

STAP guidelines for screening GEF projects

PIF	What STAP looks for	Response
<p>GEF ID: 10878 Project Title: Improving thermal energy efficiency in the design, manufacture and operation of industrial boilers for low-carbon micro-, small and medium-sized enterprises in India Date of Screening: November 16, 2021 STAP member screener: Saleem Ali STAP secretariat screener: Sunday Leonard STAP's overall assessment: Minor issues to be considered during project design</p> <p>This project identifies a neglected area for leveraging climate mitigation benefits in a range of large industries in India. UNIDO has identified textiles, rice production, and pharmaceuticals as three key sectors that account for 90% of the emissions linked to boilers. The interventions are crafted around the role of MSMEs in these sectors, starting with policy enablers and moving on to efficiency improvements in boilers through a range of technical measures. The project does not deal with energy source emissions which are potentially a more significant contributor to climate change than any efficiency losses per se. The project may link with energy sources change efforts, such as using biogas or renewable energy sources for boilers.</p> <p>The project proponent has presented an excellent theory of change aligned with STAP's guidance on the theory of change. The theory of change includes a narrative describing the assumptions and the pathways to achieving desired impacts. The theory of change diagram also shows the paths and presents the underlying assumption, outcomes, and impacts.</p> <p>UNIDO's environmental and social screening process is used in the proposal. The process incorporates STAP guidance, including the four questions on climate risk assessment. This is commended, and we encourage the project proponent to follow through with the findings of the climate risk screening during the project implementation.</p> <p>An area which the project may perhaps consider expanding is Component 2, related to market facilitation. The component intends to focus on market facilitation by introducing and mainstreaming energy performance and specifications. The proposal also identified a lack of easy access to affordable finance as a barrier to achieving energy efficiency. And the project intends to solve this by providing transparent and reliable information on business cases and realistic savings from energy-efficiency boilers. While the proposed interventions may be effective, they may not be sufficient to create a continued and sustainable transition towards energy-efficient boilers. The project could consider developing and facilitating new business models that make it easier for industries to embrace energy-efficient boilers. For example, is it possible to have a boiler-as-a-service/heat-as-a-service model, in which boiler producers lease out energy-efficient boilers to enterprises at a fee? This can help reduce the capital cost associated with buying new ones. Can a variant of energy performance contracting (see: https://e3p.jrc.ec.europa.eu/articles/energy-performance-contracting) be developed between boiler manufacturers and businesses, and maybe government involvement, which allows income from cost savings to pay for the installment of energy savings facility? These business models can also help link the project to addressing the energy source. Along this line, we encourage the project proponent to review the following on the topic:</p>		

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<ul style="list-style-type: none"> • Cleary and Palmer, 2019. https://media.rff.org/documents/IB_19-09_EaaS.pdf • Shen, 2016. https://www.eceee.org/library/conference_proceedings/eceee_Industrial_Summer_Study/2016/5-business-models-and-financing-established-practice-and-innovative-approaches/innovative-business-models-for-addressing-energy-and-environmental-challenges-of-industrial-boilers-in-china/2016/5-118-16_Shen_presentation.pdf/ • Bolton and Hannon 2016. https://www.sciencedirect.com/science/article/pii/S0048733316300774 • Suhonen and Okkonen. 2013. https://www.sciencedirect.com/science/article/abs/pii/S0301421513005326 • Zhu 2020. https://c2e2.unepdtu.org/wp-content/uploads/sites/3/2021/01/business-models-for-energy-efficiency-energy-performance-contracting.pdf • Okkonen and Suhonen. 2010. https://www.sciencedirect.com/science/article/abs/pii/S0301421510000996 <p>A significant effort has gone into calculating the climate GEB, and this is commendable. We want the project proponent to note that apart from its adverse effects on air quality, black carbon is a climate forcing agent with significant GWP. Hence, it will also be great to estimate the climate mitigation benefits of reducing black carbon emissions. Further, the net global warming benefits of the project will depend on how much SO₂ emission is reduced because SO_x has a net cooling effect.</p> <p>The proponents may find the following citations to be of interest:</p> <ul style="list-style-type: none"> • Dwivedi, V. K., Gupta, S. K., Verma, H., Yadav, N., & Yadav, H. (2021). Improvement in Energy Efficiency & Heat Loss Minimization during Boiler Operation: A Case Study. <i>IOP Conference Series. Materials Science and Engineering</i>, 1116(1), 12044-. https://doi.org/10.1088/1757-899X/1116/1/012044 • Said, S. M., Hamouda, A. S., Mahmaoud, H., & Abd-Elwahab, S. (2019). Computer-based boiler efficiency improvement. <i>Environmental Progress & Sustainable Energy</i>, 38(5), 13161-n/a. https://doi.org/10.1002/ep.13161 		
Part I: Project Information B. Indicative Project Description Summary		
Project Objective	Is the objective clearly defined, and consistently related to the problem diagnosis?	Yes – though it could be linked to energy sources for boilers in related projects
Project components	A brief description of the planned activities. Do these support the project's objectives?	Yes
Outcomes	A description of the expected short-term and medium-term effects of an intervention. Do the planned outcomes encompass important global environmental benefits?	Yes – very clear metrics of GEB calculations are provided though it would be helpful to have some footnoting and backup of how they were calculated.

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	Are the global environmental benefits likely to be generated?	
Outputs	A description of the products and services which are expected to result from the project. Is the sum of the outputs likely to contribute to the outcomes?	Yes, there are a series of outputs listed along with each outcome, but these could be made more specific.
Part II: Project justification	A simple narrative explaining the project's logic, i.e. a theory of change.	
1. Project description. Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)	Is the problem statement well-defined? Are the barriers and threats well described, and substantiated by data and references? For multiple focal area projects: does the problem statement and analysis identify the drivers of environmental degradation which need to be addressed through multiple focal areas; and is the objective well-defined, and can it only be supported by integrating two, or more focal areas objectives or programs?	The multiple focal areas and the linkages and synergies are also presented.
2) the baseline scenario or any associated baseline projects	Is the baseline identified clearly? Does it provide a feasible basis for quantifying the project's benefits? Is the baseline sufficiently robust to support the incremental (additional cost) reasoning for the project? For multiple focal area projects: are the multiple baseline analyses presented (supported by data and references), and the multiple benefits specified, including the proposed indicators; are the lessons learned from similar or related past GEF and non-GEF interventions described; and how did these lessons inform the design of this project?	Yes, and the outcomes are benchmarked with the baseline very well.

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3) the proposed alternative scenario with a brief description of expected outcomes and components of the project	<p>What is the theory of change? What is the sequence of events (required or expected) that will lead to the desired outcomes?</p> <ul style="list-style-type: none"> • What is the set of linked activities, outputs, and outcomes to address the project's objectives? • Are the mechanisms of change plausible, and is there a well-informed identification of the underlying assumptions? • Is there a recognition of what adaptations may be required during project implementation to respond to changing conditions in pursuit of the targeted outcomes? 	Theory of change document is provided in congruence with suggested STAP guidelines.
5) incremental/additional cost reasoning and expected contributions from the baseline, the GEF trust fund, LDCF, SCCF, and co-financing	<p>GEF trust fund: will the proposed incremental activities lead to the delivery of global environmental benefits?</p> <p>LDCF/SCCF: will the proposed incremental activities lead to adaptation which reduces vulnerability, builds adaptive capacity, and increases resilience to climate change?</p>	Noted
6) global environmental benefits (GEF trust fund) and/or adaptation benefits (LDCF/SCCF)	<p>Are the benefits truly global environmental benefits, and are they measurable?</p> <p>Is the scale of projected benefits both plausible and compelling in relation to the proposed investment?</p> <p>Are the global environmental benefits explicitly defined?</p> <p>Are indicators, or methodologies, provided to demonstrate how the global environmental benefits will be measured and monitored during project implementation?</p>	Yes,

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	What activities will be implemented to increase the project's resilience to climate change?	
7) innovative, sustainability and potential for scaling-up	Is the project innovative, for example, in its design, method of financing, technology, business model, policy, monitoring and evaluation, or learning? Is there a clearly-articulated vision of how the innovation will be scaled-up, for example, over time, across geographies, among institutional actors? Will incremental adaptation be required, or more fundamental transformational change to achieve long term sustainability?	There are some localized innovations, but further linkages to energy source usage and integrated systems change innovations that link this project to others in emissions reduction of fuels sources should be considered.
1b. Project Map and Coordinates. Please provide geo-referenced information and map where the project interventions will take place.		Provided
2. Stakeholders. Select the stakeholders that have participated in consultations during the project identification phase: Indigenous people and local communities; Civil society organizations; Private sector entities. If none of the above, please explain why. In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.	Have all the key relevant stakeholders been identified to cover the complexity of the problem, and project implementation barriers? What are the stakeholders' roles, and how will their combined roles contribute to robust project design, to achieving global environmental outcomes, and to lessons learned and knowledge?	Yes – stakeholder mapping is included in project design and stakeholder satisfaction also in outcome goals.
3. Gender Equality and Women's Empowerment. Please briefly include below any gender dimensions relevant to the	Have gender differentiated risks and opportunities been identified, and were preliminary response measures	Gender equity plan with clear set of question to be addressed and linkages with policies are provided.

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<p>project, and any plans to address gender in project design (e.g. gender analysis). Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes/no/ tbd.</p> <p>If possible, indicate in which results area(s) the project is expected to contribute to gender equality: access to and control over resources; participation and decision-making; and/or economic benefits or services. Will the project's results framework or logical framework include gender-sensitive indicators? yes/no /tbd</p>	<p>described that would address these differences?</p> <p>Do gender considerations hinder full participation of an important stakeholder group (or groups)? If so, how will these obstacles be addressed?</p>	
<p>5. Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design</p>	<p>Are the identified risks valid and comprehensive? Are the risks specifically for things outside the project's control?</p> <p>Are there social and environmental risks which could affect the project?</p> <p>For climate risk, and climate resilience measures:</p> <ul style="list-style-type: none"> • How will the project's objectives or outputs be affected by climate risks over the period 2020 to 2050, and have the impact of these risks been addressed adequately? • Has the sensitivity to climate change, and its impacts, been assessed? • Have resilience practices and measures to address projected climate risks and impacts been considered? How will these be dealt with? 	<p>Risk management table is also included</p> <p>Climate risk screening with adequate citations provided.</p>

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	<ul style="list-style-type: none"> What technical and institutional capacity, and information, will be needed to address climate risks and resilience enhancement measures? 	
6. Coordination. Outline the coordination with other relevant GEF-financed and other related initiatives	<p>Are the project proponents tapping into relevant knowledge and learning generated by other projects, including GEF projects?</p> <p>Is there adequate recognition of previous projects and the learning derived from them?</p> <p>Have specific lessons learned from previous projects been cited?</p> <p>How have these lessons informed the project's formulation?</p> <p>Is there an adequate mechanism to feed the lessons learned from earlier projects into this project, and to share lessons learned from it into future projects?</p>	<p>Yes – there is listing of coordination prospects provided with public and private sector and donors.</p>
8. Knowledge management. Outline the “Knowledge Management Approach” for the project, and how it will contribute to the project's overall impact, including plans to learn from relevant projects, initiatives and evaluations.	<p>What overall approach will be taken, and what knowledge management indicators and metrics will be used?</p> <p>What plans are proposed for sharing, disseminating and scaling-up results, lessons and experience?</p>	<p>Yes adequately provided</p>

STAP's advisory response

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
1. Concur	<p>STAP acknowledges that on scientific or technical grounds the concept has merit. 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.</p> <p>* In cases where the STAP acknowledges the project has merit on scientific and technical grounds, the STAP will recognize this in the screen by stating that <i>“STAP is satisfied with the scientific and technical quality of the proposal and encourages the proponent to develop it with same rigor. At any time during the development of the project, the proponent is invited to approach STAP to consult on the design.”</i></p>
2. Minor issues to be considered during project design	<p>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:</p> <ul style="list-style-type: none"> (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. <p>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.</p>
3. Major issues to be considered during project design	<p>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:</p> <ul style="list-style-type: none"> (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 proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.