



Project Implementation Report

(1 July 2021 – 30 June 2022)

Project Title:	Reducing Greenhouse Gas Emission in Industrial Sector through Pelletization Technology Lao PDR
GEF ID:	5743
UNIDO SAP ID:	140057
GEF Replenishment Cycle:	GEF-5
Country(ies):	<i>Lao PDR</i>
Region:	<i>East Asia and Pacific</i>
GEF Focal Area:	Climate Change Mitigation (CCM)
Integrated ANE approach Pilot (IAP) Programs¹:	
Stand-alone / Child Project:	<i>Stand-alone</i>
Implementing Department/Division:	<i>EAE/ENE/CTI</i>
Co-Implementing Agency:	
Executing Agency(ies):	<i>Department of Industry and Handicrafts (DIH), Ministry of Industry and Commerce Renewable Energy and New Materials Institute (REMI), Ministry of Science and Technology</i>
Other Project Partners:	<i>Veunkham Salt factory Boten Salt factory Lao furniture Industry factory</i>
Project Type:	<i>Medium-Sized Project (MSP)</i>
Project Duration (months):	<i>36 months</i>
Extension(s):	<i>Three extensions: (November 2019-to November 2020; Nov. 2020 – Dec. 2021; Dec 2021- Dec. 2022)</i>
GEF Project Financing:	1,268,539 USD
Agency Fee:	120,511 USD
Co-financing Amount:	6,690,000 USD
Date of CEO Endorsement/Approval:	<i>09-28-2015</i>
UNIDO Approval Date:	<i>03-07-2014</i>
Actual Implementation Start:	<i>11-02-2015</i>

¹ Only for GEF-6 projects, if applicable

Cumulative disbursement as of 30 June 2022	1,126,928.43
Mid-term Review Date (MTR):	n/a
Original Project Completion Date:	11-02-2018
Project Completion Date as reported in FY21:	12/31/2021
Current SAP Completion Date:	12/31/2022
Expected Completion Date:	12-31-2022
Expected Terminal Evaluation Date (TE):	TBC
Expected Financial Closure Date:	30-06-2023
UNIDO Project Manager ² :	Josy Thomas

I. Brief description of project and status overview

Project Objective		
<p>The GEF5 project "Reducing of greenhouse gas (GHG) emissions in the industrial sector through pelletization technology in Lao PDR" aims at promoting the production and usage of industrial grade solid bio-fuel for thermal energy generation. In this way the project intends to reduce coal consumption and promote waste-to-energy methods. Thus, the project aims to contribute to the sustainable energy usage practices in Lao. This shall enhance national energy security, to promote job creation and to reduce carbon dioxide emissions as well as avoid deforestation. The project will employ a two-pronged strategy of removing technological barriers for both producers and end users on one hand, and improving policies to expedite investments in the production and use of solid biofuels. This will be done through building necessary human and institutional capacities at all levels. In particular, this project will involve salt production companies as users of solid biofuels and the furniture manufacturers and saw mills as generators of wood wastes; focusing on synergies in particular on the efficient use of wood waste to cover not only the own power needs of the wood processing industry but also cover energy needs of the salt industry.</p> <p>By achieving this, the project will reduce GHG emissions as well as promote the use of available agricultural waste</p>		
Project Core Indicators		Expected at Endorsement/Approval stage
6	Greenhouse Gas Emissions Mitigated (metric tons of CO ₂ e)	1,465 tCO ₂ e
11	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment	x
x	x	x

Baseline
<p>Owing to the traditional method of production by evaporating brine water into salt, Lao PDR's salt has increasingly become a niche product due to its authenticated and pure taste. As per the information from Lao PDR salt producer's association, there are eight salt factories in the country excluding small producers with one or two boiling pots. Annual production in these factories is around 3,500 ton of industrial salt and around 32,200 tons of table salt. Starting from the year 2010, owing to increased price and scarcity of sawdust in market added with higher transportation cost, the industries started using anthracite cakes as additional fuel source. These cakes are made from low heating value grade anthracite purchased from cement factories and clay. There is a potential for replacing the anthracite and its products usage in salt industries through the pellets generated from wood wastes and other biomass</p>

Please refer to the explanatory note at the end of the document and select corresponding ratings for the current reporting period, i.e. FY22. Please also provide a short justification for the selected ratings for FY22.

² Person responsible for report content

In view of the GEF Secretariat's intent to start following the ability of projects to adopt the concept of adaptive management³, Agencies are expected to closely monitor changes that occur from year to year and demonstrate that they are not simply implementing plans but modifying them in response to developments and circumstances or understanding. In order to facilitate with this assessment, please introduce the ratings as reported in the previous reporting cycle, i.e. FY21, in the last column.

Overall Ratings ⁴	FY22	FY21
Global Environmental Objectives (GEOs) / Development Objectives (DOs) Rating	<i>Satisfactory (S)</i>	<i>Satisfactory (S)</i>
<p><i>Using the progress rationale reported in section II, please briefly justify the selected FY22 GEOs/DOs ratings versus the GEOs/DOs ratings reported in FY21.</i></p> <p><i>So far the project was implemented as it was originally developed and described in the project document with some completed activities and no change in the goal, so the rating remains unchanged</i></p>		
Implementation Progress (IP) Rating	<i>Satisfactory (S)</i>	<i>Moderately Unsatisfactory (MU)</i>
<p><i>Using the progress rationale reported in section II, please briefly justify the selected FY22 IP ratings versus the IP ratings reported in FY21.</i></p> <p><i>With the extension of the project in 2022, some main activities have been implemented and some milestones were achieved such as the equipping of the laboratory at BTILC, one factory had completed the installation of the pellet plant while the other two are hesitating to invest. The biomass energy strategy is being drafted and expected to be completed by the end of 2022, so there is some progress in this year.</i></p>		
Overall Risk Rating	<i>Moderate Risk (M)</i>	<i>Moderate Risk (M)</i>
<p><i>Using the progress rationale reported in section II and III, please briefly justify the selected FY22 risk rating versus the risk ratings reported in FY21.</i></p> <p><i>Looking into the risk of the project in terms of natural disaster and COVID-19 pandemic, there is no change, so the risk rating remain unchanged</i></p>		

³ Adaptive management in the context of an intentional approach to decision-making and adjustments in response to new available information, evidence gathered from monitoring, evaluation or research, and experience acquired from implementation, to ensure that the goals of the activity are being reached efficiently

⁴ Please refer to the explanatory note at the end of the document and assure that the indicated ratings correspond to the narrative of the report

II. Targeted results and progress to-date

Please describe the progress made in achieving the outputs against key performance indicator's targets in the project's **M&E Plan/Log-Frame at the time of CEO Endorsement/Approval**. Please expand the table as needed.

Please fill in the below table or make a reference to any supporting documents that may be submitted as annexes to this report.

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress to-date (July 2020-June 2021)
	Component 1 – Capacity development and knowledge management			
	Outcome 1: Improved awareness, knowledge and capacity on solid biofuel production and usage in the country			
Output 1.1: An information and learning centre for solid biofuel production and usage established	<p>I&LC for solid biofuel usage and production created and functioning.</p> <p>Number of trainings organized for different target groups (such as policy makers, solid biofuel producers & users, RE / technical institutions and bank/ financial institutions).</p>	Lack of one-stop technical centre on solid biofuel usage and production.	<p>To establish a sustainable centre for technical capacity building.</p> <p>To undertake training activities to improve the awareness on solid biofuel of 20 beneficiaries in each target groups.</p> <p>To target at least 20% women participation in each group.</p>	<ul style="list-style-type: none"> BTILC updated business plan update in June 2021 Second progress report (interim) submitted Update work plan for 2021-2022 Continue collect information on need assessment on pelletization technology for policy makers and industries in 2021 and 2022.
				<p>Laboratory at BTILC:</p> <ul style="list-style-type: none"> Complete procurement and delivery of laboratory equipment to BTILC, completed in February 2022
Output 1.2: Capacity of at least 20 policy makers developed and capacities of potential solid biofuel producers & users, RE / technical institutions and bank/ financial institutions developed (target 20 persons).	<p>No. of key policy makers available with sufficient knowledge on solid biofuel.</p> <p>No. of persons trained.</p>	<p>Key policy makers are not aware of the benefits of solid biofuel production and utilization.</p> <p>2. Insufficient local capacity to develop, finance and operate solid</p>	<p>To build capacity of at least 20 policy makers</p> <p>To train at least 20 industries and the identified institutions on solid biofuel production, system implementation and maintenance.</p>	<ul style="list-style-type: none"> Seminar/workshop is planned to be conducted in Q3 2022 Plan to organize a workshop on cook stove in three provinces in parallel to the "super cook stove project of World Bank"

		biofuel production and usage systems.	To target at least 20% women participation in each group.	
Component 2 – Strengthening policy and regulatory framework for promoting investments in solid biofuel use in industries				
Outcome 2: Improved confidence among investors in solid biofuel production and utilization				
Output 2.2: National strategy to promote investment in solid biofuel production and utilization in place (international & national experts to be contracted)	No. of strategies facilitated to promote investment in production and utilization of solid biofuel. No. of standards ensuring quality of the produced solid biofuel.	Inadequate policies and regulations to create confidence among various stakeholders	At least one relevant strategy for promoting investment in production and utilization of solid biofuel. At least one quality standard for solid biofuel established.	<ul style="list-style-type: none"> Contract of developing a technical and financial proposal for the national biomass energy strategy had been signed between UNIDO and Cleaner Production Centre Lao PDR under RFP no. 700004770 and CONTRACT_No. 3000091384 Cleaner Production Centre finished the first draft of the biomass energy strategy and hold an internal technical workshop in July 2022, for brainstorming of improvement and plan to have a validation workshop in August 2022.
Output 2.3: Technical adjustments for solid biofuel usage in participating industries	No. systems developed to co-fire or combust pellet fuel	1. Lack of demonstrable wood pellet combustion systems. 2. Industries currently use coal or anthracite.	Industries installed with adequate combustion systems to burn wood pellet	<ul style="list-style-type: none"> The design and installation of new furnace pellet technology had been prepared by CPC-L and it was combined with the Biomass energy strategy under a waiver request and included in the RFP 700004770. The contract was signed together under same contract of biomass energy strategy CONTRACT_No. 3000091384 Cleaner Production Center Lao PDR is working with Veukham salt factory to build the new furnace and pellet feeding system. The system will be ready for testing in July 2022. It has been discussed with PMU and reporting to the project manager on the continuation of using the Jacketed steam boiler of the pilot in Veunkham for producing very good quality salt. Pellet is available for the system.
Component 3 – Demonstration of solid biofuel production and utilization				
Outcome 3: Increased use of solid biofuel for industrial applications				
Output 3.1: Systematic and comprehensive biomass resource assessment in target areas	No. of biomass resource assessment reports.	Lack of reports on available biomass resource and logistics	At least one biomass assessment report for each target area.	No new progress to date
Output 3.2: Detailed plant designs prepared for the demonstration projects	No. of detailed plant designs.	Lack of detailed plant design reports.	To develop detailed plant design reports for each demonstration plant.	<ul style="list-style-type: none"> Detailed plant design has not been conducted in 2021, however, in connection to the output 3.3 the plant design was made by companies with

				technical and financial support from project, a pellet plan had been completely installed at Simmalakham factory in Bolikhasmxay provinces.
Output 3.3: Solid biofuel pelletizing systems established for a cumulative capacity of 3.6 tph	TPH of the installed solid biofuel pelletizing systems.	1. Lack of demonstrable solid biofuel pelletizing systems. 2. Available agro-wastes being unutilized.	Solid biofuel plants for a cumulative 3.6 tph capacity demonstrated.	<ul style="list-style-type: none"> Three companies had submitted their proposals: Dokchampakham pellet factory, Simmalakham briquette factory and Alexson job's tear mill. UNIDO is evaluating the proposals and preparing contract for further technical and financial support in the form of proving incentive as per install capacity of pellet plants. This shall be completed by the end of 2021. Contract UNIDO with three factory for providing incentive to Dokchampakham pellet factory, Simmalakham briquette factory and Alexson job's tear mill for providing incentive for installation of the pellet plants has been signed in October 2021 Simmalkham briquette factory had completed the installation of the pellet plant capacity of 3 tons per hour in April 2022, and running the production test in May 2022. The two company Dokchampakham pellet factory, and Alexson job's tear mill are still contacting supplier and hesitate to buy the equipment due to uncertainty of market and demand.

III. Project Risk Management

1. Please indicate the overall project-level risks and the related risk management measures: (i) as identified in the CEO Endorsement document, and (ii) progress to-date. Please expand the table as needed.

Describe in tabular form the risks observed and priority mitigation activities undertaken during the reporting period in line with the project document. Note that risks, risk level and mitigations measures should be consistent with the ones identified in the CEO Endorsement/Approval document. Please also consider the project's ability to adopt the adaptive management approach in remediating any of the risks that had been sub-optimally rated (H, S) in the previous reporting cycle.

	(i) Risks at CEO stage	(i) Risk level FY 21	(i) Risk level FY 22	(i) Mitigation measures	(ii) Progress to-date	New defined risk ⁵
1	Political risk Low government commitment and support for transfer of solid biofuel production and utilization technology to the country	Low risk (L)	Low risk (L)	The project objectives and activities are perfectly in line with national policies and objectives for climate change mitigation through GHG reduction	No political risk encountered so far. High level government commitment exists. However, this does not translate into proactive interested and support of the project at lower hierarchy levels. In particular, there is only little progress at REMI/ BTILC.	<input type="checkbox"/>
2	Technical risk Solid biofuel technologies are relatively new in the country, and there is a lack of technical expertise for development and implementation of such projects.	Low risk (L)	Low risk (L)	Detailed techno-economic feasibility studies will be carried out. The technical personnel in the industries will be trained on deployment of such technologies. Capacity of the government officials and relevant institutions will be built.	Biomass Technology Information and Learning Center (BTILC) had been established under the Renewable Energy and new Materials Institute, ministry of science and technology (MOST) in December 2018. The center has been built their capacity to be able to provide technical assistance to enterprise with pelletization technology and information. The government of Laos has dissolved the MOST and REMI is transferred to ministry of energy and mines. Up to date REMI was merging to the Research Institute of Energy and Mines (RIEM) in early 2022, and BTILC is operated under RIEM	<input type="checkbox"/>
3	Market risks: No off-takers for the generated solid biofuel.	Low risk (L)	Low risk (L)	The demand for clean and cheap fuel is very high among Lao PDR industries	The project is trying to create a market demand for biomass pellets. On the one hand, the project works to adapt the salt production process, so that it can use biomass pellets. On the other hand, the world bank is implementing super clean cookstoves in Lao PDR that use biomass pellets. Discussions with the world bank team have been made to identify possible synergies. Also discussions with South Pole and cookstove project team in May 2022, the World Bank project would be possible market for the pellet factory in Lao PDR. In addition, the project has tasked CPC-L to identify other industries that could replace fossil fuels with biomass and is trying to modify furnace in Veunkham salt factory to be pellet and replace coal. The trend to use pellet in salt Veunkham salt factory is high.	<input type="checkbox"/>
4	Sustainability risk Application of solid biofuel production technologies in agroindustries	Low risk (L)	Modest risk (M)	All the demonstration projects O&M staffs will be trained by the respective suppliers. Moreover, under the project, there will be	Some sustainability risk encountered so far. Staff at the factories as well as BTILC staff (RIEM) and other stakeholders are closely involved in all activities to assure transfer of knowledge. Formal launch of BTILC was in December 2018. The pilot system at	<input type="checkbox"/>

⁵ New risk added in reporting period. Check only if applicable.

	might be halted by the shortage of inputs. Lack of human capacity to operate the demonstration projects.			several trainings on successful operation and maintenance of biomass and biogas projects. In addition to this, information and learning centre will be established for continuous capacity building activities. All these would sustain the objectives of the proposed project.	Veunkham salt factory is not in operation and some part start to corrode since no solid biofuel (pellets) are yet produced in Lao PDR and the import is too expensive. The greenhouse solar dryers are well operated at Veunkham salt factories for drying wet salt but not so well at Khosa-ath salt factory for evaporate brine in comparison to normal conventional sun drying in open yard. Those two salt dryers are continuously used in both factories.	
5	Climate Change risk: Flooding	Low risk (L)	Low risk (L)	Demonstration plant and site office will be located on an elevated area to prevent flooding. All buildings and structures will be designed and built appropriately to avoid flooding.	Some climate change risk encountered so far at Veunkham salt where the pilot system for salt production using pellets has been installed. The system has been threatened by a flood due to rainy season combined with a broken dam (Xe Pian-Xe Nam Noy dam; https://thediplomat.com/2018/08/laosdam-disaster-may-not-be-its-last/). However, this would not be affected as the flooding caused by dam Nam Ngeum River is very seldom.	<input type="checkbox"/>
6	Feedstock availability: Uncertainty of supply of biomass feedstock from wood processing factories due to the prime minister decree 15/PO dated one 13 May 2016 on forest management, restricting logging and movement in the wood business	Substantial risk (s)	Substantial risk (s)	The project aims at diversifying solid biomass waste used for pellet production. For instance, the project identified risk husk and other biomass resources as potential feedstock during the conducted biomass resource assessment.	The project a biomass resource assessment to identify other possible feedstock for solid biomass pellets. The government of Laos has recently announced that processing and moving of existing wood, product, and raw material for the purpose of manufacturing creating easy value of the woody raw material (agreement of the Ministry of Industry and Commerce on approval of wood products for export, include wood pellet no 939/MOIC. DoH dated on 1 st August 2019). This could again open the market for wood waste pellets. The wood processing factory was transferred to the ministry of forestry and agriculture in early 2022, however, the government would remain the policy on wood processing.	<input checked="" type="checkbox"/>
7	Covid-19 pandemic	Substantial risk (s)	Low risk (L)	<i>All capacity building activities and events will consider recommendations from health authorities how to minimize the risk of infection of covid-19, such as physical distancing.</i>	Lao was and is also affected from the COVID-19 pandemic in the year 2020 and also 2021. Lao government had recently announced a ban on local and international travel, national and international borders, and physical distancing in public and working offices from April to June 2021 and precaution restrictions till April 2022. However, the government ceased the lockdown and open the country in May 2022.	<input checked="" type="checkbox"/>

2. If the project received a sub-optimal risk rating (H, S) in the previous reporting period, please state the actions taken since then to mitigate the relevant risks and improve the related risk rating. Please also elaborate on reasons that may have impeded any of the sub-optimal risk ratings from improving in the current reporting cycle; please indicate actions planned for the next reporting cycle to remediate this.

If the project has received a sub-optimal risk rating in FY21, please elaborate here on any actions taken towards the mitigation of these risks.

3. Please indicate any implication of the **COVID-19** pandemic on the progress of the project.

Please indicate whether the outbreak of COVID-19 has affected the project implementation. If so, have particular project activities/outputs been significantly impacted by the pandemic? Do you expect COVID-19 to have implications on the project's ability to finish by the expected completion date? In case the project has already been extended because of COVID-19, please mention it here and assure that the arguments presented in the extension request are aligned with the information provided in this section.

The COVID-19 pandemic has affected the implementation of the project activities, especially the activities connected to travel and group gatherings, such as training. Travel within the country and international travel is on hold. Since the pandemic started in February 2020, and last till the end of 2021. The Government of Lao had taken measurements to protect and intercept COVID-19 at an early stage by locking down the count from the end of April 2021 to the end of November 2021. This included a ban on internal travel between provinces and the immigration of foreigners to Laos. The project office had to be closed some time to follow the instruction of the COVID-19 committee to keep a social distance and work from home.

Form the measurement taken both from the Lao government and UNIDO, it affected directly the implementation of project activities. Some activities could not be implemented as planned such as the pelletization workshop for policymakers, which shall be organized by BTILC. As the main activities in 2021 were the procurement of the laboratory equipment, the formulation of the biomass strategy, and the demonstration of the pellet plant installed. COVID-19 affected the implementation of those project activities and lead to delayed of the implementation in 2021.

4. Please clarify if the project is facing delays and is expected to request an **extension**.

Please elaborate if the project is facing delays in implementation, explain the related reasons, and indicate whether you are planning to request an extension of the above-reported project completion date. If so, please provide information on the related project-level national consultation and decision-making process that have been/will be observed. Kindly note that this section will be used as a reference for the justification of any upcoming extension request(s), if applicable.

5. Please provide the **main findings and recommendations of completed MTR**, and elaborate on any actions taken towards the recommendations included in the report.

If the project has undergone a Mid-Term Review, please summarize the outcome and elaborate on specific actions taken towards implementing the recommendations included in the report.

NB: The information provided in this section will be used by the GEF Secretariat to measure the project's ability to adopt an adaptive management approach. This will be measured through the assignment of a project-level proactivity index.

IV. Environmental and Social Safeguards (ESS)

1. As part of the requirements for **projects from GEF-6 onwards**, and based on the screening as per the UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP), which category is the project?

- ☐ Category A project
- ☐ Category B project
- ☐ Category C project

(By selecting Category C, I confirm that the E&S risks of the project have not escalated to Category A or B).

Notes on new risks:

- If new risks have been identified during implementation due to changes in, i.e. project design or context, these should also be listed in (ii) below.*
- If these new/additional risks are related to Operational Safeguards #2, 3, 5, 6, or 8, please consult*

with UNIDO GEF Coordination to discuss next steps.

- Please refer to the UNIDO [Environmental and Social Safeguards Policies and Procedures \(ESSPP\)](#) on how to report on E&S issues.

Please expand the table as needed.

	E&S risk	Mitigation measures undertaken during the reporting period	Monitoring methods and procedures used in the reporting period
(i) Risks identified in ESMP at time of CEO Endorsement			
(ii) New risks identified during project implementation (if not applicable, please insert 'NA' in each box)			

V. Stakeholder Engagement

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes** regarding engagement of stakeholders in the project (based on the Stakeholder Engagement Plan or equivalent document submitted at CEO Endorsement/Approval).

Please note that the UNIDO GEF Coordination Team will copy-paste the answer to this question into the GEF Portal.

Project Steering Committee Meetings (PSC meetings) were conducted yearly to evaluate the project progress and approve the next project activities. The project management unit has a regular call to follow up on the planned activities, In addition a monthly report is shared with PM in UNIDO head quarter. For local coordination and management, there are regular meetings with BTILC.

The PMU is based at CPC-L and has regular meetings with CPC-L on the progress and feedback and comments for the implementation of the project activities from CPC-L.

The Department of Industry and Handicraft (DIH), is a government agency under the Ministry of Industry and Commerce responsible for providing coordination and linking the industries. It provides support for project execution and aims to oversee the industrial application of pellets in Lao PDR. During the project cycle, DIH is responsible for overall administration of the manufacturing sector, developing and conducting awareness-raising seminars, provide technical assistance to industries and carry out dissemination and replication workshops. DIH is actively involved in the project, e.g. through CPC-L, which is under DIH.

The Cleaner Production Center Lao PDR (CPC-L) has been set up by UNIDO in collaboration with the Ministry of Industry and Commerce under its global Cleaner Production promotion initiative. This centre raises awareness on cleaner production benefits in the industrial and tourism sector. CPC-L is hosting the PMU of the project.

The Research Institute of Energy and Mines (RIEM), (former name: Renewable Energy and New Material Institute (REMII)) is a government agency under the Ministry of Energy and Mines, RIEM is one of the main counterparts as well as executing partner of the project. It acts as a technical hub for solid biofuel technology and hosts the Biomass Technology, Information and Learning Centre (BTILC). It will carry out technical advisory roles to factories during and after the project. In collaboration with UNIDO, it will be responsible for the establishment of the pellet manufacturing units. REMII is also actively involved in the project.

Private investors such as Boten Salt Factory, Veunkham Salt Factory, Lao furniture industry and Khoksa-ath salt factory cooperate through technical studies, pilot investments and participate in capacity building exercises. Until now there is

a good collaboration with two salt factories under the project. However, there is little involvement of Lao furniture industry since they have less operation and do not have left over biomass available as they use their biomass waste for captive energy needs. In addition, three companies, Dokchampakham pellet mill, Simmalakham briquette factory and Alexson Import-Export decide to join the project and had signed contract with UNIDO for getting technical assistance and incentive from UNIDO. Three of them, Simmalakham had completed the installation of 3.0 tons pellet mill in Bolikhamxay, while other two companies still hesitate to invest.

Challenges:

- The dissolution of the ministry of science and technology and merging the institute of Department of Energy and Mines and the Renewable Energy and New Material Institute (REMI), make changing in human resources. Some staff worked with project earlier were moved to other department and division, which contributed to increased lacks of qualified staff working at BTILC, because only few old staff remained and new staff join. There are limited resources available at REMI/BTILC. The implementation of the contract faces serious delays also due to limited capacity and proactive engagement.
- CPC-L and DIH are very committed and eager to be involved in the project, however, their capacity is still limited.
- The time of project closure comes closer, there is a need to accelerate the implementation of the project.

2. Please provide any feedback submitted by national counterparts, GEF OFP, co-financiers, and other partners/stakeholders of the project (e.g. private sector, CSOs, NGOs, etc.).

Please summarize relevant feedback received on the project.

Feedback from REMI

"On behalf of Renewable Energy and New Material Institute (REMI) as the project partner of Reducing of Green House Gas (GHG) emission in the industrial sector through pelletization technology in Lao P D R. I would like to share with you on the feedback from REMI in the progress of implementation of establishment and operating the Biomass Technology Information and Learning Centre (BTILC). As we know there are three phases of establishment and operating namely Start-up phase with 6 months of implementation, Incubation phases with 18 months of implementation and sustainable phase that implement onward of project end. Currently we are still implementing the start-up phase which started since 2018. There are 8 main activities with 19 sub-activities to be done in this phase, until now just only 4 sub-activities had been implemented and some sub-activities are ongoing of implementation. If compare to planned schedule and project life, the implementation is quite late. The procurement of laboratory equipment is completed. UNIDO selected the a supplier and the equipment completely delivered to BTILC soon. In 2021 to 2022, there was also outbreak of COVID-19 and the merging of the Research Institute of Energy and Mines, which made the planned activities delayed. I, on behalf of the BTILC team, aware that this project is useful to BTILC and Laos to promote utilization of waste to energy. We will use the remaining time to the end of this year to implement the planned activities successfully."

Feedback from DIH

As on my behalf of the executing agency, I found that since the project commencement in early 2016, there were many activities have been implemented. The main output in Component 1 was the establishment of Biomass Technology Information and Learning Center (BTILC) at REMI, in Component 2 was the biomass resource assessment conducted by the Cleaner Production Center of Laos, and Component 3 was the installation and testing of greenhouse dryers at two salt factories, energy audits at salt factories, and pilot salt cooking that uses jacketed-steam vessel and pellet fuel boilers in 2017 and the greenhouse solar dryer for salt drying and brine evaporation 2018, as well as intervention of investment on pellet by technical and partial financial support from UNIDO in 2021 and 2022.

The project was extended for third time in 2021 till the end of 2022, because of some activities have still been delayed or not implemented as originally planned in the work plan 2020-2021. The remaining activities need urgent attention so that all the planned activities can be implemented successfully on time this year.

Overall, there is little progress on project implementation even though the main outputs have not been completed. In 2021 the implementation of the project activities is also being affected by the COVID-19, many plan activities have been delayed. May I propose that in the limited time to the end of this year, all the planned activities shall be successfully implemented especially the formulation of the biomass energy strategy and the setting up of pellet plants by the companies with technical assistance and incentive from UNIDO.

On behalf of the implementing partner, I will make available the resources and effort from the Department of Industry and Handicraft to support the project implementation.

3. Please provide any **relevant stakeholder consultation** documents.

Please list here the documents which will be submitted in addition to the report, e.g.:

- *Project Steering Committee minutes 2021*
- *Project Progress report*
- *Report establishment of laboratory at BTILC*

*All attachments are to be named as per the GEF required format, i.e.: “**GEFID_Document Title**”, e.g. 9714_PSC minutes.*

VI. Gender Mainstreaming

1. Using the previous reporting period as a basis, please report on the **progress achieved on implementing gender-responsive measures** and **using gender-sensitive indicators**, as documented at CEO Endorsement/Approval (in the project results framework, gender action plan or equivalent),.

Please note that the UNIDO GEF Coordination team will copy-paste the answer to this question into the GEF Portal.

Guiding principle of the project will be to ensure that both women and men are provided equal opportunities to access, participate in, and benefit from the project, without compromising the technical quality of the project results. In practical terms,

- Gender-sensitive recruitment was practiced at all levels where possible, especially in the selection of project staff. Gender-responsive TORs will be used to mainstream gender in the activities of consultants and experts. In cases where the project does not have direct influence, gender-sensitive recruitment was encouraged. Furthermore, whenever possible existing staff was trained and their awareness was raised regarding gender issues.
- All decision-making processes will consider gender dimensions. At the project management level, Project Steering Committee meetings invited observers to ensure that gender dimensions are represented. Also, at the level of project activity implementation, effort was made to consult with stakeholders focusing on gender equality and women's empowerment issues. This is especially relevant in policy review and formulation.
- To the extent possible, efforts were made to promote the participation of women in training activities, both at managerial and technical levels. This included advertising the events to women's technical associations, encouraging companies to send women employees, etc.
- When data-collection or assessments were conducted as part of project implementation, gender dimensions were considered. This included sex-disaggregated data collection, performing gender analysis as part of ESIA's, etc.

Some measures have been taken so far:

- Consultative gender workshop on Gender Mainstreaming has been conducted in November/December 2016.
- Female Participants and women's NGOs have been invited to all training activities.
- Gender dimensions have been integrated in the draft ToR for detailed feasibility studies to be conducted.
- Women were contributing to all project activities e.g.: Involvement of women in energy audit in 2017; Involvement of women in installation and commissioning of solar greenhouse dryer in February 2018; Involvement of women in the biomass resource assessment by the department of industry and handicraft and cleaner production center Lao PDR.

VII. Knowledge Management

1. Using the previous reporting period as a basis, please elaborate on any **knowledge management activities / products**, as documented at CEO Endorsement / Approval.

NA for the reporting period.

2. Please list any **relevant knowledge management mechanisms / tools** that the project has generated.

Please list the relevant knowledge management mechanisms/tools and any documents that will be submitted in addition to the report, e.g.:

- *online information exchange/sharing platforms*
- *relevant technical reports*
- *Link to project websites, videos, publications*
- *flyers, etc.*

All attachments are to be named as per the GEF required format, i.e.: "GEFID_Document Title", e.g. 9714_Flyer.

No document made in 2021-2022

VIII. Implementation progress

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes achieved/observed** with regards to project implementation.

Please note that the UNIDO GEF Coordination team will copy-paste the answer to this question into the GEF Portal.

Outcome 1: Improved awareness, knowledge and capacity on solid biofuel production and usage in the country.

Output 1.1: An information and learning centre for solid biofuel production and usage established:

UNIDO is evaluating and selecting the supplier for procurement and delivery of the laboratory equipment to BTILC.

- *Selection of the supplier for supplying laboratory equipment to BTILC*
- *Complete the delivery of the laboratory equipment to BTILC*
- *Completion of installation of laboratory equipment at BTILC*
- *Challenges: limited human resources at BTILC; limited initiative/interest from BTILC staff; delays in identifying suitable long-term partner for BTILC*

Output 1.2: Capacity of at least 20 policy makers developed and capacities of potential solid biofuel producers & users, RE / technical institutions and bank / financial institutions developed (target 20 persons).

- *BTILC continue to conduct Need Assessment of policy workshop and preparation*

Outcome 2: Improved confidence among investors in solid biofuel production and utilization

Output 2.1: Database developed on agro & wood wastes availability and on final energy consumption in industrial sector (this output is combined with 3.1)

No activities in 2021-2022

- *Challenges:*

Output 2.2: National strategy to promote investment in solid biofuel production and utilization in place

- UNIDO evaluated and preparing contract offered to CPC-L. The activity is planned to be completed by the end of 2021.
- CPC-L drafting first draft of biomass energy strategy and organized internal consultation workshop for brainstorming and improving the first draft.

Output 2.3: Technical adjustments for solid biofuel usage in participating industries

- Veunkham factory suggested to use the jacketed steam boiler for the some quality product. Veunkham factory will be responsible for cost of maintenance and repairing of the system.
- Under the contract number CONTRA CT_3000091384., CPC-L is constructing the pellet furnace for testing of using pellet for brine evaporation, replacing coal. The system shall be finished in August 2022 and ready for testing.

Outcome 3 – Increased use of solid biofuel for industrial applications.

- *Challenges: uncertainty of investment into solid biofuel production and utilization for industrial applications due to:*
 - o Lack of policy on biomass technology and promotion.
 - o Insecure market for pellet uptake
 - o Investment costs

Output 3.1: Systematic and comprehensive biomass resource assessment in target areas

- see output 2.1

Output 3.2: Detailed plant designs prepared for the demonstration projects

- No detailed plant design has been conducted so far since companies are hesitant to confirm co-investment
- *Challenges: The CEOI and RFP showed that factories do not have sufficient information available to develop detailed plant designs and feasibility studies. However, the project decided to give incentive to factories which submitted their project proposal under RFX 7000004855 and the plant design will be taken from the one prepared by the factories.*

Output 3.3: Solid biofuel pelletizing systems established for a cumulative capacity of 3.6 tph

- UNIDO evaluated the proposals of the three factories.
- UNIDO selected and signed contract with three factory: Dokchampakham pellet factory, Simmalakham briquette factory and Alexon import-export company with the contract number Contract No 30000903431, Contract_30000903432 and Contract_30000903430 respectively.
- *Challenges: Due to time-boundary for purchasing, delivery and installation of the pellet plant, the project partners are increasing their efforts so that the activities can be implemented successfully by the end of year 2022. Market development is also an issue after the completion and operation of the pellet plant. The project is trying to connect with the World Bank Project to seek market for the pellet producer.*

2. Please briefly elaborate on any **minor amendments⁶ to the approved project that may have been introduced during the implementation period or indicate as not applicable (NA).**

Please tick each category for which a change has occurred and provide a description of the change in the related textbox. You may attach supporting documentation, as appropriate.

<input type="checkbox"/>	Results Framework	
<input type="checkbox"/>	Components and Cost	
<input type="checkbox"/>	Institutional and Implementation Arrangements	


⁶ As described in Annex 9 of the *GEF Project and Program Cycle Policy Guidelines*, **minor amendments** are changes to the project design or implementation that do not have significant impact on the project objectives or scope, or an increase of the GEF project financing up to 5%.

<input type="checkbox"/>	Financial Management	
<input type="checkbox"/>	Implementation Schedule	<i>The project was extended for one year until Dec 31, 2022</i>
<input type="checkbox"/>	Executing Entity	<i>The ministry of Science and Technology was dissolved in late 2021. The Renewable Energy and new Materials has been merged to the Research Institute of Energy and Mines (RIEM), and the BTILC is under RIEM</i>
<input type="checkbox"/>	Executing Entity Category	
<input type="checkbox"/>	Minor Project Objective Change	
<input type="checkbox"/>	Safeguards	
<input type="checkbox"/>	Risk Analysis	
<input type="checkbox"/>	Increase of GEF Project Financing Up to 5%	
<input type="checkbox"/>	Co-Financing	
<input type="checkbox"/>	Location of Project Activities	
<input type="checkbox"/>	Others	

3. Please provide progress related to the **financial implementation** of the project.

Please provide a description of the main expenditures during the reporting period. Describe the current status of funds mobilization activities and the related implications for project implementation. Provide information on status of obtained / mobilized co-financing, etc. as per CEO Endorsement/Approval document.


Due to COVID-19, the main activities have not been implemented in early 2020 and 2021, most the activities have been implemented in 2019. The main budget was to cover the activities in component 1 and 3 such as local travel and the national consultants. The detailed of the expenses are attached below in PROJECT DELIVERY REPORT.

 GRANT DELIVERY REPORT		Grant:	200003228	Grant Status:	Authority to implement	Grant Validity:	02.11.2015 - 31.12.2022
		Sponsor:	400150 - GEF - Global Environment Facility	Currency:	USD	Reporting Period:	02.11.2015 - 30.06.2022
		Other Reference:	5743-US-PJ-MS-GR-01	Fund:	GF	Prepared on:	22.07.2022
Project	Project Description	Country	Region	Project Manager		Project Validity	
140057	REDUCING OF GREENHOUSE GAS (GHG) EMISSIONS IN THE INDUSTRIAL SECTOR THROUGH PELLETIZATION TECHNOLOGY IN LAO PDR	Lao PDR	Asia and Pacific	Jossey Thomas		28.10.2015 - 31.12.2022	

	Description	Released Budget Current Year (a)	Obligations Current Year (b)	Disbursements Current Year (c)	Expenditures Current Year (d=b+c)	Total Agreement Budget (e)	Released Budget (f)	Obligations + Disbursements (g)	Funds Available* (h=f-g)	Support Cost (i)	Total Expenditures (j=i+d)
140057											
140057-1-01-01	OP 1: Improved awareness solid-biofuel	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	7,992.88	11,220.72	9,059.61	20,280.33	9,803.17	9,803.17	20,328.37	(10,525.20)	0.00	20,328.37
1500	Local travel	1,088.53	0.00	0.00	0.00	(175.97)	(175.97)	0.00	(175.97)	0.00	0.00
1700	Nat.Consult./Staff	22,000.00	0.01	14,342.17	14,342.18	17,944.20	17,944.20	14,342.18	3,602.02	0.00	14,342.18
2100	Contractual Services	0.00	0.00	1.51	1.51	(2,404.54)	(2,404.54)	995.58	(3,400.12)	0.00	995.58
3000	Train/Fellowship/Study	10,000.00	0.00	0.00	0.00	9,528.15	9,528.15	0.00	9,528.15	0.00	0.00
3500	International Meetings	0.00	0.00	0.00	0.00	(3,000.83)	(3,000.83)	0.00	(3,000.83)	0.00	0.00
4300	Premises	0.00	0.00	0.00	0.00	(1,002.45)	(1,002.45)	0.00	(1,002.45)	0.00	0.00
4500	Equipment	0.00	0.00	0.00	0.00	8,012.05	8,012.05	8,012.05	0.00	0.00	8,012.05
5100	Other Direct Costs	0.00	0.00	478.96	478.96	1,296.22	1,296.22	2,758.08	(1,461.86)	0.00	2,758.08
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,417.30	4,417.30
140057-1-01-01	Total	41,081.41	11,220.73	23,882.25	35,102.98	40,000.00	40,000.00	46,436.26	(6,436.26)	4,417.30	50,853.56
140057-1-02-01	OP 2: Promoting solid biofuel investment	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	(0.56)	(2,682.02)	2,711.85	29.83	168.46	168.46	2,712.92	(2,544.46)	0.00	2,712.92
1500	Local travel	473.92	0.00	0.00	0.00	(1,992.56)	(1,992.56)	0.00	(1,992.56)	0.00	0.00
1700	Nat.Consult./Staff	0.00	0.00	0.00	0.00	(4,200.00)	(4,200.00)	0.00	(4,200.00)	0.00	0.00
2100	Contractual Services	15,573.82	0.00	0.00	0.00	15,000.00	15,000.00	0.00	15,000.00	0.00	0.00
3000	Train/Fellowship/Study	1,135.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4500	Equipment	0.00	0.00	0.00	0.00	6,024.10	6,024.10	6,024.10	0.00	0.00	6,024.10
5100	Other Direct Costs	162.21	0.00	0.00	0.00	0.00	0.00	208.82	(208.82)	0.00	208.82
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	849.86	849.86
140057-1-02-01	Total	17,344.39	(2,682.02)	2,711.85	29.83	15,000.00	15,000.00	8,345.84	6,054.16	849.86	9,795.70

* Does not include Unapproved Obligations

The above statement has been certified electronically by the designated officials in UNIDO's department of finance.

 GRANT DELIVERY REPORT		Grant:	2000003228	Grant Status:	Authority to implement	Grant Validity:	02.11.2015 - 31.12.2022
		Sponsor:	400150 - GEF - Global Environment Facility	Currency:	USD	Reporting Period:	02.11.2015 - 30.06.2022
		Other Reference:	5743-US-PJ-MS-GR-01	Fund:	GF	Prepared on:	22.07.2022
Project	Project Description	Country	Region	Project Manager		Project Validity	
140057	REDUCING OF GREENHOUSE GAS (GHG) EMISSIONS IN THE INDUSTRIAL SECTOR THROUGH PELLETIZATION TECHNOLOGY IN LAO PDR	Lao PDR	Asia and Pacific	Jossey Thomas		28.10.2015 - 31.12.2022	


	Description	Released Budget Current Year (a)	Obligations Current Year (b)	Disbursements Current Year (c)	Expenditures Current Year (d=b+c)	Total Agreement Budget (e)	Released Budget (f)	Obligations + Disbursements (g)	Funds Available* (h=f-g)	Support Cost (i)	Total Expenditures (j=g+i)
140057-1-03-01	OP 3: Project Management Cost	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1500	Local travel	14,311.59	194.00	438.01	622.01	0.00	0.00	1,310.42	(1,310.42)	0.00	1,310.42
1700	Nat.Consult./Staff	48,337.33	20,144.79	21,504.60	41,049.39	2,284.59	2,284.59	43,169.91	(40,885.32)	0.00	43,169.91
2100	Contractual Services	0.00	0.00	483.36	483.36	1,562.86	1,562.86	449.94	1,142.92	0.00	449.94
3000	Train/Fellowship/Study	1,257.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4500	Equipment	0.00	0.00	0.00	0.00	36,122.55	36,122.55	36,122.55	0.00	0.00	36,122.55
5100	Other Direct Costs	530.49	681.26	935.47	1,616.73	0.00	0.00	3,120.00	(3,120.00)	0.00	3,120.00
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,952.12	7,952.12
140057-1-03-01	Total	64,445.60	21,010.05	23,361.44	44,371.49	40,000.00	40,000.00	84,172.82	(44,172.82)	7,952.12	92,124.94
140057	Total	279,146.17	36,517.21	101,018.39	137,535.60	0.00	0.00	460,058.42	(460,058.42)	38,232.50	498,290.92
2000003228	USD Total	279,146.17	36,517.21	101,018.39	137,535.60	0.00	0.00	460,058.42	(460,058.42)	38,232.50	498,290.92

* Does not include Unapproved Obligations

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Report Prepared on: 22.07.2022

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 GRANT DELIVERY REPORT		Grant:	2000003228	Grant Status:	Authority to implement	Grant Validity:	02.11.2015 - 31.12.2022
		Sponsor:	400150 - GEF - Global Environment Facility	Currency:	USD	Reporting Period:	02.11.2015 - 30.06.2022
		Other Reference:	5743-US-PJ-MS-GR-01	Fund:	GF	Prepared on:	22.07.2022
Project	Project Description	Country	Region	Project Manager		Project Validity	
140057	REDUCING OF GREENHOUSE GAS (GHG) EMISSIONS IN THE INDUSTRIAL SECTOR THROUGH PELLETIZATION TECHNOLOGY IN LAO PDR	Lao PDR	Asia and Pacific	Jossey Thomas		28.10.2015 - 31.12.2022	

	Description	Released Budget Current Year (a)	Obligations Current Year (b)	Disbursements Current Year (c)	Expenditures Current Year (d=b+c)	Total Agreement Budget (e)	Released Budget (f)	Obligations + Disbursements (g)	Funds Available* (h=f-g)	Support Cost (i)	Total Expenditures (j=g+i)
140057-1-03-01	OP 3: Solid biofuel applications	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	13,116.30	(0.02)	0.00	(0.02)	0.00	0.00	303.75	(303.75)	0.00	303.75
1500	Local travel	21,895.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1700	Nat.Consult./Staff	(86.52)	0.00	0.00	0.00	37,163.83	37,163.83	585.27	36,578.56	0.00	585.27
2100	Contractual Services	84,000.00	10,587.89	47,160.89	57,748.78	64,725.55	64,725.55	288,220.44	(223,494.89)	0.00	288,220.44
3000	Train/Fellowship/Study	19,777.48	0.00	217.20	217.20	0.00	0.00	2,941.78	(2,941.78)	0.00	2,941.78
3500	International Meetings	0.00	0.00	0.00	0.00	28.56	28.56	0.00	28.56	0.00	0.00
4500	Equipment	5,215.32	0.00	99.12	99.12	(157,015.10)	(157,015.10)	15,231.80	(172,246.90)	0.00	15,231.80
5100	Other Direct Costs	(949.53)	0.00	2.12	2.12	5,067.16	5,067.16	1,562.87	3,504.29	0.00	1,562.87
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23,905.73	23,905.73
140057-1-03-01	Total	142,968.26	10,587.87	47,479.33	58,067.20	(50,000.00)	(50,000.00)	308,845.91	(358,845.91)	23,905.73	332,751.64
140057-1-51-01	OP 4: Monitoring	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	8,875.92	(2,447.61)	2,432.80	(14.81)	0.00	0.00	7,309.27	(7,309.27)	0.00	7,309.27
1500	Local travel	0.00	0.00	0.00	0.00	(8,000.00)	(8,000.00)	0.00	(8,000.00)	0.00	0.00
1700	Nat.Consult./Staff	4,745.87	(1,171.81)	1,268.07	96.26	(15,000.00)	(15,000.00)	4,350.39	(19,350.39)	0.00	4,350.39
3000	Train/Fellowship/Study	0.00	0.00	0.00	0.00	(10,000.00)	(10,000.00)	0.00	(10,000.00)	0.00	0.00
5100	Other Direct Costs	(115.28)	0.00	(117.35)	(117.35)	(12,000.00)	(12,000.00)	(2.07)	(11,997.93)	0.00	(2.07)
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,107.49	1,107.49
140057-1-51-01	Total	13,306.51	(3,619.42)	3,583.52	(35.90)	(45,000.00)	(45,000.00)	11,657.59	(56,657.59)	1,107.49	12,765.08

* Does not include Unapproved Obligations

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Report Prepared on: 22.07.2022

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IX. Work Plan and Budget

1. Please provide **an updated project work plan and budget** for the remaining duration of the project, as per last approved project extension. Please expand/modify the table as needed.

Please fill in the below table or make a reference to a file, in case it is submitted as an annex to the report.

Outputs by Project Component	Year 2022				GEF Grant Budget Available (US\$)
	Q1	Q2	Q3	Q4	
Component 1 –					
Outcome 1: An information and learning centre for solid biofuel production and usage established					
Output 1.1: Installation of the procured lab equipment					
Output 1.2: Develop training modules for repair and maintenance of pellet stoves in collaboration with BTIC and South Pole					20,000
Output 1.3: Carry out awareness-raising events for potential pellet users					5,000
Outcome 2: Capacity of at least 20 policy makers developed and capacities of potential solid biofuel producers & users, RE / technical institutions and bank/ financial institutions developed (target 20 persons).					
Outcome 2.1: Conduct a detailed study on fuel blending					30,000
Outcome 2.2: Build local technical capacity for repair and maintenance of pellet stoves					50,000
Outcome 2.3: Organize a workshop on preparing project proposal and monitoring for national stakeholders					5,000
Component 2 – Strengthening policy and regulatory framework for promoting investments in solid biofuel use in industries					
Output 2.1.2 National strategy to promote investment in solid biofuel production and utilization in place					
Output 2.1: 2.1 Continuous follow up with CPC -L on the development of the national biomass strategy and qual					
Output 2.1: 2.2 Conduct a validation and dissemination workshop on the national biomass strategy					
Output 2.1: 2.3. Conduct feasibility study for utilizing pellets in the cooking sector					30,000
Component 3: Demonstration of solid biofuel production and utilization					
Outcome 3.1: Continuous follow up with the three developers installing pelletization systems in their factories.					
Component 4- Monitoring and Evaluation (M&E)					
Outcome 4.1 Organize workshop on lesson learned and experiences gathered, knowledge management					2,000
Outcome 4.2 Present the findings of the TE with the project stakeholders					done
Outcome 4.3. Field visit to the demonstration projects by the stakeholders/PSC members					10,000
Outcome 4.4 Final PSC meeting					5,000
Outcome 4.5 Closing project					

X. Synergies

1. Synergies achieved:

Describe potential synergies arising out of UNIDO internal cooperation and/or cooperation with (external) bilateral and multilateral projects/programmes, if applicable.

World Bank: World bank is planning to introduce 50,000 cookstoves in Lao PDR that use biomass pellets. Regular discussions with the world bank team have been conducted to identify possible synergies. The World Bank project will be one of the pellet consumers. The World Bank project agreed to buy pellet from Simmalakham factory with support by UNIDO project. A certification of origin of raw material is required by the project. The factory is preparing the document for certification.

South Pole is potentially supplying the cookstoves for the world bank project. Discussions have been held and calls to identify potential synergies and ensure that pellets produced under the UNIDO project can be used in the cookstoves. In addition, BTILC plan organize workshop on using cook stove in three provinces, where the cook stove will be distributed in the next phase of the World Bank project.

3. Stories to be shared (Optional)

Please provide a brief summary of any especially interesting and impactful project results that are worth sharing with a larger audience, and/or investing communications time in. Please include links to any stories/videos available online.

EXPLANATORY NOTE

1. **Timing & duration:** Each report covers a twelve-month period, i.e. 1 July 2021 – 30 June 2022.
2. **Responsibility:** The responsibility for preparing the report lies with the project manager in consultation with the Division Chief and Director.
3. **Evaluation:** For the report to be used effectively as a tool for annual self-evaluation, project counterparts need to be fully involved. The (main) counterpart can provide any additional information considered essential, including a simple rating of project progress.
4. **Results-based management:** The annual project/programme progress reports are required by the RBM programme component focal points to obtain information on outcomes observed.

Global Environmental Objectives (GEOs) / Development Objectives (DOs) ratings	
Highly Satisfactory (HS)	Project is expected to achieve or exceed <u>all</u> its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as “good practice”.
Satisfactory (S)	Project is expected to <u>achieve most</u> of its <u>major</u> global environmental objectives, and yields satisfactory global environmental benefits, with only minor shortcomings.
Moderately Satisfactory (MS)	Project is expected to <u>achieve most</u> of its major <u>relevant</u> objectives but with either significant shortcomings or modes overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environmental benefits.
Moderately Unsatisfactory (MU)	Project is expected to achieve <u>some</u> of its major global environmental objectives with major shortcomings or is expected to <u>achieve only some</u> of its major global environmental objectives.
Unsatisfactory (U)	Project is expected <u>not</u> to achieve <u>most</u> of its major global environmental objectives or to yield any satisfactory global environmental benefits.
Highly Unsatisfactory (HU)	The project has failed to achieve, and is not expected to achieve, <u>any</u> of its major global environmental objectives with no worthwhile benefits.

Implementation Progress (IP)	
Highly Satisfactory (HS)	Implementation of <u>all</u> components is in substantial compliance with the original/formally revised implementation plan for the project. The project can be presented as “good practice”.
Satisfactory (S)	Implementation of <u>most</u> components is in substantial compliance with the original/formally revised plan except for only few that are subject to remedial action.
Moderately Satisfactory (MS)	Implementation of <u>some</u> components is in substantial compliance with the original/formally revised plan with some components requiring remedial action.
Moderately Unsatisfactory (MU)	Implementation of <u>some</u> components is <u>not</u> in substantial compliance with the original/formally revised plan with most components requiring remedial action.
Unsatisfactory (U)	Implementation of <u>most</u> components is <u>not</u> in substantial compliance with the original/formally revised plan.
Highly Unsatisfactory (HU)	Implementation of <u>none</u> of the components is in substantial compliance with the original/formally revised plan.

Risk ratings	
Risk ratings will assess the overall risk of factors internal or external to the project which may affect implementation or prospects for achieving project objectives. Risk of projects should be rated on the following scale:	
High Risk (H)	There is a probability of greater than 75% that assumptions may fail to hold or materialize, and/or the project may face high risks.
Substantial Risk (S)	There is a probability of between 51% and 75% that assumptions may fail to hold or materialize, and/or the project may face substantial risks.
Moderate Risk (M)	There is a probability of between 26% and 50% that assumptions may fail to hold or materialize, and/or the project may face only moderate risk.
Low Risk (L)	There is a probability of up to 25% that assumptions may fail to hold or materialize, and/or the project may face only low risks.