

Promoting Clean Energy in the Pacific Islands

Renewable Energy Progress in the Cook Islands



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Chief Executive Officer

Te Aponga Uira - Power Utility in the Cook Islands

Responsibility - serving about 80% of the power needs of the country, on the main Island of Rarotonga

Presentation - national perspective on the electricity sector - was, transformation and next



Overview

1. Energy Sector
2. Electricity Sector
3. Power Utility, Te Aponga Uira, RE progress



Energy Sector

- Petroleum - diesel, petrol and LPG aviation the main energy source:
 - Land transport use 50% of diesel and petrol
 - Electricity use 50% of diesel
 - LPG predominantly in cooking, some heating and cooling
 - Solar water heating is common, mainly on residential premises
- Renewable Energy - has made significant inroads - electricity sector, and soon the transport sector



Electricity sector - Was!

- Up until 7 or 8 years ago - predominantly diesel based generation, 99%
- One Island, Pukapuka, had 100% PV generation from the early 1990s
 - limited usage, lighting mainly
 - DC appliances unavailable and expensive
 - Maintenance was simple - mainly involving batteries
- Renewable energy was just another energy source - expensive



Electricity sector - Transformation!

- Government focus:
 - national target of 50/15 and 100/20 targets announced in 2010
- Policy changes instigated:
 - Renewable Energy Chart developed and finalised 2012
 - Stakeholders started implementation
- Investigations and studies launched:
 - Technical, economical, environmental, social etc
 - whats doable and not doable were identified



Electricity sector - Transformation!

- Engagement with partners launched
 - Funding identified - donors, borrowing, self
 - Technical - projects were developed and implemented
- Operational policies transforming
 - infrastructure transformed - augmented to integrate RE
 - generation - modernisation, automation
 - distribution - progressive update
 - enhancement of service delivery - communications
 - corporate restructuring - technology adaptation, skills, cost , tariff etc



Progress in Renewable Energy

- 50% of the inhabited Islands, six, have been transformed from 0 to 100% by 2015
- By March 2018 four more Islands will also be transformed, bringing to 84% the Islands running on 100% RE
- 100% of all Islands is possible by 2020



Status of RE as at June 2017

island Group	Penetration	Contribution
Northern Group Islands (6 Islands)	100%	100%
Southern Group Islands ((4 Islands)	20%	100% Mar 18
Aitutaki	10%	100% 2019
Rarotonga	80%	16%, 70 to 100% by 2020



Te Aponga Uira - RE Progress

- Government owned utility
- 100% diesel based generation until 2009
- Renewable Energy transformation began in 2009:
 - Policy changes:
 - Netmetering introduced
 - Self generation encouraged and implemented
 - Gross generation introduced in 2013
 - Private sector generation, IPP, encouraged and implemented
 - Own installation involving large scale systems with 1MW PV grid tie system commissioned in 2014



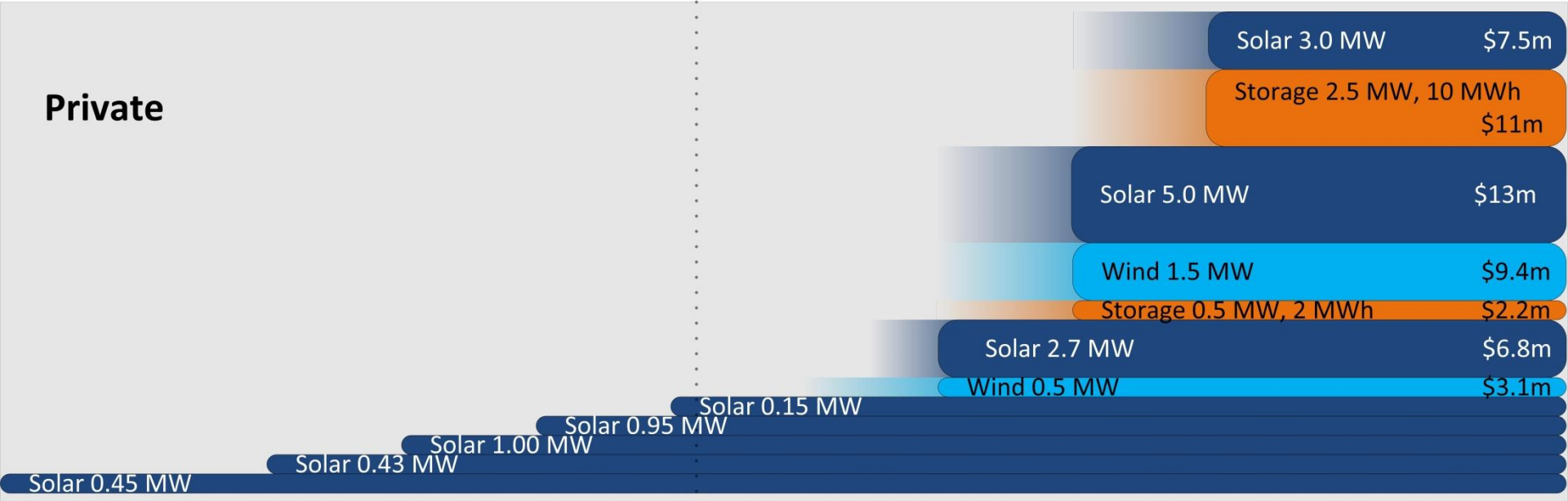
Te Aponga Uira - RE Progress

- 2% RE contribution end of 2012
- Computerised controls commissioned 2014
- 1MW PV system commissioned in 2014
- RE contribution increased to 12% in 2015
- High speed engines commissioned early 2016
- RE contribution increased to 16% by end of 2016

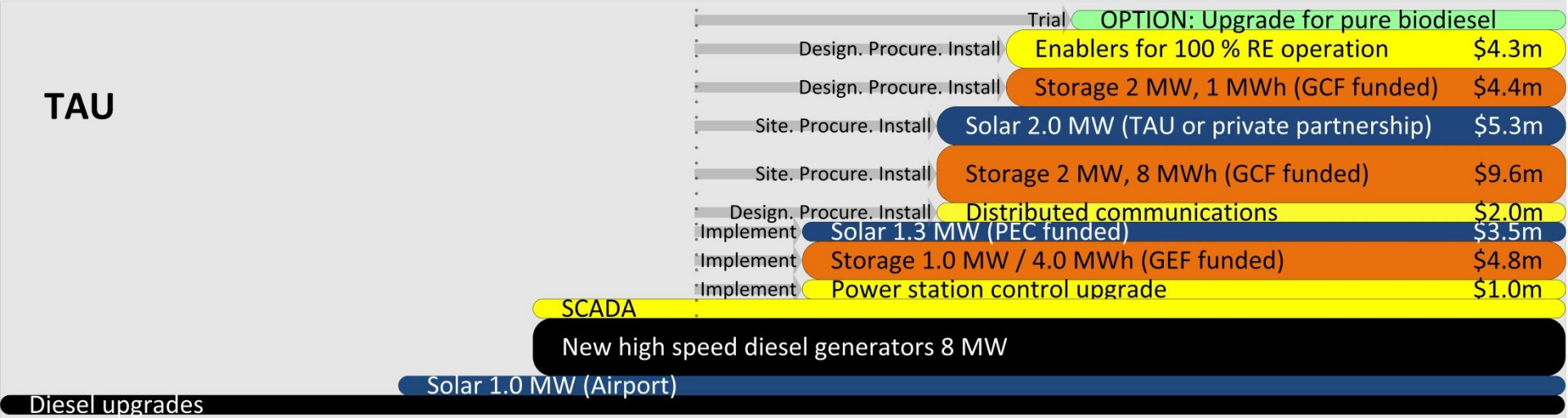
- Next Phase involve Storage - starting 2017



Private



TAU



Thank You

