

Scientific and Technical Advisory Panel

The Scientific and Technical Advisory Panel, administered by UNEP, advises the Global Environment Facility



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

Date of screening: 28th January 2010

Screener: Lev Neretin

Panel member validation by: N.H. Ravindranath

I. PIF Information

GEF PROJECT ID: **3953**

COUNTRY(IES): **INDONESIA**

PROJECT TITLE: **WIND HYBRID POWER GENERATION (WHYPGEN) MARKETING DEVELOPMENT INITIATIVES**

GEF AGENCY(IES): **UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP)**

OTHER EXECUTING PARTNER(S): **IN INDONESIA - AGENCY FOR ASSESSMENT & APPLICATION OF TECHNOLOGY (BPPT)**

GEF FOCAL AREA (S): **CLIMATE CHANGE**

GEF-4 STRATEGIC PROGRAM(S): **RENEWABLE ENERGY**

NAME OF PARENT PROGRAM/UMBRELLA PROJECT (IF APPLICABLE): **N/A**

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

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

III. Further guidance from STAP

1. This project aimed at the promotion of the on-grid wind hybrid power generation in Indonesia is a welcome and innovative initiative in the GEF climate change portfolio. The project is very systematically developed and covers all aspects namely, technology potential assessment, technology demonstration, financing, policy and institutional support, awareness and capacity building and ultimately market development for the technology. STAP commends such a comprehensive project's approach, which clearly identifies the barriers and covers all the activities required to overcome the barriers and promote market development. STAP suggests exploring a combination of wind and other renewable energy technologies such as energy from biomass as an alternative to diesel power generation.
2. Wind-diesel hybrid power systems are still a new technology with a limited experience. Therefore, technological risks of this project are considered to be high. The major initial problem faced by this technology is its disruptive effect on power quality and reliability. This is the reason why for medium-size systems, power penetration to grid does not usually exceed 30-40%. Three important technical barriers should be solved for successful implementation: to achieve higher power penetration levels special control measures should be installed; forecasting and strategic planning (particularly in the short-term) are crucial, and capacity for energy storage is often required for higher wind energy penetration (Weisser D. and Garcia R.S. *Renewable Energy*, 2005, 30: 1299-1308). STAP recommends exploring these particular technical risks during project preparation and address them in the project document.
3. The issue of climate change impacts on wind energy potential in the proposed areas is not addressed and could be integrated in the assessment.

STAP advisory response	Brief explanation of advisory response and action proposed
1. Consent	STAP acknowledges that on scientific/technical grounds the concept has merit. However, STAP may state its views on the concept emphasising any issues that could be improved and the proponent is invited to approach STAP for advice at any time during the development of the project brief prior to submission for CEO endorsement.
2. Minor revision required.	STAP has identified specific scientific/technical suggestions or opportunities that should be discussed with the proponent as early as possible during development of the project brief. One or more options that remain open to STAP include: <ol style="list-style-type: none"> (i) Opening a dialogue between STAP and the proponent to clarify issues (ii) Setting a review point during early stage project development and agreeing 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 revision required	STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical omissions in the concept. If STAP provides this advisory response, a full explanation would also be provided. Normally, a STAP approved review will be mandatory prior to submission of the project brief for CEO endorsement. 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.
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