

An aerial photograph showing rows of solar panels in the foreground and several buildings in the background, partially obscured by a dark green diagonal overlay.

TREP

TONGA RENEWABLE ENERGY PROJECT



GREEN
CLIMATE
FUND

ADB



Australian Government
Department of Foreign Affairs and Trade



TREP Project

Project outcome is to reduce Tonga's dependence on imported fossil fuels for power generation

The TREP project is generally progressing well project targets are delayed due to the current global COVID-19 situation

All project deliverables remain on track to be achieved using unique delivery methods with considerable project savings

TREP



TREP 01 - Grid stability BESS Popua Power Station, Tongatapu (7.2MW/3.8MWH) and TREP 02 - Load Shifting BESS at the Villa, Tongatapu (6MW/20.88MWh)



Electrical installation ongoing using local labour overseen by a MV Technician from NZ. Due to the restrictions of bringing technicians from Europe. Remote commissioning Using 1 NZ staff instead of 8 European staff. Currently scheduled September and November Respectively however many challenges to overcome



TREP 03 Lot 1

- 350kW solar PV facility and 400kW/900kWh BESS at 'Eua
- 300kW solar PV facility and 900 kW/450 kWh BESS at Vava'u
- 100% designs complete. Contractor commencing remote mobilization of civil subcontractor



TREP 03 Lot 2

- Solar PV/BESS (100% RE) micro-grid, including low voltage distribution system for the following islands
- 'O'ua, Tungua, Kotu, Mo'unga'one, Niuafo'ou
- 100% design Due. Construction commencement delayed until Borders reopen



TREP-01: GRID STABILITY BATTERY

TREP 01 Grid Stability BESS civil and mechanical installation works complete using all local labor and remote support

Two experts mobilized from NZ for the HV installation and commissioning works.

All installation to be completed by end of this month then commissioning first two weeks September. Very difficult to mobilise European staff due to the Tongan and NZ border restrictions. Took a lot of work to ensure this was possible. We await confirmation whether successful



TREP-02: LOAD SHIFTING BATTERY

TREP 02 Load Shifting BESS civil and mechanical installation works complete

Once TREP 1 installation works complete local team with NZ technician will recommence on TREP 2 technician will leave October 20th so all works need to be complete by then followed by commissioning.



TREP-03: Lot 1 'Eua & Vava'u Solar + Storage



- Design complete. Project rescheduled to follow a sequential methodology and utilizing local staff as much as possible. New commissioning dates are Vava'u – February 2022, Eua – July 2022.
- Clearance and fencing underway in Vava'u. Supposed to mobilise staff on Today's flights but due to current Covid Situation now targeting 22 September. Need return tickets to NZ with no MIQ available this year. Contractor will not mobilise without return tickets

TREP-03: Lot 2 Off-grid Solar + Storage + Networks



- 1 land still remaining to finalise after 3 years
- Detailed design complete
- Community consultations completed on all islands with positive feedback given
- Commencement of works delayed until borders are open due to the number of international technicians required
- Had assumed October but will have to reschedule. Commissioning dates will be 9 months after borders open.

Other Progress



6MW Solar PPA progressing with site works underway due for completion in 2MW blocks in 2x September, 1 x October

Wind PPA negotiations still underway. However recent increase in price due to Turbine price increase has derailed negotiations

TPL still progressing another 6 MW PPA (GET) and the Chinese Windfarm should allow Tonga reach the 50% target



Other Progress

- Technology agnostic EOI went to market for 34GWh annual renewable energy production. Interested parties to propose the most cost efficient technology to provide.
- 12 submissions all a combination of solar, Wind and BESS
- Range 10-24 c/kw including storage. Around 13c seems achievable

Tonga to decide as can most likely procure the remaining energy to reach the 70% and install prior to 2024 at a tariff rate less than current diesel

- Project Savings have been identified and approval granted to use for Tongatapu Control and SCADA upgrade and including some Vava'u outer islands for electrification
- Feasibility studies for outer Vava'u islands underway with the site collection complete.
- TPL control and SCADA upgrade procurement documents are being produced

Saving
Utilisation