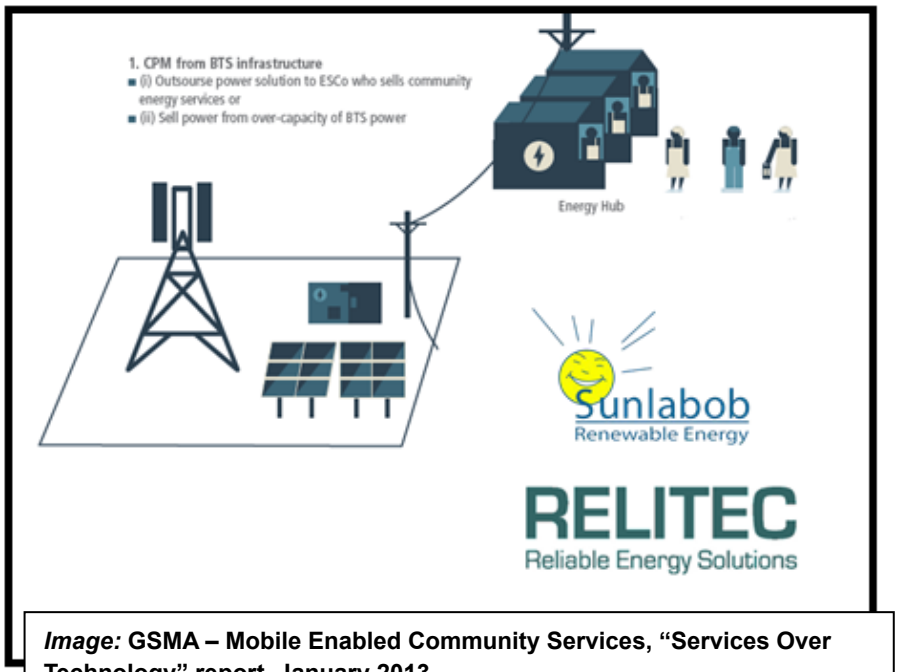


Image: **GSMA – Mobile Enabled Community Services, "Services Over Technology" report. January 2013.**

ESCO: Tower-Community Power

Topics & questions for discussion:

- Power planning for one or multi-tenancy
- Housing responsibilities
- Auxiliary AC power requirements
- Telecom equipment cooling requirements
- Site security responsibilities
- ESCO involvement to optimize building design (rooftop solar PV positioning, component positioning)
- ESCO involvement in site assessment (maximizing land constraints and shading areas)
- SLA variables across different site types (on- vs. off-grid)

Conclusion

Sunlabob-Relitec team offers combination of:

- Local, on-the-ground telecom and energy experience and staffing
- Leading experience with off-grid RE in challenging environments
- Years of ESCO model deployment to off-grid users
- Local network to scale up on demand
- Long-term O&M service and investment into Myanmar
- Added reputational benefits: “green” adoption and enabler of community energy services

Next step: secure pilot site(s) buy-in by operator & towerco

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Thank You

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