



Project Implementation Report

(1 July 2022 – 30 June 2023)

Project Title:	<i>Sustainable Energy Initiative for Industries in Pakistan</i>
GEF ID:	<i>4753</i>
UNIDO ID:	<i>100045</i>
GEF Replenishment Cycle:	<i>GEF-5</i>
Country(ies):	<i>Pakistan</i>
Region:	<i>Choose an item. Asia Pacific (ASP)</i>
GEF Focal Area:	<i>Climate Change Mitigation (CCM)</i>
Integrated Approach Pilot (IAP) Programs¹:	<i>Not Applicable</i>
Stand-alone / Child Project:	<i>Stand alone</i>
Implementing Department/Division:	<i>TCS/DSE/CTI (Previously ENE / CTI)</i>
Co-Implementing Agency:	<i>Not Applicable</i>
Executing Agency(ies):	<i>UNIDO</i>
Project Type:	<i>Full-Sized Project (FSP)</i>
Project Duration:	<i>48</i>
Extension(s):	<i>4</i>
GEF Project Financing:	<i>USD 3,550,000</i>
Agency Fee:	<i>USD 355,000</i>
Co-financing Amount:	<i>USD 31,200,000</i>
Date of CEO Endorsement/Approval:	<i>4/2/2014</i>
UNIDO Approval Date:	<i>5/29/2014</i>
Actual Implementation Start:	<i>6/1/2014</i>
Cumulative disbursement as of 30 June 2023:	<i>USD 3,487,401</i>
Mid-term Review (MTR) Date:	<i>3/15/2019</i>

¹ Only for **GEF-6 projects**, if applicable

Original Project Completion Date:	12/31/2020
Project Completion Date as reported in FY22:	12/31/2022
Current SAP Completion Date:	12/31/2022
Expected Project Completion Date:	12/30/2022
Expected Terminal Evaluation (TE) Date:	10/3/2022
Expected Financial Closure Date:	12/30/2023
UNIDO Project Manager ² :	Nadia Aftab

I. Brief description of the project and status overview

Project Objective							
<p>The objective of the project was to reduce energy-related greenhouse gas emissions by facilitating the creation of a market environment to promote the use of Renewable Energy (RE) and Energy Efficiency (EE) technologies and measures in the selected industrial sectors of Pakistan.</p>							
<table border="1"> <thead> <tr> <th colspan="2"><i>Project Core Indicators</i></th> <th><i>Expected at Endorsement/Approval stage</i></th> </tr> </thead> <tbody> <tr> <td>1</td> <td><i>Greenhouse Gas Emissions Mitigated (metric tons of CO₂e)</i></td> <td> Direct Greenhouse Gas Emissions Reduction (metric tons of CO₂e) during the project: 2,079.5 ktCO₂ Direct Greenhouse Gas Emissions Reduction (Metric Tons of CO₂e) beyond Project Life: 2,858.4ktCO₂ Indirect Greenhouse Gas Emissions Reduction (metric tons of CO₂e) during the project: 34,283 ktCO₂. </td> </tr> </tbody> </table>		<i>Project Core Indicators</i>		<i>Expected at Endorsement/Approval stage</i>	1	<i>Greenhouse Gas Emissions Mitigated (metric tons of CO₂e)</i>	Direct Greenhouse Gas Emissions Reduction (metric tons of CO ₂ e) during the project: 2,079.5 ktCO ₂ Direct Greenhouse Gas Emissions Reduction (Metric Tons of CO ₂ e) beyond Project Life: 2,858.4ktCO ₂ Indirect Greenhouse Gas Emissions Reduction (metric tons of CO ₂ e) during the project: 34,283 ktCO ₂ .
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Baseline
<p>The power situation in Pakistan was characterized by an increasingly widening gap between demand and supply. This situation adversely affected the economy and the general well-being of Pakistan. However recently, govt initiatives on new power projects have greatly improved the generation capacity. However, the transmission system still lacks the sort of advancements to bear the high-power demand in summer. The lack of sufficient power in such periods is compounded by the high transmission losses that include technical (poor quality infrastructure) and non-technical (theft and non-payment due to poor bill collection) losses as well as the problem of "circular debt". Meanwhile, the Integrated Generation Capacity Expansion Plan (IGCEP 2020-47) which is a policy document developed by Govt. has high projections of increased demand of 148 GW in the next 27 years.</p> <p>As result many companies have difficulties in accessing modern energy services and electricity supply</p>

² Person responsible for report content

interruption are very frequent in the country. Beside this the recent increase in the electricity prices has greatly impacted the cost of doing business. This in particular affects the small and medium-sized enterprises (SMEs) that often have to resort to the use expensive diesel generator sets or to bear high cost of electricity from the Grid . The power shortage and interruptions result in lowering of the industries' production, profit, capacity and opportunity to grow

Beside this, enterprises have not implemented EE and RE programs despite of large potential of EE improvements and locally available RE resources. Several initiatives have been launched by the government including the ARE policy 2019 , NEECA's Act 2016, and State Bank refinancing scheme for RE projects . However, a number of barriers remain contributing to the slow uptake of EE measures in industry and implementation of industrial RE applications. The UNIDO/ GEF project aims to address these barriers through supporting the uptake of RE/EE investments in country by developing supporting instruments, policy measures, enhancing capacities of Public Private Sectors which could greatly propagate the EE & RE technologies and adoption of best practices within the energy intensive industrial sectors of Pakistan.

Please refer to the explanatory note at the end of the document and select corresponding ratings for the current reporting period, i.e. FY23. Please also provide a short justification for the selected ratings for FY23.

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. FY22, in the last column.

Overall Ratings ⁴	FY23	FY22
Global Environmental Objectives (GEOs) / Development Objectives (DOs) Rating	<i>Highly Satisfactory (HS)</i>	<i>Highly Satisfactory (HS)</i>
<i>All the planned activities are concluded and the Terminal Evaluation is successfully done. The evaluator was also satisfied with the outcomes of the project activities.</i>		
Implementation Progress (IP) Rating	<i>Highly Satisfactory (HS)</i>	<i>Highly Satisfactory (HS)</i>
<i>The project has exceeded the targets in Renewable Energy demonstration projects, Energy Optimization interventions, Energy Management System implementation, ISO 50001-2018 Certifications, establishing the Energy Desk, and Successfully conducted the Energy Awards and Support to small businesses for installations of Renewable Productive Solutions.</i>		
Overall Risk Rating	<i>Low Risk (L)</i>	<i>Low Risk (L)</i>
<i>The overall risk rating remained at the lower side as in previous years. The achievements shows that there was no major risk involved during the project activity, otherwise this could not have achieved.</i>		

II. Targeted results and progress to-date

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

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 in FY23
Component 1 – Develop the policy and regulatory framework on the use of EE and RE in the industry				
Outcome 1: Policy and regulatory framework on EE/RE use in the industry improved				
Output 1.1: Existing policy and regulatory framework reviewed and recommendations made (including financial and non-financial incentives and instruments)	(1) Specific regulations that promote solar and biomass power generation by industry and incentives for EE in Industry	There are many policy and regulatory measures taken by the Government to promote energy conservation and renewable energy in the country. However, these initiatives have resulted in very few achievements in the industry sector because of the lack of targets to improve industrial energy efficiency, the weakness of the existing policy instruments to raise awareness of market players on the promotion of EE and RE, and inadequate financing incentives and mechanisms.	Regulations established within the framework of current RE and power sector legislation that specifically focus on biomass and solar-based power generation in the industry (both grid and on-site) and EE incentives through various measures like feed-in-tariffs, soft loans or guarantee schemes, tax rebates or exceptions	Policy Recommendations for the Promotion of RE & EE in the Industrial Sector of Pakistan were developed and handed over to NEECA and AEDB. Several consultative Workshops were conducted with stakeholders including industry, energy consultants, certification bodies, and academia on promoting energy management systems and EE in the industrial sector of Pakistan followed by a detailed report on recommendations for policymakers.
Output 1.2: Recommendations on improvements in policy and regulatory framework adopted and associated advocacy work	2) Adoption of regulations 3) Number of information events and packages on regulations and policy	To help achieve the objectives set in its policies, the Government has adopted the Energy Efficiency Roadmap (2010 – 2019) and prepared the Short -Term Policy on Renewable Energy (2006) . This has generated a great deal of interest but has not resulted in significant power capacity addition to the national grid.	Regulations promoting RE/EE in industry are adopted by the Government Information disseminated (amongst decision-makers in government and private sectors)	Workshop conducted with PM task Force on Energy Reforms on promoting Energy Efficiency and conservation for sustainable and greener Pakistan. Dissemination and advocacy of Policy recommendations on RE / EE to right holders. Many suggestions were adopted, in the policy framework documents such as NEECA Act 2016, and NEEC Action plan 2022, as well as ARE Policy 2019. The adopted suggestion by regulatory bodies were registered and documented as success stories.
Output 1.3 Sectoral analysis on EE (and RE) opportunities, impact assessment and recommended post-project	(4) Analysis carried out on RE and EE potential in various industrial subsectors with	For policy-making purposes, information gathering on specific energy consumption in	Based on ADB-supported analysis, at least 5 such subsector studies are	Sectoral analysis study of five energy-intensive sectors completed and report published. The formal launch has taken place in July 2019 attended by top representatives of industries, public and

<p>action plan for RE/EE in industry as well as gender mainstreaming</p>	<p>particular attention to projects that benefit women.</p> <p>5) End-of-project impact assessment carried out</p> <p>6) Action plan for post project actions</p>	<p>types of companies (large, medium, small) in various subsectors and comparison with reference values (benchmarking) is another tool.</p> <p>However, no such benchmarks exist for the energy-intensive sectors for local industries.</p>	<p>carried out plus a review of studies on the impacts of realized savings based on earlier NPO/SMEDA work in the textile sector</p> <p>One end-of-project impact study (with recommended actions)</p> <p>Plan for post-project actions (based on end-of-project impact study) formulated and discussed at the workshop(s)</p>	<p>private sectors, and development sector agencies.</p> <p>A post-Energy Management System data analysis activity was carried out, that considered to be a connected document with the sectoral analysis. The Energy Analytical report is also published. The report summarizes data from industrial energy audits (baselines) and performance reports (reported works) for 50 industrial sites where EnMS was implemented. The data was captured into a framework to develop an understanding of the current state of energy performance in the industry in Pakistan, as well as to quantify EEM's improvements that were achieved through this project.</p> <p>The success stories brochure was developed, with total 12 impact stories detailed account provided.</p> <p>A post project Action Plan was prepared based on feedback from the participants of project concluding Workshops and Webinars.</p>
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Component 2 – Investments in RE and EE in the industry

Outcome 1: Investments in RE and EE in pilot demonstration carried out and scaled up

<p>Output 2.1: Projects on EnMS and Systems Optimization (SO) assessed and implemented in industrial companies in textile (and other sectors)</p>	<p>(7) Number of plants in which audits/assessments are carried out</p> <p>8) Number of energies management plans implemented (in line with EnMS)</p> <p>9) Number of plants that implement systems optimization</p>	<p>The situation of limiting both electricity and natural gas supply to industries has led companies to look for other alternatives and set up their own captive power generation, usually based on natural gas. However, the culture of energy saving to reduce connected load is not present. In addition, the technical and financial capacity of the industry is weak to take advantage of EE optimization-related technology.</p>	<p>An estimated 130 energy assessments and audits will be carried out, initially in the textile sector, but then spreading out to other subsectors (based on analysis in Output 1.3)</p> <p>Formulation and implementation of energy management plans in 75 plants (based on energy assessments)</p> <p>Implementation of systems optimization in 50 plants (based on energy audits mentioned earlier)</p>	<p>Considering a focused strategy on providing meaningful support to selected progressive and committed companies, rather than diluting the support services, properly selected companies are being supported on EE. A forward approach has been taken to cover energy assessments and the implementation of the EnMS based on ISO 50001-2018. Under the program technical assistance was provided to the 50 beneficiary industries for implementing the Energy Management System in line with ISO 50001 Standards leading toward energy system optimizations. Technical assistance was provided to 11 industrial units that were interested in ISO 5001 certification and Energy optimization support through partial grants to push for energy optimisation investments. More than 11 Industries have now successfully completed the ISO 50001:2018 certification.</p> <p>EnMS Implementation Programme leading to Energy System Optimization was formally launched in July 2019 and has been completed successfully comprising 10 regional and sectoral consortia of consultants who implemented the EnMS / SO in 50 industrial units across Pakistan.</p>
<p>Output 2.2:EE and RE technology support in 1 textile unit</p>	<p>10) EE and RE technology</p>	<p>The situation of limiting both electricity and</p>	<p>Implementation of a 200-kW solar</p>	<p>National Rural support program (NRSP), a local NGO engaged in micro-financing, is being supported for channelizing small</p>

	supported in a textile company	natural gas supply to industries has led companies to look for other alternatives and set up their own captive power generation, usually based on natural gas. As also the supply of natural gas is rationed, they are now looking for alternatives, including locally available renewable sources of energy. Companies are also considering setting up power generation schemes with the purpose of selling power to the grid. However technical and financial capacity of the industry is weak to take advantage of EE and RE technology.	PV plant and installation of an energy efficient socks producing line (with state-of-the-art technology and energy saving measures)	grant packages for RE projects, to provide interest-free loans to small/micro enterprises including women-led businesses. These loans are provided by NRSP, while UNIDO is bearing the interest for RE-based productive solutions with a cumulative capacity of 600kW. In 20 districts, from four regions in Punjab and Sindh provinces, 474 applications were processed for the provision of RE solutions to farmers and small enterprises including women-owned businesses, with a cumulative capacity of 1,321 kW. The project contributed to improving the livelihood of small working communities which include 21 women-led businesses and 453 men-led businesses including businesses such as agriculture, education, small enterprises, medical services, and livestock. Under this project, 102 small-scale vendors were registered to extend their businesses in remote areas and provide free-of-cost after-sales services from one month to one year.
Output 2.3: RE technologies assessed and implemented in 2 companies	11) Projects for deployment of RE technologies supported (solar, biomass). 12) Projects for deployment of RE technologies supported (solar & biomass)	The situation of limiting both electricity and natural gas supply to industries has led companies to look for other alternatives and set up their own captive power generation, usually based on natural gas. As also the supply of natural gas is rationed, they are now looking for alternatives, including locally available renewable sources of energy. Companies are also considering setting up power generation schemes with the purpose of selling power to the grid. However technical and financial capacity of the industry is weak to	Technical support has been provided for the pilot phase of the biomass power plant (heat and power on site 6MW); and the solar power plant (5MW, grid-connected) Pilot project proponents have (post-project) supported through technical designs and technical services.	M/s Shams Power was contracted to install the 6 MW Solar power plant in industrial setups on the B2B model. All the contracted deliverables are accomplished and projects are up and running. Apart from this B2B based projects, another 6 MW project installation achieved and thus 12 MW projects cumulatively in industrial sectors which included: 1.45 MW of captive RE projects in the Textile Sector, 2.7 MW of Solar Power plants installed in the Food Processing Sector, and around 1 MW installed in the Ceramics industry.

		take advantage of EE and RE technology.		
Output 2.4: Portfolio of implementation of EnMS/SO and deployment of RE elaborated (incl. finance sources)	13) Portfolio of implementation of EnMS/SO and deployment of RE elaborated (incl. finance sources) and focus on industries	No such portfolio exists right now.	List of EE and RE investment opportunities if needed, finance sources are identified and financial engineering supported	<p>A post Energy Management System data analysis activity was carried out, which is considered to be a connected document with the sectoral analysis but also depicts the implementations data under EnMS/SO. The Energy Analytical report is published. The report summarizes data from industrial energy audits (baselines) and performance reports (reported works) for 50 industrial sites where EnMS was implemented. The data was captured into a framework to develop an understanding of the current state of energy performance in the industry in Pakistan, as well as to quantify EEM's improvements that were achieved through this project. The report is under publication.</p> <p>A brochure of the success of the REEE project is created which is showcasing the impact of the REEE project from inception to implementation. A total of 12 success stories were drafted to highlight the impact of the project including the portfolio of implementation of EnMS/SO and deployment of RE. awareness, outreach, and implementation are shared in the brochure.</p>

Component 3 – Create a platform for promoting investment and sustainability

Outcome 1: Investment platform for scaling up investments operational; Training centres operational and programmes established; Monitoring of results and knowledge disseminated

Output 3.1: Investment platform to promote RE and EE in industrial companies strengthened (non-grant instruments, banking products; awareness creation)	14) Strengthened energy desks at Pakistani organizations that provide info services	Although some credit lines supporting RE/EE projects exist in Pakistan, companies are reluctant to make use of the available funding for a number of reasons. There is a general absence of culture to consider savings in operating costs and lifecycle costs when making the decision to	Strengthened 'energy desks and services delivered (audits support, best practices, grant and non-grant instruments, finance sources) on EE/RE for industry (NPO; SMEDA, associations)	<p>The Energy Desk has been established in collaboration with SMEDA with the prime objective to provide a one-window platform to facilitate the promotion of RE and EE technologies and investments in small and medium enterprises in Pakistan. The official inauguration of the Energy Desk at SMEDA was conducted in a special side event during the Energy Performance Award Ceremony 2022.</p> <p>The primary aim of the Energy Desk is to counsel and guide SMEs regarding the adoption of EE and RE technologies and provide information on market players including service providers, technology suppliers, financing facilities options, and regulatory updates.</p>
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<p>Output 3.2: Training and Certification Centre and Textile Training Facility for experts on RE and EE EnMS applications established (under NPO) and training and accreditation programmes established</p>	<p>15) Certification center for experts on EE/RE applications established 16) Training center for the textile industry supported</p>	<p>The technical knowledge and expertise of energy efficient (EE) and renewable energy (RE) technologies are rather limited. There is no formal platform specific to Energy management to connect different stakeholders and share information.</p>	<p>Strengthened 'Training and Certification Centre' at NPO Establishment of a training facility for textile subsector supported</p>	<p>Establishing new centres in Pakistan have the sustainability issues, unless they are done under government committed patronage and some special revolving fund to sustain operational cost. NPO itself did not able to provide committed co-financing to support this project. Under these circumstances, it was found feasible to build the existing educational institutes to build the capacities of the faculties, that are already working on energy subjects. Also besides textile, there are many other industrial sectors that need to be supported. Under the EnMS implementation program, three Academia were selected and actively participated as consultant groups for 4 clusters (for 20 industrial units handholding). The faculty members and students are thoroughly engaged in energy audits and System implementations and thus the connectivity between industry and industry is being enhanced. Other academia also participated in this program, as co-leads. Many academia is now offering courses on energy efficiency and EnMS, while some has introduced credit courses in the engineering syllabus.</p>

				<p>This also included training for the industry through Academia based Energy Service Consortia on Energy Management and EEE-related subjects during the EnMS implementation phases</p> <p>Besides an initiative taken by UNIDO by introducing AEE USA Certification courses like CEA and CEM at the local level, the professional who attended the courses worked to set up a local chapter of the Association of Energy Engineers (AEE). UNIDO project team members took active participation and also become key office holders (honorary basis) to align this chapter with project activities. The chapter is conducting regular webinars/training on RE/EE-related subjects and providing advisory services to local professionals.</p>
<p>Output 3.3: Training of experts on EE and RE in industrial applications carried out with at least 20% being women.</p>	<p>17) Number of experts trained on RE and EE - EnMS/SO applications in the industry with at least 20% being women.</p>	<p>Personnel working in this sector change frequently and lack the necessary qualifications. Further, local manufacturers and equipment suppliers require specific training to support the installation and maintenance of RE/EE technologies in the future.</p>	<p>At least 120 experts trained and certified</p>	<p>Already achieved in the previous period, in excess of the target, more than 400 professionals trained, including 40+ certified in Energy Auditor and Energy Managers courses from AEE, USA. Around 100 women professionals were trained as well. In the current period, 20 professionals have been certified as the lead auditor for ISO 50001-2018 conducted by international certification bodies such as SGS and BV.</p>
<p>Output 3.4: National Energy Performance Award scheme introduced</p>	<p>18) Award scheme for energy performance in Large companies and SMEs</p>	<p>No such awards currently exist.</p>	<p>An award scheme for energy performance in large companies and SMEs and 'awards' provided on an annual basis with associated publicity</p>	<p>UNIDO successfully conducted the grand event for a first-ever energy performance awards in Pakistan for four categories namely: best organization award - energy performance in the industry, best consultant Firm Award-Energy service delivery (Energy Efficiency), best energy professional, and best woman professional in the energy sector. The event was solemnised by participation of HE. Minister of Energy, who awarded the winning candidates for the four categories, while other dignitaries included MD NEECA and CEO SMEDA. UNIDO earlier involved the public sector organizations such as National Energy Efficiency and Conservation Authority (NEECA) to collaborate in piloting an Energy Performance Awards scheme, which allows industries, consultants, and individuals engaged in energy management system implementation to compete.</p> <p>As a successful pilot scheme and event, UNIDO's Energy Performance Awards</p>

				have set a platform for a regular national-level event to motivate the industrial sector to contribute toward a sustainable, clean, and green Pakistan.
Component 4 – Monitoring and Evaluation				
Outcome 1:				
Output 4.1: Project monitoring and evaluation, knowledge dissemination	19) Evaluations mandatory under GEF and UNIDO rules carried out 20) Experiences and knowledge created by the project captured and disseminated		One mid-term evaluation and one final (terminal) evaluation Regular reporting on the project website; Publication of best practices and experiences	<p>The Midterm Evaluation of the project was completed in March 2019. The Terminal Evaluation was also conducted and the report was submitted in the HQ by the evaluators in closing quarter of year 2022.</p> <p>Project Website was launched in Jan 2019 all the relevant studies and knowledge material has been uploaded on the UNIDO/GEF Project Website: http://www.unidogefpakistan.org.pk</p> <p>Sectoral Reports and other brochures/success stories have been published, by the last quarter of the year 2022.</p> <p>To disseminate the learning and knowledge of this project four Workshops and 11 Webinars were organised. Workshops were conducted in four different cities in Pakistan namely Islamabad, Lahore, Karachi and Peshawar. Industrial partners that were not part of the project, also participated and were satisfied with the workshop. A series of 11 webinars were organised on different themes on Energy Efficiency at the concluding phase of the project Participants of the workshops and webinars were introduced to the Energy Management System, ISO 50001 Certification, Techniques and importance of Energy Audits, and Analysis of Energy Optimization in Sustainable Energy Initiative in Pakistan project. Different Technology providers like Siemens, Air Audit, Khan Brothers, Linked Things and others were invited to share modern solutions for different Electrical and Mechanical applications. These solution providers showed different solutions for VFDs, Air compressors, Boilers, and IoT-based monitoring solutions for Industry 4.0 evolution.</p>

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 22	(i) Risk level FY 23	(i) Mitigation measures	(ii) Progress to-date	New defined risk ⁵
1	RE Technology are not technically and/or financially viable	Low risk (M)	Low risk (L)	<p>Well-proven technologies with a good track record in similar countries will be focused on.</p> <p>Training and other capacities building activities will be provided to ensure strict O&M management capabilities. The project will focus to support revenue generation by avoiding expensive fuels, as well as diminishing power interruptions. Financial and economic risk will be addressed by innovative financing and financial capacity building.</p> <p>The investment risk will be covered by encouraging the government to introduce policy incentives such as guarantees, risk insurance and tax exemptions</p>	For the demonstration of Solar PV projects, leading service companies using proven technologies (for PV panels and inverters) have been chosen to ensure the successful operation of the systems. This will improve the market image of PV technologies in order to support the replication and investments in these technologies. In pilot projects, the feasibility of projects is based on the replacement of high-cost fossil fuels such as diesel (which was utilized in captive power generation during power shutdown from the national grid) with solar power. The B2B approach adopted for a few demo projects has already shifted the financial burden from companies to investors. The industries are also availing of RE-financing schemes extended by the State Bank of Pakistan. For projects of capacity lower than 1 MW, many companies are also availing of net-metering facilities, to supply extra power to the national grid.	<input type="checkbox"/>
2	New importation of natural gas, set to begin in 2014-5, could affect viability of RE and EE Projects	Moderate risk (M)	Moderate risk (M)	<p>The project focused on the development of RE and EE technologies and services. Natural gas might not be rationed in future, but it will be imported and price is likely to be higher than currently. Given that the most of the industry is export oriented, it is envisaged that the appetite to invest in RE and EE will be boosted by foreign markets increasingly demanding products with low ecological footprints</p>	The government policy on the importation of RLNG to improve gas supply to the industrial sector has started to have an impact in LNG's industrial sector consumption. However due to increasing gas circular debt and supply and demand imbalances, few hiccups in supply to industries have been occurred. However, the demand for RE technologies in the industrial sector still is increasing, thanks to advancements in RE technologies as well as its falling prices. Also, not all industrial plants utilize natural gas to cover their power needs and many of them still utilize FO/Diesel for power generation. These companies are potential users of RE-based Power systems. The application of RE technologies in industries has also diversified, which further boosted the potential of RE in the industry.	<input type="checkbox"/>
3	Following the EnMS system	Moderate Risk (M)	Moderate Risk (M)	The project will provide training for enterprises' key personnel, to build	The training program has been concluded for EnMS system	<input type="checkbox"/>

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

	optimization audit and report, an enterprise might not be willing to invest and finance the installation of new equipment, even if the energy reduction potential is important			their capacity to better understand the value of investing without delay in EnMS and energy management and the long-term financial benefits it brings. System optimization typically focuses on getting the low-hanging fruits in energy savings first, rather than proposing grand schemes that yield large reductions, but at a larger investment with longer payback periods. In a participatory approach, the companies will be provided with adequate information packages and training.	implementation followed by the launching of the EnMS Programme within 50 progressive industries across Pakistan that are willing to invest in System Optimization activities. 10 consortia comprising of energy service consultants, energy auditors and academic institutions had been engaged to assist these industries for implementing the EnMS. Moreover, UNIDO also supported the consortia through organizing regular capacity-building sessions with the support of local and international consultants to align and enhance their competencies.	
4	Co-ordination between key agencies and stakeholders and agencies remain weak and SME clusters do not actively participate in the project. In addition, various federal Ministries have now been devolved to the provinces. The decentralization is still an ongoing process, but the project will work with provincial energy and environmental departments	Low risk (L)	Low risk (L)	The project will coordinate with executing partners and major stakeholders and its steering the committee will establish the institutional linkages among the stakeholders. A Technical working group will guide the work on the identification of companies for audits, energy assessments and RE/EE implementation. Decision makers will be engaged early on in the project Implementation. A new midterm RE policy has been proposed and the project will provide essential inputs into its drafting process.	The Project Steering Committee (PSC) sessions held with all relevant organizations especially in the public sector related to RE and EE, appreciated and endorsed all the activities done and planned under the project for the year and assured the national project management that all the support needed for the successful implementation of the project will be provided by the members. All the relevant partners are on board on planning and implementation activities and have cooperated for successful execution of this project. The project is already in active contact with provincial energy departments and their representatives have been invited and attended the training courses. The new RE policy draft has also been formulated by the present government in consultation with all relevant stakeholders including UNIDO.	<input type="checkbox"/>
5	RE sources might be affected by CC as well as fluctuating feedstock (biomass prices)	Low risk (L)	Low risk (L)	Detailed RE resource assessment has been conducted, in which information on RE sources and climate historical data will be taken into consideration. For the biomass projects, apart from buying biomass on the market, the prospective biomass user will enter into longer-term supply contracts with various suppliers, especially large-scale suppliers. This will guarantee the supplier a certain income, while at the same time safeguarding a feedstock supply. The contracts will also include a price review mechanism to ensure that should the need for price review arises, a reasonable price will be agreed upon. Such contracts will be made with various suppliers to mitigate risk by relying on a few suppliers. It should be noted that the biomass for energy technology users is located in areas of high biomass residue	The project can make good utilization of the current World Bank-sponsored Energy Sector Management Assistance Plan in Pakistan, called ESMAP, which has created a biomass atlas, depicting available biomass quantity and locations. Few agro-based organizations have shown interest in being part of the supply chain for biomass, provided that a regulatory umbrella is set by the government. The sugar sector is already using its bagasse stocks to replace low-pressure systems with high-pressure steam turbines. Many of them are working to produce excess power to feed into the national grid. All these initiatives give an optimistic future scenario. However, considering the fact that biomass pricing and availability issues are still not taken seriously by	<input type="checkbox"/>

					the regulatory bodies in Pakistan, the risk remains present. However, it is not affecting the project as such because, other RE sources such as Solar have been tapped more aggressively under the project, and already the target GHGs are almost accomplished.	
6	Covid Pandemic might hit the industrial sector and the service providers as well as the supplier for Energy Efficiency and Renewable Energy equipment.	Low risk (M)	Low risk (L)	Not provided in the Project document	The COVID-19 Pandemic has affected the implementation activities of the EnMS and RE projects in beneficiary industries. Industries are now showing signs of changing culture towards energy savings, and more are now investing in energy optimization interventions. The support grants announced at the right time by UNIDO for energy optimizations and ISO 50001 certification has further incentivized the change and offset the COVID impact.	<input type="checkbox"/>
7	The time frame of preparation, design and implementation of the pilot projects may not coincide with the overall timeframe of the GEF Initiative	Low risk (M)	Low risk (L)	All efforts are made that the GEF project will start in 2013. In addition, the investment component will be implemented from the beginning to ensure that the projects are realized by the end of the project.	<p>For the demonstration projects, the size of the individual projects has been diminished to reduce the risk, while this approach has also broadened the support from a few to a large number of beneficiaries. Also, the contractual arrangements between UNIDO and partner investors of RE demonstration projects have been simplified.</p> <p>Grants are provided to already identified techno-economically viable projects and not for conducting the feasibility of the projects. Also, the grant support is provided at different levels of the project cycle and is tied with specific milestones. This simplified scheme has been able to draw more contenders and has broaden the level of choice for UNIDO to select viable projects which are able to be conducted during the duration of the project.</p> <p>The implementation periods for the Solar projects usually do not take more than six- eight months. For the demonstration projects the one selected partner company is leading organization in the field and have invested in these projects within their clients' factories premises. The power generated is being sold to them on an agreed tariff. Out of 12 MW cumulative renewable energy projects, 6 MW has already been commissioned on B2B basis while the remaining 6 MWs is implemented on co financing basis. Among this 6 Mw 1.3MW is installed with the help of microfinance bank that gave</p>	<input type="checkbox"/>

					interest free loans to the beneficiaries	
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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.

Due to the advent of the COVID-19 Pandemic, many of the project activities initially suffered during the first waves. The major impact of the pandemic was on the implementation of the Energy Management system programme. Due to the lockdown-like situation mostly the on-ground activities such as industrial energy audit visits were put on halt. However, the situation showed improvements due to Governmental efforts, which were also lauded by the international community. All project activities were timely concluded by the end of 2022 and well documented in the Terminal Evaluation Report.

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

Not applicable

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

In the mid-term review of March 2019, a combination of three types of primary data collection and review techniques has been used: document review, Key Informant Interviews/stakeholder interviews, and site visits/observations. The mid-term review concludes that the overall management and implementation of the project are satisfied with good prospects of successfully achieving the project targets. These prospects can be enhanced by the project stakeholders through the findings and recommendations mentioned below

- Each component of the project has the capacity of being a separate individual project that can also be developed, implemented and further developed independently.
- Project activities have been so far successfully implemented as a result of the close cooperation and coordination of the partners with beneficiary stakeholders up to the midterm review period.
- PMU, Public sector key stakeholders and the beneficiary stakeholders/participants were observed to be involved in the project implementation progressively with good cooperation and coordination, and with a high level of expectation, particularly from private sector partners.
- PMU, UNIDO HQ team and key experts were observed to be highly professional and successful in the coordination of the project, with good relations and cooperation with beneficiary stakeholders/partners.
- The project has a strong potential to provide major global environmental benefits and best practices that enhance the reduction of greenhouse gas emissions, and which are replicable as best practices globally.
- Review suggests that gender component was substantially mainstreamed in the project interventions, at the outcome and output levels

The Mid Term Review report can be found in the supporting docs: 4753_Midterm Review Report

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).

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).

The Project has established strong partnerships with key public sector organizations, namely the Alternative Energy Development Board (AEDB), National Energy Efficiency and Conservation Authority (NEECA), Small and Medium Enterprise Development Authority (SMEDA), and National Productivity Organization (NPO). These partners have actively participated in numerous meetings with the Project Management Unit (PMU) and provided valuable feedback on the initiatives by UNIDO.

To ensure effective collaboration, all relevant documentation, including terms of reference, was shared with the main partners to gather their input. The Project also utilized the platforms of these partners to advertise notices for Request for Proposals (RFPs) for pilot demonstration projects and connect with industry associations for study assignments.

UNIDO and AEDB have been supporting each other through discussions on policy measures and financial instruments to encourage investments in renewable energy within the industry. Progress of demonstration projects was regularly shared with AEDB, and the CEO of AEDB chaired the inaugural ceremony of the Rural Support Programme for promoting renewable energy solutions for small businesses.

With NEECA, UNIDO shared information and progress related to the EnMS Program for beneficiary industries. NEECA officials were also invited as guests in all in-person training sessions of consortia. UNIDO worked closely with SMEDA to establish an Energy Desk in Lahore and sought their support in making connections with SMEs and their associations.

Likewise, NPO played a crucial role in planning for Energy Management System implementation and energy audits. The Project also developed a reasonable partnership with chambers, industrial associations, and industries, aiming to provide policy recommendations for promoting renewable energy and energy efficiency in Pakistan. A consultative workshop was organized in collaboration with the Prime Minister's Task Force

on Energy Reforms to address energy efficiency issues in the country.

The Project also engaged with various financial institutions such as the Pakistan Credit Guarantee Company, development finance institutions, and commercial banks to explore the possibility of developing financial instruments like credit guarantees to promote renewable energy investments in the SME sector. Collaboration with the National Rural Support Programme facilitated the implementation of small grant packages for renewable energy projects at the community level and small businesses.

The engagements with the private sector, academia, consultants, and industries have remained positive despite the challenges posed by the COVID-19 situation. The implementation of demonstration projects and the Energy Management System has been successful due to continuous coordination and engagement with industry players.

However, some challenges in stakeholder engagement have been observed, including capacity issues and structural/management changes in the involved institutions. The public sector organizations, though provided training and post-training programs, have been slow to act due to resource constraints. Structural changes in institutions like AEDB and NEECA have also affected their progress. The COVID-19 pandemic has further hindered effective consultation and coordination with stakeholders.

Despite these challenges, stakeholder engagements have resulted in better guidance, decision-making, and ownership by partners. Awareness about renewable energy and energy efficiency issues has been disseminated, creating replicable potential for best practices in the industry. Changing the culture of the industry to prioritize sustainable practices has been a time-consuming challenge, but progress has been made through the adoption of a system improvement approach.

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.).

The national counterparts express satisfaction with the project activities, as there has been no negative feedback during any meetings. UNIDO receives positive feedback for its initiatives on EnMS implementations, RE projects for industries and small businesses, Energy Awards planning, Energy Desks, and more.

The Private Sector Partners appreciate UNIDO's initiatives under the project, and there is a high demand for the technical support provided. Even after finalizing cooperation agreements with beneficiaries, many others who missed the opportunity expressed interest in joining the project and asked for provisions to be enlisted. At the community level, there is a growing demand for support in installing RE-based productive solutions, even though the allocated funds have been fully utilized.

The Academia partners engaged in this project have provided the most enthusiastic feedback on the support received. They believe this project has offered long-awaited support, enabling faculty members and students to collaborate with industries, learn practical aspects of energy conservation and efficiency management, and explore new possibilities for industrial research and development. The Energy Award has generated significant interest, with many outside the scope inquiring about the award details, indicating a positive outlook for the future continuation of this scheme.

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

- [4753_Project Steering Committee minutes](#)
- [4753_Aide Memoire](#)
- [4753_Meeting Agenda, etc.](#)

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),.

Gender mainstreaming actions are integral to all stages of the project cycle, with a particular focus on project execution, monitoring, evaluation, policy review, and formulation of recommendations. The project ensures that women's needs and priorities are addressed consistently throughout its approach, encompassing activities and indicators.

Gender considerations were given special attention in two studies conducted under the project. In the sectoral analysis study, which examined the potential opportunities of renewable energy and energy efficiency technologies in selected industrial sectors in Pakistan, gender-related information was limited due to the small representation of women in the workforce. Despite efforts to gather disaggregated data through interviews and questionnaires, the conditions at the time and the current scenario continue to limit available data on women's involvement in these sectors.

However, in the second study that reviewed and advised on the national policy framework for renewable energy and energy efficiency in Pakistan, it was easier to find social information that allowed for the correlation of gender issues with policy segments. The study allocated separate sections for gender discussions and provided appropriate recommendations to integrate gender considerations into policy.

While selecting renewable energy demonstration projects, EnMS consortia, and beneficiary companies, the project developed adequate criteria, although choices based on gender priorities were limited due to the nominal presence of women in the industry, particularly in the manufacturing sector. Women are mainly employed as labour or daily wage workers, and their opportunities for professional roles are restricted to areas like human resource management or planning/design.

To address this gender disparity, UNIDO prioritized engaging women in the energy management system implementation. Women professionals were encouraged to participate in training and other project activities. Many women are part of the energy teams and some even lead these teams. Women have also been actively involved in renewable energy and energy efficiency demonstration projects as implementers, energy auditors, and advisors to industries. The project scaled up its training program to ensure the participation of women professionals, resulting in the training and certification of several women in energy management.

Various organizations focused on women's participation in the energy sector, such as the Women in Energy Network and Women in Renewable Energy, were actively engaged in learning and advocacy efforts. The project aimed to leverage existing women's platforms and establish new ones with a specific focus on climate mitigation and adaptation for industrial and rural community development.

The Energy Desk housed at SMEDA facilitated women entrepreneurs' participation in the training and adoption of energy-efficient and renewable energy solutions. Webinars conducted by women energy experts and exclusive training programs for women professionals were organized to enhance their knowledge and skills.

In the renewable energy demonstration projects, women professionals were trained in installations by service providers, and several women-led businesses received support for small business clean energy solutions. The Energy Performance Award Scheme included a special category to recognize the achievements of women energy professionals. Additionally, a gender knowledge product was prepared to provide a guidance document for industries to implement gender mainstreaming in their organizations.

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.

A website was created for promoting GEF projects & was highlighting the work that is being undertaken

under the projects. This includes the publication of a wide range of communications and promotional materials (such as event coverage, press releases, speeches, annual reports, research papers, and brochures), to share information with its staff members, partners and all other stakeholders.

Energy Data Management System at Energy Desk, housed in SMEDA, has been developed and is fully functional. More than 1,700 visitors have visited the Energy Desk (ED) portal. The Energy Desk Data Management System has more than 9,500 page views. The training of Energy Desk Staff was conducted on operating ED Data Management System/Portal. For external stakeholders, 13 training sessions have been organized with more than 350 attendees.

An advanced Cloud-based File management portal for project documents, files, reports and Media is formed that will guide through the relevant document component-wise.

To disseminate the learning and knowledge of this project four Workshops and 11 Webinars were organised. Workshops were conducted in four different cities in Pakistan namely Islamabad, Lahore, Karachi and Peshawar. Industrial partners that were not part of the project before, participated and were satisfied with the workshop. 11 webinars were organised at the concluding phase of the project Participants of the workshops and webinars were introduced to the Energy Management System, ISO 50001 Certification, Techniques and importance of Energy Audits, and Analysis of Energy Optimization in Sustainable Energy Initiative in Pakistan project. Different Technology providers like Siemens, Air Audit, Khan Brothers, Linked Things and others were invited to share modern solutions for different Electrical and Mechanical applications. These solution providers showed different solutions for VFDs, Air compressors, Boilers, and IoT-based monitoring solutions for Industry 4.0 evolution.

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

4753_Project Posters

4753_Success Stories

4753_Webinar series

4753_Workshops

4753_Energy Awards Press Release

4753_Brochure_Success Stories

4753_Energy Awards Group Photo

4753_Energy Awards Flyer

4753_Mid Term Review

4753_SEIIP_fact Sheet

4753_Video Journey SEIIP

4753_Project Concluding Events Report

4753_REEEP-UNIDO Gender Knowledge Product - Gender Equality in Energy Intensive Industries

4753_Post-Project Action Plan

4753_UNIDO_TE-report_GEF 4753- Final

A number of knowledge management tools including success stories (ss), Brochures, Flyers and reports were generated by the project team. Online presence is ensured by creating handles on social media (Twitter, Facebook) and creating a website

Following is the list of KM tools and mechanisms developed:

- Twitter handle @UNIDO_Pakistan

- Facebook: @UNIDOPakistan
- Website: www.unidogefpakistan.org.pk

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.

The UNIDO Pakistan REEE project has successfully carried out the following initiatives under the FY 2022-23:

Under the Renewable Energy and Energy Efficiency (REEE) project, the implementation of Energy Management Systems (EnMS) in line with ISO 50001-2018 has been successfully completed. Ten regional consortia groups, consisting of Energy Management System Consultants, Sectoral Experts, Certified Energy Auditors, and Academia, provided technical assistance to beneficiary industries for smooth EnMS implementation. UNIDO supported these consortia by organizing capacity-building sessions and workshops, enhancing their competencies to effectively carry out the implementation.

Energy audits of all beneficiaries' units were completed, and action plans were developed based on the audit reports, suggesting low-cost, midterm, and long-term energy-saving options. Most companies achieved EnMS system development based on different clauses of ISO 50001, and the implementation phase is ongoing. UNIDO is supporting these companies through incremental cost grants on energy optimization and three years of certification compliance to expedite the process. Several industries have already obtained ISO 50001 certification, contributing to a system approach towards energy efficiency.

The COVID-19 pandemic posed challenges as industrial activities were initially affected, but activities resumed after the lockdowns were lifted. Convincing the industry to adopt a system approach instead of an ad-hoc approach to energy audits was another challenge. Additionally, the lack of knowledge on renewable energy and energy efficiency technologies and access to finance were barriers to investment in RE and EE.

To address these challenges, the REEE project adopted a business approach through an innovative finance mechanism. Shams Power Limited was selected as a private sector implementing partner and given partial financial assistance to install 6 MW of solar energy projects at commercial and industrial sites. The project enabled Shams Power Limited to secure corporate Power Purchase Agreements for implementing solar projects at 12 sites, providing clean energy through a B2B model.

The REEE project also collaborated with the National Rural Support Program (NRSP) to provide interest-free loans and subsidies for the procurement and installation of RE solutions in small businesses and agriculture. This initiative improved the livelihoods of communities, including women-owned businesses, and built trust through after-sales services and maintenance.

The project successfully exceeded its target of installing over 12 MW of renewable energy projects in various industrial sectors, resulting in significant CO₂ and greenhouse gas emissions reduction, contributing to climate action goals.

To disseminate the learning and knowledge of this project four Workshops and 11 Webinars were organised. Workshops were conducted in four different cities in Pakistan namely Islamabad, Lahore, Karachi and Peshawar. Industrial partners that were not part of the project before, participated and were satisfied with the workshop. 11 webinars were organised at the concluding phase of the project. Participants of the workshops and webinars were introduced to the Energy Management System, ISO 50001 Certification, Techniques and importance of Energy Audits, and Analysis of Energy Optimization in Sustainable Energy Initiative in Pakistan project. Different Technology providers like Siemens, Air Audit, Khan Brothers, Linked Things and others were invited to share modern solutions for different Electrical and Mechanical applications. These solution providers showed different solutions for VFDs, Air compressors, Boilers, and

IoT-based monitoring solutions for Industry 4.0 evolution.

The outcomes of the project include the development and promotion of a culture of EnMS and energy efficiency in the industrial sector of Pakistan. Industries are now showing signs of embracing energy savings and investing in renewable energy and energy optimization interventions. The timely support grants by UNIDO have incentivized this change and offset the impact of the COVID-19 pandemic.

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	
<input type="checkbox"/>	Financial Management	
<input type="checkbox"/>	Implementation Schedule	
<input type="checkbox"/>	Executing Entity	
<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.**

The main expenditure was related to contractual payments for Consultants, who worked for Energy Management System implementation, and for payments as grants to demonstration projects in RE and EE. There were also some expenditures related to payments to public sector organizations for establishing Energy Desk.

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%.

The remaining unspent amount is USD 62,516* at the close of the project (2 % of the total allocated budget remained un-utilised)

** Source: SAP open data portal*

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	Year 1				Year 2				Year 3				GEF Grant Budget Available (US\$)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Component 1 –													
Outcome 1:													
Output 1.1:													
Output 1.2:													
Component 2 –													
Outcome 2:													
Output 2.1:													
Output 2.2:													

X. Synergies

1. **Synergies** achieved:

- *Establishment of Energy Desk at Small and Medium Development Authority (SMEDA)*
- *Access to clean energy to communities and small businesses opportunities with National Rural Support Programme (NRSP)*
- *Judging activity for the Energy Performance Awards with all project stakeholders i.e., SMEDA, NPO, AEDB, NEECA*

3. **Stories to be shared** (Optional)

- *4753_Brochure_success stories*
- *4753_SEIIP Factsheet*

XI. GEO LOCATION INFORMATION

The Location Name, Latitude and Longitude are required fields insofar as an Agency chooses to enter a project location under the set format. The Geo Name ID is required in instances where the location is not exact, such as in the case of a city, as opposed to the exact site of a physical infrastructure. The Location & Activity Description fields are optional. Project longitude and latitude must follow the Decimal Degrees WGS84 format and Agencies are encouraged to use at least four decimal points for greater accuracy. Users may add as many locations as appropriate.

Web mapping applications such as [OpenStreetMap](#) or [GeoNames](#) use this format. Consider using a conversion tool as needed, such as: <https://coordinates-converter.com>

Please see the Geocoding User Guide by clicking [here](#)

Location Name	Latitude	Longitude	Geo Name ID	Location and Activity Description
National Rural Support Programme Head office	33.723053299591996,	73.07938235184702	1176615	UBL Tower, 7th, Jinnah Ave, F 6/1 Blue Area, Islamabad, Pakistan – Project Beneficiary
EMCO Industries	31.660378287734485,	74.15449103009973	1167710	Sarai Feroz Wala, Lahore, Sheikhupura, Punjab, Pakistan – RE and EE Beneficiary
Sabir's Poultry Pvt Ltd	31.63496329005493,	73.9345525463817	1179400	k.m, 10 Lahore - Sheikhupura - Faisalabad Rd, Pakistan – Re Beneficiary
Iqbal Rice, chiniot	31.768641290620288,	72.90770277817253	1167710	Iqbal Rice Mills, Chiniot, Punjab, Pakistan – RE and EE Beneficiary
Dawlance Pvt Ltd, Karachi	24.85518903373883,	67.23689883493492	1174872	Dawlance Pvt Ltd, DPL 2 – RE and EE and EO Beneficiary
Ebrahim Textile Mills, Karachi	24.84028262017023,	67.24095392329849	1174872	Ebrahim Textile Mills Pvt LTD RE and EE and

				EO Beneficiary
Gatron (Industries) Ltd.	25.047743402064757,	66.85761558321207	1183606	Gatron (Industries) Ltd. Hub, RE beneficiary

Please provide any further geo-referenced information and map where the project interventions are taking place as appropriate.

Small Businesses were supported by providing interest-free loans for Renewable Energy Products through NRSP in 20 districts.

Under the program technical assistance was provided to the 50 beneficiary industries for implementing the Energy Management System in line with ISO 50001 Standards leading toward energy system optimizations. These 50 industries are also spread all Across Pakistan in different provinces.

EXPLANATORY NOTE

1. **Timing & duration:** Each report covers a twelve-month period, i.e. 1 July 2022 – 30 June 2023.
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 in <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.