

1. Project Data

Summary project data			
GEF project ID		5553	
GEF Agency project ID		130063	
GEF Replenishment Phase		GEF – 5	
Lead GEF Agency (include all for joint projects)		UNIDO – United Nations Development Organization	
Project name		GEF UNIDO Cleantech Programme for SMEs (small- and - medium enterprises) in Pakistan	
Country/Countries		Pakistan	
Region		Asia and the Pacific	
Focal area		Climate Change	
Operational Program or Strategic Priorities/Objectives		GEF Council Revised Strategy for Enhancing Engagement with Private Sector, Modality 3 “SME Competition Pilot: Encouraging Entrepreneurs & Innovators through a Competition/Incubation Pilot”	
Executing agencies involved		Main executing agencies ¹ : Pakistan Council for Science and Technology (PCST); National Productivity Organization (NPO); Pakistan Institute of Management (PIM); and Islamabad Chamber of Commerce & Industry (ICCI)	
NGOs/CBOs involvement		Co-financing (in-kind) from civil society (engaged from the outset as executing partner)	
Private sector involvement		Islamabad Chamber of Commerce & Industry (ICCI)	
CEO Endorsement (FSP) /Approval date (MSP)		6 March 2013	
Effectiveness date / project start		26 Sept 2013	
Expected date of project completion (at start)		26 September 2016	
Actual date of project completion		30 June 2018	
Project Financing			
		At Endorsement (US \$M)	At Completion (US \$M)
Project Preparation Grant	GEF funding		
	Co-financing		
GEF Project Grant		1.3	1.3
Co-financing	IA own	0.1	0.1
	Government	3.7	3.7
	Other multi- /bi-laterals		
	Private sector		
	NGOs/CSOs	0.2	0.2

¹ Several government entities took up the invitation of UNIDO to join the project as partners and co-financers. The executing agencies mentioned above were directly involved in the project, as opposed to several other entities which had minor roles and are not listed above neither in section 7.2 as they were not evaluated thoroughly in the TE.

Total GEF funding	1.3	1.3
Total Co-financing	4	4
Total project funding (GEF grant(s) + co-financing)	5.3	5.3
Terminal evaluation/review information		
TE completion date	June 2018	
Author of TE	Ms. Joyce Miller and Mr. Nisar Ahmad Khan	
TER completion date	11 February 2020	
TER prepared by	Mourad Shalaby	
TER peer review by (if GEF IEO review)	Molly Watts Sohn	

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF IEO Review
Project Outcomes		HS		S
Sustainability of Outcomes		HL		L
M&E Design		S		S
M&E Implementation		S		S
Quality of Implementation		S		S
Quality of Execution		S		S
Quality of the Terminal Evaluation Report		--		S

3. Project Objectives

3.1 Global Environmental Objectives of the project:

The project objective is to create a market environment to promote the use of clean energy technologies and measures in the selected industrial sectors of Pakistan. The environmental component of the objective is to replace fossil fuel-based energy with clean energy technologies and processes, such as energy efficiency, renewable energy, waste to energy, water efficiency and green buildings in selected Small-and-Medium Sized Enterprises (SMEs) in Pakistan.

Pakistan contributes only 0.8% to global greenhouse gas (GHG) emissions, but its national greenhouse gas (GHG) emissions (mainly from energy and agriculture sectors) grew 87% during 1990-2012. With its large population and geography, Pakistan is very vulnerable to climate change and has very low technical and financial capacity to adapt to climate change's adverse impacts.

Pakistan is a net energy importer and depends heavily on fossil fuel and gas to meet its energy requirements. Burning huge quantities of fossil fuel to meet energy needs has significantly contributed to environmental degradation in the form of greenhouse gas (GHG) emissions. Moreover, over the past decade, the country has faced the dilemma of a substantial gap between demand and supply of electricity. Energy shortages and unreliability have had a negative impact on the industrial sector, especially on Small-and-Medium Sized Enterprises (SMEs) production, profits, and growth opportunities. To bridge the shortfall, manufacturers have resorted to the use of diesel-fueled generators, which have added to the cost of operations and generate further greenhouse gas (GHG) emissions.

3.2 Development Objectives of the project:

According to GEF documentation, the project aims to promote clean energy technology innovations and entrepreneurship in selected SMEs (Small-and-Medium Sized Enterprises) in Pakistan through the Cleantech innovation platform and entrepreneurship acceleration programme.

To achieve this objective, the project was structured into 4 components:

- Component 1: National Clean Tech Platform (NCTP) to promote clean technology innovations and competitiveness in Small-and-Medium Sized Enterprises (SMEs) in Pakistan to deliver global environmental benefits.
- Component 2: Capacity enhancement initiative for clean technology innovations.
- Component 3: Policy and regulatory framework strengthened for scaling up cleantech competition, innovations and acceleration activities across Pakistan.
- Component 4: Monitoring and Evaluation Management

3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

There were no documented changes in the project's objectives.

4. GEF IEO assessment of Outcomes and Sustainability

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings.

Relevance can receive either a Satisfactory or Unsatisfactory rating. For Effectiveness and Cost efficiency, a six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess. Sustainability ratings are assessed on a four-point scale: Likely=no or negligible risk; Moderately Likely=low risk; Moderately Unlikely=substantial risks; Unlikely=high risk. In assessing a Sustainability rating please note if, and to what degree, sustainability of project outcomes is threatened by financial, sociopolitical, institutional/governance, or environmental factors.

Please justify ratings in the space below each box.

4.1 Relevance	Rating: Satisfactory
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The TE rates the project's relevance as 'highly satisfactory', measuring the global, regional and national relevance of the project as well as its consistency with donor and implementing agency priorities. This TER rates the project's relevance as satisfactory, given that the project was pertinent for international, regional and national priorities and target group needs; consistent with donor priorities and policy; and fully suitable for UNIDO's mandate and competence (TE, p30-32).

As mentioned, the project was "highly pertinent" for international/regional/national priorities and aligned with donor priorities (GEF) and UNIDO's mandate. The project contributed to the Paris agreement through reduced greenhouse gas (GHG) emissions, and to the 2030 Development Agenda and Sustainable Development Goals (SDGs) by promoting clean energy technology.

For Pakistan, the project bridged a gap by providing support to nurture early-stage startups along a path to maturity and formal establishment. The project's establishment in Pakistan mobilized other stakeholders to adopt cleantech categories and promote cleantech-based entrepreneurship, which attests to the relevance of the intervention and its scaling up potential. Although its Intended Nationally Determined Contribution (2015) did not specify an emission reduction target, Pakistan's 2012 National Climate Change Policy pointed to developing climate change mitigation measures in Energy, Agriculture, Forestry, including promoting renewable/hydroelectric power, prioritizing natural gas imports over oil/coal, introducing energy conservation measures, developing public transit, implementing vehicle emission standards, promoting better agriculture and livestock management practices, curbing illegal deforestation, setting afforestation and reforestation targets. These mitigation actions depended on affordability, provision of international climate finance, transfer of technology and capacity building, which the project was able to provide.

The project is aligned with GEF focal area priorities, such as the GEF Council's Revised Strategy for Enhancing Engagement with Private Sector, Modality 3 "SME Competition Pilot: Encouraging Entrepreneurs & Innovators through a Competition/Incubation Pilot", which aims to provide support to entrepreneurs and innovators seeking to establish commercial ventures in the field of clean technologies aimed at enhancing national competitiveness. The project also allowed for synergies with other GEF activities in Pakistan related to policy, regulatory framework, and capacity-building as well as GEF projects with UNDP and UNIDO to promote business models to scale up sustainable energy and enhance industrial energy efficiency in Small-and-Medium Sized Enterprises (SMEs). Furthermore, the project's specific focus on inclusion & empowerment of women reflects the GEF's Policy on Gender Equality.

UNIDO's 20 years of experience in technical cooperation for industry (especially SMEs), its role in supporting technology transfer, its expertise in Resource Efficient Cleaner Production (RECP), the Montreal Protocol, and Energy & Environment in general, were leveraged for this project.

4.2 Effectiveness	Rating: Highly satisfactory
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The TE rates project effectiveness as 'highly satisfactory', and this TER also rates the project's effectiveness as highly satisfactory, given that the project's overall objective, the promotion and increase of clean technology innovations and clean technology entrepreneurship for Small-and-Medium Sized Enterprises (SMEs) in Pakistan, was achieved and formalized in September 2017 with the official establishment of the National Clean Tech Platform (NCTP), which subsequently attracted private sector investment, the membership of hundreds of SMEs and indirect and projected greenhouse gas (GHG) emission reductions (TE p32-38).

Furthermore, the project showed strong performance on progress-to-impact, incorporated environmental safeguards, supported beneficiaries' economic performance, and its social inclusiveness was recognized as outstanding. UNIDO's Pakistan Office was awarded UNIDO's Inaugural Gender Equality Mobilization (GEM) Award, in part, recognizing gender mainstreaming efforts under this project. Significant participation of women as team members and team leaders was observed. Performance on all three of the project's programmed outcomes was achieved/over-achieved as outlined below:

Component 1: National Clean Tech Platform (NCTP) to promote clean technology innovations and competitiveness in SMEs in Pakistan to deliver global environmental benefits.

This component aimed to promote Pakistan’s innovation ecosystem by “nurturing” the most promising innovative clean energy technologies and facilitating global networking with mentors and potential business partners abroad. The main planned outcome of this component was to establish the National Clean Tech Platform (NCTP), a coordinating mechanism/platform established at national level to promote clean technology innovations and entrepreneurship, with subsequent clean energy technology innovators identified, coached and supported during & beyond the Cleantech competition organized by the platform. NCTP was established in September 2017. Its structure, strategy, and member organizations have been documented by the project. The Project Management Unit (PMU) accredited and validated 249 businesses through the NCTP after engaging “in a long consultative process” which attracted “the highest number of applicants (1,379) [...] compared to other GCIP (Global Cleantech Innovation Programme (GCIP) participating countries”. The NCTP platform also awarded prizes for innovators with great impact on women entrepreneurial development and job creation.

Component 2: Capacity enhancement initiative for clean technology innovations.

The planned outcome of this component was to identify, engage, and build relevant institutional capacities to facilitate the sustainability of the NCTP. In this respect, capacities in the project’s executing agencies, namely the Pakistan Council for Science and Technology (PCST), the National Productivity Organization (NPO), the Pakistan Institute of Management (PIM), and the Islamabad Chamber of Commerce & Industry (ICCI) and individuals in their networks who could perform the important roles of mentors and judges, were capacitated “on-the-job”. A mentor program was developed and carried out regionally and online, exceeding the programmed capacity-building targets, for overall mentor capacities as well as for inclusion of women. The participation and quality of the startups that participated in this program was deemed to have been “comparatively high”, an indicator of the effectiveness of national capacity-building carried out. The TE concluded that “The impressive results achieved in bringing participants to the GCIP (Global Cleantech Innovation Programme) framework is clearly linked to the investment in advocacy and outreach, the networking of the project and its partners, and the engagement of the PMU (Project Management Unit) team and its supervisory support”.

Component 3: Policy and regulatory framework strengthened for scaling up cleantech competition, innovations and acceleration activities across Pakistan.

The main planned outcome of this component was to strengthen the policy/regulatory framework to facilitate cleantech adoption, which would assure the sustainability of Outcome 1 and “valorize” Outcome 2. The Project Management Unit (PMU) brought all pertinent players to the same table and initiated debate through regional policy dialogues to identify relevant policy gaps. This approach was judged to have been “very effective” by the TE, developing partnerships with lead policy-making and implementation bodies. In the final project phase, the executing agencies “and other stakeholders are working to incorporate these recommendations into (an) [...] Action Plan”, a development that is “very valuable for sustaining the project’s results”. The TE concludes that “it is expected that the Global Cleantech Innovation Programme (GCIP)’s contributions will have high impact in terms of bridging policy disconnects.”

4.3 Efficiency	Rating: Satisfactory
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The TE rates the project’s efficiency as ‘satisfactory’, and this TER also rates the project’s efficiency as ‘satisfactory’, given that the project was efficiently managed and resourced, and was given a significant twenty-two months extension but still did not go over budget significantly and even managed to surpass its initial targets (TE, p38-39).

The project integrated the notion of efficiency into the project concept to coordinate with other related projects/initiatives, including GEF projects in Pakistan related to sustainable energy and industrial energy efficiency, which created synergies and avoided overlap. The TE notes that it is unclear if these synergies materialized but gives the Project Management Unit (PMU) “the benefit of the doubt [...] given the team’s working culture demonstrated a spirit of collaboration & interest in achieving synergies”.

This pilot project’s timeline for implementation was extended by twenty-two months (fifty-eight months in total instead of thirty-six), because of delays experienced in the initial stage “related to understanding the concept, establishing/staffing the PMU (Project Management Unit), and getting the approach off the ground”, which meant that its originally allocated resources were stretched to cover a fifty-eight-month duration and more services were delivered than initially imagined. Only USD 100 000 were added from UN funds to adapt to the extension, and project resources were used to deliver more services than initially imagined, as evidenced by the over-achievement of targets.

The project was embedded within UNIDO’s Field Office in Islamabad, increasing efficiency in terms of access to infrastructure and facilitating contact with other relevant stakeholders in the city.

Regarding spending of the GEF grant, according to summary financial statements from 2018, the project had fully utilized around USD 1.318 million i.e. 96% of its total committed resources of USD 1.369 million. The remaining balance was intended to be spent in the remaining months of the project until June 2018. The TE notes that GEF financing “was up to the mark”. For the most part, its committed resources were duly released for the use of project and leveraged to achieve the project’s envisaged results and impacts.

Activities under Component 1 consumed around 42% of total resources, followed by Component 2 at 29%, Component 3 at 18%, project management 8% and Component 4 (M&E), only 3%. Comparison of the component-wise planned allocation versus actual expenses indicates that the most expenses were made according to provided allocations, with little variation. Year-wise analysis suggests that project expenditures grew steadily since 2014 and were at their highest during 2015-2017, then gradually dropped in 2018, matching expected project management cycle and demonstrating “solid experience & discipline in bringing this intervention from inception through its initial phase”.

4.4 Sustainability	Rating: Likely
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The TE evaluates the overall rating for sustainability of benefits as “highly likely”, providing a rating for each category of sustainability. This TER rates the project’s sustainability as likely, given that the project has succeeded in creating an environment that fosters innovation, cleantech and the development Small-and-Medium Sized Enterprises (SMEs), and country ownership has been strong at the social, political and institutional levels (TE, p39-43).

The TE notes that the Project Management Unit (PMU) adopted a proactive approach to the project’s sustainability, through an early consultative session (26 July 2016) which aimed to identify & discuss options for developing a sustainability strategy, bringing together 30+ representatives from all stakeholder groups to provide input into the evaluation, share ideas, and build commitment for moving forward. This consultative session led to a study which mapped relevant organizations and proposed a model with hub and partner organizations together with recommendations and an Implementation Plan.

Financial sustainability

The TE rates financial sustainability as 'highly likely'. Commercialization is the biggest hurdle facing entrepreneurs, as noted by the TE, mentioning availability & effective channeling of public support and the willingness of investors to invest in cleantech innovation. To address such barriers, the Project Management Unit (PMU) arranged two Investor Connect events, the 2016 session being the first ever such effort to connect investors with innovators in Pakistan's cleantech sector. This initiative raised interest of other stakeholders to follow the same approach, encouraging a continuous improvement of the domestic venture capital funding landscape. Two major public-sector funds have since started funding cleantech-based innovations, in addition to four provincial National Incubation Centers connected with the largest technology fund of Pakistan's public sector, putting "solid elements in place for financial sustainability of the initiative and presumably the startups supported under its umbrella". The TE concludes that "there is every reason to believe that Pakistan's entrepreneurial culture is picking up and the country can expect to experience the growth and commercialization of cleantech innovations", this project having played a contributing role in this development. A Phase II proposal developed in 2018 was already shared with the GEF Focal Ministry (Ministry of Climate Change). According to the Project Implementation Report (PIR) 2018, under the GEF Cycle 6, USD 1 million has already been approved by GEF Pakistan and the GEF Secretariat, significantly reducing the financial risk of the project's continuation.

Socio-political sustainability

The TE rates socio-political sustainability as 'highly likely'. Social-political stability play a critical role in allowing investor confidence to flourish and resources to be channeled towards domestic cleantech innovation, the TE notes, and has a direct link to positively influencing the realization of the project's intended impacts. To address this, the project's extensive advocacy and outreach generated interest on the part of the general public and the private sector "which is seen as an important driver for reduced socio-political risk". The TE bases its socio-political analysis on interviews it conducted, revealing that "Various stakeholders explicitly stated that they are ready to integrate their support programmes with GCIP Pakistan, which would help the project to attain its goals with respect to the above-mentioned socio-political aspects". The TE concludes that "such interest and the expression of tangible ways in which the project's benefits can be sustained are very valuable".

Institutional sustainability

The TE rates institutional sustainability as 'highly likely'. The TE mentions the strategy documents of Pakistani government institutions, which highlight "better functioning small- and -medium enterprise (SME), and less dependence on imported fossil-based energy". On the policy side the project's efforts have generated recommendations for the Pakistan Council for Science and Technology (PCST), one of the main executing agencies of this project. The TE notes "The fact that the PMU is currently working together with PCST's leadership to integrate these recommendations into ST&I Policy's Action Plan, presumably going in the direction of strengthening the policy & regulatory environment to facilitate cleantech adoption, is an exceedingly positive signal regarding the sustainability of results". The TE also highlights the arrival of a new Director General which immediately reinvigorated the PCST's engagement, this individual being the GEF Focal Point at the time of project approval who personally approved the project.

Discussion during the TE's debriefing session held in Islamabad on 20 April 2018 showed evidence of strong commitment from all participating actors parties (mainly UNIDO and the executing agencies) and interest to contribute and take on an even stronger role, moving forward. These entities confirmed their interest to be included as an execution partner (presumably with co-financing attached) in the next phase of the project, which was currently being planned at the time of the TE.

Environmental sustainability

The TE rates environmental sustainability as ‘highly likely’. The project aimed to achieve global environmental benefits, such as improvements in resource efficiency and the reduction of waste and greenhouse gas (GHG) emissions. Startups involved in the project are developing cleantech solutions such as improved water sanitation and agricultural productivity, which are “recognized and valued by relevant government institutions”. The government of Pakistan recently published strategy documents which emphasize the importance of energy efficiency, environmentally-friendly technologies, and Small-and-Medium Sized Enterprises (SMEs) entrepreneurship, “which all point to supporting the project in delivering positive outcomes on the environmental front.”

5. Processes and factors affecting attainment of project outcomes

5.1 Co-financing. To what extent was the reported co-financing essential to the achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project’s outcomes and/or sustainability? If so, in what ways and through what causal linkages?

According to the Project Document, the project’s total estimated budget was USD 5.369 million, which included USD 1.369 million as GEF grant and a large co-financing share of USD 4 million from UNIDO and government partners (TE, p48-51).

The expected co-financing materialized and was put to good use in assuring the project’s national ownership and sustainability. Budget allocations were made based on annual work plans and budgets, which were duly approved by the Project Steering Committee (PSC). Overall, the TE Evaluation Team concluded that “funds flows were smooth and projected financial resources and inputs were managed and spent in an efficient, transparent, and accountable manner, using UNIDO standard financial management and tendering/ procurement systems and procedures, keeping in view the best value for money”. The amount of co-financing that materialized, when compared to other similar pilot projects, “is an excellent result on its own merit”.

It is important to highlight that most co-financing was in the form of grant support, which refers to parallel finance allocated by partners for initiatives that contributed to project objectives, directly or indirectly. Discussions with project partners by the evaluation team revealed that it was difficult to estimate the exact numbers for in-kind contributions. However, the Project Management Unit made a “diligent effort” to estimate in-kind contributions and parallel finance from partners. As such, their calculations reveal that local partners “handsomely contributed” to co-financing the project, mostly in the form of parallel financing and in-kind support. The National Productivity Organization (NPO) contributed the most, followed by the Pakistan Council for Science and Technology (PCST) and the Pakistan Institute of Management (PIM). The TE explains that these contributions were mainly made in activities like outreach & communication, technical expertise, access to scientific network, research support, training, industry challenge award, coordination with government, support for the Women Business Growth Centre and for event logistics.

Co-finance from the Center on Climate Change and Development (CCCD) did not materialize as it was “backgrounded” from the project, meaning that CCCD was initially tapped to be a co-lead but its contribution did not materialize as expected and it was disassociated from the project.

5.2 Project extensions and/or delays. If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

As explained previously, the project's timeline for implementation was extended by twenty-two months (fifty-eight months in total instead of thirty-six), because of delays experienced in the initial stage "related to understanding the concept, establishing/staffing the PMU (Project Management Unit), and getting the approach off the ground", which meant that its originally allocated resources were stretched to cover a fifty-eight-month duration and more services were delivered than initially imagined. Only USD 100 000 were added from UN funds to adapt the project to the extension, and project resources were used to deliver more services than initially imagined, as evidenced by the over-achievement of targets (see 'Effectiveness' section). The TE notes that many other pilot projects under the GCIP (project) framework experienced delays and extensions (TE, p38-39).

The decision to extend the project was taken by UNIDO and the Project Steering Committee (PSC), due to the reasons mentioned above. The TE explains that "momentum increased" after the February 2015 replacement of the National Project Manager and the Project Management Unit's (PMU) strengthening with further personnel.

Therefore, the extensions, although significant, did not negatively affect project outcomes and/or sustainability. In fact, the evidence points to the opposite.

5.3 Country ownership. Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability, highlighting the causal links:

Country ownership was strong throughout project implementation, as evidenced by the significant and materialized co-funding, the involvement of several government agencies in the execution of the project, and the leadership role sustained by the Pakistan Council for Science and Technology (PCST). At the time of project endorsement, several national government stakeholders committed to contribute to the project through co-financing, primarily through participation in the Project Steering Committee (PSC) and in-kind transfers. Conceptually, this created a larger pool of potential support for delivering the project's outcomes, which could generate efficiencies and help develop national ownership. The expected co-financing materialized and furthered the project's national ownership and sustainability (TE, p49-50).

While collaboration with the Pakistan Council for Science and Technology (PCST) fluctuated over the years, the April 2018 arrival of a new Director General reinvigorated the PCST's engagement. The fluctuation in leadership on the part of the PCST may have slowed down the project's ability to strengthen national ownership, but the new Director General "justifiably renewed optimism on the part of the PMU (Project Management Unit) and other co-financing partners regarding the leadership role that the PCST could play, moving forward". The fact that this individual was the GEF Focal Point at the time of project approval, who personally approved the project, and conveyed a relatively in-depth understanding of the project and the significance of its contribution to Pakistan during interviews conducted for the TE evaluation, suggested that the project was "on a very solid ground for sustaining its results". The PCST is a governmental council mandated to advise the Government on the development of Science and Technology at the national level.

6. Assessment of project's Monitoring and Evaluation system

Ratings are assessed on a six point scale: Highly Satisfactory=no shortcomings in this M&E component; Satisfactory=minor shortcomings in this M&E component; Moderately

Satisfactory=moderate shortcomings in this M&E component; Moderately Unsatisfactory=significant shortcomings in this M&E component; Unsatisfactory=major shortcomings in this M&E component; Highly Unsatisfactory=there were no project M&E systems.

Please justify ratings in the space below each box.

6.1 M&E Design at entry	Rating: Satisfactory
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The TE rates the project's overall M&E system as 'satisfactory', the project's overall design as 'satisfactory' as well, and the project's Results-based Management (RBM) as 'highly satisfactory'. This TER rates the project's M&E design as satisfactory, given that the M&E system was designed in accordance with GEF and UNIDO guidelines and contained specific and measurable performance and impact indicators as well as an organized and performing Project Management Unit (PMU), which "maintained focus on progressing activities, outputs, and outcomes according to the project's results framework. The early momentum that was established continued throughout". However, there is a slight uncertainty regarding the M&E allocated budget, as explained further in this section ((TE, p45-46).

The project was based on an existing design used to guide all nine GCIP (Global Cleantech Innovation Programme) piloting countries, which the Project Management Unit (PMU) executed according to the three substantive components, underpinned by continuous monitoring and evaluation under component 4 to assure its smooth implementation.

The Project Document envisaged that M&E would be conducted in accordance with established UNIDO and GEF policies and procedures. The project's Logical Framework provided performance and impact indicators along with their corresponding means of verification. These formed the basis for the development of the project's M&E Plan. Implementation of the M&E Plan was to be undertaken by the Project Management Unit (PMU) under the Project Steering Committee's (PSC) guidance. The M&E procedure consisted of a project inception report, progress reporting, Project Implementation Reports (PIRs), a final project report, and general reporting to the GEF. The M&E plan included provisions for a mid-term and terminal evaluations

A detailed budget was planned and allocated for M&E activities, which included continuous monitoring of project execution and tracking progress towards milestones. An overall budget of USD 100,000 was allocated for M&E activities, which combined USD 50,000 cash contribution from the GEF and USD 50,000 co-financing (presumably in-kind contributions). The TE suggests this budget and its allocation appear to be slightly inadequate, though the reason why is not made clear). It is not clear whether the mid-term review was not carried out because of insufficient budgeting and whether these funds not used for the mid-term evaluation were channeled into other support activities. GEF and UNIDO evaluation procedures encourage, but do not oblige, medium-sized projects to undertake a mid-term review. A mid-term review for this project was not conducted, thus missing out "gaining insights on interim progress and recommendations to inform the roll-out".

6.2 M&E Implementation	Rating: Satisfactory
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The TE rates the project's overall M&E system as 'satisfactory', the project's overall design as 'satisfactory' as well, and the project's Results-based Management (RBM) as highly satisfactory. This TER rates the project's M&E

implementation as satisfactory, given that the M&E system followed all appropriate standards and guidelines and provided ample and structured documentation which greatly facilitated progress monitoring and the final evaluation of the project, despite not having a substantial budget (according to the TE), the only shortcoming being the non-completion of a mid-term review (see below) (TE, p45-46).

UNIDO's standard M&E approach was "designed, adequately resourced, and implemented". UNIDO headquarters team was also regularly engaged in oversight and quality assurance of the project and closely monitored the intervention through regular field visits, stakeholder consultations, and progress reporting. The Project Management Unit's (PMU) monitoring activities were overseen by the Project Steering Committee (PSC), which annually reviewed project progress.

Project progress was reviewed in PSC meetings and corrective measures were suggested to streamline implementation. The Project Management Unit (PMU) monitored the project's interventions and results through internal review meetings and compilation of annual Project Implementation Reports (PIRs). PIRs covering the fiscal periods of July 2014 to June 2015 (PIR 2015), July 2015 to June 2016 (PIR 2016), July 2016 to June 2017 (PIR 2017), July 2017 to March 2018 (PIR 2108) were made available to the Evaluation Team. These were prepared in line with the GEF project progress reporting system and were submitted to GEF on an annual basis for years 2015, 2016 and 2017. The Evaluation Team benefited from "a highly structured and well-organized documentation" linked to envisaged project outputs and outcomes, which greatly facilitated the terminal evaluation.

The TE adds that "With higher resources allocated to M&E, this effort (to develop/implement M&E mechanisms and collect, analyze, and report data related to project outcomes and impacts indicator) could be commensurately enhanced".

One important shortcoming of M&E implementation was the fact that no mid-term review was conducted, though it was planned for in M&E design. The TE explains that "It is not clear whether the mid-term review was not carried out because of insufficient budgeting and whether these funds not used for the mid-term evaluation were channeled into other support activities". Mid-term reviews are useful to "to facilitate reflection; promote discussion regarding content, scope, and resourcing; stimulate recalibration where needed; and gauge the project's progress-to-impact and achievements." As such, by not carrying out a mid-term review, "the project management consequently missed out gaining insights on interim progress and recommendations to inform the roll-out."

7. Assessment of project implementation and execution

Quality of Implementation includes the quality of project design, as well as the quality of supervision and assistance provided by implementing agency(s) to execution agencies throughout project implementation. Quality of Execution covers the effectiveness of the executing agency(s) in performing its roles and responsibilities. In both instances, the focus is upon factors that are largely within the control of the respective implementing and executing agency(s). A six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess.

Please justify ratings in the space below each box.

7.1 Quality of Project Implementation	Rating: Satisfactory
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The TE rates UNIDO's implementation as 'satisfactory', and this TER also rates the UN agency's project implementation as satisfactory, given that UNIDO undertook its implementation role and duties in a responsible manner and its participation was highly valued by all stakeholders as noted by the TE.

UNIDO responsibly carried out its duties. The supervision and support from the headquarters team empowered the Project Management Unit (PMU) to trial new approaches, which yielded valuable models for replication. UNIDO and GEF's contribution played a catalytic role through the Global Cleantech Innovation Programme (GCIP) for further development of Pakistan's innovation ecosystem. While the contributions of some national counterparts did not materialize as expected (see section 5.1), by the end of the project, the national host Pakistan Council for Science and Technology (PCST), together with the other executing agencies, were strongly positioned and empowered to assure the project's sustainability.

UNIDO's headquarters team was regularly engaged in oversight and closely monitored the project through regular field visits, stakeholder consultations, and progress reporting. The headquarters' supervisory approach was "particularly supportive, exhibiting a great deal of openness and receptivity to the suggestions and insights of the implementing team on the ground, who felt empowered and were able to pilot new approaches, which have subsequently offered valuable models for the overall programme". Technical backstopping was conducted by experts identified by UNIDO and included in their Terms of Reference (TORs).

The project also benefited UNIDO: Cleantech innovation is a new domain for the UN agency, and the project enabled the agency to build up its experience in this area. Finally, UNIDO's Pakistan Office was awarded UNIDO's Inaugural Gender Equality Mobilization (GEM) Award, in part recognizing gender mainstreaming efforts under this project (TE, p47).

7.2 Quality of Project Execution	Rating: Satisfactory
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The TE rates the performance of the national counterparts as 'satisfactory'. This TER also rates the quality of project execution as satisfactory, given that the government agencies involved in this project showed commitment, contributed financially to the project as co-financiers, and generally fulfilled their responsibilities while facilitating the project's progress.

The Pakistan Council for Science and Technology (PCST), the National Productivity Organization (NPO), the Pakistan Institute of Management (PIM) and the Islamabad Chamber of Commerce and Industry (ICCI) were key contributors throughout the project. These government entities were invited by UNIDO to join the project as partners and co-financiers. All those identified to take part were seen as "relevant, able to benefit from the project's activities and outcomes, and identified as having a key role to play in anchoring the sustainability of its benefits and results". According to the Project Document, the project's total estimated budgetary resources were USD 5.369 million, which included USD 1.369 million as GEF grant and a large co-financing share of USD 4 million from UNIDO and government partners.

The Center on Climate Change and Development (CCCCD) was initially tapped to be a co-lead and was expected to physically host the National Clean Tech Platform (NCTP), but its contribution did not materialize as expected and its disassociation from the project was endorsed during the 2nd Steering Committee Meeting held in January 2015. While this may have slowed the project's momentum until 2015, the evaluation observed that other partners (NPO, PIM) came more into the foreground and played more important roles within the project. Subsequently, the

Islamabad Chamber of Commerce and Industry (ICCI) took an even stronger role than initially envisaged. The fluctuation in leadership on the part of the PCST may also have slowed down the project's ability to strengthen national ownership, until the arrival of an engaged and committed Director General in May 2018 renewed optimism on the part of the Project Management Unit (PMU) and other co-financing partners regarding the leadership role that the PCST could play, moving forward. Subsequently, the Pakistan Council for Science and Technology (PCST) leadership role gained strength very close to project closure, providing optimism for sustaining results in the future.

8. Assessment of Project Impacts

Note - In instances where information on any impact related topic is not provided in the terminal evaluations, the reviewer should indicate in the relevant sections below that this is indeed the case and identify the information gaps. When providing information on topics related to impact, please cite the page number of the terminal evaluation from where the information is sourced.

8.1 Environmental Change. Describe the changes in environmental stress and environmental status that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The project contributed to “environmental safeguarding” by supporting the development of cleantech ideas, solutions, and services related to energy efficiency, renewable energy, waste to energy, and water efficiency. The greenhouse gas (GHG) emissions reduction of selected beneficiaries was calculated and extrapolated to the overall project. Evidence was drawn from a GHG emission reduction study presented at the International Science-Policy Conference on Climate Change (18-20 Dec 2017) published in their Journal which demonstrated that seven Global Cleantech Innovation Programme (GCIP) Pakistan projects had a collective direct emission reduction of 196.96 tons of CO₂ per year. This was extrapolated to the ninety-five active projects, suggesting an annual reduction of 2672 tons of CO₂. Furthermore, 40% of the total cleantech startups supported by the project successfully reached commercialization during the project's timeframe. As such, this particular project is forecast to result in indirect emission reductions in the range of 452,000 tCO₂ equal to about 904,000 tCO₂ over the period 2013-2023.

In sum, the project contributed to both climate change mitigation and adaptation, by reducing greenhouse gas (GHG) emissions and promoting renewable energy as a source of power to replace fossil fuels. The project achieved global environmental benefits, including improvements in resource efficiency and the reduction of waste and GHG emissions. The cleantech solutions being developed by the involved startups are also slated to improve water sanitation, and agricultural productivity (TE, p31-33, p43).

8.2 Socioeconomic change. Describe any changes in human well-being (income, education, health, community relationships, etc.) that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The GCIP (Global Cleantech Innovation Programme) was established to address the lack of incubators promoting cleantech. The programme has stimulated innovation and “a gravitation towards ideas that are commercially promising”. The project is slated to have a major social impact on health, education and the environment.

Regarding economic performance, project activities were designed to improve the functioning of Pakistani startups, promote Small-and-Medium Sized Enterprises (SMEs) entrepreneurship and stimulate the national innovation ecosystem. There were several positive signals indicative of the project's long-term impact: The Project Management Unit (PMU) reported that "40% of the cleantech startups supported by the project successfully reached commercialization during the project's timeframe, which is above the average rate of commercialization for start-ups". Project data further indicates that 4-6 part/full-time jobs were created by each of the participating startups, from which the team inferred that the project had resulted in the creation of 500 "green jobs" thus far.

Regarding social inclusiveness, the project strongly promoted gender mainstreaming with the intention to create more opportunities for women entrepreneurs. The project's approach and achievements were recognized by UNIDO's Office for Gender Equality and Empowerment of Women as a meaningful contribution to the 2030 development agenda. The 10% target set for recruiting female trainers, mentors and judges and promoting women entrepreneurs was significantly exceeded. During 2015-2017, women held 25%-40% of team leader positions, a feat linked to extensive advocacy & mobilization efforts undertaken (including 24 seminars/workshops/learning sessions), a targeted social media strategy, support under its Women in Green Industry initiative, and the introduction of the Most Promising Woman-led Team award from 2015 onwards. The fact that the Islamabad Chamber of Commerce mainstreamed the Women Business Growth Centre created under the project's auspices into its regular budget scheme and provided renovated premises to accommodate its office and training facilities is seen by the Evaluation Team as meaning evidence of women's inclusion & empowerment and their valuable contribution to business & industrial activities, the TE notes.

8.3 Capacity and governance changes. Describe notable changes in capacities and governance that can lead to large-scale action (both mass and legislative) bringing about positive environmental change. "Capacities" include awareness, knowledge, skills, infrastructure, and environmental monitoring systems, among others. "Governance" refers to decision-making processes, structures and systems, including access to and use of information, and thus would include laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc. Indicate how project activities contributed to/ hindered these changes, as well as how contextual factors have influenced these changes.

a) Capacities

With its large population and geography, Pakistan is very vulnerable to climate change and has very low technical and financial capacity to adapt to climate change's adverse impacts. The project dedicated a whole component to capacity-building, namely component 2: Capacity enhancement initiative for clean technology innovations.

As explained in the 'Effectiveness' section, the objective of component 2 was to identify, engage, and build relevant institutional capacities to facilitate the sustainability of the National Clean Tech Platform (NCTP). In this respect, capacities in the project's executing agencies, namely the Pakistan Council for Science and Technology (PCST), the National Productivity Organization (NPO), the Pakistan Institute of Management (PIM), and the Islamabad Chamber of Commerce & Industry (ICCI) and individuals in their networks who could perform the important roles of mentors and judges were capacitated "on-the-job". A mentor program was developed and carried out regionally and online, exceeding the programmed capacity-building targets, for overall mentor capacities as well as for inclusion of women. The participation and quality of the startups that participated in this program was deemed to have been "comparatively high", an indicator of the effectiveness of national capacity-

building carried out. The TE concluded that “The impressive results achieved in bringing participants to the GCIP (Global Cleantech Innovation Programme) framework is clearly linked to the investment in advocacy and outreach, the networking of the project and its partners, and the engagement of the PMU (Project Management Unit) team and its supervisory support”. Furthermore, the project placed a specific focus on women entrepreneurs & participants, and with respect to efforts to support/encourage green growth amongst Small-and-Medium Sized Enterprises (SMEs), outcomes that were successfully achieved and even overachieved (see ‘Effectiveness section’).

b) Governance

The project’s third component, Policy and regulatory framework strengthened for scaling up cleantech competition, innovations and acceleration activities across Pakistan, was mostly dedicated to governance issues and institutional strengthening. The main planned outcome of this component was to strengthen the policy/regulatory framework to facilitate cleantech adoption, which would assure the sustainability of Outcome 1 and “valorize” Outcome 2. The Project Management Unit brought all pertinent players to the same table, namely the executing agencies of the project, and initiated debate through regional policy dialogues to identify relevant policy gaps. This approach was judged to have been “very effective” by the TE, developing partnerships with lead policy-making and implementation bodies. In the final project phase, the executing agencies “and other stakeholders are working to incorporate these recommendations into (an) [...] Action Plan”, a development that is “very valuable for sustaining the project’s results”. The TE concludes that “it is expected that the Global Cleantech Innovation Programme (GCIP)’s contributions will have high impact in terms of bridging policy disconnects.”

On the policy side the project’s efforts have generated recommendations for the Pakistan Council for Science and Technology (PSCT), one of the main executing agencies of this project. The TE points to “The fact that the PMU (Project Management Unit) is currently working together with PCST’s leadership to integrate these recommendations into ST&I Policy’s Action Plan, presumably going in the direction of strengthening the policy & regulatory environment to facilitate cleantech adoption, is an exceedingly positive signal regarding the sustainability of results”.

Discussion during the TE’s debriefing session held in Islamabad on 20 April 2018 showed evidence of strong commitment from all participating actors parties (mainly UNIDO and the executing agencies) and interest to contribute and take on an even stronger role, moving forward. These entities confirmed their interest to be included as an execution partner (presumably with co-financing attached) in the next phase of the project, which was currently being planned at the time of the TE.

8.4 Unintended impacts. Describe any impacts not targeted by the project, whether positive or negative, affecting either ecological or social aspects. Indicate the factors that contributed to these unintended impacts occurring.

There are no mentioned or documented unintended impacts of the project. Several project objectives were overachieved, such as the number of small- and -medium enterprises (SMEs) that became members of the national platform, the tons of greenhouse gas (GHG) emissions directly and indirectly avoided, the additional investment into clean technology innovations due to increased interest in the cleantech programme and the number of innovative businesses created/accredited.

8.5 Adoption of GEF initiatives at scale. Identify any initiatives (e.g. technologies, approaches, financing instruments, implementing bodies, legal frameworks, information systems) that have been mainstreamed, replicated and/or scaled up by government and other stakeholders by project end.

Include the extent to which this broader adoption has taken place, e.g. if plans and resources have been established but no actual adoption has taken place, or if market change and large-scale environmental benefits have begun to occur. Indicate how project activities and other contextual factors contributed to these taking place. If broader adoption has not taken place as expected, indicate which factors (both project-related and contextual) have hindered this from happening.

The project strongly incorporated environmental, economic, and social safeguards (especially gender-related). Evidence of progress-to-impact was observed in terms of replication, scaling up, and mainstreaming. The formal establishment of the National Clean Tech Platform (NCTP), which mobilized ecosystem players to focus on promoting cleantech-based entrepreneurship & innovation in their respective areas suggests that this aspect of the project intervention is now well-anchored and is an important sign of the project's replication power. Evidence suggests that it has moved from pilot to operational mode and is "presumably" capable of functioning in an ongoing manner to identify, coach, and support cleantech innovators and startups in Pakistan. The project is credited with building awareness of cleantech's potential to revolutionize the economy. The Global Cleantech Innovation Programme (GCIP) activities have mobilized Pakistani entrepreneurs to promote cleantech-based entrepreneurship. Initial scaling up was observed by the project evaluators, through both an enlarged scope of startup categories for inclusion in cleantech and through geographical outreach beyond Pakistan's industrialized regions.

The project did not have an explicit objective to mainstream as it was designed and operationalized as a pilot to assess the value of such an approach for supporting cleantech innovation in Pakistan. Nonetheless, very positive signs were noted by the TE team with respect to the project's support for strengthening the policy and regulatory environment to favor cleantech adoption. Policy Dialogues undertaken in Islamabad, Karachi, and Lahore, together with a comprehensive policy review and gap analysis, offer a basis for mainstreaming. As recommendations are issued from this wide consultative process and integrated into an Action Plan by the Pakistan Council for Science and Technology (PCST), the project's potential to eventually influence national laws, policies, and regulation to facilitate cleantech innovation is increasing.

Scaling up could be observed by the project evaluators, albeit in a limited way, through the above-mentioned efforts to reach beyond Pakistan's industrialized regions. The Project Document indicated that the startup competition initiated by the project was to initially be implemented only in Punjab province and then subsequently expanded to three other provinces. Startups interviewed by the evaluators had innovations related to green buildings which suggests there was a scaling up of this nature.

9. Lessons and recommendations

9.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects.

The TE offers two key lessons learned that stem from the project's experience, which are relevant for future programme formulation and implementation by UNIDO and other project partners.

Lesson #1: By adopting a strategic approach to gender mainstreaming, a project can better engage overlooked groups and leverage previously untapped resources and contributions.

The mainstreaming of gender was addressed at the project design level through the deliberate intention to engage women entrepreneurs, associations, and gender focal points in all project activities. Through high-level government endorsement, relevant training and adequate resourcing, the Project Management Unit (PMU) and its collaborating

partners had the tools and strategies to mainstream gender into project implementation, which served to enhance the project's social impact. The project's focus on social inclusiveness inspired other actors to act, such as the Islamabad Chamber of Commerce & Industry's (ICCI) creation of a Women Business Growth Centre in its own premises in Islamabad. The project's approach is seen as a model to be shared with other Global Cleantech Innovation Programme (GCIP) pilot countries. It shows a recognition of the power that this overlooked group in Pakistani society can play in the cleantech innovation field and beyond.

Lesson #2: The importance and function of a mid-term review seems to be insufficiently understood. While not obliged for medium-size projects, a mid-term review provides a timely opportunity to reflect in a structured manner, gain insights on interim progress, and recalibrate direction, where needed.

GEF and UNIDO evaluation procedures encourage medium-sized projects to undertake a mid-term review; it was included in this project's design, budgeted, and considered an important M&E device. The Project Management Unit (PMU) could not provide an explanation for why such a review was not undertaken. A misstep in identifying a civil society organization as the co-leading executing partner (the Center on Climate Change and Development, CCCD) which was also expected to host the National Clean Tech Platform (NCTP), perhaps could have been avoided had this mid-term review been carried out.

9.2 Briefly describe the recommendations given in the terminal evaluation.

The following three recommendations are offered by the evaluation team to UNIDO, the Government of Pakistan, and the GEF:

Recommendation #1: Given the growth and evolution of the innovation landscape in Pakistan and the entry of multiple players during the project's implementation, it is important to develop an up-to-date mapping of the innovation ecosystem for cleantech and beyond to other key sectors to identify synergistic options that would enable the Global Cleantech Innovation Programme (GCIP), in its next phase, to play an even more central role coordinating and guiding start-ups nationally on their journey to maturity and commercialization.

Recommendation #2: Operationalize the National Clean Tech Platform (NCTP) set-up and launch phase II of the project, under national ownership, while maintaining service quality and supervision to sustain momentum and effectively leverage the Global Cleantech Innovation Programme's (GCIP) reputation and achievements thus far.

Recommendation #3: Budget and allocate full-time resources for communication, advocacy and training of partner organizations on these aspects to expand outreach, replication, scaling-up and ultimately magnify impact.

10. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

Criteria	GEF IEO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	The report contains a section dedicated to project impacts, but also analyses impacts and achievements in other sections in a satisfactory way.	S

To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The report is consistent in documenting the project's achievements and substantiating ratings.	S
To what extent does the report properly assess project sustainability and/or project exit strategy?	The project properly analyses four categories of sustainability, in addition to the information it provides about exit strategies, country ownership and Phase II.	HS
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	The lessons learned are valuable and clear, although not entirely comprehensive (2 short paragraphs).	MS
Does the report include the actual project costs (total and per activity) and actual co-financing used?	Financial data is provided by source, activity and component.	S
Assess the quality of the report's evaluation of project M&E systems:	Design, implementation and budgeting of M&E is provided, although the budget table is impossible to read.	MS
Overall TE Rating		S