



Project Implementation Report

(1 July 2021 – 30 June 2022)

Project Title:	Promoting Energy Efficiency and Renewable Energy in Selected Micro SME Clusters in India
GEF ID:	3553
UNIDO ID:	103029
GEF Replenishment Cycle:	GEF-4
Country(ies):	India
Region:	SA - Southeast Asia
GEF Focal Area:	Climate Change Mitigation (CCM)
Integrated Approach Pilot (IAP) Programs¹:	NA
Stand-alone / Child Project:	Stand-alone Project
Implementing Department/Division:	ENE / ETI
Co-Implementing Agency:	Not Applicable
Executing Agency(ies):	Bureau of Energy Efficiency (BEE)
Project Type:	Full-Sized Project (FSP)
Project Duration:	60
Extension(s):	5
GEF Project Financing:	USD 7,172,098.01
Agency Fee:	USD 727,000
Co-financing Amount:	USD 26,200,000
Date of CEO Endorsement/Approval:	2/1/2011
UNIDO Approval Date:	3/14/2011
Actual Implementation Start:	11/4/2011
Cumulative disbursement as of 30 June 2022:	6,727,340.94
Mid-term Review (MTR) Date:	1/2/2018
Original Project Completion Date:	12/31/2015

¹ Only for GEF-6 projects, if applicable

Project Completion Date as reported in FY21:	6/30/2022
Current SAP Completion Date:	12/31/2022
Expected Project Completion Date:	12/31/2022
Expected Terminal Evaluation (TE) Date:	6/30/2023
Expected Financial Closure Date:	12/31/2023
UNIDO Project Manager²:	Sanjaya Shrestha

I. Brief description of project and status overview

Project Objective
<p>Project Objective:</p> <p>The project aims to develop and promote a market environment for introducing energy efficient (EE) technologies and enhancing the use of renewable energy (RE) technologies in process applications in 5 sectors (ceramic production, hand tool production, foundries, brass production, and dairy production). The project further envisions scaling up the activities to a national level in order to reduce energy use per unit of product, improve the productivity and competitiveness of units, thereby reducing the overall carbon emissions and improving the local environment.</p> <p>Project Components:</p> <p>The project has been working at cluster levels, as well as a policy level to achieve its aim. It has the following components:</p> <ul style="list-style-type: none"> • Increased capacity of suppliers of energy efficiency/renewable energy product suppliers/ service providers/ finance providers. • Increasing the level of end-user demand and implementation of energy efficiency and renewable energy technologies and practices by MSMEs. • Scaling up of the project to a national level and strengthening policy, institutional and decision-making frameworks • Desired Outcome of the Project: <ul style="list-style-type: none"> • Creating a scope for energy savings, by increasing the level of end-user demand and implementation of energy efficiency and renewable energy technologies and practices by MSMEs. • Encouraging the use of renewable energy in various industrial applications. • Improve the productivity and competitiveness of units. • Reduce overall carbon emissions and improve the local environment. <ol style="list-style-type: none"> I. Annual GHG emission reduction (CO₂eq) - 84,700 tonnes saved per year as a direct result of this project II. Cumulative GHG emission reduction (CO₂eq) - 1,270,500 tonnes saved over a 15 years lifetime of EE measures introduced III. Quantity of energy saved - 276,600 MWh per year as a direct result of this project IV. Volume of investments in EE/RE technologies-USD 16 million

² Person responsible for report content

Baseline

Under the baseline, investments in energy efficiency will be drastically limited within these sectors because of the lack of existing EE and RE technologies available in the market geared towards MSMEs. Because these technologies are not currently available, it is likely that only some level of best operating practices would be the indirect result of other projects geared towards energy efficiency in industry in India. It is estimated that among MSMEs where best-operating practices were identified as a potential source of saving, 20% would utilise these best practices.

Even if some of the investments materialize without GEF support, they are expected to take longer to be implemented (relative to the alternative scenario below, with GEF intervention). This would require investment by the local service providers or other entrepreneurs which is not currently expected.

Greenhouse gas reductions: The greenhouse gas reductions under the baseline scenario for the companies within the 5 sectors addressed in this programme would be approximately 3,900 tonnes of CO₂e per year – with reductions of 59,000 tonnes over a 15-year period. .

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.

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>Moderately Satisfactory (MS)</i>	<i>Moderately Satisfactory (MS)</i>
Implementation Progress (IP) Rating	<i>Moderately Satisfactory (MS)</i>	<i>Moderately Satisfactory (MS)</i>
Overall Risk Rating	<i>Moderate Risk (M)</i>	<i>Moderate Risk (M)</i>

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.

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

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress to-date
Component 1: Increased capacity of suppliers of EE/RE product suppliers/ service providers/ finance providers				
Outcome 1: The capacity of suppliers of EE/RE product suppliers/service providers/finance providers to support the expansion of EE/RE in the clusters is increased				
Output 1.1: EE/RE technologies that are adjusted for local needs introduced to the local market in 5 energy intensive MSME sectors.	<ul style="list-style-type: none"> Detailed techno-economic studies at the unit (MSME) level to determine feasible options for EE and RE through improvements in technologies and operating practices. Adjustment of existing technologies for the introduction of at least 12 emerging/ improved EE/RE technologies and/or Best Operating Practices to be introduced. Documentation of the benefits (energy savings, quality improvement, GHG reduction etc.) in the demonstration and replication units (prepare one case study for each sector. At least 16 awareness workshops to showcase the results of technology demonstrations (conduct at least 2 awareness workshops per cluster in the Foundries and Brass clusters, and 2 total awareness workshops in each of the other sectors – Hand tools, Ceramics, and Dairy) 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> Detailed techno-economic studies at the unit (MSME) level Introduction of at least 12 emerging/improved EE/RE technologies Documentation of the benefits (energy savings, quality improvement, GHG reduction etc.) At least 16 awareness workshops to showcase the results of technology demonstrations 	<ul style="list-style-type: none"> Identified more than 500 potential units in 12 clusters Conducted more than 300 walk-through audits Conducted around 150 Detailed Energy Audits (DEA) – (Cluster Leaders & Consultants) Developed more than 300 case studies Conducted 46 awareness workshops for knowledge dissemination in 12 clusters Identified 65 Energy Efficient Technologies across the clusters that are identified for replication within the clusters Facilitated implementation of 1843 Energy Efficiency and renewable energy measures in 750 units in 23 clusters in the duration of the project 16 technology demonstration workshops were organized- 04 workshops in Foundry sector (Coimbatore (2), Belgaum (2)), 04 workshops in the Dairy sector (Gujarat (2) Kerala (2)), 04 workshops in Ceramic sector (Thangadh (2) & Morbi (2)), 02 workshops in Hand Tool sector (Jalandhar (2)) and 02 workshops in the Brass sector (Jamnagar (2))
Output 1.2: Increased ability of Local Service Providers (EE and RE product and service suppliers) to provide assistance and advice to MSMEs within the sectors	<ul style="list-style-type: none"> 15 Local Service Providers/industry associations in 12 clusters identified for training and assistance in implementing the new technologies/Best Operating Practices. 200 Detailed Project Reports prepared for MSMEs by Local Service Providers in 12 clusters. 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> 15 Local Service Providers/industry associations in 12 clusters 200 Detailed Project Reports 24 product and service providers operating 	<ul style="list-style-type: none"> 800 Local Service Providers (LSP's) were identified on Technologies and Equipment in 12 clusters Equipment-wise training modules were developed for training the Local Service Providers (LSP's). Conducted 38 capacity building training programmes and trained about 250 LSPs on latest technologies and equipment in 12 clusters

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress to-date
	<ul style="list-style-type: none"> 24 product and service providers operating in each cluster actively marketing EE/RE products. (up from 4 currently). 			<ul style="list-style-type: none"> Developed 245 Detailed Project Reports (120 Bankable DPRs by consultants and 125 DPRs by Cluster Leaders) on Energy Efficient technologies Recently Green Global Tree & Design to company was awarded contracts for organizing B2B Exhibition and Vendor Interfacing events for 5 Sectors & 23 clusters.
<p>Output 1.3: Increased ability of local industry associations to provide assistance and advice to MSMEs within the clusters with the establishment/enhancement of "Cluster level energy management cells".</p>	<ul style="list-style-type: none"> Implementation of 12 "Energy Management Cells" within cluster-level industry associations/other cluster-level institutions for carrying out EE/RE assistance in their respective clusters. Needs assessments for these 12 institutions for the implementation of Energy Management Cells within them. Strengthening of these 12 "Energy Management Cells" by providing material support (energy audit tools) and soft support (knowledge and training) 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> Implementation of 12 "Energy Management Cells" Needs assessments of 12 institutions for the implementation of EMC Strengthening of these 12 "Energy Management Cells" Templates and examples for the financial assessment 	<ul style="list-style-type: none"> Established one Energy Management Cell (EMC) at each of the 12 clusters and each EMC was provided with portable energy audit instruments. Cluster leaders regularly conduct energy audits at various industries with the help of these instruments at EMC Trained cluster leaders, association representatives and MSME unit personnel on handling energy audit instruments and identification of energy conservation measures Deloitte is executing the Sustainability of EMC assignment <p>Activities to be carried under the assignment</p> <ul style="list-style-type: none"> Preliminary consultations were completed and a feasibility report was submitted. Roundtable consultation meeting will be organized with stakeholders. Final report on the sustainable models for the EMCs is yet to be submitted
<p>Output 1.4: Enhanced financing opportunities for EE/RE projects and implementation measures.</p>	<ul style="list-style-type: none"> Templates and examples for financial assessment of EE/RE projects developed for use in training and dissemination Banking/investor experts in 5 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> Templates and examples for the financial assessment Banking/investor experts in 5 banks/financial institutions training 	<ul style="list-style-type: none"> About 12 applications on different EE/RE projects were submitted for financial assistance to Banks which are yet to be approved. Recently Banker's training contract was awarded to Green Global Tree

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress to-date
	banks/financial institutions trained in the assessment of bankable projects and support mechanisms			Activities to be carried under the Banker training assignments <ul style="list-style-type: none"> a) Developed training modules on the EE & RE technologies b) So far organized 7 banker training programs in the clusters.
Component 2 – Increased end-use demand and implementation of EE and RE by MSMEs				
Outcome 2: The level of end-use demand and implementation of EE and RE technologies and practices by MSMEs in increased				
Output 2.1: Increased demand for EE/RE products/services and increased ability to apply for financing among the units in the 5-energy intensive MSME sectors for EE/RE technologies.	<ul style="list-style-type: none"> • Ongoing awareness generation/ training programmes for entrepreneurs – at least 50 awareness workshops conducted to reach 1200 or more entrepreneurs as well as four national-level project conferences conducted. • In consultation with industry associations, choosing MSMEs and implementing joint partnerships including adapted technologies and Best Operating Practices (“case studies”) in each of the 5 sectors with local producers of EE/RE technologies (Local Service Providers) and MSMEs – 29 total projects implemented with handholding of these 29 units to ensure optimal deployment of improved technologies and to build confidence and capabilities. • The development of around 200 bankable Detailed Project Reports which can be used for investment decisions • A total of 120 EE/RE measures implemented in the 12 clusters. 	<ul style="list-style-type: none"> • NA 	<ul style="list-style-type: none"> • Ongoing awareness generation/ training programmes for entrepreneurs at least 50 awareness workshops to reach 1200 participants • 29 total Pilot Demo Projects • 200 bankable Detailed Project Reports • A total of 120 EE/RE projects implemented in the 12 clusters • At least 100 applications for financial assistance (loans/investments) 	<ul style="list-style-type: none"> • Organized 2 National workshops and 1 Stakeholder consultation meeting • Organized 98 capacity building workshops for MSME enterprises on various aspects of energy efficiency in the 12 clusters with more than 2650 participants • 27 Pilot demonstration projects identified and approved; 21 projects have been successfully implemented. • Developed 120 bankable Detailed Project Reports on Energy Efficient technologies • Project is now initiated Design & Implementation of Energy Management System as per IS/ISO 50001 In Select MSME Sector/Cluster Activities cover under the IS/ISO 50001 program: <ul style="list-style-type: none"> a) Capacity Building of 1000 Industry Professionals as “Implementer Professional Course & Energy Efficiency Leader on ISO50001; Energy Management System” b) "Pilot demonstration of Applicability & Effectiveness of ISO50001 Energy Management System in SME Sectors (Ceramic, Dairy & Hand tool) covering 15 units"

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress to-date
	<ul style="list-style-type: none"> At least 100 applications for financial assistance (loan/investments) submitted by MSMEs with 36 additional funded 			
Output 2.2: Increased awareness and implementation of Best Operating Practices for energy management and EE/RE technologies in MSMEs in 12 energy intensive MSME clusters.	<ul style="list-style-type: none"> At least 500 experts, engineers, and staff trained in RE/EE technology basics and Best Operating Practices and at least 250 implementing Best Operating Practices during the complete project cycle. 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> At least 500 experts, engineers, and staff trained in RE/EE technology basics 	<ul style="list-style-type: none"> Organized 12 cluster-specific 3-days residential training workshops at Ambedkar Institute of Productivity-National Productivity Council, Chennai. Trained more than 230 cluster level enterprise representatives on "Best Operating Procedures for Energy management in MSMEs and handling of Energy audit Instruments."
Component 3 – Scaling up of the project to a national level				
Outcome 3: The project is scaled up to a national level				
Output 3.1: Cooperation and synergies established and enhanced within the project clusters through information sharing on best practices and joint workshops	<ul style="list-style-type: none"> At least 7 study tours/exchange visits carried out under a 'knowledge exchange program to share lessons and experiences among the various clusters. Existing web-sites in foundry and dairy sectors strengthened to include more information on EE/RE technologies and Best Operating Practices. 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> At least 7 study tours/exchange visits web-sites 	<ul style="list-style-type: none"> Organized four international study tours for Foundry, Hand Tools, Ceramic, Dairy sectors to Japan, China (Beijing and Guangzhou), and New Zealand. Organized four inter-cluster visits for (Belgaum to Coimbatore & Rajkot), (Indore to Coimbatore), and (Nagaur to Jalandhar) clusters. The Project has initiated to develop a knowledge-based portal to showcase the project activities, incorporate developed case studies, DPRs, DEA reports, information on vendors etc. Cluster-specific WhatsApp groups have been created and regular sharing of the information among MSME unit members is ongoing.
Output 3.2: Expansion of the project to affect new clusters at a later date throughout the country	<ul style="list-style-type: none"> Preparation of Project Proposals for EE/RE projects (similar to this one) in MSME clusters not covered in this project. (4 new Foundry clusters, the Ludhiana Hand Tools cluster, 1 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> Preparation of Project Proposals for EE/RE projects (similar to this one) in MSME clusters Preparation of more detailed 	<ul style="list-style-type: none"> Upscaling activities in the 23 clusters are being executed by CII-GBC and DESL Contracts issued to the following Group A1 (foundry) – DESL Group A2 (Foundry) - CII GBC

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress to-date
	<p>more Ceramics cluster in India, 1 more Brass cluster, 1 more Dairy cluster).</p> <ul style="list-style-type: none"> Preparation of more detailed information booklets for each of the 5 sectors on the technologies, returns on investment, etc 		information material (brochures, booklets)	<p>Group B (Ceramic) – CII GBC Group C (Dairy) - CII GBC Group D (Hand Tool & Brass) - DESL</p> <p>Achievements under Upscaling phase of the project:</p> <ul style="list-style-type: none"> 1250 EOI (Expression of Interest) forms were submitted by MSME units in all the clusters 24 awareness workshops were conducted in different clusters 25 Technology based compendiums are finalized for each cluster and to be distributed to units for adoption. Implemented Energy Efficiency and Renewable Energy measures in 695 industries in 23 clusters. 75% of EE technologies of total implementations have been implemented. 25% of RE technologies of total implementations have been implemented Achieved an energy savings of 13104.92 TOE and avoided 82,980 Tonnes of CO₂ emissions per year. Achieved a monetary saving of INR 81.35 Crores and achieved investment of INR 156.88 Crores. <p>Project has further Scaling up and Expanding activities in new Clusters Dairy (Rajasthan); Hand tools (Ludhiana) & Foundry (Faridabad)</p>
Component 4 – Strengthening policy, institutional and decision-making frameworks				
Outcome 4: Policy, institutional and decision-making frameworks strengthened				
Output 4.1: Improved monitoring and evaluation of energy use and development of a benchmarking system	<ul style="list-style-type: none"> At least 24 detailed energy audits conducted in various sectors including investment options, payback periods, current barriers to implementation, and energy use/CO₂eq emissions prevented from the 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> At least 24 detailed energy audits conducted At least 12 detailed cluster-level energy use database and Benchmarking A survey conducted on locally available 	<ul style="list-style-type: none"> Project has till now conducted 150 Detailed Energy Audits Overall project till now achieved: Implemented around 1843 (around 70 Technologies implemented multiple times in different units) Energy Efficiency and Renewable Energy

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress to-date
	<p>technologies/ practices.</p> <ul style="list-style-type: none"> At least 12 detailed cluster-level energy use databases prepared (one for each cluster); these would form the basis of benchmarking systems A survey conducted on locally available biomass resources and sustainability of biomass supply determined. (In the Foundry and Brass Sectors) Sustainability standards developed for biomass use. 		<p>biomass resources</p> <ul style="list-style-type: none"> Sustainability standards developed for biomass use. 	<p>measures in 750 MSME units in 23 clusters.</p> <ul style="list-style-type: none"> Achieved an energy savings of 24,102 TOE (tonnes of oil equivalent) and avoided 1,45,935 tonnes of CO₂ emissions per year. Achieved a monetary savings of INR 142 Crores (USD 18.2 Million) and achieved investment of INR 244 Crores (USD 31.3 Million) by MSME units DESL is developing cluster level/unit level cloud-based data analytics tool for energy-use database and benchmarking system. This will provide the MSME entrepreneurs with simple way to keep round-the-clock track of the energy consumption in the units/enterprises. <p>Activities carried out under Benchmarking assignment</p> <ul style="list-style-type: none"> Developed excel based KPI (Key performance indicators) sheets for each cluster. Organized training program for all the project engineers of CII & DESL team including the Cluster Leaders on the KPI's sheet. Development of the software tool based on the KPI's 10 MSME units per benchmarkable category will be identified to test the tool with active data. Developed the cloud-based analytical tool for the benefit of MSME units.
<p>Output 4.2: Mainstreaming EE and RE into national policies and</p>	<ul style="list-style-type: none"> Detailed report prepared on the policy and regulatory framework needed to accelerate the diffusion of energy- 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> Detailed report prepared on the policy and regulatory framework 	<ul style="list-style-type: none"> Project has awarded PricewaterhouseCoopers (PwC) to execute policy and regulatory framework needed to accelerate the diffusion of EE/RE

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress to-date
programmes on MSMEs Development	<p>efficient and renewable energy technologies in the 5MSME sectors. The report will also discuss improved RE options and related policy issues, and issues related to supply of piped NG in the clusters</p> <ul style="list-style-type: none"> Roadmap prepared for strengthening energy efficiency on end use and supply side, based on interactions with existing cluster level associations, other institutions at the cluster level with BEE, MoMSME & MNRE. The roadmap will specifically relate to state level programs where these clusters are located 		<ul style="list-style-type: none"> Roadmap prepared for strengthening energy efficiency on end use and supply side 	<p>technologies in the MSMEs sector. (activity is ongoing).</p> <ul style="list-style-type: none"> Sustainability plan (Exit Strategy) will be executed in the last phase of the project. (September 2022)

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.

	(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	Technical risk: EE and RE technologies for enhancing efficiency and meeting growing energy needs of MSMEs and improving them. Competitiveness are not mature yet.	Modest risk (M)	Modest risk (M)	This risk must be balanced against a substantial potential to achieve efficiency breakthroughs and a substantial enhancement of the share of renewable energy. In adapting the technologies, great attention will be paid to the development process and initial implementation of case studies. This approach has been well demonstrated in the U.S., Europe, and China.	The risk is being mitigated through the implementation of demonstration projects and documenting them in case studies. At the cluster level, technologies encouraged by the project are mainly mature and proven technologies. As the project progresses, it will continue to ensure that sufficient capacity exists to implement and manage these technologies. A total of 21 demonstration projects implemented. Furthermore, 98	<input type="checkbox"/>

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

	(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
					capacity building workshops have been held on best operating practices, strengthen capacities of local service providers and energy efficient technologies. Participants in these workshops were unit owners, operators, cluster leaders and local service providers. The series of workshops held further helps mitigating this risk.	
2	Economic risk: Increased investments on EE and RE technologies are not sufficiently economically attractive.	Low risk (L)	Low risk (L)	This risk will be tracked by a detailed evaluation of payback periods for each technology which is adapted according to different fuel price scenarios. The risk will be mitigated by ensuring that the initial evaluations of the potential for savings are sufficient to warrant investment and replication, and re-checked as the adaptation and market introduction takes place	To reduce this barrier, a detailed evaluation of payback periods will be conducted of each selected technology. To date, techno economic analysis has been conducted for various technologies including biomass gasifier, harmonic mitigation, power factor correction, solar thermal, induction furnace, insulation, EE motors, EE fans energy efficient gas-fired furnaces technologies. Furthermore, the risk is reduced by the financial support for demonstration of 21 projects, as well as developed 150 detailed energy audits 200 bankable DPR's & 98 workshops for dissemination of best operating practices introduction took place.	<input type="checkbox"/>
3	Market risk: Increased investments on EE and RE technologies do not provide higher returns as well as development of markets	Modest risk (M)	Modest risk (M)	This project will address both supply and demand side barriers to promote technically feasible and economically viable EE/RE options that offer attractive Return on Investments (ROI). Simultaneously, the project will facilitate financing of these EE/RE options.	Investments in RE and EE technologies are increasing in India, and thus the market for such technologies are improving as the project progresses. Demand side has been addressed by doing energy audits and sharing of best practices.	<input type="checkbox"/>
4	Financial risks: MSMEs involved in Demonstration of improved energy efficiencies and Renewable energies are not	Low risk (L)	Low risk (L)	While a lack of investment capital in absolute terms is very unlikely, it is possible that banks/investors will shy away from what are perceived as "new technologies" in the MSME sector, which already has some problems related to financial reporting and obtaining credit. However, this is actually a crucial barrier to	This risk is still considered to be low due to existing commitments in the overall energy efficiency and renewable energy markets by specialized financial institutions such as SIDBI and IREDA. Despite financing being a small portion of the project, the identification of additional experts and agencies willing to provide	<input type="checkbox"/>

	(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
	able to make bankable projects or attract required finances from the financial institutions.			industrial development that must be addressed. The risk is deemed as low because of existing commitments by SIDBI and IREDA which will at least be sufficient to initiate the market. The project will address the risk by working closely with investors/banks from the outset of the project.	financial services to MSMEs for EE/RE projects has been initiated.	
5	Policy risk: Fall in electricity /fossil fuel prices.	Low risk (L)	Low risk (L)	Electricity demand has been increasing at higher pace than production for the past 10 years, and the trend in fossil fuel prices is upwards.	At the current scenario, electricity demand and prices are increasing and so is the trend with fossil fuel demand and prices. This risk therefore remains low.	<input type="checkbox"/>
6	Policy risk: Supportive policy framework not in place or implemented	Low risk (L)	Low risk (L)	The Government of India has accorded priority to EE and RE technologies measures in SME sector, and BEE is already working towards this.	This risk remains low as the Government of India has continued to assign priorities to EE and RE technology measures in the SME sector, and BEE is already working towards this.	<input 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.

Not Applicable

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

The COVID-19 pandemic has not only posed threat to the health and lives of millions around the world but also paves the way for systemic social and economic turmoil. The onset of the pandemic compelled the Government of India to impose a nationwide complete lockdown starting March 25, 2020, which was further extended in phased manner as Lockdown 2.0 to 4.0 up-to May 31, 2020. These lockdowns had pushed the industry to close its production in an unplanned manner with a huge challenge of severe disruption of supply chain and market closures across the country that impacted both small and large Industrial units, disruption of demand, vast migration of laborers to their native places from many states as they struggled to earn their livelihood.

The COVID-19 also severely impacted the Indian Economy. India had seen one of the harshest lockdowns in the world, with very gradual relaxations beginning from July 2020. According to GDP data released recently by National Statistical Office, the country's growth rate slumped to 11-year low of 4.2 percent in 2019-20. The Medium, Small and Micro Enterprises (MSMEs) are the ones that have taken the hardest hit when it comes to the overall impact of COVID-19 in the Indian Industrial sector.

During Lockdown-4.0 (May 2020), some relaxations were provided to the manufacturing sector to operate with stringent MHA (Ministry of Home Affairs, Govt. of India) guidelines. Some of the MSME units in the clusters started their operations with lower capacity utilization, less manpower and plant running hours. Gradually, with the government's decision to give more relaxations in lockdown-5.0 (June 2020) and allowing more in a phased manner, the MSME units started to recover gradually.

The MSMEs in various sectors faced different set of challenges due to the pandemic and the recovery path for each sector was also very different, but labour, transportation, and raw materials was a major issue.

During the Lockdown and relaxation period (June-December 2020), PMU, contractors, and Cluster Leaders continued to engage the MSME units by virtual means. 25 Technology Compendiums for all the clusters were finalised between PMU and contractors in September 2020. The Technology Compendiums, Case studies were then shared with MSME units for Expression of Interest and Implementation plans by the contractors during this period.

The Contractors, DESL & CII-GBC both resumed the project implementation activities from December 1, 2020. Selective travel to the clusters took place by the respective team members. During the Un-lock phase, with more relaxations given by the government post lockdown period after the first wave of the Pandemic, the MSME units resumed their normal operations. A steady contraction of active COVID-19 cases and a low case fatality rate instilled measured optimism in India. The Cluster Leaders as well as the Project Engineers and Project Managers of the Contracting Agencies (CII- GBC & DESL) started visiting the MSME units to re-start the activities in the up-scaling assignment.

The project implementation activities by the Contractors, DESL & CII-GBC was progressing smoothly till March 2021. Infections were reported in some clusters (Maharashtra, Gujarat, Karnataka) during the month of March 2021 but the project activities continued with caution. In April 2021, the Second Wave - infections suddenly spurted and disrupted the project activities completely. The Second Wave was quite severe and very rapid that the situation was very alarming. The entire health infrastructure in the country was stretched to its maximum in terms of the capacity to handle by the size of the surge and speed. There was lack of hospital beds and availability of oxygen supply to the hospitals. The Central Government had to monitor the supply of oxygen and most of the industrial oxygen supply was diverted to hospitals on an emergency basis.

The second wave of the pandemic had a serious impact in almost all the clusters putting the health and safety of the project personnel in jeopardy. Most of the units in the clusters refused to allow the Project engineers into their premises. Many of the enterprise's staff/relatives were subject to infections and units started closing down temporarily. Both CII-GBC and DESL had reported of their own staff or family members as COVID infected. Few Cluster Leaders were infected or in quarantine due to infection in the office/home with also information of death in the family. Some of the Project Engineers returned to their hometown in few clusters. Colleagues in BEE and UNIDO were also infected during the second wave of the pandemic.

April and May 2021 were a period of concern for all project staff and hence priority to health was utmost to all project personnel. This impacted the progress of the project activities in all the clusters. India also attained the peak faster during the second wave - in 79 days compared to 220 days in the first wave – signifying how swiftly the second wave enveloped the nation. Daily new cases trickled down from 4.1 lakh on May 5, 2021 to around 0.5 lakh on June 30, 2021. The daily positivity rate dropped from a peak of 24.9 percent (on May 9, 2021) to 2.97 percent (on June 30, 2021).

The Omicron variant of COVID-19, that peaked in the second half of January, 2022, has had relatively low impact on the project activities, however cluster visits by the PMU team for the verification & validation of up-scaling assignments were cancelled or postponed due to the pandemic. After slight moderation in economic activity during January-2022, growth momentum picked up again in February 2022 amid withdrawal of COVID-19 induced restrictions across states. PMU staff & family members also got COVID-19 infected in the month of April, 2022.

Following are the implications of the COVID-19 pandemic on the progress of the project:

- The deliverables linked with the implementation of EE/RE technologies in MSME units and tCO_{2e} reduction targets, which are at the core of the project, and timelines for various activates were impacted.
- Activities linked to the project, such as conducting Awareness Workshops for technology demonstration in the clusters, Energy audits through consultancy firms, Contracts of sustainability of EMCs in the clusters, Training programs for Bankers and MSME units, and Inter-cluster visits, were delayed due to the pandemic and various restrictions imposed by the state gov.'s to contain the spread of the pandemic.
- Deliverables and timelines of the contracts, which have been already issued to the firms, have been impacted due to the prolonged restrictions on travels, organizing workshops & meetings etc. All the

field visits by the contractors and technology suppliers were withheld, till the situation normalized further and therefore were able to contact the units through phone and email only. Other initiatives such as Benchmarking, Design & development of forging furnaces, Audio-Visual assignment, and development of knowledge products for new clusters, Sector-specific training programs for the MSME units of the clusters were delayed substantially.

- During the Second Wave outbreak of COVID-19, the lockdown was imposed by the respective States, however, the impact was more National except for a few states in the North East part of India. The situation was not in control and some of the state governments were reviewing the situation closely and extending the imposed restriction on some activities again due to the pandemic; the MSME units took few weeks to start function normally, after restrictions were lifted.
- The first, as well as the second wave of the pandemic altogether, severely impacted the timelines of various planned activities in the scaling-up phase of the project, which are very crucial to achieve the desired targets EE/RE technology implementation and tCO₂e reduction by June 2022 along with the utilization of balanced budget. The third wave related to the Omicron variant of COVID-19, that peaked in the second half of January, 2022, has had a relatively lower impact on the activity levels of the project, however cluster visits by the PMU team for the verification & validation of up-scaling assignments were cancelled or postponed due to the pandemic.
- Based upon the recommendations of 10th PSC meeting, held on October 27, 2020, a request letter along with the workplan was sent by BEE to UNIDO HQ for extension of the project timelines for the period of 12 months (July 1, 2021 to June 30, 2022).
- 11th PSC meeting was held on December 3rd, 2021 to review the strategy and workplan for the next six months i.e., until the June 30th, 2022 as few activities were delayed due to recurring waves of the COVID-19 pandemic.

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

The project is facing delays in completing various on-going & planned activities as recurring waves of the COVID-19 pandemic impacted the timelines of various issued contracts.

The deliverables as well as timelines of the contracts which have been already issued to the firms and various activities linked to the project, such as conducting Awareness Workshops for technology demonstration in the clusters, Cluster visits for Verification & Validation of up-scaling contracts, Contracts of sustainability of EMCs in the clusters, Consultation Meetings related to Policy & Regulatory framework assignment, Training programs for Bankers and MSME units, Training programs on the developed benchmarking software tool for MSME, New contracts of Up-scaling project activities in Ludhiana-Hand Tool, Faridabad-Foundry Cluster & Rajasthan Dairy-Cluster were substantially delayed due to the recurring waves of the COVID-19 pandemic and various restrictions imposed by the state gov.'s to contain the spread of the pandemic.

A request letter, along with the workplan, was sent by BEE to UNIDO HQ for extension of the project timelines for the period of 6 months (July 1, 2022 to December 31, 2022).

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

The MTR independent assessment took place between January and March 2018, with following objectives

- (i) Assess project's performance and progress towards its results
- (ii) Assess remaining barriers in design, management and performance of partners and identify required changes to help achieve expected results
- (iii) Develop recommendations and follow-up plan for necessary corrective actions.

The MTR was conducted according to the UNIDO evaluation policy and the UNIDO Evaluation Manual. The evaluation included a desk review of existing project documents, interview of a cross section of project stakeholders in Vienna and India, and field visits to five project clusters representing different project cluster types and sectors and two additional cluster leaders were also interviewed.

The project design, through close partnership with the Bureau for Energy Efficiency (BEE) and the location of the Project Management Unit (PMU) within BEE, while posing challenges for timely implementation, supports incorporating learnings into government programmes and plans like the 2020 3-year plan.

Similarly, the development of clusters of similar industries and housing the Energy Management Cells (EMC) in cluster associations also supports creation of visibility, uptake and awareness on Energy Efficiency and Renewable Energy (EE/RE). The project is highly relevant to the existing thinking and planning at the national level and at the Micro, Small, and Medium Enterprises (MSME) level. The national government has increasing focus on EE/RE and climate change and is also encouraging energy efficiencies in MSMEs. This project combines all of these issues into a single project. Furthermore, the project is also in line with MSME cluster needs of increasing their profitability and provision of appropriate tools and support to enable achieving these requirements. Project implementation and management is functioning on a high level. M&E procedures are in place as well as efficient, and cooperation with the 12 clusters is working well. Annual reporting (PIR) is carried out and results are regularly traced against overall objectives and discussed with the main stakeholders. The Project Steering Committee (PSC) meets annually and takes decisions as mandated; this is well documented in meeting minutes.

Recommendations of completed MTR

There is a need for the project partners to have a planning meeting at the earliest for a joint decision on,

- (i) Utilisation of remaining funds within the given time limits.
- (ii) 'Redesigning' of project with realistic and appropriate timeframe.
- (iii) Closing of project in the given time without utilising all funds.

Other areas for further action are:

- Review and adapt Project Logical Framework and work plan to actual situation
- Provide more direct support given to MSMEs to foster implementation
- Create self-sustaining models for EMCs
- Undertake cluster team members meetings after finalizing updated project plan, for smooth execution
- Identify ways to include small and tiny industries under the project, such as specific components and activities for them
- Start the metering/monitoring of actual savings and the planned benchmarking system at company/cluster/sector level, including resource allocation for it

UNIDO:

- Accelerate the decision making and procurement procedures to improve efficiency and undertake measures to create common understanding and stronger ownership from involved parties (at cluster level) for project success.

BEE:

- Accelerate the decision making and procurement procedures to improve efficiency.

Specific Actions taken towards implementing the recommendations included in the report

- UNIDO & BEE had a review meeting to discuss on utilization of remaining funds within the given time limits with realistic workplan to complete specific project components and associated activities within the timelines.
- After 8th PSC meeting a request letter for extension of the project lines was sent to UNIDO
- Detailed work plan was prepared to complete the pending activities and utilizing the funds. Pilot projects (21 Nos.) were sanctioned for MSME in few clusters as well as up-scaling of the project activities was initiated to provide more direct support, in terms of funds and technical support, to the MSMEs.
- During the up-scaling phase small & tiny industries were also engaged for participation in the project activities by providing technical support through consultants such as DESL & CII-GBC; to help them implement EE & RE technologies. Walk through audits were also conducted in MSME units to implement energy conservation measures, thereby helped them reduce energy cost in production.
- Contracts for development of Cloud based benchmarking software tool for MSMEs was released. As of now, the project has developed a cloud benchmarking tool for Foundry, Hand Tool, Brass, Ceramic, Dairy and Food Processing MSME sector and further intends to upgrade the software tool to Mobile App based (Android & iOS) benchmarking tool. The MSME units can input energy & production data to the cloud benchmarking Software tool, to record & monitor their energy consumption patterns and compare with the sector/ cluster best specific energy consumption figures.

- Both UNIDO & BEE have taken appropriate measures, internally, to expedite decision making and procurement procedures.

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).

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

As part of the Scaling-up and expanding of the project activities, the project has engaged CII-GBC for executing the scaling-up activities in Dairy, Ceramic, Foundry (Group-A2) sectors and DESL for Hand Tools & Brass and Foundry Sectors (Group-A1). Benchmarking, Data Analytical Tool – DESL, Deloitte for

Sustainability of EMC assignment, DESL & CII-GBC for Upscaling activities in new clusters in Dairy, Foundry & Hand tools, PwC for policy and Regulatory frame work assignment.

Progress

- Monthly review meetings are held with BEE, PMU, and the contractors CII-GBC, DESL, PwC and Deloitte which were held at BEE with the participation of the Secretary and Director from BEE for all the meetings.
- Regular monitoring meetings were held with both CII-GBC, DESL, PwC and Deloitte with PMU on the progress of project activities.
- Organizing online review meetings with Associations and MSME units on the progress of the upscaling activities.
- The 11th Project Steering Committee meeting was held on December 3rd, 2021, chaired by the Director General-BEE, Project Manager, UNIDO HQ, UNIDO Representative in India, Secretary-BEE, Under Secretary - MoEFCC, and representatives from MNRE and DC-MSME.
- Outreach & Awareness – Creation of WhatsApp group for regular communication & updates, sharing of technology compendium & case studies, etc with MSME units – contractors- PMU has been formed for each Cluster.
- DESL and CII-GBC have created a Dash Board which is active online, where all the project activities are updated on a timely basis.

Challenges

- The Omicron variant of COVID-19, that peaked in the second half of January, 2022, has had relatively low impact on the project activities, however cluster visits by the PMU team for the verification & validation of up-scaling assignments were cancelled or postponed due to the pandemic.

Outcomes

- Effective monitoring of project activities has taken place by PMU on day-to-day basis, under the scaling-up assignment through cluster-based activity-dashboard, developed by CII-GBC and DESL.
- Monthly review meetings by BEE and regular (day-to-day) monitoring by PMU have also provided the desired project implementation results so far.

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

- Submission of Monthly Progress Reports by DESL for reference
- 11th Project Steering committee - Minutes
- Request letter for project timeline extension from DG, BEE
- Approval of project timeline extension by MoEFCC-GEF focal point
- Workshop proceedings for the awareness workshops
- Project summary workshop
- Joint monitoring mission by GEF (OFP), UNIDO & BEE
- Upscaling project summary reports

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),.

The project is committed to maintaining gender equality at each stage of project implementation. Participation of women is encouraged in the workshops organized by DESL & CII. MSME units are encouraged to nominate women employees to participate in the project as well as to provide have to have

in place basic gender rights for their employees (e.g., drinking water, toilets, H&S for pregnant women, child care etc.).

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.

- Project has developed 27 cluster specific technology compendiums under the upscaling phase of project.
- Project is developed 6 Promotional Videos and 15 Tutorial videos on EE/RE technologies which are implemented under the project.
- Project has developed project brochure
- Project is developed a website to share all the project related knowledge materials, and experience acquired so far.

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

- Promotional and Tutorial Videos developed under the project
- Technology compendiums and Project Brochure developed under the project
- Case studies developed under the project.
- Website Link- <http://sidhiee.beeindia.gov.in/aboutus/Videos>

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.

Progress:

The project has so far achieved substantial part of the objectives and goals as outlined in the project document. The project, through its various activities, has conducted a higher number of workshops, providing training to participants much more than the expected numbers. The small-scale energy conservation interventions in the clusters have been much higher than the set targets. The project has developed a significant number of DPRs for the industries to fast-track the decision-making process.

The project has scaled-up and expanded its activities to 14 new clusters, to the already existing 12 clusters. This is now bringing in more MSMEs under its umbrella and provide more technical supports on energy efficiency at the National level.

Activities carried out by PMU under the upscaling phase:

- As a part of implementation activities contractors have been able to coordinate in the procurement of 1250 EOI (Expression of Interest) from MSME units in all the clusters so far.
- 24 awareness workshops were organized to generate interest among the MSME units to participate in the assignment
- Finalized 28 cluster specific EE and RE based technology compendiums covering 20 - 30 major energy saving measures possible in the clusters for the 5 sectors.
- Implemented Energy Efficiency and Renewable Energy measures in **695 industries** in 23 clusters.

The project is also developing cluster level/unit level cloud-based data analytics tool for energy-use database and benchmarking systems. This will provide the MSME entrepreneurs with simple way to keep round-the-clock track of the energy consumption in the industry. This will ensure avoidance of any energy loss in the operations by taking timely precautionary measures in the units.

Activities carried out by PMU for the benchmarking assignment:

- Cluster level survey/visits were carried out for understanding the processes and equipment's to develop the (Key Performance Indicators) KPI's
- Excel based KPI's has been developed for the different categories for the 12 clusters
- Based on the excel based KPI's software tool is being developed.
- 10 MSME units per benchmarkable category have been identified to test the tool with active data.
- Successfully developed Cloud based analytic tool on benchmarking.

The project is also developing the sustainability of EMC in the clusters. This will provide sustainable models that can be adopted for EMC for continuation independently after the project duration.

Activities carried out by PMU for the Sustainability of EMC assignment:

- Preliminary consultations were completed and a feasibility report was submitted.
- Roundtable consultation meeting will be organized with stakeholders.
- Final report on the sustainable models for the EMCs is yet to be submitted

Challenges:

- Convincing cluster level associations and MSME units about the project and getting them on board to implement the project activities is one of the challenging tasks. However, a series of meetings and sharing the project benefits in other clusters helped the project overcome the challenges.
- Regular change in the office bearers of partner associations is one of the challenging issues for the implementation of project activities. During these changes, project activities got delayed for a particular duration.
- Despite various project activities, the challenges still lie in the implementation of energy efficiency measures due to lower awareness levels and financing related issues. Industries are more focused on production and business rather than energy savings associated with it. This is mainly due to lack of performance guarantee by the energy professionals, availability of local service providers and financing in case of high capital investments. However, project has facilitated with developing cluster specific technology compendiums which include 15 to 30 EE/RE based technologies which will provide confidence to units for adoption.
- The project adopted the cluster-based approach, which worked well in promoting energy efficiency in the MSME sector. However, a significant challenge is to address the diverse type of MSME units often encountered within the same cluster. In spite of many capacity building/awareness workshops, still, some MSME units are reluctant to change and implement process modifications, energy efficiency measures, mainly when it entails transition from time bound practices, additional investments and temporary dislocation/disruption of the manufacturing process.
- Currently the project phase is in the scaling up and expanding of the project activities with targets set on implementation measures particularly on adoption of EE technologies with investments on their own or through financing schemes.
- Project has also set a target of minimum of INR 6 lakhs and maximum of INR 10 lakhs investment on EE/RE measures in each MSME units. This will be a big challenge to achieve for the contractors engaged in the project activities.

Overall project achievements

- Implemented around **1843 (around 70 Technologies implemented multiple times in different units)** Energy Efficiency and Renewable Energy measures in 750 MSME units in 23 clusters.
- Achieved an energy savings of **24,102 TOE (tonnes of oil equivalent)** and avoided 1,45,935 tonnes of CO2 emissions per year.
- Achieved a monetary savings of **INR 142 Crores (USD 18.2 Million)** and achieved investment of **INR 244 Crores (USD 31.3 Million)** by MSME units.

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2. Please briefly elaborate on any **minor amendments**⁶ 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	NA
<input type="checkbox"/>	Components and Cost	NA
<input type="checkbox"/>	Institutional and Implementation Arrangements	NA
<input type="checkbox"/>	Financial Management	NA
<input checked="" type="checkbox"/>	Implementation Schedule	Extension requested
<input type="checkbox"/>	Executing Entity	NA
<input type="checkbox"/>	Executing Entity Category	NA
<input type="checkbox"/>	Minor Project Objective Change	NA
<input type="checkbox"/>	Safeguards	NA
<input type="checkbox"/>	Risk Analysis	NA
<input type="checkbox"/>	Increase of GEF Project Financing Up to 5%	NA
<input type="checkbox"/>	Co-Financing	NA
<input type="checkbox"/>	Location of Project Activities	NA
<input type="checkbox"/>	Others	NA

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

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%.

Estimated Main Expenditures as of 30 June 2022.

Particulars	Disbursements (US \$) - Tentative
Output 1.1 EE/RE technologies that are adjusted for local needs	21,006
Output 1.3 Increased ability of local industry associations (Energy Management Centres)	188,014
Output 1.3 Sustainability of Energy Management Centres	4,297
Output 2.1 Increased demand for EE/RE products/services (Pilot Projects)	125,343
Output 3.1 Cooperation and synergies established (International Study Tours, Inter Cluster Visits, International Meetings)	195,622
Output 3.2 Expansion of the project activities in 23 Clusters	472,928
Output 4.1 Cloud based data analytics and benchmarking system	52,362
Knowledge Management	39,751
Project Management (PMU Staff Salary, Staff Travel and Other Miscellaneous Cost)	941,234
Midterm Evaluation	19,983
Knowledge Products a) Promotional Videos b) Tutorial Videos c) Website	85,715
Expansion of Dairy, Foundry & Hand tool assignments to new Energy intensive clusters.	125,000
Policy and regulatory framework for the project	53,124
Terminal Evaluation	50,000

For more detail kindly refer annex 1

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.

Outputs by Project Component	2022		GEF Grant Budget Available (US\$)
	Q3	Q4	
Component 1 – Increased capacity of suppliers of EE/RE product suppliers/ service providers/ finance providers			
Outcome 1: The capacity of suppliers of EE/RE product suppliers/service providers/finance providers to support the expansion of EE/RE in the clusters is increased			
Output 1.1: Outcome 1: The capacity of suppliers of EE/RE product suppliers/service providers/finance providers to support the expansion of EE/RE in the clusters is increased adjusted for local needs introduced			
Output 1.2: Increased ability of Local Service Providers (EE and RE product and service suppliers) to provide assistance and advice to MSMEs within the sectors.			
Output 1.3 Increased ability of local industry associations to provide assistance and advice to MSMEs within the clusters			

Outputs by Project Component	2022		GEF Grant Budget Available (US\$)
	Q3	Q4	
with the establishment/enhancement of "Cluster level energy management cells"			
Output 1.4 Enhanced financing opportunities for EE/RE projects and implementation measures			
Component 2 – Increased end-use demand and implementation of EE and RE by MSMEs			
Outcome 2: The level of end-use demand and implementation of EE and RE technologies and practices by MSMEs in increased			
Output 2.1: Increased demand for EE/RE products/services and increased ability to apply for financing among the units in the 5-energy intensive MSME sectors for EE/RE technologies			190,000
Output 2.2 An increase in the awareness and implementation of Best Operating Procedures for energy management in MSMEs in 12 energy intensive MSME clusters			70,000
Component 3 – Scaling up of the project to a national level			
Outcome 3: The project is scaled up to a national level			
Output 3.1: Cooperation and synergies established and enhanced within the project clusters through information sharing on best practices and joint workshop			
Output 3.2: Expansion of the project to affect new clusters at a later date throughout the country			
Component 4 – Strengthening policy, institutional and decision-making frameworks			
Outcome 4: Policy, institutional and decision-making frameworks strengthened			
Output 4.1: Improved monitoring and evaluation of energy use and development of a benchmarking system			74,000
Output 4.2: Mainstreaming EE and RE into national policies and programmes on MSMEs Development			

X. Synergies

1. Synergies achieved:

1. Inter cluster visits of representatives of MSME units have brought sharing of knowledge and new practices within the respective sectors.
2. Development of technology-based cluster specific compendiums under upscaling of Project activities has synchronized good examples of technology use on EE & RE in the clusters.
3. Development of case studies and fact sheets on EE/RE technologies developed under the project in each cluster is being shared among MSME units for information and adoption
4. Innovative technologies identified by other GEF projects have already been implemented in the project. The knowledge on EE & RE technologies will be shared through different platforms (workshops, exhibitions, websites, media, brochures, etc.)

3. Stories to be shared (Optional)

Below are some of the impactful results achieved under the GEF-4 project:

Mass Deployment of EE Technology: Project facilitated the large-scale deployment of more than 16000 energy efficiency 28W BLDC ceiling fans (66% efficient than conventional fans) in about 98 ceramic industries in Thangadh Cluster. It is the first of its kind in India for such a significant mass deployment of one EE technology in the MSME sector. The project has adopted a demand aggregation model and reduced the product price by more than 33%. This is being actively pursued in all the 3 Ceramic clusters (Thangadh, Morbi & Khurja)

Mass Deployment of Solar PV Projects: Project also facilitated the implementation of Solar Roof Top PV projects in 23 ceramic industries in Thangadh Cluster. Cumulatively, total installed capacity is about 1.13 MWp with an investment of Rs. 42.9 million. It is the first of its kind in India for such a significant implementation of solar PV projects in a single MSME cluster without any financial assistance. This has become a model and the project has received queries on similar assistance in Thangadh as well as in other clusters which are being followed up in the Scaling up of the activities phase.

Capacity Building of Local Service Providers: Project has initiated the mapping of existing Service Providers in each cluster and identified many new technology providers. Organized 45 capacity building training and trained about 250 local service providers on various aspects on, how to improve the quality of service for better promotion of Energy Efficiency and Renewable Energy Technologies in the cluster. During these training programmes, many new EE & RE vendors/technology providers have developed business connections and working relationships with Local Service Providers (LSPs) and MSME enterprises.


Energy Clinics: The Energy Clinic is organized for a group of 15 to 20 representatives of industries for the short workshop (3hours) on successfully implemented Energy Efficiency Technologies. The informal group of stakeholders consists of a set of Technology Providers, Technical experts, and Industry representatives who implemented the EE measures and an identified group of potential enterprises who can adopt the same EE measure. The Energy Clinic is initiated, coordinated & facilitated by the Cluster Leader and the Association members. This pilot Energy Clinic has provided effective results in terms of replication of success stories and more adoption of EE technologies and measures. Moreover, it is cost effective and held after factory hours which is convenient for participants (Evening 5.30 – 8.30 pm).

Energy Management Centres (EMC): Project has set-up one energy management centre in each of the 12 clusters at the premises of the industrial associations. The main idea is to increase the ability of local industry associations to provide help and advice to MSMEs within the clusters to improve energy efficiency levels. EMCs are equipped with various portable energy auditing instruments, materials, and guidebooks. These instruments shall be available for the use of MSME units in the cluster at nominal cost or free. Apart from energy audit instruments, the project organized various skill development training programs for employees of MSME units to upscale the skills on the handling of energy audit instruments, identification of energy conservation measures, report writing, and also to carry out detailed energy audits among MSME members.

Many stories and achievements are captured in project documentary:

<http://sidhiee.beeindia.gov.in/aboutus/Videos>

Annexure 1
PROJECT DELIVERY REPORT

 PROJECT DELIVERY REPORT		Project:	103029 - PROMOTING ENERGY EFFICIENCY AND RENEWABLE ENERGY IN SELECTED MICRO, SMALL AND MEDIUM ENTERPRISES (MSME) CLUSTERS IN INDIA	Project Manager:	Sanjaya Shrestha	Project Validity Status:	26.10.2011 - 31.12.2022 Implement
Reporting Period:	14.03.2011 - 30.06.2022	Project Theme:	Energy and Environment	Country:	India	Region:	Asia and Pacific
Sponsor Nr.	Sponsor	Grant	Grant Description	Fund	Currency	Grant Status	Grant Validity
400150	GEF - Global Environment Facility	200000251	GFIND11001	GF	USD	Authority to Implement	11.04.2011 - 31.12.2022
400390	Regular Programme Of Technical Cooperati	4000137	XPIND11002	XP	EUR	Closed	14.03.2011 - 31.03.2017
400390	Regular Programme Of Technical Cooperati	4000577	4000577	XP	EUR	Closed	09.06.2017 - 31.12.2019

	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)
200000251											
103029-1-01-01	GFIND11001	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	162,962.83	0.00	0.00	0.00	195,369.77	195,369.77	32,406.94	162,962.83	0.00	32,406.94
1500	Local travel	(2,634.54)	808.60	8,846.02	9,654.62	168,592.39	168,592.39	180,881.55	(12,289.16)	0.00	180,881.55
1600	Staff Travel	0.00	0.00	0.00	0.00	21.31	21.31	21.31	0.00	0.00	21.31
1700	Nat.Consult/Staff	33,856.04	4,214.88	61,799.06	66,013.94	879,660.90	879,660.90	911,818.80	(32,157.90)	0.00	911,818.80
2100	Contractual Services	309,582.91	(215,617.01)	358,370.74	142,753.73	4,907,535.82	4,907,535.82	4,740,706.64	166,829.18	0.00	4,740,706.64
3000	Train/Fellowship/Study	7,305.97	0.00	20.98	20.98	195,260.40	195,260.40	187,975.41	7,284.99	0.00	187,975.41
3500	International Meetings	3,842.13	0.00	0.00	0.00	9,227.81	9,227.81	5,385.68	3,842.13	0.00	5,385.68
4300	Premises	2,946.86	7.09	2,210.88	2,217.97	36,939.85	36,939.85	36,210.96	728.89	0.00	36,210.96
4500	Equipment	1,300.61	(20,297.90)	20,790.16	492.26	381,369.24	381,369.24	380,560.89	808.35	0.00	380,560.89
5100	Other Direct Costs	14,418.80	(7,191.51)	9,373.51	2,182.00	89,497.94	89,497.94	77,261.14	12,236.80	0.00	77,261.14
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	656,124.90	656,124.90
103029-1-01-01	Total	633,681.81	(238,076.86)	481,411.36	223,336.60	8,883,476.43	8,883,476.43	8,663,229.32	310,248.11	668,124.90	7,208,364.22
103029-1-02-01	1.1 EE/RE technologies introduced	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1500	Local travel	20,594.61	510.89	0.00	510.89	21,095.43	21,095.43	1,011.71	20,083.72	0.00	1,011.71
5100	Other Direct Costs	4.38	0.00	0.00	0.00	39.87	39.87	35.49	4.38	0.00	35.49
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.26	41.26
103029-1-02-01	Total	20,600.99	510.89	0.00	510.89	21,135.30	21,135.30	1,047.20	20,088.10	41.26	1,088.46
103029-1-03-02	2.2 Increased awareness of best practice	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
5100	Other Direct Costs	253.61	0.00	0.00	0.00	2,687.91	2,687.91	2,434.30	253.61	0.00	2,434.30
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(25.36)	(25.36)
103029-1-03-02	Total	253.61	0.00	0.00	0.00	2,687.91	2,687.91	2,434.30	253.61	(25.36)	2,408.84



PROJECT DELIVERY REPORT

Project:		103029 - PROMOTING ENERGY EFFICIENCY AND RENEWABLE ENERGY IN SELECTED MICRO, SMALL AND MEDIUM ENTERPRISES (MSME) CLUSTERS IN INDIA		Project Manager:	Sanjaya Shrestha	Project Validity:	26.10.2011 - 31.12.2022
Reporting Period:		14.03.2011 - 30.08.2022		Project Theme:	Energy and Environment	Status:	Implement
Country:		India		Region:	Asia and Pacific		
Sponsor Nr.	Sponsor	Grant	Grant Description	Fund	Currency	Grant Status	Grant Validity
400150	GEF - Global Environment Facility	20000251	GFIND11001	GF	USD	Authority to Implement	11.04.2011 - 31.12.2022
400390	Regular Programme Of Technical Cooperati	4000137	XPIND11002	XP	EUR	Closed	14.03.2011 - 31.03.2017
400390	Regular Programme Of Technical Cooperati	4000577	4000577	XP	EUR	Closed	09.06.2017 - 31.12.2019

	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)
103029-1-05-01	4.1 Improved monitoring and evaluation	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1500	Local travel	0.00	0.00	0.00	0.00	295.55	295.55	295.55	0.00	0.00	295.55
103029-1-05-01	Total	0.00	0.00	0.00	0.00	295.55	295.55	295.55	0.00	0.00	295.55
103029-1-06-01	5.1 Project Management	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	0.00	0.00	0.00	0.00	28.77	28.77	28.77	0.00	0.00	28.77
1500	Local travel	63.01	0.00	0.00	0.00	85.50	85.50	22.49	63.01	0.00	22.49
1700	Nat. Consult./Staff	89,919.42	0.00	0.00	0.00	196,864.18	196,864.18	106,944.76	89,919.42	0.00	106,944.76
2100	Contractual Services	462.51	0.00	0.00	0.00	0.00	0.00	(462.51)	462.51	0.00	(462.51)
3000	Train/Fellowship/Study	13.74	0.00	0.00	0.00	3,712.46	3,712.46	3,698.72	13.74	0.00	3,698.72
4300	Premises	16,475.79	0.00	0.00	0.00	12,322.36	12,322.36	(4,153.43)	16,475.79	0.00	(4,153.43)
4500	Equipment	157.87	0.00	9.90	9.90	1,604.82	1,604.82	1,456.85	147.97	0.00	1,456.85
5100	Other Direct Costs	2,252.79	0.00	0.00	0.00	9,877.51	9,877.51	7,624.72	2,252.79	0.00	7,624.72
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11,077.46	11,077.46
103029-1-06-01	Total	108,346.13	0.00	9.90	9.90	224,486.80	224,486.80	115,180.37	108,336.23	11,077.46	128,237.83
103029-1-06-02	5.2 Monitoring and Evaluation	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	0.00	5,225.00	10,020.54	15,245.54	17,061.00	17,061.00	32,306.54	(15,245.54)	0.00	32,306.54
1500	Local travel	14,337.64	2,862.03	349.01	3,211.04	20,710.13	20,710.13	9,583.53	11,126.60	0.00	9,583.53
1700	Nat. Consult./Staff	0.00	2,850.32	6,135.72	8,986.04	4,278.85	4,278.85	13,264.89	(8,986.04)	0.00	13,264.89
2100	Contractual Services	17,939.00	0.00	0.00	0.00	17,939.00	17,939.00	0.00	17,939.00	0.00	0.00
5100	Other Direct Costs	0.00	0.00	0.00	0.00	19.24	19.24	19.24	0.00	0.00	19.24
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,517.34	5,517.34
103029-1-06-02	Total	32,278.64	10,937.35	16,505.27	27,442.82	80,008.22	80,008.22	55,174.20	4,834.02	5,517.34	80,881.64
20000251	Total	886,066.88	(228,827.61)	477,828.62	251,288.81	7,172,088.01	7,172,088.01	6,727,340.84	444,757.07	872,736.80	7,400,078.64
103029	USD Total	886,066.88	(228,827.61)	477,828.62	251,288.81	7,172,088.01	7,172,088.01	6,727,340.84	444,757.07	872,736.80	7,400,078.64