

## REVISED STAP SCREENING TEMPLATE, OCTOBER 2022

GEF ID	11425
Project title	Polychlorinated Biphenyls-free Indonesia: Financing a shift to more efficient energy systems through the elimination of related waste and contaminated equipment
Date of screen	21 January 2024
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### 1. Summary of STAP's views of the project

The project aims to reduce PCB stocks in transformers held by several major private sector entities. Indonesia has an estimated 23,000 tons of PCBs (presumably PCB-contaminated oils and materials, not pure PCBs). This number could reach 880,000 tones of PCBs contaminated oils and contaminated transformer carcasses) held in at least 120,000 PCB-contaminated transformers.

The project was built on a completed Phase 1 through which a dedicated Ministerial Regulation on PCBs Management was created, a PCB disposal facility was built, PCB testing capacity was established, resulting in the testing of 10,000 transformers, and interest was generated for Environmentally Sound Management (ESM) of PCBs from holders of PCB-contaminated transformers.

The project's success (making Indonesia PCBs-free) hinges on creating a green financing mechanism that will incentivize transformer owners to embrace and implement PCB clean-up. However, the proposal fails to adequately describe how the financing mechanism will work or what will make it succeed. Furthermore, the Theory of Change fails to explicitly address barriers, enablers, or drivers that could influence each causal pathway. The assumptions are also inadequate. Moreover, the proposal seems to mix up what constitutes an outcome and outputs in the ToC. The Theory of Change, therefore, needs to be strengthened by considering how barriers could interfere with achieving the project impact, how enabling elements could be harnessed, and challenging some of the assumptions, such as the development of green financing instruments. The GEBs, in particular, the expected greenhouse gas emissions reduction, require further explanation of how they would be achieved, and the attributions need to be clarified.

Given the dependence of the project's success on the financing mechanism, which has not been adequately elaborated, the project will need significant improvement. STAP encourages the proponent to review the comments in Section 2 of this screen carefully and address all of the recommended revisions to the proposal. STAP has communicated its concern to the project proponent through the GEF Secretariat. The proponent has provided some responses and assured that efforts will be made to address the concerns raised during the PPG phase. STAP is available to engage and support on improving the project design as needed.

*Note to STAP screeners: a summary of STAP's view of the project (not of the project itself), covering both strengths and weaknesses.*

#### STAP's assessment\*

- Concur - STAP acknowledges that the concept has scientific and technical merit
- Minor - STAP has identified some scientific and technical points to be addressed in project design
- Major - STAP has identified significant concerns to be addressed in project design**

Please contact the STAP Secretariat if you would like to discuss.

### 2. Project rationale, and project description – are they sound?

See annex on STAP's screening guidelines.

1. System. This proposal addresses the upcoming Stockholm deadline of 2028 for the ESM of PCBs. It is clear that substantial PCB stocks exist in the country, although the magnitude of the inventory is inconsistent. For example, testing under Phase I suggests that few transformers contain PCB oils at > 50 ppm, the level

designated for ESM. Another problem is PCB cross-contamination, which occurs when PCB-contaminated oils are used to refill transformers, and mismanagement of PCB-contaminated transformers. While Phase I successfully set up a Ministerial Regulation on PCBs, the lack of legal enforcement provisions and institutional capacity to enable enforcement are impediments. A case is made that while Phase I generated interest by transformer owners to test for and decontaminate their transformers, financing for destruction is a barrier. Green financing mechanisms are presented. However, clear pathways toward their implementation are lacking.

2. The baseline of the problem and barriers were described, including the PCB inventory, which, as noted above, was somewhat confusing. The barriers are described as lack of enforcement, institutional capacity for enabling enforcement, and a lack of financing. Regulatory and capacity issues were part of the main focus of Phase I, so it is unclear why this barrier still exists, what was done wrong in Phase I, and how to ensure that Phase 2 overcomes the issues.

The problem of cross-contamination and PCB release during transformer handling was presented. The enabling elements are explained as being transformer owners' interest in undertaking ESM and the availability of a PCB facility capable of ESM.

3. Uncertain futures: This was not covered despite room for consideration, e.g., different scenarios with financing schemes, different degrees of government prioritization for staffing for monitoring and enforcement, how would the project deal with the finding of many transformers with PCBs around or below 50 ppm that may not qualify for replacement?.

4. Objectives: Why this project and not another? This project is justified in order to meet the Stockholm Convention deadline for the ESM of PCBs by 2028, and it is a follow-up to Phase I, highlighting some of the remaining issues from Phase I. The goal of establishing a sustainable system of PCB disposal, prioritizing enforcement, financing, and actual ESM of PCBs, is appropriate for the Indonesian context.

5. Theory of Change (ToC):

In general, the ToC includes specific actions, outputs, and outcomes to support the impact (ESM of 10,000 tons of PCB-contaminated materials). However, the proponent seems to mix up what constitutes an outcome and outputs. For example, the first long-term outcome (on enforcement) was phrased like an action/intervention, and the second (on sustainable financing) reads like an output. For clarity, the outcome is the flow-on effect resulting from the interventions/actions, while the output is the immediate results of the action.

The causal pathways are not adequately related to assumptions, and the ToC does not explicitly address barriers, enablers, or drivers that could influence each causal pathway. Root causes (e.g., cross-contamination) are also not indicated.

- Assumptions. Several of the assumptions seem inadequate. The proposal assumes that the government is committed to the project; however, competing government priorities for staffing for enforcement could undermine this commitment. Thus, the assumption of having sufficient government capacity for monitoring and enforcement is in question. The assumption of having enough technical expertise is not substantiated with identifying who and how this will be provided. More so, should this be an assumption since this is part of the project components (component 3)? The assumption on timeframe consideration is not appropriate. Good project management involves designing projects with consideration of the proper timeframe to deliver expected outputs and outcomes. This shouldn't be assumed. An important implicit assumption is that proposed PCB handling methods will not result in cross-contamination and releases during transformer handling. Indeed, this could be a root cause of the finding of many transformers with PCBs < 50 ppm. While these threats were identified, the proposal does not address remedial measures.
- Causal pathways require elaboration to demonstrate causality, which could be enabled or impaired.
- Barriers and enablers. Many barriers are discussed but require a connection through the ToC. For example, could cross-contamination undercut the achievement of the ultimate impact? Could ESM be frustrated by the finding of mostly transformers with PCBs < 50 ppm? What will enable the establishment of green

financing? Pressure exerted by NGOs was listed as an enabling element; however, the proposal didn't mention consultations with NGOs.

- Drivers. The main driver of the Stockholm Convention deadline is clearly articulated.
- Enduring change was not discussed but could have been in terms of applying knowledge gained and capacity built to other hazardous waste management issues.

6. Components: The proposal provides detailed descriptions of Components 1-3 and less so for Component 4. The components need strengthening as follows:

- Component 1 could better address the potential barrier of competing government priorities not providing sufficient resources for monitoring and enforcement. What's the fallback? It is unclear how "well-established national environmental management performance assessment and certification programs" fit into this project and who will undertake the certification work. What is the purpose of certification? Who will pay for auditors to conduct audits under ISO14001 and 45001? What would compel an industry to undertake an audit?
- Further on, ISO14001 and ISO45001, if PCBs are already included in these standards, and reputable industries in Indonesia already hold certifications for both standards, why are they not already acting? How are they able to maintain their standard when they are not addressing PCBs? This negates the logic that incorporating PCBs into PROPER will catalyze behavior change among industrial actors.
- Component 2 provides a laundry list of many options for green financing but without a clear pathway for implementation or logic on why any option will work. For example, it is unclear how a green bond will be successful for a project focused on waste management if there is no expected substantial financial return. What is the justification for investors to buy a bond focused on PCB cleanup? What will the returns (financial?) be?
- Some proposed financial mechanisms involve owners of PCB making financial contributions, but it is unclear why they would want to do that rather than continue with a business-as-usual option that will not affect their profit margin. For the revolving funds, who will establish the fund, and what are the specific gains/incentives that will encourage them to do so? A low interest rate is proposed and can be attractive, but why would an organization want to take a loan for transformer cleanup if such action does not explicitly increase its returns? If a return on investment is expected, this was not clearly noted in the component and needs to be explained. For the Environmental and Infrastructure Damage Insurance Scheme or EIDIS, where will the financing come from? What would compel insurance companies to become involved in setting up a program to cover the costs of PCB management? How would incentives and exemptions (for what?) be set up and administered? How the funds will be self-sustaining is unclear and should be better explained.
- Component 3 is the heart of the ESM activity. More can be said about avoiding cross-contamination and inadvertent PCB releases and how to deal with what appears to be many transformers with oils around 50 ppm.
- Component 4 does not establish a feedback mechanism to promote knowledge exchange and "lessons learned." What is the purpose of establishing a regional forum on "gender-related effect of PCBs and other POPs"? This seems more like trying to throw the gender dimension into the project without adequately thinking it through. How will information be exchanged with other SE Asia projects on PCB ESM? Furthermore, it is unclear how specific knowledge will be gathered from the project implementation. Knowledge management and learning (KM&L) must be thought through and designed to support replication and scaling. The logic of how the KM&L will be used as an effective tool for achieving project objectives and beyond needs to be strengthened.

7. The project has the potential to contribute to GEBs of ESM of hazardous PCBs, but this depends on the financing mechanism's success, which was not elaborated. The proposal says nothing about the GHG emission reduction potential of the project until during the GEB discussion. Indeed, replacing old transformers with presumably new ones could enhance energy efficiency and reduce GHG emissions. But it is unclear whether this project will replace or upgrade transformers (or is it?). So, it is unclear how energy efficiency gains (and the associated GHG emission reduction) from transformer replacement can be attributed to the project. Also, as noted earlier under component 2, it is essential to clarify what incentives will motivate industrial actors to

upgrade or replace their transformers, considering the associated financial burden. Also, the expected GHG emissions reduction calculation is based on the weight of transformers. It is also important to note that the transformer weight is not an accurate measure of its power rating (KVA), so a more correct measure of greenhouse gas GEBs is still needed.

8. Project consultations: The proposal indicates that consultations were held with the relevant government ministry, the GEF, and PPLI, which we believe is the PCB disposal facility. The proposal suggests the interest of several large enterprises committed to PCB disposal under this Phase 2 proposal. Presumably, these consultations were held under Phase 1.

9. Alignment with current GEF investments. This proposal aligns with other GEF investments to realize the goal of PCB ESM by 2028 and, as noted above, aligns with the Phase 1 GEF project.

10. Knowledge management (KM). See comments under #6 – Component 4.

11. Innovation of this project would arise from green financing mechanisms as the PCB destruction facility is already in place. As previously noted, more details are needed to indicate how some of these financing mechanisms could be realized.

12. Risks. For Component 1, the proposal should address the potential risks from a lack of institutional prioritization and capacity. Component 2, risks due to a lack of uptake of financial incentives or poor enforcement monitoring require discussion. Under Component 3, several risks could occur that are not sufficiently addressed, such as the risk of malfunction of destruction facility, which could result in PCB & PCDD/F emissions, how risks during transportation and PCB handling would be minimized, as well as fugitive releases during storage.

*Note: provide a general appraisal, asking whether relevant screening guideline questions have been addressed adequately – not all the questions will be relevant to all proposals; no need to comment on every question, only those needing more attention, noting any done very well, but ensure that all are considered. Comments should be helpful, evaluative, and qualitative, rather than yes/no.*

### **3. Specific points to be addressed, and suggestions**

STAP recommends the following to improve the proposal further:

1. Better connect learning obtained from PCB testing and Phase 1 to fine-tune the strategy of PCB destruction, e.g., how to deal with the possibility of many transformers with PCB levels around 50 ppm.
2. Develop a narrative of plausible futures given uncertainties in government priorities and the viability of financial instruments. See STAP's [primer on future narratives](#) for more guidance.
3. Flesh out the Theory of Change to explicitly include barriers, enablers, drivers, and assumptions. Ensure to address all of the comments in 5 above.
4. Address the comments on the project components (see 6 above). In particular, provide more details of the financing mechanisms and logic pathway through which it will be achieved, lead to desired outcomes, and build out the logic better of Components 3 (financing) and 4 (Knowledge management).
5. Develop remedial actions to deal with potential risks.
6. Clarify the estimation of the GEBs, including the attribution of greenhouse gas emissions reduction to the project.
7. Explain consultations such as those with NGOs, which are seen as enabling uptake by the government to strengthen legislation.

*Note: number key points clearly and provide useful information or suggestions, including key literature where relevant. Completed screens should be no more than two or three pages in length.*

\*categories under review, subject to future revision

## ANNEX: STAP'S SCREENING GUIDELINES

1. How well does the proposal explain the problem and issues to be addressed in the context of the **system** within which the problem sits and its drivers (e.g. population growth, economic development, climate change, sociocultural and political factors, and technological changes), including how the various components of the system interact?
2. Does the project indicate how **uncertain futures** could unfold (e.g. using simple **narratives**), based on an understanding of the trends and interactions between the key elements of the system and its drivers?
3. Does the project describe the **baseline** problem and how it may evolve in the future in the absence of the project; and then identify the **outcomes** that the project seeks to achieve, how these outcomes will change the baseline, and what the key **barriers** and **enablers** are to achieving those outcomes?
4. Are the project's **objectives** well formulated and justified in relation to this system context? Is there a convincing explanation as to **why this particular project** has been selected in preference to other options, in the light of how the future may unfold?
5. How well does the **theory of change** provide an "explicit account of how and why the proposed interventions would achieve their intended outcomes and goal, based on outlining a set of key causal pathways arising from the activities and outputs of the interventions and the assumptions underlying these causal connections".
  - Does the project logic show how the project would ensure that expected outcomes are **enduring** and resilient to possible future changes identified in question 2 above, and to the effects of any conflicting policies (see question 9 below).
  - Is the theory of change grounded on a **solid scientific foundation**, and is it aligned with current scientific knowledge?
  - Does it explicitly consider how any necessary **institutional and behavioral** changes are to be achieved?
  - Does the theory of change diagram convincingly show the overall project logic, including causal pathways and outcomes?
6. Are the project **components** (interventions and activities) identified in the theory of change each described in sufficient detail to discern the main thrust and basis (including scientific) of the proposed solutions, how they address the problem, their justification as a robust solution, and the critical assumptions and risks to achieving them?
7. How likely is the project to generate global environmental benefits which would not have accrued without the GEF project (**additionality**)?

8. Does the project convincingly identify the relevant **stakeholders**, and their anticipated roles and responsibilities? Is there an adequate explanation of how stakeholders will contribute to the development and implementation of the project, and how they will benefit from the project to ensure enduring global environmental benefits, e.g. through co-benefits?
9. Does the description adequately explain:
  - how the project will build on **prior investments** and **complement current investments**, both GEF and non-GEF,
10. How adequate is the project's approach to generating, managing and exchanging **knowledge**, and how will lessons learned be captured for adaptive management and for the benefit of future projects?
- 11. Innovation and transformation:**
  - If the project is intended to be **innovative**: to what degree is it innovative, how will this ambition be achieved, how will barriers and enablers be addressed, and how might scaling be achieved?
  - If the project is intended to be **transformative**: how well do the project's objectives contribute to transformative change, and are they sufficient to contribute to enduring, transformational change at a sufficient scale to deliver a step improvement in one or more GEBs? Is the proposed logic to achieve the goal credible, addressing necessary changes in institutions, social or cultural norms? Are barriers and enablers to scaling be addressed? And how will enduring scaling be achieved?
12. Have **risks** to the project design and implementation been identified appropriately in the risk table in section B, and have suitable mitigation measures been incorporated? (NB: risks to the durability of project outcomes from future changes in drivers should have been reflected in the theory of change and in project design, not in this table.)