RE development in Kiribati

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Outline

- Background
- National energy target.
- Grid Layout in Tarawa
- Barriers
- Financial and Economic Analysis
- Summary of Actions
- Conclusion

Background

- **Country context**
  - 33 Islands
  - Population of 114,000
  - GDP per capita was USD 1,838 (2014)
- **Electricity context**
  - Tarawa – main Island
    - PUB
  - Kiritimati
    - MLPID
  - Outer Islands
    - KSEC/MISE

Sustainable RE development is a priority in all energy sector.

National energy target

Location	2025 fossil fuel reduction goal	Of which	
		Renewable energy	Energy efficiency
South Tarawa	45%	23%	22%
Kiritimati	60%	40%	20%
Outer Islands	60%	40% (100% in public/private institutions)	20%

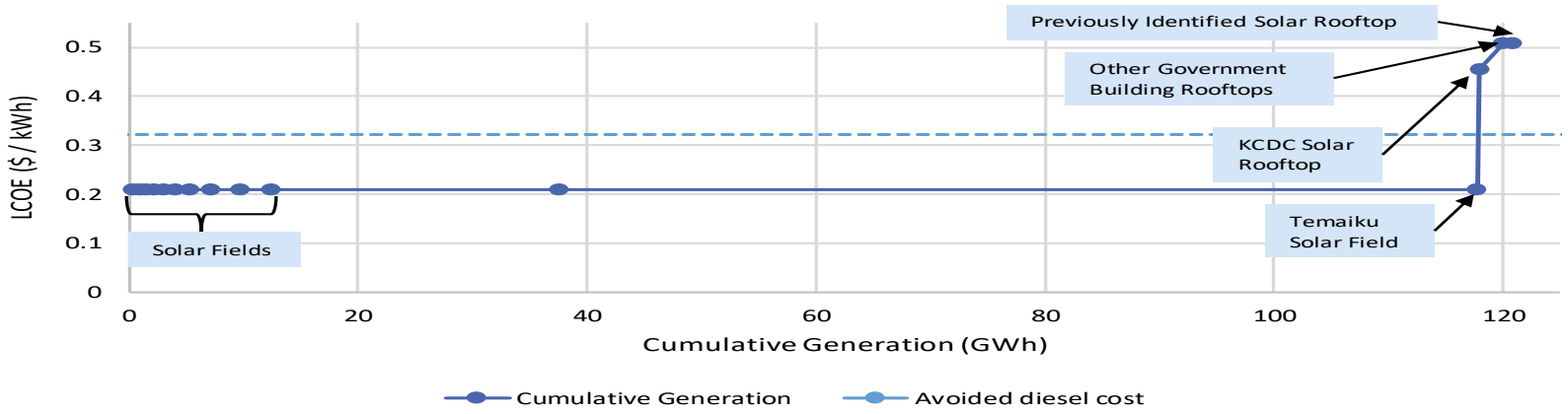
Grid Layout in Tarawa

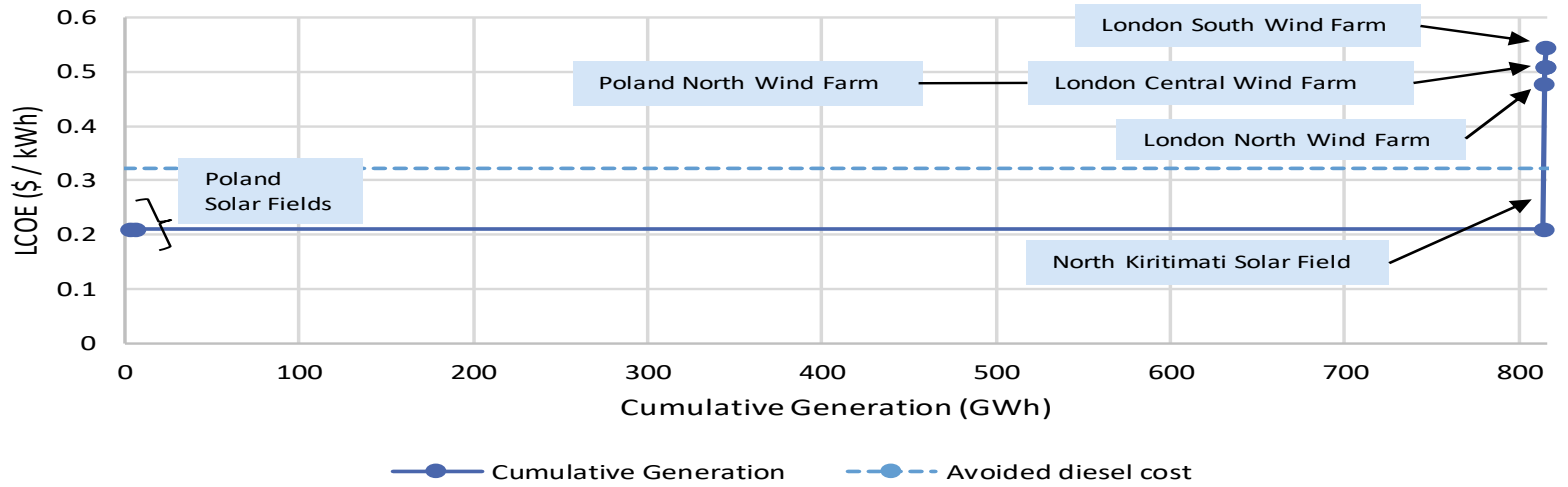
Barriers

1. **Regulatory and institutional**
   - Absence of Energy Act
   - Technical Standard
2. **Technical/Capacity**
   - Limited group of individual with experience in Solar pv installation, O&M
   - Concern about grid stability
3. **Environmental**
   - Limited land area
4. **Financial**
   - High cost of importing RE technologies
   - Investment climate is risky
5. **Social**
   - Lack of awareness about proper use of the technology

Economic viability – Tarawa and Kiritimati

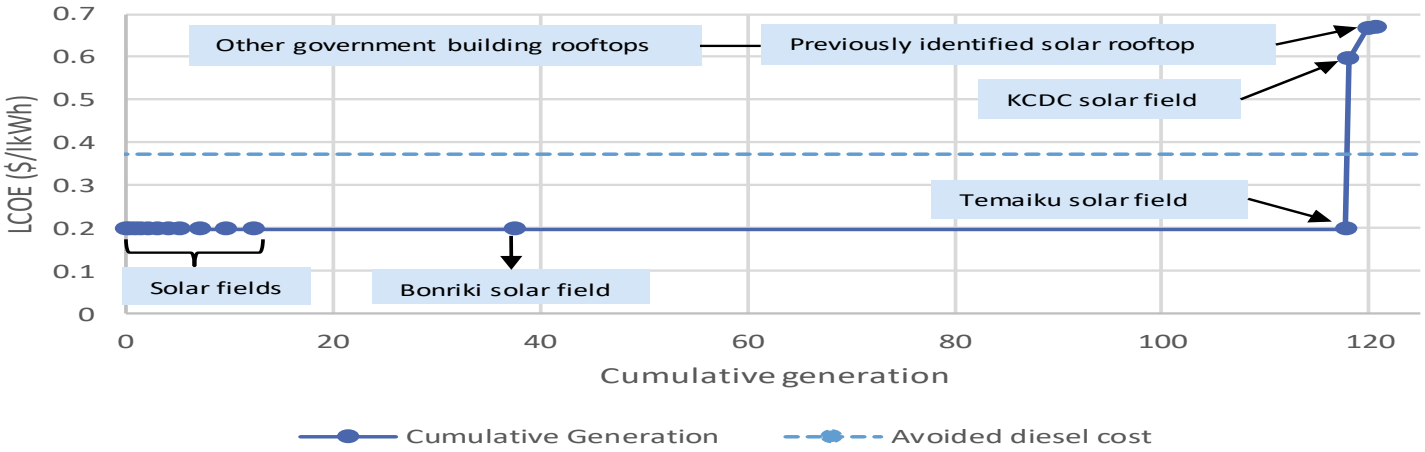
Solar fields are the cheapest option, followed by wind, then rooftop mounted solar PV.

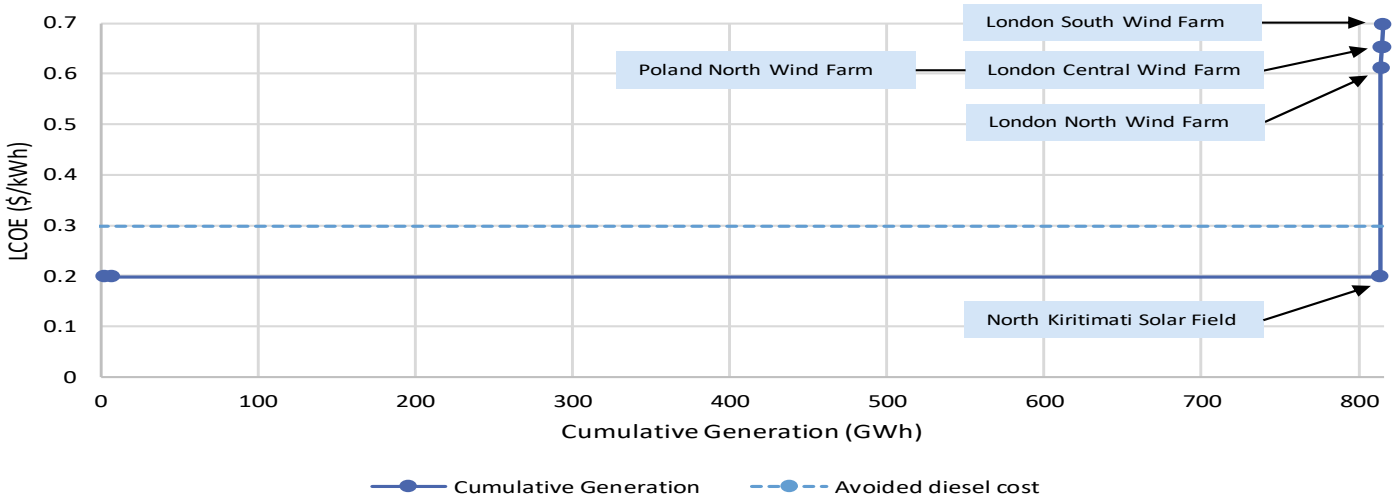




Financial viability – Tarawa and Kiritimati

Ground mounted solar PV projects with energy storage are financially viable.





Summary of actions

		Current Actions	3 year	10 year
Utilities	PUB (Tarawa)	• Solar PV completed last month • Utility reform • Capacity building	• More solar - 6MW of solar with Storage (20 million) • OTEC – I MW (20 million)	• Solar/ Storage/Other resources. • Distributed generation – Households/Commercial buildings
	MLPID (Xmas)	• Solar pv plus new power station completed earlier this year.	• Distribution network rehabilitation and expansion • Electricity demand study	• Solar PV/Wind with Storage (TBC).
MISE		• Energy Policy and Planning • Energy development coordination • Enabling RE/EE framework • Capacity building support	• Energy Policy and Planning • RE/EE enabling Framework. • Better coordination. • Enabling RE/EE framework	

Summary of Actions

	Current Actions	3 year	10 year
Consultants	• Project Management, Procurement. • Project/system Design and feasibility studies	• Project Management, Procurement. • Project/system Design and feasibility studies	• Project Management, Procurement, etc • Project/system Design and feasibility studies
Research	• RE resource assessment • Modelling and Analysis of Grid Integration for High Shares of Solar PV – Kiribati Case.	• finding optimal configuration and operation of distributed energy technologies. • Grid integration studies • Smart grid	
Donors/finance	• Financial and technical support.	• Financial and technical support	• Financial and technical support

Conclusion

Reliable, affordable and sustainable energy for the Kiribati