

Scientific and Technical Advisory Panel

The Scientific and Technical Advisory Panel, administered by UNEP, advises the Global Environment Facility
(Version 5)

STAP Scientific and Technical screening of the Project Identification Form (PIF)

Date of screening: May 08, 2015

Screeners: Lev Neretin

Panel member validation by: Ralph E. Sims
Consultant(s):

I. PIF Information *(Copied from the PIF)*

FULL SIZE PROJECT GEF TRUST FUND

GEF PROJECT ID: 9067

PROJECT DURATION : 3

COUNTRIES : Cook Islands

PROJECT TITLE: Renewable Energy Sector Project

GEF AGENCIES: ADB

OTHER EXECUTING PARTNERS: Ministry of Finance and Economic Management of the Government of the Cook Islands

GEF FOCAL AREA: Climate Change

II. STAP Advisory Response *(see table below for explanation)*

Based on this PIF screening, STAP's advisory response to the GEF Secretariat and GEF Agency(ies):
Concur

III. Further guidance from STAP

STAP welcomes this project which aims to scale-up renewable energy penetration in Cook Islands. STAP has the following comments/suggestions to be considered during project preparation:

1. Additional information is required what lithium-ion batteries capacity, storage period used in the design, capital cost, and replacement costs after 8-10 years?
2. If integrated into the diesel grid, how much battery storage is needed since a diesel gen set can be ramped up and down as load and power output fluctuate. Note also, PV output declines over time so not clear if that is included or not. The problem is if demand increases over time due to more appliances purchased etc., (even with all the best energy efficiency measures in place, which are crucial to maximise benefits from a PV investment), then this is exacerbated by less generation per panel. Additional investment in capacity may well be needed as time progresses, even to meet the same demand. Project proponents are advised to consider battery replacement costs in the project design. Also it is not clear if grid connection costs and any upgrading or the building of new lines are considered?
3. Numbers provided for GHG emission reductions by the project in Section F do not match with those provided in para 5: global environmental benefits. They have to be reconciled.
4. Total cost of \$24.28M equates to around \$51/tCO₂ avoided which is relatively high " but missing from the proposal are the cost savings from the 1.09mln litres of diesel per year, which probably are around \$3M per annum given the high delivery costs to these islands. So that would certainly help offset total costs and reduce \$/t CO₂. Conversely battery replacement costs seem not to be included.
5. "Institutional strengthening and project management support" in Component 2 includes some training and capacity building. Who is going to check, maintain and repair the systems once installed? This is a critical factor. Batteries also require checking and maintenance. STAP recommends providing support to local capacity for O&M of the installed equipment that is currently absent in the proposal.
6. The PIF states that the project strives to achieve a 100% RES electricity target for the southern group of islands. Additional to solar PV, other renewable energy options such as wind and to a limited extent, waste-

to-energy, could be considered for support for the Southern islands. The specific strategy for scaling-up is not presented other than referring to "innovative and technical combinations". In order to succeed, this project needs to pay close attention to a clear scaling-up strategy that should be outlined in the project document.

7. Climate risks are considered to be critical for project investments and undertaking a detailed climate risk assessment for proposed sites is strongly recommended, particularly in the context of updating the Cook Islands Renewable Energy Chart Implementation Plan.

8. GEF and other donors have invested significant resources promoting RES in the Pacific SIDs. The PIF is silent about lessons learned to date, as well as any replication strategy for other Pacific islands and elsewhere in ADB operations.

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
1. Concur	In cases where STAP is satisfied with the scientific and technical quality of the proposal, a simple "Concur" response will be provided; the STAP may flag specific issues that should be pursued rigorously as the proposal is developed into a full project document. At any time during the development of the project, the proponent is invited to approach STAP to consult on the design prior to submission for CEO endorsement.
2. Minor issues to be considered during project design	STAP has identified specific scientific /technical suggestions or opportunities that should be discussed with the project proponent as early as possible during development of the project brief. The proponent may wish to: (i) Open a dialogue with STAP regarding the technical and/or scientific issues raised. (ii) Set a review point at an early stage during project development, and possibly agreeing to terms of reference for an independent expert to be appointed to conduct this review. The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.
3. Major issues to be considered during project design	STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical methodological issues, barriers, or omissions in the project concept. If STAP provides this advisory response, a full explanation would also be provided. The proponent is strongly encouraged to: (i) Open a dialogue with STAP regarding the technical and/or scientific issues raised; (ii) Set a review point at an early stage during project development including an independent expert as required. The GEF Secretariat may, based on this screening outcome, delay the proposal and refer the proposal back to the proponents with STAP's concerns. The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.