

REVISED STAP SCREENING TEMPLATE, OCTOBER 2022

GEF ID	11405
Project title	Accelerating Transition to a Circular Economy in India's Electrical and Electronic Sector through Sustainable Integrated Approaches
Date of screen	23 January 2024
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1. Summary of STAP's views of the project

This project's motivation is the need to implement measures across the life cycle of electrical and electronic equipment (EEE), including waste (WEEE), to comply with the Stockholm and Minamata Conventions since mismanagement of WEEE results in significant emissions to the environment of POPs, uPOPs, and mercury and many other contaminants. These contaminants also pose a hazard to waste pickers and others working to manage WEEE. This is particularly important in India, the third largest WEEE generator globally. Seventy percent of the WEEE is generated by the public and private sectors. Currently, 1% of WEEE is collected, and ~95% is handled in the informal sector, including open burning to recover metals. This results in human and ecosystem exposure to toxic compounds, including POPs, uPOPs, and metals. Women comprise a significant proportion of workers in the informal WEEE management sector.

The proposal contains many general plans for increasing the circularity of EEE and reducing negative impacts from EEE and WEEE, but a vision of the proposed "new" system as a whole and in its parts is missing. Then, each output and outcome in the Theory of Change (ToC) needs to logically fit into this big picture. Currently, there is a large gap between project interventions and expected results in the ToC as the ToC lacks specific outputs and outcomes. For example, important omissions of the project proposal are (i) policy coherence to encourage circularity, (ii) what is needed and how those policies will be enforced, (iii) what are the actual outputs that would lead to "sector-level strategies... for circular economy principles", (iv) what are the funding mechanisms and incentives to promote uptake of best practices, and (v) how will the currently large informal WEEE sector be transitioned if to achieve broader adoption of formal WEEE management?

Plans for gender inclusion are mentioned throughout the proposal, but the logic for inclusion and the expected outcomes are lacking. More details are needed on how the GEBs were estimated, including the assumption. The expected GEB is ambitious and would require a major outlay of infrastructure, behavior change, etc., but a clear plan to achieve this is lacking, as mentioned above. The proposal needs a sound monitoring and evaluation plan.

Although STAP is rating the project as a minor because there are some good elements of feasibility in the project, the proponent needs to significantly revise the proposal along the lines of comments presented in Sections 2 and 3 of this review screen.

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. **Systems thinking.** EEE and WEEE comprise a large and complex system in India with locally manufactured and imported EEE and a large population generating WEEE. Further, the supply chains for EEE manufacturing are complex. The proposal lays out the scope of this very large and challenging situation. However, the proposal lacks an overall picture of this complex system and how and why the interventions chosen might be most effective in achieving positive impacts. The proposal needs to articulate the drivers of the system or subsystem(s) to be addressed and then logical pathways with well-justified interventions or outputs that lead from the current to the desired situation. For example, the justification of the proposal is based on WEEE generation, but several interventions address EEE manufacturing without describing this sector in India or providing a convincing argument that they have been consulted and have shown an interest in and bought into the project. Waste pickers are a significant part of informal WEEE handling, but insufficient attention is given to how they might be affected by changing to formal WEEE handling.

2. **Uncertain futures** were not discussed but could be useful when considering measures to mitigate possible outcomes should drivers change and assumptions not hold up. For example, the amount of EEE and WEEE will depend on several drivers, including population, economics, technology, etc. And how these drivers will change in the future will influence the type of interventions the project should propose. The proponent needs to develop 2-3 narratives of plausible futures and design interventions that will be robust to any of the plausible futures. Please consult STAP's brief on [Future Narratives](#).

3. **Baseline, barriers, and enablers.** The baseline situation of the magnitude of the WEEE generated was described in detail, but not EEE manufacturing. Some barriers and root causes were also presented. A discussion of enablers needs to be developed and directly linked to barriers. For example, the barrier that EEE manufacturers will resist change was mentioned but not enablers – how will that resistance be dealt with? How will financial losses among EEE manufacturers be dealt with?

4. The Theory of Change (ToC)

- The ToC lists reasonable root causes and some barriers, but the logic needs to be strengthened between the project interventions and expected results. For example, why would improved data collection and strengthened institutional mechanisms necessarily result in improved EEE and WEEE management? Many POPs are no longer used in new EEE, so how would newly developed standards, testing, and business models reduce the emission of those POPs? The major impediment to the recovery of rare earth elements (REE) is their very low abundance in WEEE and the fact that economically viable recycling technologies are not yet available; so how would this be addressed? Why would a socio-environmental gender assessment of informal recyclers lead to improved health outcomes and livelihoods?
- Assumptions need to be better outlined and analyzed. Why would stakeholders, especially those now responsible for WEEE handling, be responsible for the financial and/or operation organization of Extended Producer Responsibility (EPR)? What is the incentive for extending the life of EEE? How will you incentivize eco-design and Design for the Environment (DfE) to improve the success of repair and reuse of EEE?
- Barriers to more formal WEEE processing are the cost relative to informal handling, low public willingness to pay for WEEE handling, and substantial involvement of waste pickers, of whom many are women. What is the barrier to enforcement of many of the current regulations? As mentioned in #3, a logic to addressing those barriers needs to be better developed. For example, a barrier to implementing formal WEEE management is that they must pay taxes and other levies that are avoided by the informal WEEE sector. How will this project lead to a “rationalized” price for WEEE to support formal recycling facilities? The economic viability of formal recycling depends largely on market prices for reclaimed materials like nickel, copper, and plastic, but the proposal does not mention this.
- Enablers are the numerous pieces of legislation and regulations pertaining to EEE and WEEE handling, as well as NITI Aayog (policy think-tank of GoI) to consider steps that can be taken towards improving EEE design and handling along the life cycle. The logic linking these enablers to specific interventions is lacking.

As mentioned below in #8, the existence of policies is not necessarily an enabler if policy coherence is lacking and if legislation and regulations cannot be enforced.

- The barrier of inevitable time lags between the start of an activity and its outcome that is then connected to other outcomes should be considered, e.g., gathering data to support the strengthening of legal and institutional frameworks that should be linked to sector-level strategies.
- The ToC could also be strengthened by considering linkages between pathways, e.g., enforcing policies and the commitment of the private sector. The ToC could consider how enablers could support the achievement of outcomes.
- Many activities are presented, but more details are needed to be convincing. As one example, a “gender-sensitive, economically Sustainable Model (ESM) for India” is mentioned to apply to the entire EEE value chain, which sounds very ambitious. Details on what this is and how it would be implemented are lacking.
- Finally, the ToC should include a narrative that clearly describes the different pathways to achieving the expected outputs and outcomes leading to the intended impacts and explain each pathway’s underlying assumption.

5. Project components

The project consists of 4 components.

- All components include gender-sensitive solutions, but how and why they were chosen and how they will be implemented is lacking.
- Component 1 institutional mechanism and knowledge-based interventions. The question of what a gender-responsive, economically sustainable model (ESM) is, who will develop it, and its expected benefit or outcome was raised under #4. This component includes financing for successful business start-ups and implementation projects for EEE eco-design, but the source and sustainability of funding are not explained.
- Component 2 consists of interventions along the supply chain, including EoL improvements. As mentioned above, POPs such as PBDEs are no longer used in the manufacturing of new EEE. Much of the PBDEs come from old WEEE and uPOPs from informal open burning. How will EPR provisions through the use of Eco-design measures reduce POPs emissions? What is the incentive for manufacturers to develop and adopt Eco-design measures? What is the reason why training in schools will improve WEEE handling? What is the source of funding for a start-up to handle Li-batteries?
- Component 3 emphasizes reduction in POPs and uPOPs. How will a pilot project that assesses technology needs to improve circularity in an Original Equipment Manufacturer (OEM) ultimately result in uptake without considering a funding mechanism? We very much appreciate the need to improve the health and safety of WEEE pickers and handlers in the informal sector, but how will monitoring reduce their exposures? What “low-tech” solutions are available to prevent manual dismantling of WEEE and open burning? We definitely appreciate how a WEEE pilot processing system to be built in partnership with the private sector could reduce emissions and recover lithium, cobalt, and nickel (but not rare earth elements or not necessarily precious and platinum metals). It is a great idea to use the value of these recovered metals to cover the cost of PBDE removal. What will happen to the removed PBDEs?
- Component 4 needs more details on what, how, and target audiences for knowledge exchange. One activity is a plan to work with manufacturers to develop guidelines for sharing in ESG reports, but how will this result in positive outcomes? What is the expected outcome of this knowledge exchange? What is a global Gender Action Plan? Details are needed about intentions for adaptive management.
- Provisions for monitoring and evaluation need strengthening.
- Specifically, on the incorporation of the gender dimension within the project components, there is a need for clarity to avoid seemingly gender-washing of the proposal. What does gender-responsive and gender-sensitive mean in the proposal? It just seems like throwing in gender words into different parts of the proposal without clearly describing what exactly the proposal intends to do to ensure that the gender dimensions of the interventions are considered. The proposal will benefit from clearer explanations or examples of what will be done specifically.

6. This project has many stakeholders, some of whom have been consulted. The private sector is a critical stakeholder in this project; however, they do not appear to have been consulted. Consultation with women does not seem to be specific to this project. A clear indication of buy-in from key stakeholders is lacking. And the incentives that will encourage them to engage are not describe

7. How the GEBs were calculated needs more elaboration on methodology and assumptions, as this is unclear. Given the size and complexity of the EEE and WEEE situation in India, GEB estimates would need to be ascertained. For example, it is a major assumption that PBDEs will be recovered from a large mass of WEEE, considering that the project describes a pilot project for PBDE recovery, but it is unclear what would be done with the PBDEs once recovered. How CO2 emissions avoidance would be achieved through metal recycling need more explanation. Also, how will recycled plastics be handled to avoid emissions? Also, CO2 emissions reduction can also be achieved if the project incorporates renewable energies and energy efficiency measures in the pilots. These need to be considered as the project is developed further.

8. The proposal needs to discuss how policy coherence will be achieved. Strengthening legal and institutional frameworks does not address policy coherence. No mention is made of economic and/or trade policies that could undermine intended actions. Please see relevant STAP papers on policy coherence [here](#) and [here](#)

9. Risks such as social impacts on waste pickers are not explored. How will a stakeholder plan ensure involvement and not disregard the project's objectives?

10. Scale-up and replicability are to be addressed during the PPG phase, which does not give confidence that these issues have been adequately considered at this stage. While the project has the potential to be innovative and transformational, the proposal did not provide details to ascertain this. Proponents should consider different innovation options (technology, institutional, policy, business models, and financing mechanisms) that can be incorporated when developing the project further. Also, given the large size of the electronic sector in the country, the proponent should build in actions and opportunities that can help catalyze transformational change, including through policy coherence, developing innovative business models addressing barriers related to the formal and informal sectors, and interventions that can help foster behavior change across all relevant stakeholders across the value/supply chain.

11. It is not clear how this project builds on current projects funded by GEF, the private sector (re: plastics), and a Japan-supported project for low-carbon development.

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 that the project proponents address all of the comments in section 2 above, including the following:

- Systems thinking needs to be better used in laying out the entire, large, and complex system, the components that this proposal will address, and a justification for why those components were chosen. The drivers, enablers, and assumptions for those components need to be well explained to provide confidence that the proposed interventions will achieve the stated positive impact.
- Develop a narrative of plausible futures given uncertainties and assumptions that could not come to fruition, such as whether infrastructure can be financed and built for formal WEEE management and whether market values of materials reclaimed from WEEE (e.g., nickel, cobalt, lithium) can cover the costs of this investment. Will stakeholders buy into the proposed interventions? See STAP's [primer on future narratives](#) for more guidance.

- Financing needs to be better described. What is the basis for assuming the private sector will commit USD 60 million?
- Many of the interventions mentioned require prioritization along with a justification for this prioritization.
- Consider the barrier of the inevitable time lags between outputs of components, e.g., the time needed between data collection and prioritization of interventions, time, resources, and a financing mechanism to implement formal WEEE management and how a large number of waste pickers will be transitioned to new livelihoods.
- The assumptions in the ToC should be clarified and elaborated.
- The assumptions used in calculating the expected GEBs need to be revisited. It appears they were calculated assuming that all WEEE generated in the country would be subject to formal WEEE management, which seems overly ambitious. See below to check specific issues with some of the calculations.
- Give greater consideration to how the project will achieve policy coherence and enforcement of legislation and regulations.

Questions about calculated GEBs

p 9 – 4,000,000 MT of e-waste in 2020 – according to p8, it should be a more reasonable 3-4 MT or 4,000,000 tonnes of e-waste genera/y.

p 10. PBDE constitutes, say, 1.6% of WEEE, which would yield a total of 60,000 t/yr, not 123 MT/yr

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,
 - how the project incorporates **lessons learned** from previous projects in the country and region, and more widely from projects addressing similar issues elsewhere; and
 - how country policies that are contradictory to the intended outcomes of the project (identified in section C) will be addressed (**policy coherence**)?
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.)