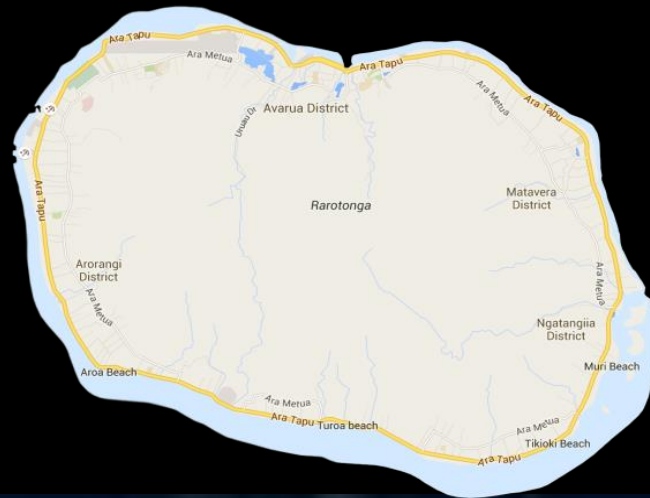


RAROTONGA

100% RENEWABLE BY 2020



79%

Emissions in the Cook Islands from the Energy Sector

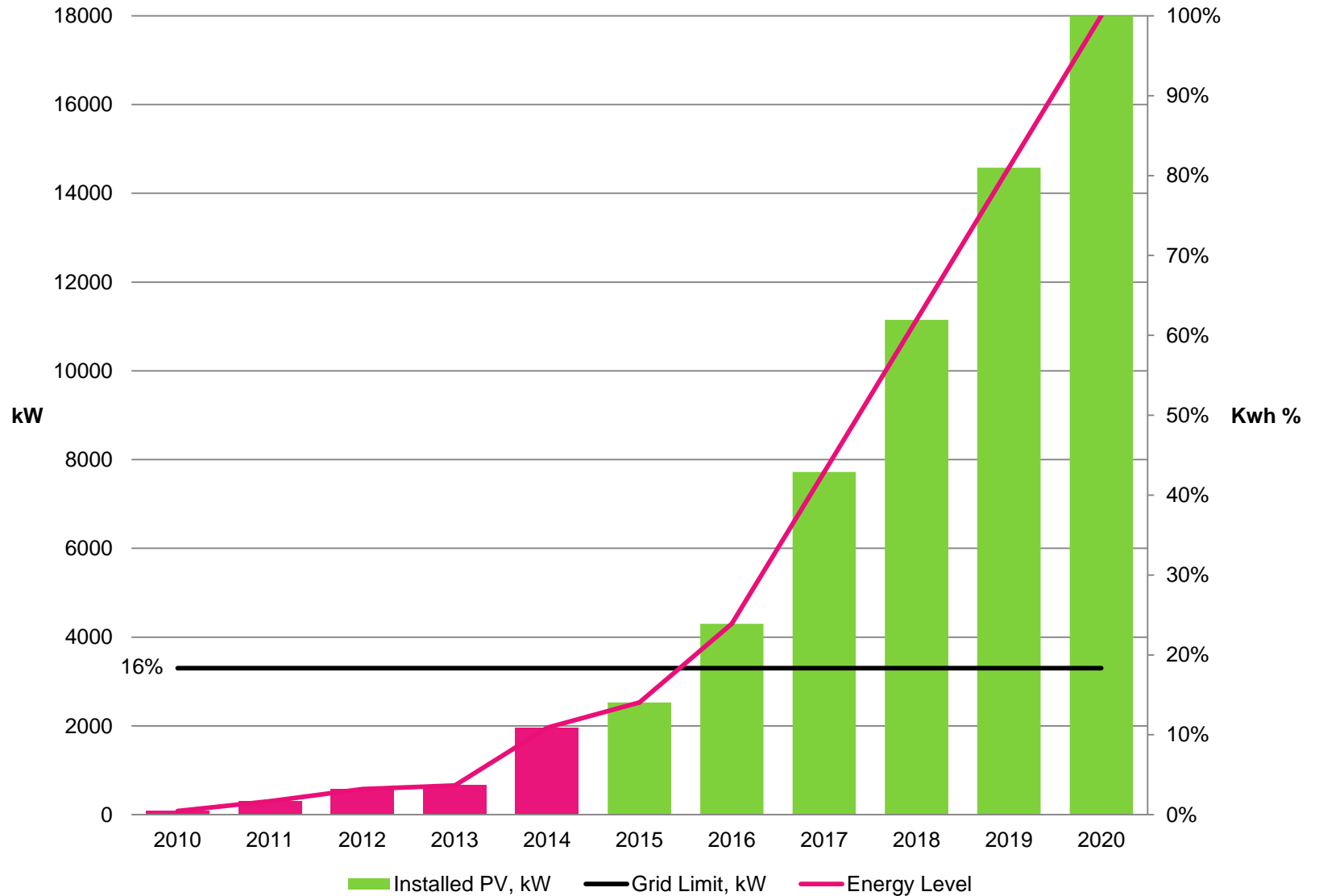
16%

Current Contribution from Renewable Energy Generation on Rarotonga

40%

Total Renewable Electricity Contribution by 2018

2015 RE Capacity [kW, kWh %]



INTERESTING FACTS



50% of solar farms on Rarotonga are owned by the private sector



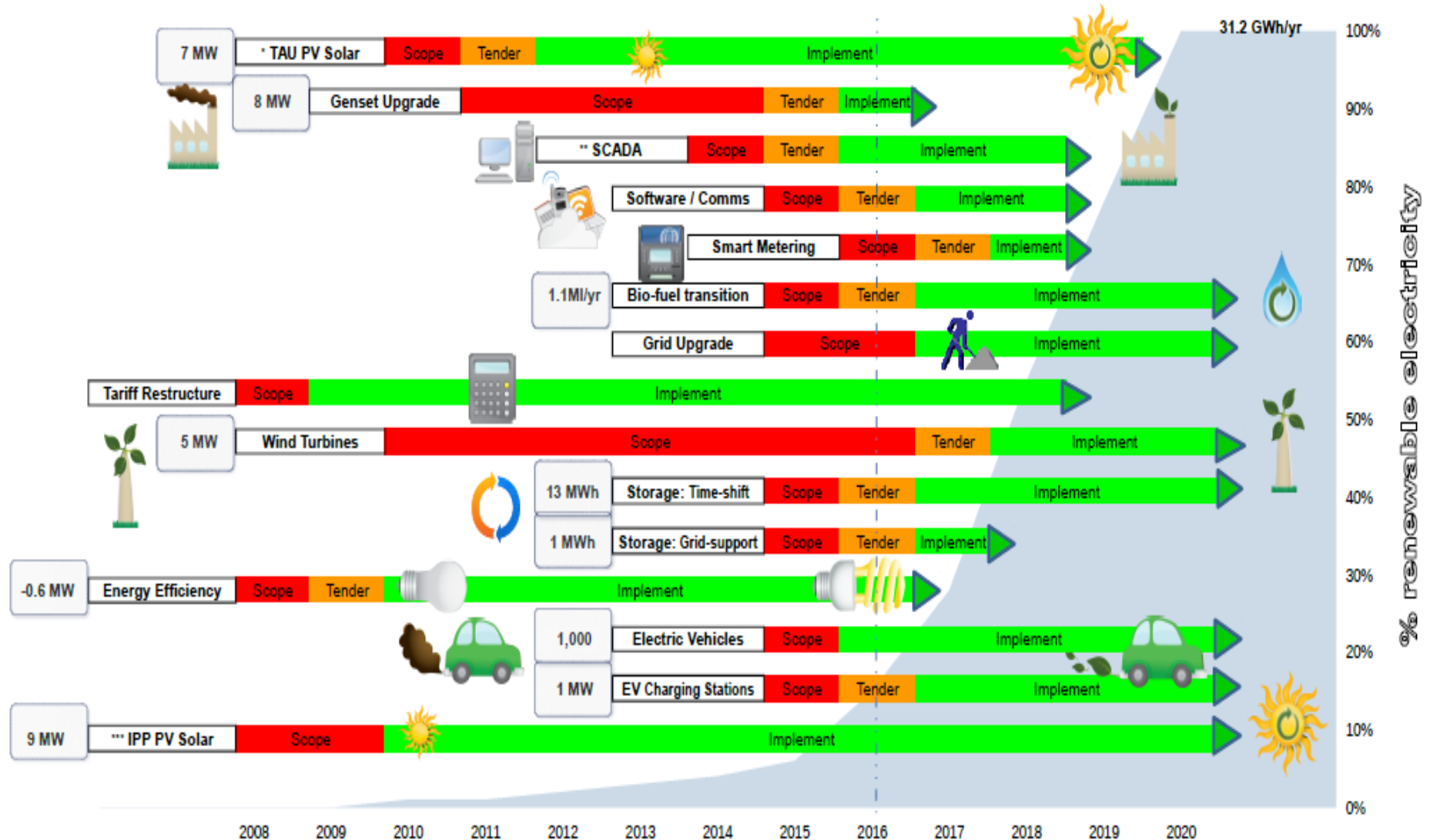
Solar, bio fuels and a limited wind resource will likely be the make up of generating assets for Rarotonga



Rarotonga's grid has reached its limit of connected unrestrained generation at 3.3MW, any additional renewables will require investments in grid support assets to maintain reliability

- Live Power System
- <http://www.kingislandrenewableenergy.com.au/>

RAROTONGA – From Diesel to Sustainable Electricity Generation by 2020



- * TAU (Te Aponga Ulra, Rarotonga Power Utility)
- ** SCADA (Supervisory Control And Data Acquisition)
- *** IPP (Independent Power Producer)

Immediate Challenges

- Maintaining grid stability with higher RE contribution from distributed inputs
- Communications framework
- Technology and price evolving fast
- Timeframes vs. Investment ability vs. Commercial viability
- Ownership and new industry development
 - Land availability
 - Capturing private sector interest (ROI)

Stage II – Rarotonga Renewable Energy Implementation Plan to 2020 and Beyond

- Dynamic Power System Modelling
- Technology contribution and sizing, \$ estimates
- Operational Policies
- 15 Year investment plan
- Commercial Arrangements for supply and customer pricing
- EV market

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Public Private Partnership Opportunity



Pacific Collaboration Opportunity



Research and Testing



Wind



EV Charging



Time Shift Storage



Grid Stability Battery



Smart Metering



Bio Fuel Testing





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