

Part I: Project Information		Response
GEF ID		10189
Project Title		Accelerating construction of energy efficient green housing units in Thailand
Date of Screening		25-May-19
STAP member Screener		Saleem H. Ali
STAP secretariat screener		Sunday A Leonard
STAP Overall Assessment		Minor issues to be considered during project design
		<p>This project has a fairly linear trajectory for improving energy efficiency of low-rise housing projects in Thailand. These are often the lower to middle income units and thus the project could have a positive energy justice dimension as well. The creation of markets that support such efficiency uptake are well-described and there is considerable attention paid to linkage with existing government institutions.</p> <p>Although a theory of change is not explicitly described there is a market-driven theory of change that is predicated on green labeling and consequent branding attraction for developers and consumers. The proposal revisions could more explicitly address this theory of change and acknowledge its potential pitfalls.</p> <p>As with all projects involving energy efficiency, attention needs to be paid to rebound effects which could potentially lead to higher aggregate consumption of energy even with more efficient buildings on the market. Some recognition of latent demand by consumers who might end up consuming more energy as prices decline should be noted. We refer the project proponent to the following literature on the rebound effect:</p> <ol style="list-style-type: none"> 1. Aydin et al. 2017. Energy efficiency and household behavior: the rebound effect in the residential sector. RAND Journal of Economics, 48, 749–782 2. Lin B & Liu H. 2015. A study on the energy rebound effect of China’s residential building energy efficiency. Energy and Buildings, http://dx.doi.org/10.1016/j.enbuild.2014.10.049. 3. Gottron, F. 2001. Energy Efficiency and the Rebound Effect: Does Increasing Efficiency Decrease Demand? CRS Report for Congress. https://pdfs.semanticscholar.org/305d/01373f9e930042eb80972ed02daf75ff9ea2.pdf 4. Herring H & Roy R, 2007. Technological innovation, energy efficient design and the rebound effect. Technovation, 27, 4, 194-203 5. Gillingham, K et al. 2016. The Rebound Effect and Energy Efficiency Policy. Review of Environmental Economics and Policy, 10, 1, 68–88, https://doi.org/10.1093/reep/rev017 <p>The refinement of a green building standards system with the Thailand Green Building Institute is an important component of this project to ensure longer term sustainability of the outcomes. However, it would be worthwhile for the proponents to consider some of the studied pitfalls of standards and green building certification systems – in particular the work of the US Green Building Council which developed the Leadership in Energy and Environmental Design (LEED) standard.</p> <p>The partnership with KMUTT – a university with expertise in this arena – is a positive attribute. However, further details on how prototypes would be developed by such partnerships with the National Housing Authority should be further described.</p> <p>STAP recommends that project proponents review the following key articles in terms of contingency planning and barriers to upscaling of the project.</p> <ol style="list-style-type: none"> 1. Li, Y., Song, H., Sang, P., Chen, P.-H. & Liu, X. Review of Critical Success Factors (CSFs) for green building projects. Building and Environment 158, 182–191 (2019).

		<p>2. Shen, W. et al. Understanding the green technical capabilities and barriers to green buildings in developing countries: A case study of Thailand. Sustainability (Switzerland) 10, (2018).</p> <p>Climate risk: the project indicates that “there is no foreseen environmental or social risk of implementing the project”. However, the potential impacts of climate change on the achievement of project outcomes/outputs and their long-term durability need to be considered. The projected effect of climate change in Thailand includes higher surface temperatures, floods, droughts, severe storms and sea level rise. These need to be taken into consideration in the determination of the location, design and construction of the energy efficient buildings. It is recommended that a detailed climate risk screening should be carried out at the PPG stage to identify all possible climate risks, and management plans should be developed to mitigate identified risks.</p>
Part I: Project Information	What STAP looks for	Response
B. Indicative Project Description Summary		
Project Objective	Is the objective clearly defined, and consistently related to the problem diagnosis?	Yes – overall objectives for various components is adequately defined.
Project components	A brief description of the planned activities. Do these support the project’s objectives?	Descriptions of the project components are adequate and there is good linkage provided to Thailand’s NDC targets under the Paris agreement
Outcomes	A description of the expected short-term and medium-term effects of an intervention.	Good description of the target low-rise residential market and planned outcomes.
	Do the planned outcomes encompass important global environmental benefits/adaptation benefits?	
	Are the global environmental benefits/adaptation 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?	Some reference to earlier demand side management by EGAT is provided. However, there is no clear theory of change diagram to link outputs to outcomes apart from the template tables which provide this linkage in matrix format.
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?	Yes – problem definition is clear and the decision to choose low-rise buildings is well-argued.
	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?	
2) the baseline scenario or any associated baseline projects	Is the baseline identified clearly?	Baseline data is available and noted especially given the project will be based in NHA and EGAT.
	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?	
3) the proposed alternative scenario with a brief description of expected outcomes and components of the project	What is the theory of change?	Theory of change is linked to consumer branding and building standards but is not explicitly articulated as such.
	What is the sequence of events (required or expected) that will lead to the desired outcomes?	
	· 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?	
5) incremental/additional cost reasoning and expected contributions from the baseline, the GEF trust fund, LDCF, SCCF, and co-financing	GEF trust fund: will the proposed incremental activities lead to the delivery of global environmental benefits?	Yes – there is considerable detail on cost reasoning provided.
	LDCF/SCCF: will the proposed incremental activities lead to adaptation which reduces vulnerability, builds adaptive capacity, and increases resilience to climate change?	
6) global environmental benefits (GEF trust fund) and/or adaptation benefits (LDCF/SCCF)	Are the benefits truly global environmental benefits, and are they measurable?	The global environmental benefits will need to consider rebound effect of efficiency and also the energy source to be most operationally impactful in terms of carbon mitigation value.
	Is the scale of projected benefits both plausible and compelling in relation to the proposed investment?	
	Are the global environmental benefits explicitly defined?	
	Are indicators, or methodologies, provided to demonstrate how the global environmental benefits will be measured and monitored during project implementation?	
	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?	Project notes policy innovations in terms of the green building standard and prototype development with a university.
	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?	

1b. Project Map and Coordinates. Please provide geo-referenced information and map where the project interventions will take place.		
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?	Detailed stakeholder engagement matrix provided.
	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?	
3. Gender Equality and Women's Empowerment. Please briefly include below any gender dimensions relevant to the 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. 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	Have gender differentiated risks and opportunities been identified, and were preliminary response measures described that would address these differences?	Referencing to Thailand's Gender Equality Act is used as key filter for ensuring such impact.
	Do gender considerations hinder full participation of an important stakeholder group (or groups)? If so, how will these obstacles be addressed?	
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	Are the identified risks valid and comprehensive? Are the risks specifically for things outside the project's control?	Risk analysis is provided but is somewhat dated. Table 5 indicates election reference to "early 2018" – needs to be updated.
	Are there social and environmental risks which could affect the project?	
	For climate risk, and climate resilience measures:	
	· 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?	See STAP overall comment regarding the need for climate risk screening
	· 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?	
	· 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	Are the project proponents tapping into relevant knowledge and learning generated by other projects, including GEF projects?	Yes – there is some level of coordination with other GEF projects region but could perhaps benefit from further interface with GEF China as there is considerable experience there.
	Is there adequate recognition of previous projects and the learning derived from them?	
	Have specific lessons learned from previous projects been cited?	
	How have these lessons informed the project's formulation?	
	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?	
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.	What overall approach will be taken, and what knowledge management indicators and metrics will be used?	The project will generate considerable data on consumer uptake and this could also be better managed by the university partner.
	What plans are proposed for sharing, disseminating and scaling-up results, lessons and experience?	
STAP advisory response	Brief explanation of advisory response and action proposed	
1. Concur	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.	
	* 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>	
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 proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.	