NAMA Support for the Tunisian Solar Plan

UNDP/GEF Project

GEF ID No: 5340

UNDP PIMS No: 5182

TERMINAL EVALUATION REPORT

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October 2021

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Acronyms and Abbreviations

AfD	Agence Française de Développement
AFRENER	African Association of Institutions in Charge of Energy Management
ANME	Agence Nationale pour la Maitrise de l´Énergie/ National Energy Management Agency
ANPE	National Agency for the Protection of the Environment
APR	Annual Progress Report
ATME	Association Tunisienne pour la Maîtrise de l'Energie/ Tunisian Association for Energy Management
AWP	Annual Work Plan
BAU	Business As Usual
BTOR	Back-to-Office-Reports
CDR	Combined Delivery Report
CEO	Chief Executive Officer
CO	Country Office
CO_2	Carbon Dioxide
CPD	Country Programme Document
CSP	Concentrated Solar Power
CTA	Chief Technical Advisor
DGE	Directorate General for Energy
DIM	Direct Implementation Modality
DNA	Designated National Authority
DREI	De-risking Renewable Energy Investment
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
ESS	Environmental and Social Safeguard
ESSP	Environmental and Social Screening Procedure
ETF	Energy Transition Fund
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit/ German International Co-operation Agency
HQ	Headquarters
ID	Identification
IPP	Independent Power Producers
IW	Inception Workshop

kW	Kilowatt
LECBP	Low Emission Capacity Building Programme
LEDS	Low Emissions Development Strategy
LFA	Logical Framework Approach
M&E	Monitoring and Evaluation
MEF	Ministry of Economics and Finance
MEMER	Ministry of Energy, Mines and Renewable Energies
MELPSD	Ministry of Equipment, Land Planning and Sustainable Development
MoU	Memorandum of Understanding
MRV	Monitoring, Reporting, and Verification
MTR	Mid-Term Review
MW	Megawatt
NAMA	Nationally Appropriate Mitigation Action
NDC	Nationally Determined Contribution
NGOs	Non-Governmental Organisations
OFP	Operational Focal Point
PIF	Project Identification Form
PIMS	Project Information Management System
PIR	Project Implementation Report
PM	Project Manager
PMR	Partnership for Market Readiness
PMU	Project Management Unit
PPA	Power Purchase Agreement
PPP	Public Private Partnership
PRF	Project Results Framework
PSC	Project Steering Committee
PV	Photovoltaic
RBM	Results-Based Management
RTA	Regional Technical Advisor
SDM	System Dynamics Model
SDP	Strategic Development Plan
SMART	Specific, Measurable, Achievable, Realistic, Time-bound
SME	Small and Medium Enterprise
STEG	Société Tunisienne de l'Électricité et du Gaz/ Tunisian Company for Electricity and Gas
TE	Terminal Evaluation
ToR	Terms of Reference

TSP	Tunisian Solar Plan
UN	United Nations
UNAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNEG	United Nations Evaluation Group
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UTICA	Union Tunisienne de l'Industrie du Commerce et de l'Artisanat/ Tunisian Union of Industry, Trade and Handicrafts

Glossary of Evaluation-related Terms

Term	Definition
Baseline data	Data that describes the situation to be addressed by an intervention and serve as the starting point for measuring the performance of the intervention
Beneficiaries	The specific individuals or organizations for whose benefit an intervention is undertaken
Capacity development	The process by which individuals, organizations, institutions, and societies develop their abilities individually and collectively to perform functions, solve problems and set and achieve objectives
Conclusion	A reasoned judgement based on a synthesis of empirical findings or factual statements corresponding to a specific circumstance
Effect	Intended or unintended change due directly or indirectly to an intervention
Effectiveness	The extent to which the development intervention's objectives were achieved, or are expected to be achieved
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results
Finding	A factual statement about the programme or project based on empirical evidence gathered through monitoring and evaluation activities
Impact	Positive and negative, intended and non-intended, directly and indirectly, long term effects produced by a development intervention
Indicator	Quantitative or qualitative factor that provides a means to measure the changes caused by an intervention
Lessons learned	Generalizations based on evaluation experiences that abstract from the specific circumstances to broader situations
Logframe (logical framework approach)	Management tool used to facilitate the planning, implementation, and evaluation of an intervention. It involves identifying strategic elements (activities, outputs, outcome, impact) and their causal relationships, indicators, and assumptions that may affect success or failure. Based on RBM (results-based management) principles
Outcome	The likely or achieved (short-term and/or medium-term) effects of an intervention's outputs
Output	The product, capital goods and/or service which results from an intervention; may also include a change resulting from the intervention which is relevant to the achievement of an outcome
Rating	An instrument for forming and validating a judgement on the relevance, performance, and success of a programme or project through the use of a scale with numeric, alphabetic and/or descriptive codes
Recommendation	A proposal for action to be taken in a specific circumstance, including the parties responsible for that action
Relevance	The extent to which the objectives of an intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donor's policies
Risk	Factor, normally outside the scope of an intervention, which may affect the achievement of an intervention's objectives
Sustainability	The continuation of benefits from an intervention, after the development assistance has been completed
Stakeholders	The specific individuals or organizations that have a role and interest in the objectives and implementation of a programme or project
Theory of Change	A set of assumptions, risks, and external factors that describes how and why an intervention is intended to work.

Acknowledgement

The author of this report would like to express his appreciation to all project stakeholders who participated in the interviews and the data collection phase for their open views on implementation of the project and candid opinions on achievement of the planned targets.

Special thanks are extended to the members of the Project Management Unit as well as to the staff of the UNDP Country Office in Tunisia. Their effective assistance with organisation of the stakeholder interviews and timely provision of all project- related documentation contributed to the smooth conduct and successful completion of the Terminal Evaluation.

EXECUTIVE SUMMARY

Project Information Table

Project Title	NAMA Support for the Tunisian Solar Plan		
UNDP Project ID (PIMS #):	5182	**PIF Approval Date**	20 June 2013
GEF Project ID (PMIS #):	5340	**CEO Endorsement Date:**	19 November 2014
ATLAS Business Unit, Award # Proj. ID:	TUN10 00081769 00090941	**Project Document (ProDoc) Signature Date (date project began):**	6 January 2015
Country(ies):	Tunisia	**Date project manager hired:**	1 September 2015
Region:	Arab States	**Inception Workshop date:**	8 September 2015
Focal Area:	Climate Change	**Midterm Review completion date:**	30 May 2018
GEF Focal Area Strategic Objective:	Objective 3: Promote investment in renewable energy technologies	**Planned closing date:**	6 January 2020
Trust Fund [indicate GEF TF, LDCF, SCCF, NPIF]:	GEF TF	**If revised, proposed op. closing date:**	6 January 2021
Executing Agency/Implementing Partner:	National Agency for Energy Conservation of Tunisia (Agence Nationale pour la Maîtrise de l'Energie, ANME)		
Other execution partners:	N.A.		
Project Financing	***at CEO endorsement (US$)***	***At Terminal Evaluation (US$)***	
GEF financing:	3,552,968	3,552,968	
UNDP contribution	600,000	*0,00*	
Government	14,806,640	14,806,640	
Other partners	49,976,000	*56,500,000*	
Total co-financing	65,382,640	*71,306,640*	
PROJECT TOTAL COSTS	**68,935,608**	***74,859,608***	

Project Description

The UNDP-implemented and GEF-financed project named "NAMA Support for the Tunisian Solar Plan" was developed with the objective of supporting the Government of Tunisia in the development and implementation of a Nationally Appropriate Mitigation Action (NAMA) in the energy sector, in order to contribute to the achievement of the energy mitigation targets established voluntarily by the Government of Tunisia that aim to achieve a contribution of 30% renewable electricity produced from wind, photovoltaic (PV), and concentrated solar power (CSP) energy by 2030.

The project was designed to support both the design and implementation of the NAMA in the energy sector, applying relevant NAMA methodologies and guidance for identifying and designing technology-specific NAMA action plans, and piloting the implementation of NAMA activities around two baseline projects - a 10 MW public sector solar photovoltaic plant and a 24 MW private sector wind park.

The project was structured into the following three components:

1. Establishment of the enabling framework and methodologies to support the design and implementation of the Tunisian Solar Plan (TSP) NAMA;
2. Establishment of the architecture for NAMA development; and
3. Design and implementation of an energy sector NAMA to demonstrate the transformational role of the Tunisian Solar Plan in reducing greenhouse gas (GHG) emissions.

Summary of project results

Component 1:

The project contributed to capacity building of the ministries and agencies involved in the design and implementation of the TSP NAMA. It also enabled improved response to Paris Agreement requirements in relation to actions for mitigating GHG emissions and improved monitoring of NAMAs in the energy sector. The capacity building component also targeted the Ministry in Charge of Environment as the responsible body for the implementation of Tunisia´s Nationally Determined Contribution (NDC), as well as the monitoring, reporting and verification (MRV) of GHG emissions.

The project also supported the elaboration of a comprehensive report entitled "Tunisia: De-risking Renewable Energy Investment 2018"[1] containing an analysis of the evolving national institutional context that confirmed the necessity to continue the strengthening of the institutional and regulatory framework for renewable energy in Tunisia. Support for the implementation of the system dynamics modelling (SDM) enabled comprehensive

[1] Tunisia: Derisking Renewable Energy Investment 2018. Selecting Public Instruments to promote Renewable Energy Investment for the Tunisia Solar Plan. UNDP. June, 2018. Available at: https://newclimate.org/2018/06/26/tunisia-derisking-renewable-energy-investment-2018/

understanding of the constituent components of the energy sector and their interactions, thus contributing to effective mitigation of undesirable outcomes.

In collaboration with parallel initiatives, the project contributed to the evolution of ANME's information system (Ener-info) into a techno-economic simulation model, capable of simulating GHG emissions in the energy sector based on various scenarios, which helped Tunisia in developing a long-term vision for energy policy and assessing the macro-economic impact of the penetration of renewable electricity into the national energy mix. This foresight work allowed setting ambitious mitigation objectives for 2030 and 2050 horizons, that were used to update the Nationally Determined Contribution according to Tunisia's climate change commitments under the Paris Agreement.

Component 2:

The project provided essential assistance for the development of indicators to measure the contribution of the energy sector to the attainment of Tunisia´s sustainable development goals and objectives, enabling the assessment of public policies related to electricity production and consumption modes.

In Tunisia, the energy sector is the biggest contributor to direct gross GHG emissions, with 27 million tCO_{2e} represented 58% of national gross emissions in 2012[2]. Therefore, effective progress towards the achievement of a renewable energy transition and the attainment of GHG mitigation targets depends heavily on the electricity sector. To this end, the project supported initial work towards the establishment of an independent regulatory authority for the electricity sector. Relevance of this move had been identified as the most important action in the accelerated action plan for renewable energies. The importance of such independent regulatory authority for the implementation of the TSP was confirmed by public and private sector stakeholders whom expect an independent regulator to reduce the limits and uncertainties of the electricity market to facilitate the energy transition, but to also promote renewable energy technologies in the fortified market.

The project sponsored a study for restructuring ANME and assisted in launching the initial restructuring phase. Once fully restructured, ANME will be able to fully assume its leading role in the development and implementation of national policies towards a low-carbon economy. The reform is essential not only for accelerating Tunisia's energy transition, but also for accrediting ANME under the Green Climate Fund (GCF).

Although the project did not directly contribute to developing new regulations on renewable energy (RE), it provided the opportunity for convening public and private stakeholders for discussion on new legislative measures aiming at closing the gaps in the regulatory framework specifically related to renewable energies. In particular, the project engaged in background discussions with ANME and the Tunisian Company for Electricity and Gas (STEG), which

[2] Tunisia's 3rd National Communication to UNFCC, p. 11

were essential for identifying the priority needs for strengthening the public grid capacity for absorbing electricity generated from renewable sources. Consequently, the identified needs were integrated in the technical and financial components of the TSP NAMA.

The project also contributed to the development of new financial instruments that paved the way for developing new public private partnership (PPP) modalities for implementing the TSP. Importance of this support is critical considering that access to finance for RE projects is still difficult in Tunisia due to several risks and barriers for such investments among financial institutions that cause increased funding costs for offsetting the elevated investment risks. As such, the project also made some contribution for mitigating the investment risks linked to the RE market among private investors. However, limited focus was given to de-risking national financial institutions, which are expected to either provide the necessary investment capital or to serve as financial intermediaries for channelling credit lines provided by international development banks.

Component 3:

The planned GHG emission reduction targets from the two baseline projects (a 10 MW public sector solar photovoltaic plant and a 24 MW private sector wind park) could not be achieved. The project engaged in discussions with STEG and the German International Co-operation Agency (GIZ) that resulted in the preparation of tender documentation for the baseline Tozeur I solar PV plant that was provisionally commissioned in late 2019 but has not been operating at its full nominal power output capacity due to slow progress with commissioning. As a result of the cancellation of the original baseline wind park, the project sponsored wind measurement campaigns at two specific sites with the aim to accelerate the development of wind power capacity in Tunisia.

Sustainability and progress to impact

There are no major risks on the sustainability of the project results due to systematic and long-term support provided by other donors, in particular the German International Co-operation Agency (GIZ).

The immediate impact of the project lies in the broader adoption of climate change mitigation in the energy sector and transformational change, under which Tunisia has successfully upgraded the positioning of NAMAs within the architecture of climate change mitigation for the NDC revision and its future implementation. Limited impact has been attained related to the Tozeur I solar PV park that is still under provisional commissioning. Apart from global environmental benefits, the operation of the solar park has also had a positive financial impact for STEG in terms of payments for the fossil sources of energy replaced by RE.

Collectively with the array of interventions funded by GIZ, the GEF project contributed to sizeable development of RE projects for electricity production in the last 4 years. Under the concession scheme, 500 MW capacity in solar PV and another 500 MW in wind energy were the subject of calls for tenders in 2018 and 2019. This was complemented by 203 MW of solar

PV capacity and 120 MW of wind power capacity licensed after three calls for projects in May 2017, May 2018, and July 2019.

Summary of evaluation ratings

The summary of evaluation ratings according to the required evaluation criteria is displayed in Table 1 below.

Table 1: Summary of terminal evaluation (TE) ratings[3]

Evaluation Criteria	Evaluation Rating
Monitoring and evaluation: design at entry	Satisfactory (S)
Monitoring and evaluation: implementation	Satisfactory (S)
Overall quality of monitoring and evaluation	**Satisfactory (S)**
Quality of UNDP Implementation	Satisfactory (S)
Quality of Execution - Executing Agency	Satisfactory (S)
Overall quality implementation / execution	**Satisfactory (S)**
Relevance	**Relevant (R)**
Effectiveness	
Outcome 1	Satisfactory (S)
Outcome 2	Satisfactory (S)
Outcome 3	Moderately Satisfactory (MS)
Efficiency	**Moderately Satisfactory (MS)**
Overall Project Objective rating	**Moderately Satisfactory (MS)**
Overall likelihood of sustainability	**Likely (L)**
Institutional framework and governance	Likely (L)
Financial	Likely (L)
Socio-economic	Likely (L)
Environmental	Likely (L)

[3] Performance rating of GEF projects is explained in Annex 6.

Summary of recommendations

Table 2: Recommendations to follow-up and/or reinforce initial benefits from the project

No.	Recommendation
1.	The UNDP Country Office (CO) should continue discussions with the National Energy Management Agency (ANME) about further assistance on ANME restructuring
2.	UNDP CO and ANME should pursue elaboration of guidance for environmental and social screening of RE projects under 300 MW
3.	ANME should pursue further improvement of the existing national expertise for undertaking MRV actions for projects implemented under the TSP that are important for setting national climate actions, climate-related targets, and policies in the area of renewable energies as a contribution to implementing the revised Nationally Determined Contributions
4.	The Government of Tunisia should consider the establishment of a permanent institutional framework for coordinating donor-funded climate change mitigation projects and initiatives
5.	Under future projects of international assistance, the Government of Tunisia should pursue acquisition of windPRO (or similar) software and related training for STEG

Table 3: Recommendations to improve programming and preparation of energy projects

No.	Recommendation
6.	For future projects on RE, UNDP CO should ensure that a rigorous Theory of Change is part of the project design and used as a basis for preparation of the project results framework
7.	UNDP CO should ensure that sets of project activities are developed for each project output at the the project formulation stage and explicitly listed in the Project Document submitted for GEF CEO for approval
8.	UNDP CO should ensure that management arrangements for future RE projects include support from initial short-term international expertise for the preparation and planning of activities in specific technical areas required by the projects
9.	UNDP CO should ensure that project designers undertake a careful assessment of the potential provision of global environmental benefits from RE projects already during the projects' implementation phase, and, wherever possible, focus the project objective indicators and targets on immediate post-project time periods
10.	UNDP CO should ensure that the Mid-Term Review of GEF projects includes a careful assessment of the indicators, and, wherever necessary, proposes the adjustment of the targets to realistic and achievable values
11.	For future RE projects, UNDP CO should ensure rigorous review of national legislative and regulatory frameworks that have direct impact on the implementation of demonstration and investment baseline projects as components of the GEF projects
12.	UNDP CO should ensure that the design of future energy projects include activities targeting the engagement of the local financial sector in order to mitigate perception of risks related to investments into renewable energy and energy efficiency technologies and projects
13.	UNDP CO should ensure that the design of future energy projects include gender mainstreaming based on analysis of the potential impacts of the planned interventions on men and women, and that the projects´ monitoring systematically capture and report information on the gender balance of results
14.	UNDP CO should ensure that information on actual project co-financing is systematically tracked during project implementation and is included in the last Project Implementation Report

INTRODUCTION

In line with the GEF Evaluation Policy, a Terminal Evaluation (TE) is undertaken at completion of the GEF-funded projects to assess their performance (in terms of relevance, effectiveness, and efficiency), and to determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. It is conducted to provide a comprehensive and systematic account of the performance of a completed project by assessing its design, implementation, and achievement of objectives. The TE is also expected to promote accountability and transparency, facilitate synthesis of lessons learned, and provide feedback to allow the GEF to identify recurring issues across the GEF portfolio.

This document presents results of the Terminal Evaluation of the UNDP/GEF project "NAMA Support for the Tunisian Solar Plan" (further referred to as the Project). As a standard requirement for all projects financed by GEF, this terminal evaluation has been initiated by the Lead Implementing Agency, in this case UNDP Country Office (CO) in Tunisia. The evaluation was conducted in accordance with the GEF Monitoring and Evaluation Policy[4], the Guidelines for GEF Agencies in Conducting Terminal Evaluations[5], and the UNDP Evaluation Guidance for GEF Financed Projects[6].

Evaluation purpose

The purpose of the TE is to provide the project partners (i.e. GEF, UNDP and the Government of Tunisia) with an independent assessment of the key project achievements as compared to the original Project Document over the complete implementation period of the project. The TE will assess the expected outcomes and their sustainability through measurements of the changes in the set indicators, summarize the experiences gained, identify and highlight lessons learned, and make recommendations for the future.

The Terms of Reference for the Terminal Evaluation is provided as Annex 1 to this report.

Scope and methodology

The evaluation covers all components of the project and activities undertaken under the project´s framework. The time focus of the evaluation is the project implementation period spanning from January 2015 through September 2021. The geographic focus of the evaluation is Tunisia.

[4] The GEF Monitoring and Evaluation Policy, Global Environmental Facility, November 2010.

[5] Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects, GEF, 2017. Available at: http://web.undp.org/evaluation/guideline/documents/GEF/TE_GuidanceforUNDP-supportedGEF-financedProjects.pdf.

[6] Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects, UNDP, 2020. Available at: http://web.undp.org/evaluation/guideline/documents/GEF/TE_GuidanceforUNDP-supportedGEF-financedProjects.pdf.

The evaluation was conducted in the period August – October 2021. The TE Inception Report was prepared during the first half of August 2021 and the data collection phase followed from mid-August until end of September 2021. The final TE report was drafted and submitted by the end of October 2021.

The evaluation used a participatory and consultative approach to inform and consult with all key stakeholders associated with the project, in particular the Government counterparts, the GEF operational focal point, the UNDP Country Office, the National Project Team, the UNDP/GEF Technical Adviser, and representatives of the project ultimate beneficiaries, among others. Information was sourced from the various project implementation reports triangulated and verified with information collected through interviews with key stakeholders. Annex 3 and 4 of this document, respectively, present the list of people interviewed and documents consulted for the preparation of this terminal evaluation.

The evaluation was conducted in three phases as follows:

An initial screening and limited desk review of a variety of documents was conducted as the first step. The approved Project Document (ProDoc) was the starting point for the review in terms of understanding the basics on which the project was designed. Study of the ProDoc was complemented by the review of other essential information resources such as the Minutes of the Inception Workshop and the annual GEF Project Implementation Reports (PIRs).

Results of the initial review provided grounds for formulation of evaluation questions as discussion points that aimed at gathering information from the project stakeholders and beneficiaries about their attitudes and preferences as well as collecting factual information from relevant sources linked to the performance indicators. The evaluation questions were incorporated into the Evaluation Matrix that was used during the data collection stage.

Collection of first-hand information was conducted through semi-structured interviews with selected project stakeholders. Since travel of the international consultant to Tunisia was not possible due to the COVID-19 pandemic travel restrictions, the interviews were performed remotely using the telecommuting modalities, such as internet meeting platforms.

The interviews were designed to solicit responses to a set of predetermined open-ended questions aiming to obtain in-depth information about the key informants' experiences from the project implementation and their opinions on the achievement of the planned results. They were based on a semi-structured format, in order to allow the respondents to express their perception of the main issues related to the project implementation.

The evaluation criteria and the questions were used as a check list to raise eventual additional and/or more specific questions on the issues mentioned. Triangulation of results, i.e. comparing information from different sources, such as documentation and interviews, or interviews on the same subject with different stakeholders, were used to corroborate and/or check the reliability of the provided evidence. This approach verified the information obtained in the document review phase, allowed to get some missing data and to learn about the opinions of project

stakeholders and participants that helped in interpretation of the information. The interviews also served the purpose of collecting some additional documents to support the evidence base of the evaluation. Time schedule for the interviews was discussed and determined with the project stakeholders.

After the data collection phase with conducting interviews and reviewing data from the available data sources, data analysis followed as the final stage of the evaluation, including documents prepared during the preparation phase, project reports including annual PIRs, project budget revisions, lesson learned reports, national strategic and legal documents, and any other materials considered useful and relevant for this evidence-based evaluation. The evaluation consultant took perspectives of all relevant stakeholders into account and gathered information on project performance and results from multiple sources. Contextual information was gathered to assess the significance and relevance of the observed performance and results. The collected information was organized, classified, tabulated, and summarized in a way that allowed translating the data into usable formats or units of analysis related to each evaluation question.

The evaluation applied the primary evaluation OECD-DAC criteria listed in the Terms of Reference for the evaluation, namely: relevance, effectiveness, efficiency, sustainability, and impact of interventions. Since it may take some time for the project impacts to materialize, the evaluation aimed at determining the level of progress towards the realization of planned impacts. Annex 2 of this document presents the evaluation matrix used in the TE.

Performance ratings were given to the evaluation criteria The Evaluation Ratings Table consolidates individual ratings undertaken in a number of areas within the main TE report, as detailed in the TE report's section 'Findings'. The rating scales used for the performance rating are provided in Annex 7.

Data collection and analysis

The following text provides a conceptual framework of methodology for data collection and analysis under the evaluation criteria. Due to the international travel restrictions imposed by the COVID-19 pandemic, all interviews of the project stakeholders by the international expert were conducted remotely in a virtual modality. No surveys were conducted under this TE.

Relevance

Conceptualization/design

The evaluation assessed whether the approach used in design and selection of project interventions addressed the root causes and principal risks in the project area. This also included an assessment of the project logical framework and whether the different project components and activities proposed to achieve the objective were appropriate, viable and responded to contextual institutional, legal and regulatory settings of the project. Furthermore, it assessed the effectiveness of the indicators defined in guiding implementation and measurement of achievement. The TE also assessed whether lessons learned from other relevant projects (e.g. projects with the same focal area) had been incorporated into project design.

Country ownership and stakeholder participation

The evaluation assessed the extent to which the project idea/conceptualization had its origin within national and sectoral development plans and to what extent it focused on national environment and development interests, including changes over time. It also conducted an assessment of information dissemination, consultation, and stakeholder participation in design stages of the project.

Replication and linkages

The evaluation determined the ways in which lessons and experiences coming out of the project were/are to be replicated or scaled up in the design and implementation of other projects (this is also related to actual practices undertaken during implementation). It examined the linkages between the project and other interventions within the energy sector and the definition of clear and appropriate management arrangements at the design stage. This element also addressed the question of to what extent the project addressed UNDP priorities and cross-cutting issues such as gender, south-south cooperation, and poverty-environment linkages (sustainable livelihoods). It also examined linkages between the project and the UNDP normative programming instruments and response of the UN system to national development priorities in the form of the United Nations Development Assistance Framework (UNDAF) and Country Programme Document (CPD) for the recipient country.

Effectiveness and efficiency

Implementation approach

This part of the evaluation included assessments of the following aspects:

- The use of the logical framework as a management tool during implementation and any changes made to the framework as a response to changing conditions and/or feedback from monitoring and evaluation (M&E) activities if required;
- Other elements that indicate adaptive management such as comprehensive and realistic work plans routinely developed that reflect adaptive management and/or changes in management arrangements to enhance implementation;
- The project's use/establishment of electronic information technologies to support the implementation, participation, monitoring, and other project activities;
- The general operational relationships between the involved institutions and stakeholders, and how these relationships have contributed to the effective implementation and achievement of project objectives; and
- Technical capacities associated with the project and their role in project development, management, and achievements.

Monitoring and evaluation

Under the M&E framework, the evaluation includes an assessment as to whether there has been adequate periodic oversight of activities during implementation to establish:

- The extent to which inputs, work schedules, other required actions and outputs are proceeding according to plan;

- Whether formal evaluations have been held; and
- Whether action has been taken on the results of this monitoring oversight and evaluation reports.

Stakeholder participation

This included assessments of the information dissemination mechanisms in project implementation and the extent of stakeholder participation in management, emphasizing the following:

- The production and dissemination of information and lessons generated by the project;
- Local resource users and NGOs participation in project implementation and decision making and an analysis of the strengths and weaknesses of the approach adopted by the project in this field;
- The establishment of partnerships and collaborative relationships developed by the project with local, national and international entities and the effects they have had on project implementation; and
- Involvement of governmental institutions in project implementation and the extent of governmental support to the project.

Financial planning and procurement management

The assessment in the field of financial planning looked into the actual project cost by objectives/outputs/activities and the cost-effectiveness of achievements, financial management (including disbursement issues) as well as co-financing of the project. It assessed technical and human resource capacity for procurement, linkage between work programming and procurement planning and budgeting as well as effectiveness of procurement management.

Assessment of project results

The GEF Monitoring and Evaluation Policy (2010) specifies that terminal evaluations will, at the minimum, assess achievement of outputs and outcomes, and report on these. While assessing a project's results, the evaluation determined the extent to which the project objectives – as stated in the documents submitted at the GEF CEO Endorsement stage – have been achieved. The evaluation also identified any changes in project design and/or expected results after start of implementation.

Attainment of outcomes/ Achievement of objectives

Through review of the project results framework, the evaluation revisited the original outcome model (also known as the results map) in the Project Document and examined the causal logic of the initiative under evaluation and whether and eventually how it developed during the life of the project. The revisited outcome model served as a map that captures knowledge of project stakeholders and boundary partners about how an outcome is intended to be achieved. The model also identified the intended target group of the initiative at the outcome level and the expected changes that the initiatives will contribute to.

Sustainability

The assessment of sustainability includes an assessment of the extent to which benefits continue, within or outside the project domain after GEF assistance/external assistance has come to end as well as eventual development of a sustainability strategy.

Progress to impact

It is often too early to assess long-term impacts of GEF projects at the point of project completion hence the evaluation assesses whether there is any evidence on progress towards long-term impacts as well as the extent to which the key assumptions of the project's theory of change hold and the extent to which the eventual progress towards long-term impact may be attributed to the project.

In addition to the analysis of progress to impacts in terms of available qualitative and quantitative evidence on environmental stress reduction, the evaluation also examined the project's contributions to changes in policy/ legal/regulatory framework, including reported and/or observed changes in capacities (awareness, knowledge, skills, infrastructure, monitoring systems, etc.) and in access to and use of information (laws, administrative bodies).

Other assessments

The evaluations assessed the following additional topics for which ratings are not required:

- Materialization of co-financing: the evaluation provides information on the extent to which expected co-financing materialized, whether co-financing was cash or in-kind, whether it is in form of grant or loan or equity, whether co- financing was administered by the project management or by some other organization, how short fall in co-financing or materialization of greater than expected co-financing affected project results, etc.

- Gender Concerns: The evaluation makes assessment of the extent to which the gender considerations were taken into account in designing and implementing the project, the extent to which the project was implemented in a manner that ensures gender equitable participation and benefits, and whether gender disaggregated data was eventually gathered and reported on beneficiaries. This assessment was based on the data in available progress and monitoring reports compiled by the project team.

Structure of the evaluation report

The structure of the TE report follows the "Evaluation Report Outline" presented in Annex F of the Terms of Reference ToR of the assignment, provided in Annex 7 of this document.

The 'Executive Summary' of the report is provided in the beginning of the report. The body of the report starts with introduction and development context of the project and continues with a short project description. This is followed by the chapter that sets out the evaluation findings presented as factual statements based on analysis of the collected data. The findings are structured around the five essential evaluation criteria and include the assessment of the project performance against the performance indicators and their target values set out in the project results framework (as provided in the Project Document). This part further includes the

assessment of the project management arrangements, financing and co-financing inputs, partnership strategies and the project monitoring and evaluation systems.

The final part of the report contains conclusions and recommendations substantiated by the collected evidence linked to the evaluation findings. While the conclusions provide insights into identification of solutions to important issues pertinent to the project beneficiaries, UNDP and GEF, the recommendations are directed to the intended users in terms of actions to be taken and/or decisions to be made. This part of the report concludes with lessons that can be taken from the evaluation, including good practices that can provide knowledge gained from the particular project circumstances that are applicable to similar UNDP interventions.

Evaluation ethics

The evaluation was conducted in accordance with the ethical principles outlined in the UNEG Ethical Guidelines for Evaluations, namely the four guiding ethical principles for evaluation: Integrity, Accountability, Respect, and Beneficence[7]. The evaluation consultant agreement form is provided in Annex 8 of this document.

Limitations of the evaluation

Since visit of the international consultant was not possible due to the COVID-19 travel restrictions, interviews with selected project stakeholders were conducted virtually and remotely through on-line meeting platforms. All stakeholder interviews planned in the ToR and the TE Inception Report were duly completed. However, the inability to physically visit the project stakeholder organisations limited the ability of the Evaluator to use direct observation at the stakeholder and beneficiary institutions for gathering additional information and getting a broader picture about the working conditions of the project stakeholders. Nevertheless, this did not have any effect on the quality and completeness of the findings and thus did not influence formulation of conclusions and recommendations.

[7] UNEG Ethical Guidelines for Evaluation, 2020. Available at: https://www.unodc.org/documents/evaluation/Guidelines/UNEG_Ethical_Guidelines_for_Evaluation

PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT

Project start and duration

The project was approved as a five-year full-size GEF project. The signature of the Project Document by the Government of Tunisia was given on 6 January 2015, which officially marked the start of the project implementation. The original completion date was 6 January 2020. The project received a 1-year no-cost extension plus another 6-month no-cost extension as a result of COVID-19 impact. The project actual completion date was 30 September 2021. Detailed explanations are provided in the section 'Efficiency'.

Development Context

Mitigation, together with adaptation to climate change, contributes to the objective expressed in Article 2 of the United Nations Framework Convention on Climate Change (UNFCCC) to stabilise "greenhouse gas concentrations in the atmosphere at a level to prevent dangerous anthropogenic interference with the climate system".

The concept of Nationally Appropriate Mitigation Actions (NAMAs) was introduced in the Bali Action Plan in 2007 (Decision 1/CP.13). The parties to the UNFCCC called for "Enhanced national/international action on mitigation of climate change" including "Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner" (paragraph 1(b) (ii)). This concept was further developed in subsequent meetings, namely Decision 2 CP/15 on the Copenhagen Accord, the Cancun Agreements (CoP 16) and Decision 2/CP.17.

Further to the above decisions, a NAMA can be considered to be a mitigation action tailored to the national context and capabilities (according to the 'common but differentiated' approach), which is in accordance with national sustainable development priorities. NAMAs are typically implemented to incentivise mitigation on a long-term basis at a sector-policy level to reduce GHG emissions permanently.

The Government of Tunisia communicated its list of NAMAs to the UNFCCC Secretariat on 17 May 2010 while qualifying that their implementation would require international support (i.e. supported NAMAs) for technology transfer and capacity building. The NAMAs submitted by Tunisia to the UNFCCC Secretariat include the technologies contained in the Tunisian Solar Plan[8].

The Tunisian Solar Plan (TSP), originally formulated in 2009, was revised in 2012 with the financial support of the Agence Française de Développement (AfD) to achieve a total renewable

[8] http://unfccc.int/files/meetings/cop_15/copenhagen_accord/application/pdf/tunisiacphaccord_app2.pdf

energy penetration target of 30% of the electricity generation mix by 2030. The technologies considered are wind, solar photovoltaic (PV) and concentrated solar power (CSP), with electricity generation contributions from each of 15%, 10% and 5% respectively[9]. The TSP targets are based on an electricity demand baseline that includes the voluntary adoption of energy efficiency measures over the period 2013-2020 that result in an average reduction in the demand for electricity of 1.4% per year compared to a business-as-usual (BAU) scenario of no energy efficiency measures.

Problems that the project sought to address

The Project Document outlines several barriers to the implementation of the Tunisian Solar Plan, as well as their root causes, and shows how these are addressed by the project by linking the barriers with the outputs described in the project Results Framework.

- Legal and regulatory barriers: The baseline conditions do not provide sufficient visibility for investors to invest in renewable energy technologies on the scale required for achievement of the ambitious goals of the TSP.

- Institutional and policy barriers: In the absence of a coherent and integrated RE policy and related supporting policy instruments, there is no transparent and uniformly applicable system in place to allow Tunisia to embark on a low emissions development pathway.

- Information and awareness barriers: Lack of knowledge and negative perception of RE technologies supported in the TSP exist among decision-makers, the banking sector, the energy sector community, and the general public.

- Technical barriers: There is lack of technical capacity related to each type of the technology proposed under the TSP.

- Financial and project implementation barriers: The RE technologies proposed by the TSP have high investment costs. There is lack of credible data concerning the best sites for installing solar technologies and insufficient understanding of potential assistance of emerging climate finance schemes for implementation of the TSP, such as sectoral crediting and NAMAs.

Immediate and development objectives of the project

The immediate objective of the Project is to support the Government of Tunisia in the development and implementation of a Nationally Appropriate Mitigation Action in the energy sector, namely the NAMA for the Tunisia Solar Plan.

The development objective of the Project is to contribute to the achievement of the energy mitigation targets established voluntarily by the Government of Tunisia, which aim to achieve a contribution of 30% electricity produced from wind energy, PV and CSP by 2030.

[9] Revised Version of the Tunisian Solar Plan Vol. 2, ANME (2012).

Description of the project's Theory of Change

A project's theory of change provides a basis for evaluation of the project resources, activities, and results. The terminal evaluation will assess description of the project's theory of change, including a description of the project's outputs, outcomes, intended long-term environmental impacts, causal pathways for the long-term impacts, as well as implicit and explicit assumptions.

There is no explicit theory of change in the Project Document that would demonstrate the relation between individual project components. The project design is based on the De-risking Renewable Energy Investment (DREI) methodology, developed by UNDP[10]. The theory of change underlying the DREI methodology is that one of the principal challenges for scaling-up RE in developing countries is to lower the financing costs that affect renewables' competitiveness against baseline technologies – i.e., primarily fossil fuels. As these higher financing costs reflect barriers and associated risks in the investment environment, the key entry point for policymakers to promote RE is to address these risks and thereby lower the overall life-cycle costs of RE. Taking this approach, the DREI methodology allows policymakers to quantitatively compare different packages of measures to promote renewable energy and to compare their cost-effectiveness.

Expected results

The project contributes to GEF-5 Climate Change Focal Area Objective 3, "Promote Investment in Renewable Energy Technologies", by recognising that renewable energy plays a key role not only in reducing GHG emissions, but also in addressing national development priorities such as a broader energy access, energy security, environmental pollution, and job creation. The GEF support under this objective reaches beyond the creation of enabling policy and regulatory tools to promote the implementation of the TSP NAMA. Through a combination of policy and financial de-risking instruments and a performance-based mechanism (the 'proxy FiT' of the Territorial Performance-Based Mechanism) coupled with a national fund to catalyse innovative financing (the Energy Transition Fund), the Project was expected to enhance private-sector participation and reduce the delivery risk of GHG emission reductions in the electricity sector.

Identification of cost-effective mitigation measures in the energy sector, and their implementation as a TSP NAMA was expected to demonstrate effective mechanisms for integration of the greenhouse gas mitigation targets with national sustainable development goals. The integration is part of Tunisia's ongoing process for developing a low-carbon, climate-resilient development pathway for the country.

[10] De-Risking Renewable Energy Investment: A Framework to Support Policymakers in Selecting Public Instruments to Promote Renewable Energy Investment in Developing Countries, UNDP, (2013),

Table 4 below provides the expected results at the level of the Project Objective as per the approved Project Document.

Table 4: Expected results at the level of the Project Objective

Project Objective	Indicator	End-of-project Targets
Tunisia's energy sector for achieving emission reductions through the deployment of a TSP NAMA.	A NAMA developed for the TSP	A NAMA developed for the TSP and submitted for registration with the UNFCCC NAMA Registry
	Quantity of renewable Electricity generated by on-grid baseline projects (MWh/year)	16.9 GWh/yr generated by 10 MW PV plant at Tozeur; and 86.4 GWh/yr is generated by 24 MW wind farm at Gabes
	Quantity of direct GHG Emissions resulting from the baseline projects and TSP NAMA (tCO_2/year)	Total direct emission reductions of 218,900 tonnes CO_2e between 2016 and 2019

Main project stakeholders and key partners involved

Stakeholder engagement is an inclusive and continuous process between a project and those potentially impacted that encompasses a range of activities and approaches. It is arguably one of the most important ingredients for a successful project delivery and therefore an essential element of this project.

The design of the project was based on multi-stakeholder engagement as a key consideration in for two principal reasons: (1) the 'meta-technology' characteristics of the energy sector imply a diverse set of stakeholders from the public sector, the private sector, and civil societydirectly involved across the value chain spanning electricity generation to end-users; and (2) to ensure national institutional ownership that will aid the successful implementation of the project. The stakeholders listed below were actively engaged in preparation of the project:

- National Agency for Energy Conservation (ANME)
- Directorate General for Energy (DGE)
- Société Tunisienne de l'Électricité et du Gaz (STEG)
- Ministry of Economics and Finance (MEF)
- Ministry of Equipment, Land Planning and Sustainable Development (MELPSD)
- Private sector – Tunisian Union of Industry, Trade and Handicrafts (UTICA), and EnerCiel & Cimenterie de Gabes
- NGOs
- The Federal Ministry of the Environment, Nature Conservation and Nuclear Safety (BMU)/ Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

Table 5 below provides a list of stakeholders that were actively engaged in preparation of the Project as well as their expected roles in the project implementation.

Table 5: Key project stakeholders and their envisaged responsibilities in the project

Stakeholder	Roles and responsibilities (project preparation & implementation)
National Agency for Energy Conservation (ANME)	ANME has coordinated stakeholder consultations during preparation of the project. During the implementation phase, ANME was the Executing Agency, hosted the Project Management Unit (PMU) and acted as chair the Project Steering Committee (PSC). Building on previous work undertaken in conjunction with GIZ (NAMA Cement) and BMU (NAMA Buildings), ANME supported the TSP NAMA design and implementation. The UNDP-implemented, GEF-financed project will coordinate very closely with GIZ-funded projects, namely (1) capacity development for GHG inventory and MRV in Tunisia, and (2) the setting up of a project team for the Tunisian Solar Plan. Both projects are implemented by ANME. Another project implemented by ANME closely coordinated with the UNDP- implemented, GEF-financed project is the Partnership for Market Readiness (PMR). In particular, the development of an MRV mechanism for the energy sector.
Directorate General for Energy (DGE)	DGE is a department housed within the Ministry of Industry, tasked with developing the overall energy policy of the Government. Renewable energy policy, including the TSP, is an integral part of the overall energy policy. There is a long history of collaboration between ANME and DGE, especially regarding the technical aspects of energy policy and strategy development. The project team worked very closely with DGE for advocating policy and financial de-risking instruments developed by the UNDP-implemented, GEF-financed project. DGE was involved in the project design stage, particularly with regard to the forthcoming RE Law.
Société Tunisienne de l'Électricité et du Gaz (STEG)	STEG has a quasi-monopoly in Tunisia on the generation, transmission, and distribution of electricity. It is also owner of the 10 MW Tozeur PV project identified as the baseline demonstration project. The UNDP-implemented, GEF financed project has been developed in close consultation with STEG. During project implementation, STEG was responsible for implementing the 10 MW PV project at Tozeur, including participation in the design and implementation of the performance-based mechanism to promote RES and with the view to delivering multiple sustainable development dividends. STEG was also closely involved in baseline development for grid- connected RE projects forming part of the TSP NAMA, and in the design and implementation of the grid code. STEG was expected to play a key role in the design and operationalisation of an Independent Energy Regulator in Tunisia.
Non-governmental organizations (NGOs)	Few NGOs are active in the field of renewable energy in Tunisia. The principal NGO active in this field is the Association Tunisienne pour la Maîtrise de l'Energie (ATME), which was consulted during project development. During project implementation, and as an NGO representative, ATME had an active role in the Project Steering Committee. The Tunisian Wind Energy Association was also consulted during the project design phase. More specifically, the barriers and investment risks faced by proponents of wind energy were discussed with its members, as well as a discussion of the preliminary results of the Derisking Renewable Energy Investment (DREI) analysis.
Private sector – UTICA (Union Tunisienne de l'Industrie du Commerce et de l'Artisanat), and EnerCiel & Cimenterie de Gabes	Because of the prevailing barriers, there is currently limited private sector involvement in renewable energies in Tunisia. The most prominent private developer to date, UPC Wind/EnerCiel, was heavily involved in the preparation of the UNDP-implemented, GEF- financed project. Since UPC Wind/EnerCiel is also the owner of the Gabes wind farm baseline project, it continued to be a key stakeholder throughout project implementation. Furthermore, UPC Wind/EnerCiel was an initial member of the Project Steering Committee. Cimenterie de Gabes was beneficiary of the wind farm at Gabes. In order to develop better linkages with the private sector, the project will also involve UTICA very closely in project implementation and M&E. UTICA is an umbrella organisation that represents large-scale and SME enterprises. It has a working group devoted to energy in industry and commerce.
Ministry of Economics and Finance (MEF)	The Ministry of Economics and Finance was involved in the establishment of climate financing mechanisms during project implementation. The Ministry was expected to be a key member of the high-level Inter-Ministerial Committee planned to be established by the UNDP-implemented, GEF-financed project. It also played a critical role in the design and administration of financial instruments to support implementation of renewable energy technologies and the means of capitalising the restructured Energy Transition Fund that is proposed in Component 2 of this project. The Ministry was also involved in the design and implementation of the performance-based mechanism based on a territorial approach to promote RE.
Ministry of Equipment, Land Planning and Sustainable Development (MELPSD)	The GEF Operational Focal Point and the Designated National Authority (DNA) are hosted within the Ministry of Local Affairs and Environment .The former was involved during the PIF and project preparation phases and l continued his involvement during project implementation. In the PPG phase, the members of the DNA Committee were consulted, especially regarding Outputs 2.1 and 2.2. The project supported the institutional structures of the Ministry to act as the national coordinating institution and provide quality assurance for NAMAs through dedicated training. In this capacity, the MELPSD was expected to be a key member of the Inter-Ministerial Committee established by the UNDP-implemented, GEF-financed project to provide high-level political support for implementation of the TSP. A set of NAMA eligibility criteria was planned to be developed by the project to be used by MELPSD to screen NAMAs proposed in Tunisia.
GIZ/BMU	GIZ has been consulted throughout all the stages of project design and conceptualisation.. Since GIZ is working in close collaboration with ANME, seamless coordination with projects implemented by GIZ was critical. Further, lessons-learned from the GIZ projects were be drawn upon when implementing the UNDP- implemented, GEF-financed project.

Total resources

The GEF project grant approved for the project amounts to US$ 3,552,968 complemented with US$ 65,382,640 expected parallel financing by several stakeholders (the Government, private sector, UNDP). The total resources committed to the project at inception was thus US$ 68,935,608.

FINDINGS

National priorities and country driven-ness

The objective of the project is consistent with the voluntary commitments of the Government of Tunisia as expressed in the Voluntary Nationally Appropriate Mitigation Actions (NAMAs) of Tunisia submitted to the UNFCCC Secretariat in 2010. Furthermore, it is clearly aligned with the Second and Third National Communications to the UNFCCC, submitted in 2014, and 2019, respectively, as well as with the Nationally Determined Contribution (NDC), submitted in 2016.

The project is also fully consistent with the country's long-term energy diversification strategy as expressed in the revised TSP that calls for efficient use of energy and specifically the use of indigenous RE sources. Since 2012, the strategy has been backed by gradual development of a new legislative framework more supportive to various kinds of private developers. In May 2015, the Tunisian Parliament passed Law No. 12 concerning electricity production from renewable sources. This legislation updated Tunisia's prior regulatory framework governing renewable producers' network access dated from 2009. The Law aims to boost private sector investments and liberalise regulations to facilitate the production, network access and export of electricity generated by renewables.

In May 2019, Law No. 2015-12 was amended to Law 2019-47 in order to allow corporate power purchase agreements.

Last but not least, the project is also aligned with concurrent large-scale RE generation programmes such as Desertec and the Mediterranean Solar Plan.

Theory of Change

The project is not based on an explicit theory of change (ToC) to specify how the project will contribute to higher level change, as ToC was not required for the formulation of GEF-5 projects. However, the project was formulated using essential elements of the DREI methodology, considering that one of the principal challenges for scaling-up RE investments in developing countries is to lower the financing costs that affect renewables' competitiveness against fossil fuel technologies. The project's activities were expected to contribute to a change in market conditions that would allow effective mobilization and channelling of investments into renewable energies and low-carbon initiatives. The project is based on a premise that lowering barriers to the broader adoption of RE energy sources through finance risk reduction and increased profitability of RE investments, accompanied with increased knowledge and demand for RE technologies, create grounds for behavioural change and market strengthening.

The Project Document provides definition of outcomes and outputs but does not contain a list of specific activities leading to the outputs. Instead, activities are only outlined in a general manner under each project outcome. Although the project design appears to be logical and rational, the absence of the defined activities does not enable to see the entire project results chain and hierarchy. According to the interviews with the stakeholders, the incomplete theory of change created some implementation delays at the beginning of the project implementation,

namely that the project team had to define the activities for implementation of the outputs that should have been defined in the Project Documents.

Gender responsiveness of the project design

The project does not contain any specific provisions for addressing gender issues because, at the time of project formulation, there were no clear guidelines on including gender-relevant actions. Although all UNDP/GEF projects approved since 1 July 2014 are required to carry out a gender analysis, no specific gender analysis was conducted under the project. Nevertheless, gender considerations are contained in the set of sustainable development criteria and indicators developed under Outcome 2 that cover aspects relating to gender equality, empowerment of women, and energy poverty.

Environmental and Social Safeguards

At the formulation stage, the project was subject to the mandatory environmental and social screening procedure (ESSP). The results of the ESSP are summarized in Annex A.2 of the Project Document, that put the project into Category 2 with the need for further review and management of possible environmental and social benefits, impacts, and/or risks, predominantly indirect or very long-term risks that are difficult to directly identify and assess. The ESSP concluded that the two baseline projects (Tozeur solar PV and Gabes wind park) had been subject to standard environmental impact assessment (EIA) procedures and that the GEF project would put in place environmental and social safeguard guidelines to ensure that future investment projects are fully assessed in this regard.

It was expected that gender issues would also be addressed under the development of the environmental and social safeguard (ESS) guidelines for RE projects. Although the development of environmental and social safeguard guidelines was one of the planned results (Output 2.8), it was not prioritized in the initial 2 years of the project, and its implementation actually started as a follow-up to the mid-term review (MTR), through part of the revision of Decree 1991-2005 related to categories of RE investment projects subject to environmental impact studies. Despite that procurement of consultancy services for preparation of the ESS guidelines was initiated by the project team, insufficient feedback from ANPE on the procurement documentation prevented timely completion of this task before the project operational closure.

Project Design/Formulation

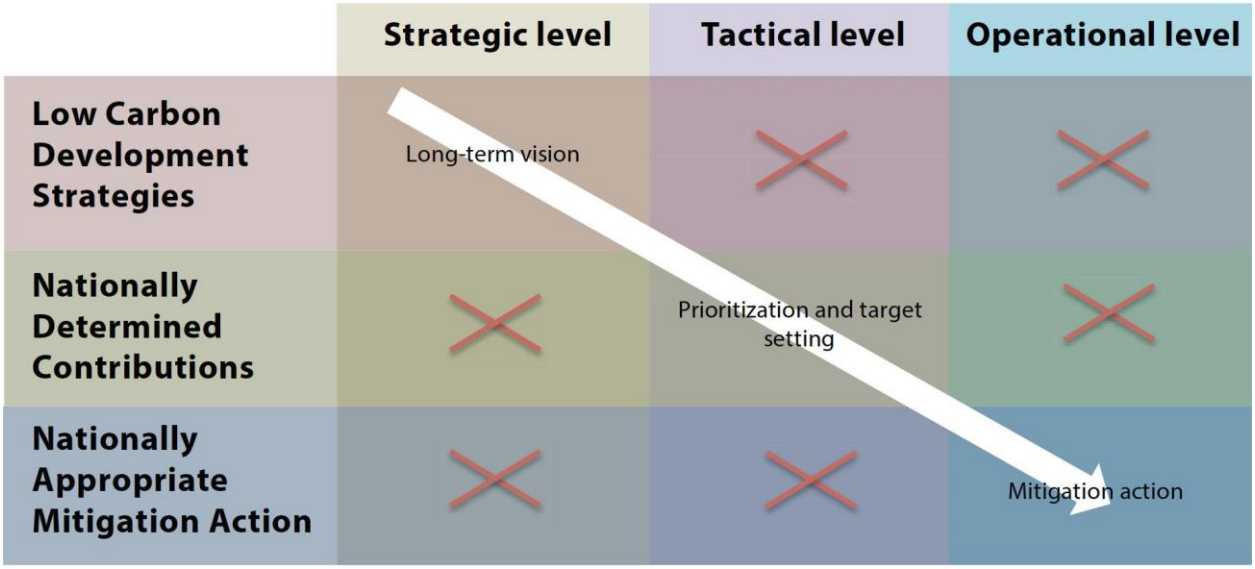
This section provides a descriptive assessment of the achieved results. In addition, several evaluation criteria are rated in line with the requirements for Terminal Evaluations for UNDP/GEF projects.

The project was conceptualized in 2013-2014 when the NAMAs were still the central policies and voluntary actions that individual countries proposed to undertake as part of their obligations under the UNFCCC and in terms of commitments to reduce GHG emissions. The Paris Agreement (adopted at COP21) introduced the National Determined Contributions (NDCs) of individual countries to achieve the global objective of keeping the increase in global

average temperature below 2 degree Celsius (preferably to 1.5 degree Celsius) compared to pre-industrial levels.

The Paris Agreement has significantly changed the positioning of NAMAs in the global climate change mitigation architecture as shown in Display 1 below.

Figure 1: Positioning of NDCs and NAMAs in the CC mitigation[11]



Analysis of the project results framework

This section provides a critical assessment of the Project Results Framework (PRF) in terms of clarity, feasibility and logical sequence of the project outcomes/outputs and their links to the project objective. It also examines the specific indicators and their target values in terms of the SMART[12] criteria.

The PRF comprises 3 substantive components/outcomes and total 13 outputs. For measurement of achievement of the planned results, there are 13 indicators and relevant targets, formulated at the level of the project outcomes. Majority of the indicators clearly link with the outcomes they are supposed to measure. However, the fact that some of the intended targets do not contain timelines for completion does not provide clarity to the project team in terms of prioritization of the activities to be implemented and outputs to be delivered.

The evaluator found the PRF well-structured with few inconsistencies in the definition of the indicators and their targets, as summarized in Table 6 below.

[11] Adopted from Guidance for NAMA Design in the Context of Nationally Determined Contributions, UNDP, UNEP DTU and UNFCCC, 2018

[12] SMART stands for Specific, Measurable, Attainable, Relevant, Time-bound.

Table 6: Inconsistencies in the Project Results Framework

Project result	Indicator/Target	Comments
Project Objective: Tunisia's energy sector for achieving emission reductions through the deployment of a TSP NAMA	A NAMA developed for the TSP	The indicator/target should have been adjusted in the follow-up to the MTR
	A NAMA developed for the TSP and submitted for registration with the UNFCCC NAMA Registry	
Outcome 2: A coherent climate finance framework is established for the development of the TSP NAMA to catalyse the transformational capacity of the TSP to generate large emission reductions	Number of regulations	The indicator/target pair is poorly defined for measurement of achievement of the outcome
	Modalities for PPPs are established in regulations, and the establishment of an IER is supported	
Outcome 3: The TSP is operationalized by demonstrating a proof of- concept energy NAMA with quantified GHG emission reductions	Number of households benefiting from electricity generated by wind and PV plants (households/year)	The indicator/target pair does not measure achievement of the outcome. This is impact indicator/target that better fits the level of the Project Objective
	Number of households benefiting from renewable energy by end of project 11,544 from PV; 50,016 from wind	

The main insufficiency in the project design is the fact that, under each outcome, the Project Document provides a list of planned outputs, but actions to be implemented for achieving those outputs are described only at a general (summary) level. Moreover, the Project Document does not provide any gauges for measuring achievement of the outputs, as the indicators and targets in the PRF are set at the level of the project outcomes. Absence of concretely-defined activities in the project design constituted a significant gap in implementation planning, since the project team had to develop from scratch a set of activities for implementing each output.

The last PRF column on "Risks and Assumptions" contains only assumptions that pertain to sustained support and commitment of the Government of Tunisia to the implementation of various NAMA-related activities. The assumptions were taken as a basis for identifying the project risks contained in the project risk matrix in Section 2.3.2 of the Project Document.

To achieve the targeted cumulative energy generation from RE sources and related GHG emission reduction by the end of the project (EOP), the project design assumed the two pilot projects (Tozeur solar PV and Gabes wind parks) would commence their operations in Year 1 of the GEF project and continue until the EOP of the Project. This optimistic assumption proved wrong and the Tozeur solar park commenced only in mid-2019 due to some implementation issues (financial difficulties of the contractor responsible for construction of the plant Tozeur 1 and delay in the delivery of equipment for Tozeur 2 during the COVID-19 pandemic), while the Gabes wind park did not start before the project end at all due to legislative and regulatory issues (lack of effective legislation and feed-in-tariff specification) . The project design was relying too much upon the timely implementation of activities which could not be completed due to legislative and financial issues completely out of control of the project team.

Assumptions and risks

Identification of risks enables the implementing partners to recognize and address challenges that may limit the ability of the project to achieve the planned performance outcomes.

A preliminary risk analysis was conducted at the Project Identification Form (PIF) preparation stage and identified 5 types of risks for the achievement of the project objectives. The PIF also provided a risk rating and corresponding risk mitigation measures.

The preliminary risk analysis from the PIF stage was transferred in full into the Project Document. The risk rating was done on a simplified rating scale (low-medium-high). None of the identified risks were rated in terms of probability and impact that would allow for identification of critical risks (high in both probability and impact) for further monitoring during project implementation. However, all risks have been duly monitored during project implementation.

The summary of project risks identified at the PIF stage is in Table 7 below.

Table 7: Critical project risks and corresponding mitigation measures

Risk type	Rating	Description of risk and mitigation measures
Climate Change	Low	Extreme weather events and increased cloudiness The impacts of future climate change are expected to increase political interest in addressing the drivers of such change through large-scale mitigation actions
Environmental	Low	Need for EIA of the utility-scale projects Develop a set of guidelines and NAMA eligibility criteria to ensure the environmental sustainability of utility-scale RE projects
Social	Medium	Resistance to TSP by STEG employee unions. Communicate the sustainable development benefits of the TSP and of private investment in the power sector
Political	Medium	Political and economic fragility of Tunisia (and the whole MENA region) Address the climate-energy-resource security nexus to help establishing socio-political stability in Tunisia.
Financial	Medium	Required resources well beyond the capacity of the Government of Tunisia to invest Remove key barriers to private sector investment

The Project Implementation Reviews (PIRs) for the entire project period duly monitored all the above as critical risks. In addition, the 2016 PIR identified an operational risk in terms of limited human resource mobilization by the implementing partner for the Project management Unit (PMU). This was addressed by organising a meeting between the Deputy Resident Representative of the UNDP Country Office and the Director General of ANME in June 2016.

The evaluator concludes that both the risk identification at the project inception, as well as the risk reporting and management during the implementation, were performed thoroughly. As a result of the simplified risk rating, all risks were further reported in the PIRs irrespective of their importance and criticality. However, the risk analysis did not identify and consider the risks associated with delays in preparation and start-up of the two baseline technology projects (Outcome 3). It could have been expected that delays in implementation of the two RE projects would have a highly negative impact on the project progress as the expected benefits in terms of energy production and GHG emission reductions from the two RE projects were transferred to the Project Objective level.

Lessons from other relevant projects incorporated into project design

In the past, UNDP supported ANME to develop key strategic documents, including the NAMA Strategy for the Energy Sector as well as the Low-Emission Development Strategy that is linked to the outcomes and outputs of the current project. The two strategic documents are the outputs of an UNDP project entitled “Capacity Building at the National Level on the Sensitization, Education, and Training on Climate Change, 2009-2013”. However, there is no discussion in the Project Document regarding any lessons learned from the previous projects.

Planned stakeholder participation

The Project Document provides an outline of key stakeholders involved in preparation of the project including their expected roles the project. The planned stakeholder participation is

satisfactory in terms of the identification of a wide range of stakeholders and justification of their involvement in the project, but the stakeholder analysis does not go deeper into distinction between core (primary) and secondary (tangential) stakeholders.

It was expected that Government stakeholders would play key roles in legislation, management, monitoring of the project progress, and communication of its results. The expected main entry point for involvement of the Government of Tunisia stakeholders was participation in meetings of the Project Steering Committee through which the Government stakeholders assume an active role in the decision-making that supports effective and efficient implementation of the project.

Replication approach

The replication approach of the project is embedded in its Component 2 that aims for the establishment of a sustainable framework for energy sector NAMA design that is expected to trigger the process of NAMA implementation. Replication is envisaged through the catalytic effect of the baseline project implementation as first-of-their-kind in Tunisia on development of additional TSP NAMA projects. Replication is mainly facilitated through the project component for identification of potential sources for sustainable financing for the TSP NAMA and future mitigation initiatives. A key indicator of the replication success, included in the PRF, is the number additional sources of funding have been secured to capitalise the restructured ETF by the end of the project lifetime.

The support for the elaboration of an MRV mechanism is replicable across NAMAs for quality reporting of the country's mitigation efforts. The project also contributes to establishing a common energy-related cross-sectoral NAMA design and implementation framework including, related procedures and institutional arrangements.

UNDP comparative advantage

UNDP is well equipped to assist developing countries in addressing their needs and priorities due to its focus on poverty reduction, pro-poor economic policies, and environmental sustainability. With its permanent presence in nearly 170 countries and long-term relationships between UNDP and the vast majority of nations, the Organization serves as a key bridge between the world-wide vision of development as a core UN pillar and its sustainable achievement in individual states and lives – offering the global partnership, support, collaboration, expertise, and often funding, required. Hence, the organization has tools to support countries in pursuing a balanced inclusive and sustainable growth pattern.

The essence of UNDP's comparative advantage for the GEF-funded projects is embedded in its global network of country offices, its experience in integrated policy development, human resources development, institutional strengthening, and non-governmental and community participation. In addition to the UNDP proven track record on promoting, designing, and implementing activities consistent with the GEF mandate and national sustainable development plans of the developing countries, UNDP also has extensive inter-country programming and implementation experience.

At the global level, UNDP brings more than two decades of experience in the promotion of renewable energies. A key part of UNDP's comparative advantage is the role as knowledge

management broker and accumulation of first-hand experience from the implementation of projects in this specific technical area. In particular, UNDP has proposed a methodology for de-risking investments in renewable energy technologies through specific de-risking instruments. Through its Low Emission Capacity Building Programme (LECBP), UNDP offers a collaborative programme aiming to strengthen technical and institutional capacities at the country level, while at the same time facilitating inclusion and coordination of the public and private sector in national initiatives addressing climate change. It does so by utilizing the global networks and substantial experience that UNDP has established through its wide portfolio of projects and programmes around the world.

Last but not least, UNDP has a long-standing experience in developing and implementing coherent packages of "hard" and "soft" interventions that make technology transfer successful when complemented by targeted strengthening of relevant human and institutional capacities.

At the country level, the UNDP specific strengths include a proven ability to influence national policy dialogue and develop national capacities through its focus on cross-sectoral approaches and collaboration with a wide range of national stakeholders. In this regard, the UNDP CO in Tunisia has built a good reputation with diverse stakeholders. The high esteem was found very conducive for facilitating access to, and cooperation with, the project partners and stakeholders in the implementation phase of this project.

Linkages between the project and other interventions within the sector

There has been a track record of cooperation between the Government of Tunisia and the German Corporation for International Cooperation (GIZ). Since 2012, the German-Tunisian Energy Partnership supports Tunisia in developing and implementing its national energy policy and improve the energy sector with a particular focus on renewable energy.

Under technical assistance from GIZ, ANME received support for capacity building for preparation of GHG inventories and development of Monitoring, Reporting and Verification (MRV) systems for the energy sector. The project was initiated in 2013 following the recognition of the absence of robust systems by which to measure, report, and verify mitigation measures. The GIZ project was involved in the conceptualization of the GEF project with the aim to use the lessons-learned from the GHG inventory and MRV project to guide the development and harmonisation of the MRV systems for the TSP NAMA.

In 2015 - 2021, GIZ supported the project "Support for Implementation of the Tunisian Solar Plan" (French abbreviation APST) aiming at setting up effective and efficient processes for the piloting, the achievement and the support of the TSP. The APST was implemented by the Ministry of Industry, Energy and Mines, in collaboration with ANME and STEG. The APST project ensured technical and financial support during almost all stages of implementation of the national programme of electricity production from renewable energy 2017-2020.

In 2017, GIZ launched the project "Strengthening of the Market for Small and Medium-Sized PV Systems" with the objective of reducing bureaucratic barriers and making the regulatory conditions more attractive to investors, as well as developing official support programmes for expansion of the market for decentralised photovoltaic systems. The project is expected to be completed in 2022.

Since 2019, GIZ has been implementing the project "Institutional Capacity Building for Implementation of the NDC In Tunisia" aiming at establishment of a strategic and institutional framework (long-term climate strategy and required institutional structures) and a transparency framework through MRV systems. The project is expected to run until June 2023.

List of relevant GIZ projects is provided in Table 8 below.

Table 8: List of GIZ projects related to renewable energy and climate change

Project Title	Period
Capacity development for greenhouse gas inventories and MRV systems in Tunisia	2012-2016
Capacity and human resource building for solar market development in Tunisia	2015-2018
Strengthening of the market for small and medium-sized PV systems	2017-2022
Support for the implementation of the Tunisian Solar Plan (APST)	2015-2021
Institutional capacity building for implementation of the NDC in Tunisia	2019-2023

Tunisia also received support under the World Bank initiative Partnership for Market Readiness (PMR) for implementation of the NDC and the low-carbon strategy. In 2016, Tunisia launched the first phase under this initiative with preparation of a Market Readiness Proposal that details a roadmap towards the design, management, and implementation of carbon pricing instruments as key drivers for strengthening the national climate change mitigation policy.

Gender responsiveness of the project design

The project was developed before the issuance of the GEF Policy on Gender Mainstreaming and UNDP Gender Equality Strategy. There are no specific gender responsive provisions in the Project Document, as it is only briefly mentioned that the wind farm project at Gabes would pay particular attention to children rights and gender policy. However, this baseline project was not executed. No specific gender-related activities were planned under any of the project components.

Social and environmental safeguards

Pre-project social and environmental screening was conducted in relation to the two investment projects under Component 3.

The evaluator noted that the requirements for rating for TE of UNDP/GEF projects do not include rating on project design and formulation, apart from rating on monitoring & evaluation at the design and on project relevance. This appears to be insufficient in the evaluation framework as project design/formulation is one of the two principal factors (together with implementation) that affect the level of achievement of the planned results. Therefore, the evaluator decided to give the following ratings as shown in Table 9 below.

Table 9 : Ratings on project design/formulation

Item	Rating
Project rationale and logic	Satisfactory (S)
Formulation of the results chain and the logframe	Moderately Satisfactory (MS)

Management arrangements

The project was designed for implementation according to the National Implementation Modality (NIM) based on a Letter of Agreement for provision of support services between

UNDP (the GEF Implementing Agency for the project) and the Ministry of Industry, Energy and Mines representing the Government of Tunisia[13]. The actual project implementation modality was NIM with full support of the UNDP CO that provided procurement services, financial management, as well as programmatic oversight consisting in collection of reports on the delivered results and communication of the progress to the GEF. In addition, the UNDP provided technical oversight and backstopping through the Regional Technical Adviser located in the UNDP Istanbul Regional Hub.

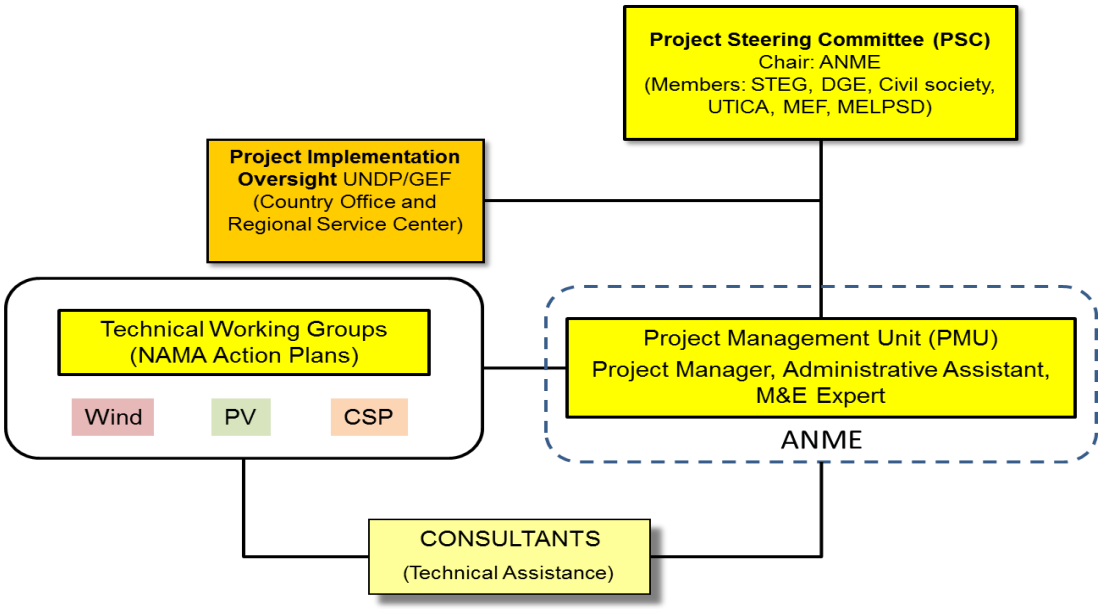
The Government of Tunisia appointed ANME as the national implementing partner with the responsibilities that included:

- Effective use of UNDP resources and the delivery of outputs stipulated in the signed Project Document;
- Reporting on project progress against agreed work plans in accordance with the reporting schedule and formats included in the Project Document; and
- Maintaining documentation and evidence of the proper and prudent use of project resources in accordance with applicable regulations and procedures;

UNDP, as the GEF Implementing Agency, was accountable for the effective and efficient use of the GEF resources for the achievement of project results in conjunction with ANME. This encompassed monitoring the progress towards intended outputs and appropriate use of resources, as well as the organization of mandatory evaluations.

The project management structure outlined in the Project Document is in Figure 2 below.

Figure 2: The project management structure (as outlined in the Project Document)



[13] In line with the Standard Basic Assistance Agreement (SBAA) between the Government of Tunisia and UNDP signed on 25 April 1987,

A Project Management Unit (PMU) was established for day-to-day management of the project. However, the PMU operation was negatively affected by high staff turnover. During the 6 years of implementation, the GEF project had 3 Project Managers (PM). The first PM was appointed in August 2015, i.e. 7 months after the project official start, following a relatively long recruitment process. After resignation of the first PM in late 2017, the second PM was appointed but resigned after less than one year (in May 2018). At the beginning of 2019, the original Project Assistant who worked with both PMs, was promoted to become an Interim PM. This appointment was upgraded to regular PM in September 2020.

Since the project inception, the PMU comprised only of two people, namely the PM and the Administrative Assistant. The MTR conducted in 2018 highlighted limitations in capacity of the PMU and heavy dependence upon external consultants. As a response, the project recruited a Communications Officer (albeit only for 2018-2019), a Monitoring & Evaluation Officer (in a cost-sharing arrangement with another GEF-funded UNDP-implemented project), and a technical expert. These officers were recruited in the same period and only for one year as the communication officer. The additional staffing allowed the PMU to react more rapidly to changes in the project environment and timely identify opportunities for the project moving forward.

Project Steering Committee

A Project Steering Committee (PSC) was established at the inception of the project to provide strategic guidance to the project, monitor project progress, and liaise with institutions of the Government of Tunisia, private sector and NGOs. The PSC is comprised of representatives from the core project stakeholders, namely the project implementing partners (ANME and UNDP), the ministries in charge of energy, industry, environment, sustainable development, investments, international cooperation, finance, foreign affairs, as well as representatives of the public electricity utility company (STEG) and private sector

In his capacity as National Project Coordinator (NPC), a representative of ANME co-chaired the PSC meetings together with the UNDP Deputy Resident Representative (DRR) in Tunisia. The project had 3 different NPCs – the original NPC was replaced in 2019 and again replaced in 2020.

The PSC convened total 10 times during the project implementation period with the last meeting during the TE data collection phase. Overview of the PSC meetings is in Table 10 below.

Table 10: List of meetings of the Steering Group

No.	Date	No.	Date
1	3 September 2015	6	1 February 2018
2	27 November 2015	7	24 January 2019
3	25 October 2016	8	16 March 2020
4	28 December 2016	9*	22 April 2021
5	9 November 2017	10*	28 September 2021

* Conducted as virtual meetings due to Covid-19 restrictions

The frequency of PSC meetings was in line with the standard requirement for GEF-funded projects that the PSC should meet at least once a year. Review of minutes of all PSC meetings show that the PSC well fulfilled both the strategic guidance as well as oversight functions.

The evaluator found the actual project management arrangements in line with the Project Document and consider them adequate for the size and complexity of the project.

Project Implementation

Adaptive management

GEF evaluations assess adaptive management in terms of the ability to direct the project implementation to adapt to changing political, regulatory, environmental and other conditions outside of the control of the project implementing teams. The adaptive approach involves exploring alternative ways to navigate the projects towards meeting the planned objectives using one or more of these alternatives.

The MTR recommended that, because of evolution of the project external factors, the project could not spend its budget allocated for Outcome 3. The MTR recommended to redistribute the remaining grant budget for maximizing benefits to the Tunisian sustainable energy sector. With the PSC approval, the budget of Outcome 3 was reallocated to cover a number of activities including the following:

- Technical assistance on restructuring of ANME to enable better support the large-scale renewable energy investments needed under the TSP;
- Direct support to acceleration of RE concession projects through wind measurement in two sites;
- Technical assistance for establishment of a new electricity sector independent regulator following one of the most important recommendation stemming from the national debate on energy transition;
- Direct support to establishment and operationalization of a help desk at ANME to assist private sector developers in preparation of RE projects;
- Support to the Task Force to coordinate and monitor the implementation of the Action Plan on accelerated implementation of the TSP and coordination with the technical and financial partners involved in energy transition support;
- Coordination support for elaboration of the Low Emission Carbon Strategy in the energy sector by 2050; and
- Technical assistance for the operationalization of the energy transition fund.

Actual stakeholder participation and partnership arrangements

The project is based on a multi-stakeholder approach and strong participation by the government as well as the private sector and civic society.

Stakeholders were mainly engaged through participation in the PSC meetings and in specific activities and events organized by the PMU. Apart from this formal involvement, relevant stakeholders were involved in implementation of various project outputs, in particular for approval of Terms of Reference (ToR) for specific activities. In some cases, involvement of

relevant national stakeholders was insufficient. This caused challenges for delivery of several project outputs. Specific ToRs prepared by the project team required approval by the stakeholders but they either responded with delays or in some cases not at all hence few outputs planned for delivery in the last year of the project had to be cancelled.

Project finance and co-finance

Analysis of the project financial aspects was based on the information sourced from the annual Combined Delivery Reports (CDRs) for the years 2015 – 2020 and two quarterly CDRs for 1st and 2nd quarter of 2021. This analysis aims at assessment of project financial delivery by years and by products, and the share of the project management budget line in the total budget.

The GEF grant for this project was approved at US$ 3,552,968 and together with expected co-financing of US$ 65,382,640 the total cost of the project at inception was US$ 68,935,608. Table 11 below displays the breakdown of expenditures from the GEF grant by the years of the project implementation period.

Table 11: Actual expenditures by years of implementation

Project Component	Actual Expenditures (US$)							
	2015	2016	2017	2018	2019	2020	2021*	2016-2020
Outcome 1	20,890.88	85,448.85	180,586.10	68,013.96	33,069.48	-	-	388,009.27
Outcome 2	5,160.68	236,564.19	376,764.81	248,252.66	157,370.90	107,580.58	188,859.19	1,320,553.01
Outcome 3	-	18.75	157,908.47	114,747.55	163,026.66	327,196.38	621,557.86	1,384,455.67
Project Management	11,236.82	13,785.73	18,876.52	22,189.93	37,530.09	17,177.45	24,222.09	145,018.63
Total	**37,288.38**	**335,817.52**	**734,135.90**	**453,204.10**	**390,997.13**	**451,954.41**	**834,639.14**	**3,238,036.58**

* as of 31 August 2021

It follows from Table 11 that the total expenditure from the GEF funds at the project closure was US$ 3,238,036.58 that is 91.14% of the total GEF grant. Furthermore, the data in Table 11 demonstrate slow start of implementation of Outcome 3 that effectively started only in 2017, i.e. in the 3rd year of the project.

Table 12 below provides comparison of the planned and actual expenditures by the project components.

Table 12: Planned and actual disbursement of the GEF funds by components – as of 30 June 2021

Project Component	Budget (US$)	Expenditures (US$)	%
Outcome 1	394,945	388,009.27	98.24%
Outcome 2	1,212,200	1,320,553.01	108.94%
Outcome 3	1,776,634	1,384,455.67	77.93%
Project Management	169,189	145,018.63	85.71%
Total	**3,552,968**	**3,238,037**	**91.14%**

The figures in Table 12 show uneven delivery under individual components of the project. While the expenditures under Outcomes 1 and 2 more or less reached the planned amounts (98.24% and 108.94%, respectively), the expenditures under Outcome 3 only slightly exceeded

three quarters of the planned amount (77.93% of the planned budget). The low delivery was partially caused by the fact that implementation of this component started effectively only in 2017 as can be seen from Table 11 above.

The data in Table 12 further shows that the planned budget for project management was less than 5% (4.76%) of the GEF grant. Such financial allocation is reasonable for the project of this size and complexity. Actual expenditures on project management reached only 85.71% of the planned amount (4.98% of the GEF grant).

Negative implication of COVID-19 in 2020

The project was designed to attract co-financing from several stakeholders. Therefore, the figures from Section 3.2 of the Project Document are taken further for analysis of the co-financing. Tables 13A, 13B and 13C below summarise information about the co-financing.

Table 13A: Comparison of planned and actual co-financing by source in 2015-2021 (US$)

Name of co-financier	At inception (US$)	At TE (US$)
UNDP	600,000	0
ANME	14,706,640	23,000,000[14]
MELPSD	100,000	-
STEG	16,500,000	15,800,000[15]
ENERCIEL/UPC	33,476,000	32,506,640
Total	**65,382,640**	**71,306,640**

Table 13B: Summary of actual co-financing by source and type

Source of co-financing	Name of co-financier	Type	Investment Mobilised	Amount (US$)
Recipient Government	ANME	Grant	Investment mobilised	23,000,000
Recipient Government	STEG	Grant	Investment mobilised	15,800,000
Private sector	ENERCIEL/UPC	Grant	Investment mobilised	32,506,640
Total				**71,306,640**

Table 13C: Confirmed sources of co-financing at TE

Co-financing type/source	UNDP (US$)		Government (US$)		Partner Agency (US$)		Total US$	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants	600,000	0	31,306,640	38,800,000	33,476,000	32,506,640	65,382,640	71,306,640
Loans/concessions	0	0	0	0	0	0	0	0
In-kind support	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0
Totals	**600,000**	**0**	**31,306,640**	**38,800,000**	**33,476,000**	**32,506,640**	**65,382,640**	**71,306,640**

Although the co-financing on top of the GEF grant is a mandatory condition for approval of GEF projects, the PMU did not systematically monitor the actual levels of co-financing.

[14] Co-financing provided through parallel financing of projects by GIZ and World Bank

[15] Co-financing provided through financing of the Tozeur solar PV investment project by KfW

Consequently, the information on the actually realized co-financing amounts was not readily available for the Terminal Evaluation.

Monitoring and evaluation: design at entry and implementation

M&E design at project entry

The Monitoring & Evaluation (M&E) Framework was described in detail in Section 5 of the Project Document. It comprises of standard M&E items such as the Inception Workshop (IW), meetings of the PSC, annual Project Implementation Reviews (PIRs), the Mid-Term Review (MTR) and the Terminal Evaluation (TE).

The total indicative cost for the M&E plan is (excluding the project team staff time and UNDP staff travel expenses) US$ 51,700, i.e. about 1.5% of the GEF grant.

The design of M&E framework follows the standard M&E template for projects of this size and complexity. Overall, the evaluator found the M&E design adequate for monitoring the project results and tracking the progress toward achieving the objectives, with the exception of minor deficiencies in the project results framework discussed in the section "Analysis of the project results framework".

Therefore, the M&E design is rated **Satisfactory (S).**

M&E at implementation

The main subject of the discussion here is the implementation of the originally planned components of the M&E plan. For the assessment of the M&E framework, the evaluator reviewed some of the project documentation related to monitoring and reporting, including the annual CDRs and annual Project Implementation Reviews (PIRs).

Inception Workshop

The Project Document stipulated that a project Inception Workshop (IW) is held within the first 2 months of project start to help the relevant stakeholders of the project including public, private and civil society organisations to generate agreements related to the objectives of the project, build ownership of the project planned results, approve the project's first Annual Work Plan (AWP), agreed on the monitoring & evaluation work plan and budget, as well as to elaborate on the financial reporting procedures and obligations.

The IW was organized on 8 September 2015 with large attendance that included representatives of the Government of Tunisia agencies and institutions, NGOs, media and PSC members. The IW meeting summary suggests that it should be also considered as a project kick-off meeting for public relation purposes as some key issues were not addressed during this event. The 1st and 2nd meetings of the PSC actually covered all issues intended to be addressed by the IW the 1st and 2nd meetings of the PSC (organised on 4 September and 27 November 2015, respectively), and discussed and endorsed the detailed first year work plan, targets and performance indicators. In addition, the meetings also discussed the roles, functions, and responsibilities within the project decision-making structures as well as the Terms of Reference for the PSC.

There was a sizeable delay in organization of the IW – 7.5 months after the project official start. Overall, the IW and related events assisted the core project stakeholders to fully understand and take ownership of the project.

Annual Project Reports/Project Implementation Reviews (APRs/PIRs)

The most important instrument in the monitoring process were the Project Implementation Reviews (PIRs) prepared regularly with annual periodicity at the end of each GEF fiscal year (July to June). Total 5 PIRs were prepared for the GEF fiscal years 2016 to 2020. The PIRs were elaborated in a standard uniform structure and contain detailed reporting on progress towards performance targets at outcomes, as well as the project objective levels. In line with the UNDP/GEF requirements, PIRs also contain an assessment and rating of the project progress provided by the PM, UNDP CO, the project Implementing Partner, and the UNDP RTA.

The evaluator found the PIRs compliant with the standard UNDP/GEF project cycle reporting tools and particularly detailed. Apart from a large section on development progress provided by the Project Manager, the PIRs also contain concise summaries on implementation progress, management of critical risks, adjustments to project implementation plans, and description of cross-cutting issues.

Site visits and on-site inspections were also part of the project M&E plan and were defined in the annual workplan. The site visits of the project team are documented in the Back-to-Office-Reports (BTOR).

Mid-Term Review (MTR)

The Project Document required the MTR to take place at a mid-point of the project lifetime and determine progress made towards the achievement of the project outcomes, make assessment of efficiency and timeliness of project implementation as well as highlight issues requiring decisions and corrective actions.

The MTR was conducted in the timeframe November 2017 – May 2018 by a team of two international consultants and included evaluation field mission to Tunisia in November 2017. The MTR produced total 11 recommendations.

Terminal Evaluation (TE)

The Project Document stipulated that the TE should be conducted at least three months prior to the project completion date. The TE was finally commissioned by the UNDP CO in June 2021 and conducted in July-September 2021.

The TE consultant found the implementation of the M&E plan **satisfactory (S)**.

Feedback from M&E activities used for adaptive management

The primary feedback from the M&E activities was provided through the Quarterly and Annual Project Reports (APR) prepared by the Project Manager. Five APRs were prepared for the years 2016-2020 in a standard format following the UNDP Atlas Project Progress Reports (PPR) with updated information for each outcome as well as a summary of financial management of the project. The APRs were discussed at the NSC meetings.

The Mid-Term Review (MTR) produced 11 recommendations. The guidance for undertaking Midterm Reviews (MTRs) of GEF projects UNDP-supported projects requires that MTR recommendations are provided as succinct suggestions for interventions that are specific, measurable, achievable, relevant, and timely. However, the structure and content of the MTR recommendations are not in line with the commonly accepted evaluation standards[16]. In fact, the MTR recommendations are mixtures of findings, conclusions, and recommendations, where the actual recommendation is not immediately and clearly visible. Also, some recommendations are rather vague in description of required actions and none of the recommendations identifies the recipients expected to implement the recommendations.

In line with the standard procedures, UNDP as the implementing agency prepared a management response to the MTR recommendations that contains agreement of the project implementing partners on key actions, responsible party, and implementation timeframe for the recommendations. According to the status update at the UNDP Evaluation Resource Centre, a majority of the key actions have been completed before the operational closure of the project. The MTR recommendations with corresponding management response actions are summarized in Table 14 below.

[16] Improved Quality of Evaluation Recommendations Checklist, United Nations Evaluation Group (UNEG), 2018

Table 14: Summary of MTR recommendations

Recommendations		Management Response – Key Actions	Status
#	**Recommendation**		
1	All outcomes: General strategy to adapt the Project to changes in the Project environment	Launch a study on ANME restructuring (organizational and financial management reform)	Completed
2	Outcome 1: Position the Project within the Paris Agreement climate policy architecture	Support the Low Carbon National Strategy by 2050 Capacity building for the Tunisian parliamentarians on climate change	Completed
3	Outcome 2: Start development of guidelines for environmental and social safeguards for large infrastructure projects	Launch a study Environmental and Social Safeguards Launch a study about energy transition in the Governorate of Tozeur	Not completed (see Output 2.8 in section Effectiveness
4	Outcome 3: Alternative use of remaining budget for Outcome 3	Support for accelerating the RE concession projects in Tunisia, (wind measurement at two sites) Support to establishment of an independent regulator of the electricity sector; Support to establishment and operationalization of a help desk at ANME Support the national Task Force on implementation of the action plan for the TSP and coordination with the technical and financial partners; Launch a study to support the operationalization of the energy transition fund (ETF)	Completed (see implementation of Outcome 2 in section Effectiveness)
5	Co-finance: Mobilise stakeholder support for the Project	Mobilize co-financing for the project	Not completed
6	Management arrangements – additional expertise within the PMU	Recruitment of a new Project Manager, Communication Officer and Monitoring & Evaluation Officer	Completed
7	Stakeholder engagement – private sector participation / integration of all relevant ministries in the PSC	Support to several events on energy transition while involving all the stakeholders	Completed
8	Stakeholder engagement – relationship with Ministry of Energy	Follow up meetings with the ministry in charge of energy	Completed
9	Stakeholder engagement – coordination with other donors	Coordination with the World Bank, GIZ and the KFW Development Bank	Completed
10	Communication – step up outreach, dissemination	Recruitment of expertise to design a mid-term communication strategy for the ANME Elaboration of communication plan for the NAMA TSP project	Completed
11	No-cost project extension	Request UNDP/GEF for no-cost project extension	Completed

It follows from Table 14 above that a majority of key actions for MTR recommendations were completed before the project operational closure.

The above discussion about the design of the M&E plan and implementation of its individual stages gives basis for the rating of the quality of M&E implementation as **Satisfactory (S).**

UNDP and implementing partner implementation / execution

The project followed the management arrangements presented in the Project Document that were based on a common scheme for project management arrangements under the National Implementation Modality (NIM) with full support of the UNDP CO. Although the latter organized procurement events, expert recruitment, and financial management in line with the UNDP rules and regulations, the selected implementation modality required all financial transactions and procurement event to be authorized by ANME. The authorization was multi-layer - involving approval by a relevant technical department of ANME as well as final authorization by the ANME Director General.

The audit of the UNDP CO conducted in late 2020 selected this project for a detailed review and assessment of process efficiency. Following recommendations from the audit, the project execution was changed to Direct Implementation Modality (DIM) under which approval from

ANME was required only for annual work plans, annual progress, and financial reports, as well as for produced deliverables. This change substantially expedited the provision of required inputs in the last year of the project.

Apart from the staff of the UNDP CO, UNDP also made available the Regional Technical Advisor (RTA) for advisory and technical backstopping of the project. There was quick succession of RTAs on the first 2 years of the project. The 3rd RTA came on board in 2018 and stayed until the closure of the project. The RTA support was provided mainly through remote monitoring and input into the PIRs.

Based on the above findings, the overall quality of UNDP and implementing partners implementation/execution is rated **Moderately Satisfactory (MS).**

Project Results and Impacts

Relevance

The questions discussed under this section are to what extent the project is linked to the national development priorities of Tunisia, the relevant GEF Operational Programme, the strategic priorities of UNDP in the country and the UN Sustainable Development Goals.

The project is directly linked to several national development documents and action plans. First, the provision on actions against climate change contained in Tunisia's constitution, adopted in 2014. The project is also aligned with the Strategic Development Plan (SDP) for Tunisia that was adopted for the period 2016–2020 to boost economic activity and investment, namely with the 5th pillar of the SDP that calls for investing in renewable energy and supporting resource efficiency solutions across sectors.

The project is also in line with Tunisia's commitments under the United Nations Framework Convention on Climate Change (UNFCCC) as expressed in the 2nd and 3rd National Communications to UNFCCC. Tunisia ratified UNFCCC in 1993, the Kyoto Protocol in 2002, and the Paris Agreement in 2017.

Tunisia submitted its Nationally Determined Contributions (NDC) to UNFCCC in 2015. The NDC aims at reduction of GHG emissions across all sectors in order to lower its carbon intensity by 41% in 2030, relative to the base year 2010 (its unconditional target is a reduction in carbon intensity of 28%). Furthermore, the NDC suggests focussing mitigation efforts particularly on the energy sector where it aims to reduce the carbon intensity by 46%[17].

The project is relevant for the main policies and programmes supporting the implementation of Tunisia's NDC, including:

- National Climate Change Strategy (2012) that includes social and economic objectives, as well as objectives to reduce carbon intensity[18];

[17] https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Tunisia%20First/INDC-Tunisia-English%20Version.pdf
[18] http://www.environnement.gov.tn/PICC/wp-content/uploads/Stratégie-Nationale-–-Rapport2.pdf

- National Energy Transition Strategy (2014) that includes objectives for reduction of energy demand, increase of renewable energy proportion in their energy mix, and reduction of GHG emissions, in particular with its 2nd objective to increase the share of renewable energy in the electricity production mix to reach 30% in 2030[19]; and
- Action Plan for Renewable Energy (2018) that sets an ambition towards energy sector reform, including the establishment of an independent regulator of the electricity sector and the increase of the renewable energy capacity. It also includes the Tunisian Solar Plan[20].

In addition to the above, Tunisia is currently developing a Low Carbon National Strategy that offers an opportunity to define an ambitious medium and long-term climate vision based on a change in the energy landscape and low-carbon development to meet the energy, climatic, and socioeconomic challenges by 2030 and 2050. The country is also updating the NDC through the development of a monitoring and evaluation methodology for assessment of the progress made in achieving the mitigation objective of the NDC in the energy sector and to meet the requirements of transparency of Article 13 of the Paris Agreement[21].

Furthermore, the project supports implementation of the Renewable Energy Programme, launched by the Ministry of Energy, Mines and Renewable Energies in 2017, that calls for energy projects for development of 210 MW production capacity spread across wind and solar sources.

The project is also well aligned with the GEF strategies for climate change mitigation programming. The GEF Operational Strategy (1995) and Operational Programmes (developed from 1996 to 2000) that served as the basis for programming for GEF-1 and GEF-2 emphasized removing barriers to broader adoption of renewable energy technologies. The GEF-3 strategic priorities began to shift the focus upstream toward creating conducive policy and market environments for technology diffusion.

The GEF-5 Focal Area Climate Change Mitigation promotes a broad portfolio of environmentally sound, climate-friendly technologies to achieve large GHG reductions in GEF-recipient countries in accordance with their respective national circumstances.

Specifically, the project is in line with the following elements of the GEF-5 CCM Focal Area:

Objective 1: Promote the demonstration, deployment, and transfer of innovative, low-carbon technologies

Objective 3: Promote investment in renewable energy technologies

Objective 6: Support enabling activities and capacity building under the UNFCCC

It is also directly linked to UNDP Strategic Plan 2018-2021, namely

[19] https://www.giz.de/en/downloads/giz2014-fr-strategie-energie-tunisie.pdf
[20] https://www.energiemines.gov.tn/fileadmin/user_upload/publications/plan_action_solaire.pdf
[21] http://www.anme.tn/?q=fr/content/politiques-dattenuation-dans-le-secteur-de-lenergie

Output 1.3. "Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and wastes."

Renewable energy has also been high amongst corporate priorities for UNDP. The UNDP Strategy Note on Sustainable Energy 2017-2021 defines actions to support governments in transforming their renewable energy markets — removing barriers to renewable energy investment and creating favourable conditions for private sector involvement.

The project is also aligned with the UNDP Country Programme 2015-2019/20 for Tunisia and its outcomes as follows:

Outcome 3: By 2019, the Government implements a new model of economic and social development, which is equitable, inclusive, sustainable, resilient, and able to generate both wealth and employment.

Outcome 4: By 2019, regional players manage regional resources efficiently and make optimal, sustainable, and inclusive use of them

In relation to the UN Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development, renewable energy is being recognized as a key enabler for development through establishment of SDG Goal 7: *Ensure access to affordable, reliable, sustainable and modern energy for all.* Its indicator 7.2 calls to increase substantially the share of renewable energy in the global energy mix. Universal access to energy and a higher share of renewable energy are now part of the top global priorities for sustainable development. In addition to direct relation to SDG7, renewable energy is indirectly related to other SDGs as summarized in Table 15 below.

Table 25: Relation of renewable energy to UN SDGs[22]

Sustainable Development Goals	**SDG Targets Relevant to Renewable Energy**
7. Ensure access to affordable, reliable, sustainable, and modern energy for all	7.1 Ensure universal access to affordable, reliable and modern energy services 7.2 Increase substantially the share of renewable energy in the global energy mix
Other SDGs:	**Relevance of RE**
1. End poverty in all its forms everywhere	Rise of the RE sector creates jobs and income generation for small businesses
2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture	RE is needed for irrigation increasing agricultural productivity as well as for processing of agricultural products (e.g. cooling, drying, milling, pasteurizing)
3. Ensure healthy lives and promote well-being for all at all ages	RE is a key component for functional health care facilities in rural areas for refrigeration of vaccines and medicines, equipment sterilisation and light for operations and emergencies at night
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	RE services reduce the working time and provide more free time to especially women and children, and also enable the use of modern communication and learning tools
5. Achieve gender equality and empower all women and girls	Modern energy services reduce the time spent by women and girls on basic survival activities (gathering firewood, fetching water, cooking, etc.)
6. Ensure availability and sustainable management of water and sanitation for all	Water purification and desalinationusing solar or wind energy could help to ensure access to clean drinking water
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	Production, selling, and installation of PV products and provision of related services creates jobs and small businesses. Access to energy facilitates enhanced productivity and inclusive economic growth.
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	RE technologies contribute to reduction of CO2 emissions by industries
11. Make cities and human settlements inclusive, safe, resilient and sustainable	Access to energy helps to to meet basic needs such as safe and healthy cooking and indoor and outdoor lighting, as well as improved household and ambient air pollution
12. Ensure sustainable consumption and production patterns	RE is crucial to reduce food losses along food supply and value chains via cold storage, drying etc. Renewable energy generation doesn't contribute to global warming, sun and wind energy are non-exhaustive compared to fossil fuels.
13. Take urgent action to combat climate change and its impacts	RE is one of the keys to combat climate change
15: Protect, restore, and promote sustainable use of terrestrial ecosystems, sustain- ably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	RE use for improved cooking reduces pressure on forests and thus help combat land degradation

Based on the above, the relevance of the project for the recipient country, as well as the donor and implementing agencies is rated **Relevant (R).**

Effectiveness

The information presented in this section was sourced from the various project implementation reports and verified with information collected through interviews with key stakeholders. Additional sources of information were various studies and technical reports produced by the project. The list of documents consulted is provided as Annex 4 to this report.

[22] Compiled from Energy and the Sustainable Development Goals, www.energypedia.info

The principal questions to be discussed in this section are whether and how the project outcomes as well as its objective have been achieved and whether the project results have been delivered with the least costly resources possible. The following text will also highlight positive and negative, foreseen and unforeseen changes and effects produced by the project intervention.

In the series of tables below, the project results and achievements have been summarized and compared against the target indicators listed in the project's logical framework. The initial information about the project results/achievements was extracted from the project's PIRs and verified and updated through interviews and meetings held during the data collection phase. Additional information was supplemented from the project-related documentation provided by PMU.

Tables 16 – 18 list the indicator targets for the individual results, summarize the delivery status at the Terminal Evaluation, and provide rating for the Outcomes' delivery. Each table contains an overview of the actually achieved project results in bullet points followed by a short narrative with additional insight and details on how and why the results have or have not been achieved. At the end, the narrative also explains the basis for rating of each project outcomes. The text following each table summarizes some important facts related to the project results that could not be captured in the tables but were considered important for the justification of the rating of the project outcomes.

Table 36: Deliverables for Outcome 1

Result	Indicators	EOP Targets	Status at TE	Rating
Component 1: The enabling framework and methodologies are established to support the design and implementation of the Tunisian Solar Plan (TSP) NAMA				
Outcome 1: The enabling conditions, methodologies and tools are developed for de-risking the national policy environment for implementing the Tunisian Solar Plan through a TSP NAMA	Number of committees established and operational	A high-level Inter- Ministerial TSP NAMA Committee is established	PSC acting as the inter-ministerial NAMA Committee Capacity building events for participation in UNFCCC COPs (2016-2019) Technical and policy paper for UNFCCC negotiations Information session programme for deputies and advisors Draft note and action plan to operationalize AFRENER	S
	Energy sector system dynamics model developed and implemented	A system dynamics model (SDM) is developed and implemented for the energy sector	Information system based on SDM finalized and implemented (2019) Synthesis report on SDM results	S
	Number of policy and financial de- risking instruments designed using DREI analysis an implemented	At least 4 policy and financial de-risking instruments have been developed using DREI analysis based on work initiated in the development of the project document	Report "De-risking Renewable Energy Investment 2018"	S

Output 1.1: Establishment of a high-level Inter-Ministerial TSP NAMA Committee and Output 1.2: Establishment of a Secretariat to coordinate energy generation and end-use stakeholders for the TSP NAMA

The two outputs were implemented through the organization of capacity building activities that improved knowledge and upgraded skills of the PSC, as well as the provision of assistance to the Tunisian participation at four meetings of the UNFCCC Conference of Parties (COP) in

2016-2019 (COPs 22-25) through organization of capacity building sessions around the several themes, including:

- International negotiations on climate change;
- Analysis of the portfolio of the Green Climate Fund: focus on projects / programs supporting the development of renewable energies and lessons learned for the financing of the TSP NAMA; and
- Specialized training on the negotiating framework and the positioning of the main groups of Parties, including the African Groups and the G77.

The project also mobilized national expertise to accompany the Tunisian delegation during COPs and commissioned preparation of a technical and policy paper for strengthening Tunisia's positioning in relation to climate change negotiations, and climate change finance mobilization. After COP meetings, the project facilitated regular communication of feedback from the COP delegation towards representatives of relevant sectors and stakeholders of finance mobilization.

Several workshops and training sessions, led by recognized experts, were organized on themes related to the development of renewable energy and climate change mitigation actions in the energy sector (such as NAMAs, low-carbon development strategies, climate finance, etc.). The trainings covered different aspects of mitigation (Nationally Determined Contributions (NDC), NDC registry, transparency of mitigation actions, relation to Article 4 of the Paris Agreement, etc.).

A training / information session for deputies and parliamentary advisers on climate change was organized in July 2019 with the objective of strengthening the capacities of parliamentary advisers and deputies on the concepts and basic notions of climate change, in order to consolidate the legislative and monitoring role of parliament with regard to the legislative instruments related to climate change.

A draft note and a plan of action for operationalization of the south-south cooperation under the African Association of Institutions in Charge of Energy Management (AFRENER)[23]. The Association offers a platform for exchange of expertise and dialogue on sustainable energy projects at the level of the African continent.

After updating the draft note it was given to the National Agency for the Protection of the Environment (ANPE) for comments. As the latter did not provide an answer, the process of recruiting a support expert for South-South cooperation under AFRENER initiative was cancelled.

Output 1.3: Use of system dynamics modelling (SDM), DREI analysis and scenario analysis

A national consulting company was appointed to set up an information system as a System Dynamics Model (SDM) for the monitoring and evaluation of the sustainable development benefits (economic, social, and environmental) of the energy transition and climate change

[23] AFRENER was established in October 2017 on the occasion of the 2017 ENERSOL International Expo-Conference on Sustainable energy in Tunis.

mitigation policies in Tunisia. The SDM has been used to monitor and assess the impacts of the TSP on sustainable development in Tunisia, including the impacts in terms of GHG emissions mitigation and co-benefits (to be monitored as part of the MRV of NAMAs).

The report "Tunisia: De-risking Renewable Energy Investment 2018" was compiled as update of the initial study that was performed at the time of the TSP NAMAproject preparation. The report analysed the most cost-effective public de-risking measures for promotion of private sector investment in renewable energy (wind and solar PV) in Tunisia. The study sets out the results from a quantitative, investment-risk informed modelling analysis based on data obtained from structured interviews with private sector investors and developers.

The PMU hired a consulting company to elaborate a system dynamics modelling (SDM) for assessing the cross-sectoral impacts of the TSP, and for analysing the behaviour of the energy sector, including cost-effectiveness analysis of financial and economic instruments for promotion of RE technologies. The SDM is based on the DREI analysis for design of the TSP NAMA that provides for an assessment of the financial and political risks linked to private investments in renewable energies, public policy instruments, and their cost for the mitigation of these risks, as well as the potential leverage effect on investments by technology (wind, PV, and CSP). The system offers an opportunity for linking these public instruments with climate finance mechanisms, particularly the Green Climate Fund (GCF).

The first submission of the system model, including a training session on the software, was conducted in March 2017 and the system was finalized for implementation in 2019. The SDM results were communicated through a comprehensive synthesis report focusing on the TSP.

On 5-7 November 2018, the project organized a study tour for the national partners to Grenoble, France. The tour provided an opportunity to focus on the role of the system dynamics modelling in the development of a Low Emissions Development Strategy (LEDS) and to see examples of coupling the tools developed in Tunisia with a macroeconomic model.

Overall Assessment of Component 1: The project contributed to capacity building of the ministries and agencies involved in the design, development, and implementation of the TSP NAMA. It also enabled improved response to therequirements of the Paris Agreement in relation to actions for mitigating GHG emissions, and better monitoring of NAMAs in the energy sector. The capacity building also targeted the Ministry in Charge of the Environment as the body responsible for the implementation of the NDC and the monitoring, reporting and verification of GHG emissions.

The updated findings of the DREI analysis were based on the evolving institutional context and confirmed the necessity to continue strengthening the institutional and regulatory framework. The development of SDM enabled a comprehensive understanding of the constituent components of the energy sector and their interactions, and thus contributed to an improved understanding of the system and the effective mitigation of undesirable outcomes.

ANME's information system (Ener-info) was upgraded with the support of a parallel UNDP-implemented project[24] that helped the Government of Tunisia design, manage, and implement carbon pricing instruments in order to strengthen the mitigation and decarbonization policies of the Tunisian economy. The system has gradually evolved into a techno-economic simulation model, capable of simulating GHG emissions in the energy sector based on various scenarios. The results of the two projects helped the country to develop a long-term vision for energy policy and to assess the macro-economic impact of renewable electricity penetration in the energy mix. This foresight work allowed the setting of ambitious objectives for the 2030 and 2050 horizons in 3 priority sectors, which were used to update the Tunisian NDC according to Tunisia's commitments under the Paris Agreement.

Based on the above, the achievement of Outcome 1 is rated Satisfactory (S).

Table 47: Deliverables for Outcome 2

Result	Indicator	EOP Targets	Status at TE	Rating
Component 2: Architecture for NAMA development is established				
Outcome 2: A coherent climate finance framework is established for the development of the TSP NAMA to catalyse the transformational capacity of the TSP to generate large emission reductions	Number of national guidelines	A set of guidelines and design criteria is developed for all NAMAs by the end of Year 1; a set of social and environmental safeguard guidelines is developed for all utility-scale RE by the middle of Year 2 based on international standards	Report on selection of SD criteria and quantitative indicators Action plan to accelerate the implementation of the TSP	S
	Number of technical codes	A grid code is approved by stakeholders and made publicly available by the end of Year 2	Support for implementation of the grid code	S
	Number of regulations	Modalities for PPPs are established in regulations, and the establishment of an IER is supported	Draft law on institutional and regulatory framework for an independent regulator ANME institutional reform plan and a task force for implementation	S
	Number of financial instruments to capitalise the Energy Transition Fund	The ETF is supported with at least 3 new financial instruments	Decree on management, replenishment and resources use modalities of the ETF Review of the ETF legal framework 4 measures to operationalize the ETF 2 Model ETF agreements 3 guidelines on administrative procedures for financing projects according to ETF (C 2,3,4)	HS

Output 2.1: Development of a set of guidelines to establish national NAMA eligibility and design criteria

This output focuses on the development of specific sustainability criteria and indicators to be used for the assessment and MRV of the TSP NAMA. It fully fits into national policies aimed

[24] The Tunisian Market Readiness Proposal (MRP) funded by the World Bank initiative Partnership for Market Readiness (PMR)

at strengthening efforts and initiatives in terms of accelerating the energy transition, and low-carbon sustainable development that is resilient to the impacts of climate change.

A set of 10 sustainable development criteria and 16 quantitative indicators was developed for measuring the impact of energy transition, covering economic, social, and environmental (including climate change mitigation and land-use management) dimensions of the TSP and NDC. The set is applicable for all NAMAs in the Tunisian energy sector. Apart from the substantive aspects of RE, the set of sustainable development criteria and indicators covers cross-cutting aspects such as gender equality and empowerment of women, and energy poverty. A provisional version of the monitoring and evaluation system for thesustainable development indicators, was also prepared.

The project supported the drafting of a regulatory text on the independent energy regulator based on a version prepared in 2014 under a previous UNDP/GEF project on wind energy power generation. In September 2018, a study was launched on the assessment of the current institutional and regulatory framework for the regulation and arbitration of the electricity production sector in Tunisia, with the aim of further developing the legal framework for an independent regulatory authority. The study was supported by stakeholder engagement through numerous national and regional events on energy transition. The study presented benchmarking related to the regulatory and arbitration mechanisms of the electricity sector in other countries (South Africa, Ecuador, Spain, and Morocco) together with recommendations for application of the experience to the Tunisian context. It contained a roadmap for the approval of the law on establishment of the independent regulator and its internal organization, as well as a perspective on the evolution from the independent regulation of the electricity sector to the wider regulation of the energy sector.

A proposal for an institutional and regulatory framework for an independent regulator for the electricity sector was finalized in September 2019. The draft law was developed and submitted to the Ministry in charge of Energy in February 2020. The project provided additional support for a committee in charge of reviewing the law and drawing up implementing decrees. However, MEMER failed to set up the committee.

Output 2.2: Provision of technical support to strengthen the institutional structures of the Ministry of Equipment, Land Planning and Sustainable Development as the national coordinating institution and quality assurer for NAMAs.

This output was designed for strengthening the relevant government stakeholders so that they may better support large-scale investments in renewable energies envisaged under the TSP. Implementation was based on the recommendations of a high-level conference held in December 2017 on how to accelerate renewable energy take-up in Tunisia.

A proposal for ANME restructuring (in the form of a business plan) was developed with the aim of enhancing ANME abilities to better manage investor relations and to coordinate large-scale infrastructure investments. The proposal covers the following aspects:

- Reorganization of ANME in line with its missions and role in the context of the implementation of the national energy transition policy and national commitments under

the Paris Agreement, and in line with the provisions of the new Constitution of Tunisia in terms of decentralization;
- Strengthening the ANME international cooperation function with regard to South-South and triangular cooperation;
- Ensuring autonomy of ANME's financing through identification of sustainable and predictable sources of funding (in addition to the state budget);
- Improvement of ANME's fiduciary management capacities, in accordance with the best international standards in this area; and
- Improvement of ANME's communication and awareness-raising capacities.

A draft of the institutional reform plan of ANME including the new strategic orientation was submitted and validated by ANME. In October 2020, ANME set up a task force in charge of monitoring the implementation of the plan.

Specifically, the project supported ANME in the establishment and operationalization of a help desk to orient and inform all stakeholders involved in the implementation of the TSP by providing them the needed advice and counselling for overcoming administrative difficulties in the development of RE projects.

During the first two quarters of 2021, a study was initiated aiming at developing recommendations for ANME's financing and assessingt its human resource needs in the medium and long term. This included the proposition of a methodology for developing ANME's own funding sources via billing for services.

Output 2.3: Establishment of a standardised baseline for calculating emission reductions from grid-connected renewable energy through development of a tool for annually updating the emission factor of the national electricity system

This output was not implemented under the GEF project, as it was covered by the parallel projects funded by GIZ.

Output 2.4: The development and implementation of the proposed legal framework

During the project implementation, several legislative and regulatory instruments were developed and adopted as follows:

- Law 2015-12, Decree 2016-1123, and related implementing regulations defined six regimes on renewable energy for electricity production, each targeting a specific category of investors. Almost all these regimes came legally into force with all practical arrangements published and operational since 2017, apart from the concession regime, for which tendering rules were published in the first half of 2018.
- Modalities for public-private partnerships (PPPs) were established in the 2015 by-law on contracts for PPPs. Additionally, in 2016, a Government Decree (n°2016-1185) was enacted that defines the modalities of work and the assignment of authority over the PPPs.
- In February 2017, the Ministry in charge of energy published its decision related to rules on grid access as an instrument for implementing Law 2015-12. The decision stipulates technical requirements for the connection and the delivery of electricity generated from

renewable energy plants to low-voltage and high/medium-voltage grids, as well as the standard Power Purchase Agreement (PPA) on the sale of the electricity generated from renewable energy plants to the public utility (STEG).

- Amendments to the law promoting the power generation from renewable sources and improving the investment climate (Law 2019-47)
- Adoption of a Government decree setting the terms and conditions for running projects on the generation and sale of electricity from renewable energy (Decree 2020-105)

The GEF project did not provide direct support for the development of the above legislative and regulatory instruments. Nevertheless, it played an important coordination role through the engagement of relevant stakeholders for discussions on the improvement of the legislative framework related to the TSP.

The project supported the drafting of the Renewable Energy Code, which focuses on establishing coherence among all existing legislative instruments related to the production, transport, and export of electricity from RE sources. The RE Code further strengthens the role of the private sector and puts in place the necessary regulations to accelerate the implementation of RE projects. Among the main features of the RE Code are the simplification of procedures for electricity generation projects under the authorization framework, as well as the establishment of a legal framework and implementation specifications for projects on self-production. The RE Code also contains a special chapter related to the legal regime applicable to the land used in RE projects and the proposal of a special tax and customs framework for these projects that would encourage investment and enhance sustainability. Finally, this new code will determine an appropriate legal framework for export-related projects.

Furthermore, as a response to an official request by STEG, the project supported the procurement of a software for planning the expansion of electricity generation sources through the incorporation of renewables. The procurement process was launched during the COVID-19 period and experienced delays. Upon request of potential suppliers/consultants, it was extended to ensure sufficient time for provision of documentation requested in the tenders.

In July 2020, an international company was contracted to deliver the new software and conduct a capacity building programme for STEG in relation with the design and planning of solar projects, as well as the calculation and visualization of related environmental impacts. The capacity building was conducted through 11 training sessions of 2.5-hour duration each in August and September 2020. During these sessions, the consultants assisted STEG for preparing and consolidating an initial database and performing an in-depth review of the available data on PV projects. This also included a review and verification of existing data, as well as the conduction of expansion planning for Tunisian RE power.

In addition, a study trip to Belgium was organized to visit relevant organizations including the Belgian regulator for sensitizing key Tunisian decision-makers (Assembly of People's Representatives, the Presidency of the Government, the Ministry in charge of Energy, the Ministry of Finance, STEG and ANME) with approaches for establishment of an independent regulator of the electricity sector.

Output 2.5: Development of three comprehensive sectoral NAMA action plans for PV, wind and CSP

An action plan for accelerated implementation of the TSP was developed. Under the framework of this action plan, the Government increased the total capacity for concession of RE power generation plants from 200 MW to 1,000MW (500 MW of PV capacity and 500 MW of wind), and launched a pre-qualification call for applications.

Output 2.6: Support to the Energy Transition Fund (ETF) to facilitate NAMA implementation, and analysis of the following financial instruments to capitalize the fund: concessional loans, green credit lines, fiscal incentives, donor contributions, a carbon tax, and climate finance, and Output 2.7: Development and implementation of a territorial performance-based finance instrument (a 'proxy FiT' combined with public de-risking instruments) to catalyze investment for NAMA implementation)

Under these two outputs, the project supported the national partners in the operationalization of the ETF, in particular its financial instruments (e.g. subsidies, credits, equity participation, reimbursable grants). Guidelines were developed for administrative procedures (eligible projects and measures, procedures for access to ETF instruments, editing of files by project promoters, etc.).

In response to a formal request from ANME, the project provided technical and financial support to ANME and MEMER for drafting a decree on the management, replenishment, and resource use modalities of the Energy Transition Fund (ETF). The text contains provisions for including three (3) new financial instruments in the ETF, namely credit, refundable grant, and equity participation. In June 2017, the Government adopted the draft and the new decree was promulgated in the official Journal[25].

Furthermore, the project supported the review and analysis of the ETF legal framework, including efforts of the national partners on operationalization of the ETF, especially regarding the sizing of the ETF in response to the updated action plan for the period 2019-2025 and the preparation of ETF procedure manuals. This support included the organization of consultations and discussion meetings with the Ministry of Finance, the Central Bank, the Tunisian Professional Association of Banks, and the Tunisian Professional Association of SICARs. Two standard agreements between the Ministry of Finance and credit institutions were finalized and submitted for approval.

The ETF will be used as an instrument to assist Tunisia in the management of its commitments in favor of the fight against climate change by facilitating the collection, mixing, coordination and reporting on climate finance. The specific objectives of the Fund are as follows:

- Collecting funding sources and directing them towards sustainable energy activities that promote national priorities;

[25] Decree No. 983 of 26 July 2017 on management, supply and use of ETF.

- Coordination of national climate change activities to ensure that climate change priorities are effectively implemented; and
- Capacity building for national ownership and management of funding for the fight against climate change.

Furthermore, the project supported the incorporation of three additional financial instruments for the capitalization of ETF, namely loans, repayable grants, and equity investments, through the development of a proposal for 4 measures necessary for the operationalization of ETF. After validation with relevant stakeholders, they were incorporated in the Government Decree 091-2020 published in September 2020 (2 guides of procedures and a document on the dimensioning of the ETF).

Output 2.8: Development of guidelines for environmental and social safeguards (ESS) of utility scale RE projects implemented under the TSP NAMA, based on international benchmarks (e.g. World Bank)

This output was developed to improve the baseline legislation that stipulates the requirement to conduct environmental impact studies only for electricity generation facilities with capacity exceeding 300 MW [26]. However, implementation of assistance for ESS development under the GEF project was delayed until the MTR recommended to immediately start work on improving the current framework for environmental and social impact analysis for energy infrastructure projects (MTR Recommendation 3).

Consequently, the project launched work on the revision of ESS guidelines for large-scale RE infrastructure projects in collaboration with the National Agency for Environment Protection (ANPE) under the Ministry of Environment to evaluate the environmental and social impacts of RE projects with capacity under 300 MW. Discussions with ANPE resulted in a proposal for revision of Decree 1991 in terms of revised categories of projects subject to the mandatory assessment of environmental impacts. ANPE requested to align the revised regulations with the provisions of Tunisia's new Constitution and to harmonize impact studies with the requirements of donors by integrating environmental measures with public consultations.

The work was significantly delayed due to COVID-19 restrictions and institutional instability within the ANPE in early 2021 after dismissal of its Director General and two other directors. The ToR for procurement of expert services for elaboration of the ESS guidelines was shared with ANPE for approval in late 2020 but no feedback was received despite several reminders, and an official request from ANME for approval of the ToR. Consequently, the PSC, in its meeting in 2021, assessed this situation and decided that this task could not be completed before the project closure.

[26] Decree N°1991 of 11 July 2005

Output 2.9: Communication of lessons-learned, experiences and best practices relating to the development of energy NAMAs compiled and disseminated (website, publications, manuals, participation in national, regional and international conferences and fora etc.) for operationalising MENA national solar plans (e.g. Morocco, Jordan, Egypt) and to demonstrate an architecture for leveraging private investments and climate finance

In order to respond to the Tunisian Government's commitment to develop a communication strategy and awareness campaigns on the TSP and to promote, on a large scale, the attributes and benefits of the ETF, the project supported the development of a communication plan for ANME.

The communication plan focused on the promotion of renewable energies and energy efficiency, including institutional communication of ANME, a press kit, and two guides on ETF marketing. These products, intended for the general public, integrate aspects relating to the imperatives of combating fuel poverty, low-carbon growth within the framework of sustainable development, and Tunisia's commitment to contribute to the global effort on the fight climate change.

The design and implementation of awareness campaigns for the general public aimed at inducing a change of behaviour capable of supporting the efforts of the public authorities to promote energy efficiency and the use of renewable energies. A communication expert was also recruited to develop a communication plan for the project and to support various communication actions related to the project activities. Three communication campaigns were conducted for the TSP, including one targeted at journalists.

Overall Assessment of Component 2: The project provided essential assistance for development of indicators measuring contribution of the energy sector to the goals and objectives of sustainable development in Tunisia and enabled assessment of public policies related to the mode of production and consumption of electricity.

In Tunisia, the energy sector is the biggest contributor to direct gross GHG emissions, with 27 million tCO_{2e} represented 58% of national gross emissions in 2012[27]. Therefore, effective progress in the energy transition and achievement of the GHG mitigation goals depends heavily on the electricity sector. To this end, the project supported initial work towards the establishment of an independent regulatory authority for the electricity sector. Relevance of this move had been identified as the most important action in the action plan for acceleration of the renewables' targets by 2020 and 2030 that was developed with technical and financial support from the project and subsequently adopted in a inter-ministerial meeting in March 2018. The project also supported the acceleration of the energy efficiency programmes through a draft action plan that will also be discussed in an inter-ministerial meeting. All this advocacy efforts led to very important decisions that will lead to crucial reforms in the sectors like the

[27] Tunisia's 3rd National Communication to UNFCCC

establishment of the independent regulator or the restructuring of ANME and the establishment of a help desk to deal with large scale renewable development.

The importance of this regulatory authority for the implementation of the TSP was confirmed by public and private sector stakeholders, whom expect an independent regulator to reduce the limits and uncertainties of the electricity market, but also to promote renewable energy technologies.

The project sponsored a study for restructuring ANME and assisted in launching the initial restructuring phase. Once fully restructured, the reformed ANME will be able to fully assume its leading role in the development and implementation of national policies on move towards an economy with low GHG emissions. The reform is essential not only for accelerating Tunisia's energy transition, but also for achieving ANME accreditation under the Green Climate Fund.

Although the project did not directly contribute to the development of new regulations on RE, it provided the opportunity for convening public and private stakeholders for discussion on new legislative measures aiming at closing the gaps in the regulatory framework specifically related to renewable energies. In particular, the project engaged in background discussions with STEG and ANME that were essential for identifying the priority needs for strengthening the public grid capacity for absorbing electricity generated from renewable sources. Consequently, the identified needs were integrated in the technical and financial components of the TSP NAMA.

The project also contributed to development of new financial instruments that paved the way for developing new PPP modalities for implementing the TSP. Importance of this support is obvious considering that access to finance for RE projects is still difficult due to several obstacles and risks associated with such investments on the side of financial institutions that cause increased cost of funding to offset the high risks.

The project also made some contribution for mitigatingof the investment risks linked to the RE market among private investors. However, limited focus was given to de-risking national financial institutions, which are expected to either provide the necessary capital or to serve as financial intermediaries for channelling credit lines provided by international development banks.

Based on the above, the achievement of Outcome 2 is rated Satisfactory (S).

Table 185: Deliverables for Outcome 3

Result	Indicator	EOP Targets	Status at TE	Rating
Component 3: Design and implementation of an energy sector NAMA to demonstrate the transformational role of the Tunisian Solar Plan to reduce emissions				
Outcome 3: The TSP is operationalized by demonstrating a proof of-concept energy NAMA with quantified GHG emission reductions	Emission reductions from grid-connected wind and PV power	8,954 tCO2e/year from 10 MW PV plant at Tozeur (35,815 tCO_{2e} between 2016 and 2019 45,775 tCO2e/year from 24 MW wind farm at Gabes (183,100 tCO_{2e} between 2016 and 2019)	Provisional commissioning of Tozeur I solar PV plant in 2019, production data not available Support to pre-qualification of wind project bidders No electricity from the baseline wind project to date	MS

	Number of households benefiting from electricity generated by wind and PV plants (households/year)	Number of households benefiting from renewable energy by end of project 11,544 from PV; 50,016 from wind	50,000 inhabitants to benefit from Tozeur I and II solar PV plants Construction of the wind park not completed	MS

Output 3.1: One private-sector supported wind energy project (Gabes 24 MW grid-connected wind farm) and one public-sector supported PV project (Tozeur 10 MW PV) implemented to validate the adopted framework and methodologies.

In June 2017, the project appointed international and national consultants to provide support and technical assistance to STEG for the identification, purchase, and oversight of installation of equipment for improving performance of the Tozeur PV baseline project in terms of renewable electricity and greenhouse gas (GHG) emission reductions.

Several meetings were held with STEG, as the owner of the Tozeur PV plant, and the German development bank KfW, which provided loans to fund the project proposal to install energy storage batteries. However, due to budgetary issues, it was decided that the KfW would finance the feasibility study of the battery storage facility for two Tozeur PV plants[28], as well as preparation of technical specifications as a follow-up to the initial work conducted under the GEF project.

The Tozeur I plant, designed for 10 MW nominal output, was commissioned in August 2019. However, this was only provisional commissioning with operation in a restricted mode. Full commissioning would require the addition of a battery storage module at the AC side of the plant, whichwould constitute a substantive modification of the installed equipment not in line with the warranty conditions of the equipment supplier. Therefore, the Tozeur I plant production of electricity and related GHG emission reductions in the provisional operational regime is much less than expected for the full production. Exact figures on the produced electricity were not available during preparation of this report.

Together with the Tozeur II plant, designed for nominal output of another 10 MW of solar electricity, the two plants will be able to cover about a third of the energy demand for the city and its nearly 50,000 inhabitants[29].

The other baseline project, namely the 24 MW wind farm at Gabes, was not implemented due to financial issues on the side of the project owner (the Gabes Cement Factory) and legislative issues related to RE installations under the energy auto-production law.

In line with the 2018 action plan for implementation of RE projects in Tunisia, the Government increased the total RE concessions for power generation to 1,000 MW (500 MW capacity each for PV and wind). The pre-qualification invitation for applications from potential developers was launched in May 2018 and resulted in total 16 companies pre-selected for the realization of solar PV plants and 12 companies pre-selected for realization of wind power projects.

[28] In addition to the baseline PV project, STEG launched another 10 MW solar park project in the same area – the Centrale Photovoltaïque Tozeur II. The tender for this project was issued in December 2017.

[29] https://www.kfw.de/stories/environment/renewable-energy/tunisia-solar-panels-tozeur/

The GEF project provided support for wind measurement campaigns in two sites (Jbel Abderrahmane sites in Nabeul Governorate and the Jbel Tbaga site in Kebili Governorate) for a total planned capacity of 300 MW wind power. This work was launched in December 2018 and included field visits to the two sites, fixing the exact position of the measurement mats after several meetings withrelevant national counterparts. The progress of this task work was slowed down by the COVID-19 restrictions.

In January 2019, UPC Renewables was selected as one of the four awarded companies under the authorisation scheme tender to implement its 30MW Sidi Mansour wind project in Northern Tunisia, and subsequently signed a PPA with STEG. Over its lifespan, the Sidi Mansour Project is expected to lead to a reduction of 56,645 CO_{2e}. The total investment size of the project is expected to be approximately US$ 40 million[30].

Overall assessment of Outcome 3: Component 3 of the GEF project was formulated as indirect support to the baseline projects through technical assistance, capacity building, etc. At the time of GEF project conceptualisation, there were few baseline initiatives ready for implementation, and hence, the GEF project developers proposed the two most advanced baseline projects with mixed ownership, i.e. the solar PV project at Tozeur promoted by a public agency (STEG) and the wind project at Gabes owned by a private entity.

The establishment of the indicators and targets under Component 3 was therefore driven by the fundamental operational principle of GEF projects to provide funding for incremental cost of mitigation interventions, while measuring global environmental benefits of the interventions. However, the actual development of the baseline project was entirely beyond the control of the project team. In view of the slow progress of the Tozeur I solar PV project and the cancellation of the Gabes wind park, the targets and perhaps also the indicators of Component 3 should have been revised at the MTR stage, as the original indicators/targets in terms of GHG emission reductions became irrelevant.

The project engaged in discussions with STEG and GIZ that resulted in the preparation of tender documentation for the baseline Tozeur I solar PV project. As a result of the cancellation of the original baseline wind park, the GEF project sponsored wind measurement campaigns at two specific sites with the aim to accelerate the development of wind power capacity in Tunisia. However, due to some legislative issues, the planned targets of GHG emission reductions from the baseline projects could not be achieved.

Based on the above findings, the overall achievement of Outcome 3 is rated **Moderately Satisfactory (MS).**

[30] https://www.upcrenewables.com/others/upc-renewables-north-africa-and-cio-partner-to-develop-the-sidi-mansour-wind-farm-in-tunisia/

Efficiency

The main issues examined in relation to efficiency were the length of the project implementation period, and to what extent the results have been achieved with the least costly GEF and other resources possible.

The project was approved for implementation by GEF CEO on 19 November 2014 for a period of 60 months. The signature of the Project Document by the Government of Tunisia on 6 January 2015 officially marked start of the project implementation. However, the implementation effectively started only in September 2015 with the organization of the 1st PSC meeting and the Inception Workshop. The reason for the initial delay was a long recruitment process for the Project Manager that was concluded by appointment in August 2015.

The original closure date of the project was January 2020. Since the start of the implementation, the project experienced significant delays. Changes in the Tunisian institutional environment and departure of several ANME's senior officials to the private sector had a direct negative impact on the implementation of several key project activities. These challenges were further compounded by administrative delays in the approval of project deliverables by the different actors involved, and the long recruitment of project technical experts due to requirements of high technical skills required. Given the importance of the planned activities and to make up for the delays, the project was awarded a 1-year no-cost extension until 6 January 2021 based on the conclusions of the Mid-Term Review conducted in 2018.

Due to the COVID 19 pandemic and the general lockdown in Tunisia in 2020, several activities experienced significant delays in their implementation, and therefore, an additional 6-month no-cost extension was deemed essential to achieve these objectives, officially extending the project conclusion date to July 2021. An additional short extension was granted for completion of the Terminal Evaluation so the final closure date of the project was 30 September 2021.

The provision of inputs for project activities was negatively affected by the selected modality of implementation that required authorization by the national Implementing Partner for every particular financial transaction. The slow implementation can be seen from the relatively low delivery rates in the initial years of the project. This was also compounded by understaffing of the PMU and several changes in the position of the Project Manager. Once the implementation modality was changed to DIM, the financial delivery dramatically increased, and for the period of January – August 2021 it reached almost 26% of the total financial delivery for the entire project period. Unfortunately, this shift in implementation modality occurred already during the final project extension. Due to the limited time until the project operational closure, the preparatory work on some deliverables had to be cancelled, and therefore, the total implementation progress in terms of financial delivery did not reach 100%.

Based on the above findings, the efficiency in terms of the project timeline and use of resources is rated **Moderately Satisfactory (MS).**

Overall project outcome

Status of achievement of the Project Objective is summarized in Table 19 below.

Table 19: Status of achievement of the Project Objective

Project Objective	Indicator	EOP Targets	Status at TE	Rating
Tunisia's energy sector for achieving emission reductions through the deployment of a TSP NAMA	A NAMA developed for the TSP	A NAMA developed for the TSP and submitted for registration with the UNFCCC NAMA Registry	NAMA incorporated as part of the Tunisia NDC	HS
	Quantity of renewable electricity generated by on-grid baseline projects (MWh/year)	16.9 GWh/yr is generated by 10 MW PV plant at Tozeur; and 86.4 GWh/yr is generated by 24 MW wind farm at Gabes	No information available on GWh/y generated by the Tozeur plant	N.A.
	Quantity of direct GHG emissions resulting from the baseline projects and TSP NAMA (tCO2/year)	Emissions reductions: Total direct emission reductions of 218,900 tonnes CO_2e between 2016 and 2019	Projected reduction of 8,400 tonnes CO_2e/year	S

Preparation of the GEF project started in 2011 under a completely different climate change mitigation architecture. At that time, NAMAs were considered as individual stand-alone actions in distinctive energy production and/or consumption sectors. During the following years, it became obvious that many countries considered NAMAs as a tool for achieving their climate mitigation ambitions known as Intended Nationally Determined Contributions (INDCs). In its INDC prepared in 2015, Tunisia reported the completion of five NAMAs[31]. In line with the above approach, this GEF project set a target to develop a NAMA for the TSP and register the NAMA with the UNFCCC Secretariat.

The Paris Agreement[32] introduced the concept of National Determined Contributions (NDCs) that were considered as a final national goal, whereas NAMAs represented the operational tools for achieving that goal. Once the Paris Agreement entered into force, it was no longer required to register the NAMA at the UNFCCC, and hence, the target for this project partially lost its relevance. The Tunisia's NDC makes explicit reference to the TSP NAMA as a constituent element of the NDC. This GEF project not only assisted in the development of the TSP NAMA but was also successful in its reorientation from a the original relatively narrow focus on the TSP NAMA to a broader focus on various activities under the NDC. This reorientation included a greater focus on the role of the TSP in the country's energy sector transformation, as well as the provision of support to develop climate mitigation programmes and strategies by facilitating participation of relevant stakeholders in the national debate on renewable energies.

The setting of the other two EOP indicators/targets at the project objective level followed the assumption of commissioning of the two baseline projects soon after the GEF project inception. However, due to implementation delays and legislative/regulatory issues, only the solar PV project was commissioned during the GEF project although much later than initially assumed (as of August 2019). Data on electricity generated by the Tozeur I solar park since August 2019 is not available. The baseline wind park at Gabes was cancelled. The delay and cancellation obviously prevented achievement of the EOP targets, namely the planned quantity of energy generated and planned GHG emission reductions by the two baseline investment projects.

[31] (i) NAMA Cement, (ii) NAMA Buildings (iii) NAMA Electricity Sector, (iv) NAMA Forests, and (v) NAMA Sanitation – Tunisia INDC, August 2015.

[32] Adopted by the UNFCC COP21

Achievement of the energy production and GHG emission reduction targets was dependent on progress in the construction of the solar PV and wind parks, which encountered significant legislative and financial barriers that were outside of the control of the GEF project team. This situation was obvious at the stage of the MTR. Although the latter recommended the extension of the original GEF project focus from NAMA to the wider focus on the NDC, it did not recommend any revision of the EOP targets at the project objective level.

Based on the above findings, the overall achievement of the Project Objective is rated Moderately Satisfactory (MS).

Sustainability

Sustainability of the project is judged by the commitment of the beneficiary country to continue and replicate the project activities beyond the project completion date. The evaluation identifies key risks to sustainability and explains how these risks may affect continuation of the project benefits after the project closes. The assessment covers institutional/governance risks, financial, socio-political, and environmental risks.

Institutional framework and governance: The Government of Tunisia has established relevant national policies as well as legal and regulatory frameworks for the development of renewable energies. The project supported the development of several additional instruments for amendment and enhancement of the existing legal framework supportive to investments in renewable energy. Moreover, ANME is preparing a 10-year energy-climate plan to greatly support the role of renewable energies in improving energy independence, diversifying the energy mix, reducing the import of fossil fuels, and reducing GHG emissions from the energy sector. The plan will be largely based on some of the project's outputs such us the NAMA for the energy sector, the action plan for the acceleration of the implementation of renewable energy projects in Tunisia ,and the study on the assessment of vulnerability of the energy system.

Further support to establishment of a strategic institutional framework for climate actions is provided under the GIZ-funded project "Setting up institutional capacities for NDC implementation in Tunisia".

While the concession and licence regimes for producing electricity have been operationalized, there are persisting challenges in the implementation of the self-production scheme. Law 12 (2015) in its initial version allowed any local public or private company to produce electricity from RE for self-consumption purposes, with the right to sell energy surplus to STEG. However, amendment by Law 47 (2019) introduced a modality for sales to third parties. Reportedly, STEG trade unions made objections to the implementation of the modified self-production scheme and has requested the Government of Tunisia to revise the regulatory framework for the self-production scheme.

Based on the above, the institutional framework and governance sustainability is rated **Likely (L).**

Financial sustainability: The financial sustainability is judged by the commitment of the project stakeholders to continue support for sustaining the already realized project benefits and their replication to new additional locations.

The Government of Tunisia and other project stakeholders demonstrate a strong commitment towards the implementation of the TSP. There are strong macroeconomic pressures on the Government, including the growing trade deficit in energy and the increasing fiscal burden of fuel subsidies, that represent strong incentives to continue its support to implementation of TSP. Other donors recognise the national commitments and provide continued support for RE. Under the German-Tunisian Energy Partnership, GIZ provides support for the establishment of a digital platform for improved monitoring of private projects on electricity generation from RE sources. Moreover, GIZ is preparing to launch a project on accelerated energy transition in Tunisia as well as the 2nd phase of the TSP support project.

The TSP is also implemented by independent electricity producers (IPP) which have been awarded numerous concessions. This is the case of the Norwegian company Scatec, which has been building three solar power plants with a total capacity of 360 MWp in Tozeur (60 MW), Sidi Bouzid (60 MW), and Tataouine (240 MW). The French IPP Akuo Energy and its partners HBG Holding and Nour Energy will supply 10 MW from the Gabes solar power plant. These companies have signed power purchase agreements (PPAs) with STEG.

The European Bank for Reconstruction and Development (EBRD) is supporting the decarbonisation of Tunisia's energy sector through the introduction of robust climate governance measures, policy engagement to support solar and wind programmes, and strengthening the financial power of STEG.

Based on the above, financial sustainability is rated **Likely (L).**

Socio-economic sustainability: Renewable energy deployment has the potential to increase national income, improve trade balance, as well as to contribute to industrial development and job creation. Opportunities for positive socio-economic impact exist in each stage of the solar and wind energy projects, including project planning, equipment manufacturing and installation, connection to grid, operation and maintenance, as well as decommissioning.

In the planning segment, the added value is created by engaging national experts and companies to conduct resource assessments, feasibility studies, and legal reviews. In manufacturing, the added value is created in the sourcing of raw material and the manufacturing sub-components, assembling and spare parts. The value created in the installation phase arises mostly from labour-intensive activities in civil engineering infrastructure works and assembling of wind or solar plants. The grid connection stage involves grid operators responsible for integrating renewable generation as well as local companies to undertake any related infrastructure development. Operation and maintenance offer long-term opportunities for involvement of small and medium enterprises (SMEs), while decommissioning of RE plants at the end of their lifespan involve recycling industries, demolition activities, and the eventual refurbishing of parts of equipment for sale to new markets.

Further positive socio-economic effects originate in the processes complementing the life cycle of wind and solar energy projects, such as financial services, education, research and

development, and consulting. Overall, further building of a solar industry would help to even out inequalities between Tunisia's well developed coastal and relatively underdeveloped inland areas.

Several previous evaluative works noted the emerging political context in Tunisia with the appearance and some interest groups in the country after the 2011 revolution. The interests of some of these groups do not favour the promotion of private sector participation and investment into electricity generation by RE sources. A case in point are objections of STEG trade unions related to the auto-production modality that is considered as a vested privatisation of parts of the electricity sector.

Based on the above socio-economic sustainability is rated **Likely (L).**

Environmental sustainability: Global environmental benefits of solar PV and wind projects are obvious, as the employment of these technologies for energy generation reduce GHG emissions from fossil energy sources they replace. However, large-scale RE installations may substantially impact the local and/or regional environment. The land most suitable for solar energy is in dry climates where water is extremely scarce. While solar PV use little water, concentrating solar power (CSP) plants use sizeable quantities of water for cooling and cleaning purposes. Therefore, such installations could become a competitors with local agriculture for water in case of water scarcity.

Current legislation requires that EIA is mandatory only for investment projects over 300 MW. Despite the planned revision of the ESS guidelines for smaller projects below the above threshold was started under the GEF project, this activity was not completed. Absence of screening and assessment of environmental impacts of smaller projects could produce unwanted negative environmental impact.

Based on the above, the environmental sustainability is rated **Likely (L).**

The overall rating for sustainability is rated **Likely (L).**

Country ownership

In order to examine the country ownership, GEF evaluations are required to find evidence that the project fits within stated sector development priorities, and also that outputs, such as new environmental laws, have been developed with involvement from the governmental officials and have been adopted into national strategies, policies, and legal codes.

The project was designed upon extensive consultations with an array of public stakeholders, including extensive inputs from the key agencies of the Government. A high level of country ownership of the project was one of the key assumptions made during the project design phase. High level of commitment at the beginning of the project was documented by the co-financing letters from the agencies of the Government of Tunisia, as well as owners of the two baseline RE projects.

Strong ownership of the project by different government stakeholders and the private sector was sustained throughout the project implementation and proved to be one of the critical drivers towards the achievement of planned results. This was demonstrated by active participation and

engagement of relevant public institutions and private entities in the project and a strong role of the PSC in providing strategic guidance and operational oversight to the project. However, this general interest and ownership of the project was not fully cascaded down into participation of key stakeholders in the project implementation. Several activities had to cancelled due to the fact that despite numerous reminders by the project team some stakeholders did not approve the elaborated ToRs. The lack of proactive interest of the stakeholders in particular project activities somewhat diminished the otherwise strong country ownership of the project.

Gender equality and women's empowerment

The focus of this section is to discuss to what extent the project mainstreamed UNDP priorities such as poverty alleviation, improved governance, and women's empowerment**,** i.e. whether it is possible to identify and define positive or negative effects of the project on local populations**,** whether gender issues had been taken into account in the project design and implementation, and in what way the project has contributed to greater consideration of gender aspects.

The project was prepared shortly after the issuance of the GEF Policy on Gender Mainstreaming[33] that expresses GEF's commitment to enhancing the degree to which the GEF and its implementing agencies promote the goal of gender equality through GEF-funded projects. Although there was no specific gender strategy, the project did make basic efforts to include gender perspectives.

During project implementation, some attention was given to the inclusion of women in various capacity building activities and training workshops on RE. A basic analysis of the impacts of energy transition policies (including the Tunisian Solar Plan) on gender equality was conducted during the preparation of an information system for tracking the sustainable development aspects of energy transition and climate change mitigation policies in Tunisia.

The TSP project is a typical technical assistance project that can made direct contribution through increased participation of women in capacity building activities and encouragement of female technical experts. Indirect effect on gender equality and empowerment through the baseline projects was not realized due to delayed launching of the solar project and cancellation of the wind project. In general, there is a room for improvement towards a stronger monitoring and reporting frameworks of GEF projects, mainly in terms of information collection about gender dimensions of associated baseline projects. Availability of such information would enhance reporting of indirect impacts on gender in line with GEF and UNDP policies on gender mainstreaming.

Cross-cutting issues

At the time of the GEF project preparation, cross-cutting issues were not central to the formulation of NAMA support projects. The TSP NAMA indirectly comprises some cross-cutting dimensions in terms of producing specific co-benefits of renewable energies on human

[33] Policy on Gender Mainstreaming, Global Environmental Facility, May 2012

rights and poverty alleviation, including reduced local air pollution and related health benefits, as well as the improvement of living standards, job creation, economic diversification, and provision of access to energy among rural households.

Nevertheless, cross-cutting issues were not incorporated into the design and implementation of the project and the impact on human rights, poverty and marginal communities could have received greater attention during the design and implementation of the project.

GEF additionality

The traditional concept of additionality in the GEF projects are based on the incremental cost approach to ensure that GEF funds do not substitute for existing development finance, but rather provide additional resources to produce global environmental benefits. This concept presents the additionality as a narrow focus on specific environmental benefits from GEF funding but does not recognize other objectives that support the achievement of the global environmental benefits over a longer term.

The special environmental benefits from this project are examined under the assessment of the project objective. In line with recent developments of evaluation methodology of GEF projects, the GEF additionality is examined in terms of changes in the attainment of direct project outcomes at project completion that can be attributed to GEF's interventions[34].

The project provided a legal/regulatory additionality through its support for the development of legal and regulatory frameworks and their accelerated adoption into practice. Institutional additionality was provided through assistance for the restructuring of ANME and capacity building of STEG for planning and monitoring of solar PV and wind projects.

Catalytic/Replication effect

The project does not have an explicit exit strategy that would outline steps and activities to ensure sustainable management of the achieved results by the project stakeholders after the end of the donor support. A draft exist strategy was allegedly prepared near the closure of the project but was not available to the evaluator. As there has been systematic and long-term support of the RE development by other donors, the project has a potential for replication in other countries with high PV potential that are highly dependent on fossil fuels.

Progress to impact

It is often too early to assess the long-term impacts of a project at the point of its completion as many results, particularly environmental benefits, can take several years to manifest. Nonetheless, reviewing progress to impacts at project completion helps determine the extent to which long-term results are likely.

The immediate impact of the project lies in the broader adoption of a climate change mitigation architecture in the energy sector and transformational change, under which Tunisia has

[34] An Evaluative Approach to Assessing GEF's Additionality, GEF/ME/C.55/inf. 01

successfully upgraded the positioning of NAMAs in the climate change mitigation architecture for the revision of the NDC and its implementation in the future. There has been limited impact related to the Tozeur I solar PV park that is still under provisional commissioning. Apart from global environmental benefits, the operation of the solar park has also had a positive financial impact for STEG in terms of payments for the fossil sources of energy replaced by RE.

Collectively with the array of interventions funded by GIZ, the GEF project contributed to sizeable development of RE projects for electricity production in the last 4 years. Under the concession scheme, 500 MW capacity in solar PV and another 500 MW in wind energy were the subject of calls for tenders in 2018 and 2019. This was complemented by 203 MW of solar PV capacity and 120 MW of wind power capacity licensed after three calls for projects in May 2017, May 2018, and July 2019.

The summary of ratings of the mandatory evaluation criteria is in the Table 20 below.

Table20: Overall Project Rating

Evaluation Criteria	Evaluation Rating
Monitoring and evaluation: design at entry	Satisfactory (S)
Monitoring and evaluation: implementation	Satisfactory (S)
Overall quality of monitoring and evaluation	**Satisfactory (S)**
Quality of UNDP Implementation	Satisfactory (S)
Quality of Execution - Executing Agency	Satisfactory (S)
Overall quality implementation / execution	**Satisfactory (S)**
Relevance	**Relevant (R)**
Effectiveness	
Outcome 1	Satisfactory (S)
Outcome 2	Satisfactory (S)
Outcome 3	Moderately Satisfactory (MS)
Efficiency	**Moderately Satisfactory (MS)**
Overall Project Objective rating	**Moderately Satisfactory (MS)**
Overall likelihood of sustainability	**Likely (L)**
Institutional framework and governance	Likely (L)
Financial	Likely (L)
Socio-economic	Likely (L)
Environmental	Likely (L)

MAIN CONCLUSIONS

The project contributed to capacity building of the ministries and agencies involved in the design and implementation of the TSP NAMA. It also enabled improved response to Paris Agreement requirements in relation to actions for mitigating GHG emissions and improved monitoring of NAMAs in the energy sector. The capacity building component also targeted the Ministry in Charge of Environment as the responsible body for the implementation of Tunisia´s Nationally Determined Contribution (NDC), as well as the monitoring, reporting and verification (MRV) of GHG emissions.

The project also supported the elaboration of a comprehensive report entitled "Tunisia: De-risking Renewable Energy Investment 2018" containing an analysis of the evolving national institutional context that confirmed the necessity to continue the strengthening of the institutional and regulatory framework for renewable energy in Tunisia. Support for the implementation of the system dynamics modelling (SDM) enabled comprehensive understanding of the constituent components of the energy sector and their interactions, thus contributing to effective mitigation of undesirable outcomes.

In collaboration with parallel initiatives, the project contributed to the evolution of ANME's information system (Ener-info) into a techno-economic simulation model, capable of simulating GHG emissions in the energy sector based on various scenarios, which helped Tunisia in developing a long-term vision for energy policy and assessing the macro-economic impact of the penetration of renewable electricity into the national energy mix. This foresight work allowed setting ambitious mitigation objectives for 2030 and 2050 horizons, that were used to update the Nationally Determined Contribution according to Tunisia's climate change commitments under the Paris Agreement.

The project provided essential assistance for the development of indicators to measure the contribution of the energy sector to the attainment of Tunisia´s sustainable development goals and objectives, enabling the assessment of public policies related to electricity production and consumption modes.

In Tunisia, the electricity sector represents substantive part of the national primary energy consumption and the national GHG emissions. Therefore, effective progress towards the achievement of a renewable energy transition and the attainment of GHG mitigation targets depends heavily on the electricity sector. To this end, the project supported initial work towards the establishment of an independent regulatory authority for the electricity sector. Relevance of this move had been identified as the most important action in the accelerated action plan for renewable energies. The importance of such independent regulatory authority for the implementation of the TSP was confirmed by public and private sector stakeholders whom expect an independent regulator to reduce the limits and uncertainties of the electricity market to facilitate the energy transition, but to also promote renewable energy technologies in the fortified market.

The project sponsored a study for restructuring ANME and assisted in launching the initial restructuring phase. Once fully restructured, ANME will be able to fully assume its leading role in the development and implementation of national policies towards a low-carbon

economy. The reform is essential not only for accelerating Tunisia's energy transition, but also for accrediting ANME under the Green Climate Fund (GCF).

Although the project did not directly contribute to developing new regulations on renewable energy (RE), it provided the opportunity for convening public and private stakeholders for discussion on new legislative measures aiming at closing the gaps in the regulatory framework specifically related to renewable energies. In particular, the project engaged in background discussions with ANME and the Tunisian Company for Electricity and Gas (STEG), which were essential for identifying the priority needs for strengthening the public grid capacity for absorbing electricity generated from renewable sources. Consequently, the identified needs were integrated in the technical and financial components of the TSP NAMA.

The project also contributed to the development of new financial instruments that paved the way for developing new public private partnership (PPP) modalities for implementing the TSP. Importance of this support is critical considering that access to finance for RE projects is still difficult in Tunisia due to several risks and barriers for such investments among financial institutions that cause increased funding costs for offsetting the elevated investment risks. As such, the project also made some contribution for mitigating the investment risks linked to the RE market among private investors. However, limited focus was given to de-risking national financial institutions, which are expected to either provide the necessary investment capital or to serve as financial intermediaries for channelling credit lines provided by international development banks.

The planned GHG emission reduction targets from the two baseline projects (a 10 MW public sector solar photovoltaic plant and a 24 MW private sector wind park) could not be achieved. The project engaged in discussions with STEG and the German International Co-operation Agency (GIZ) that resulted in the preparation of tender documentation for the baseline Tozeur I solar PV plant that was provisionally commissioned in late 2019 but has not been operating at its full nominal power output capacity due to slow progress with commissioning.

RECOMMENDATIONS

This terminal evaluation makes two types of recommendations. Recommendations on substantive matters are provided for consideration of the national project partners in order to ensure the project results are consolidated and sustained by relevant project stakeholders. These recommendations are suggested for implementation as soon as possible, using the existing institutional capacities and frameworks that have been created by the current project. Recommendations on programmatic matters are provided for preparation of future GEF-funded projects.

A short specific conclusion, is followed by a recommendation as a corrective action proposed to be taken by relevant project stakeholders to address the deficiencies identified in the findings and conclusions.

Recommendations to follow-up and/or reinforce initial benefits from the project

Conclusion 1: Although the project is operationally closed, there is a need to continue few activities that had been initiated in the last year of the project implementation period, in particular to continue the work on the ANME restructuring.

Recommendation 1: *UNDP CO should continue discussion with ANME about further assistance in ANME restructuring.*

Conclusion 2: Multilateral and bilateral donors are required to conduct environmental and social screening for RE investment projects. Absence of adopted guidelines for environmental and social screening of RE projects under 300 MW could limit access to funding for future investments into such projects, as completion of ESS is essential not only for environmental and social sustainability of RE projects, but also for meeting mandatory requirements of donors and development banks.

Recommendation 2: UNDP and ANME should pursue the elaboration of the guidance for environmental and social Screening of RE projects under 300 MW.

Conclusion 3: In line with the Paris Agreement, the TSP NAMA contributes to the NDCs. A robust monitoring, reporting and verification system (MRV) was developed under previous projects. It is desirable to continue training of personnel for managing and undertaking MRV actions for NAMAs that contribute to NDCs.

Recommendation 3: ANME should pursue further improvement of the existing national expertise for undertaking monitoring, reporting and verification (MRV) actions for projects implemented under the TSP that are important for setting national climate actions, climate-related targets, and policies in the area of renewable energies as a contribution to implementation of the revised Nationally Determined Contributions.

Conclusion 4: Coordination between various climate change mitigation initiatives in Tunisia has been established at the level of donor agencies and development banks. Establishment of a permanent institutional oversight and coordination framework at the level of the Government of Tunisia can bring more synergies and mutual reinforcement between individual donor-funded projects and initiatives, as well as avoid duplication of efforts.

Recommendation 4: The Government of Tunisia should consider the establishment of a permanent institutional framework for the coordination of donor-funded climate change mitigation projects and initiatives.

Conclusion 5: Although it was originally planned under the project, the acquisition of a software for wind projects was not conducted due to budgetary and time constraints. Availability of the software would further enhance national capacities for planning and assessing wind projects.

Recommendation 5: Under future international assistance projects, the Government of Tunisia should pursue the acquisition of windPRO or similar software, and related training for STEG.

Recommendations to improve the design and monitoring of future projects on renewable energy and energy efficiency

Conclusion 6: A well-prepared project results framework is important to ensure projects have clear linkages to global benefits in terms of sustained generation of energy and GHG emission reductions through a Theory of Change analysis.

Recommendation 6: For future projects on RE, UNDP CO should ensure that a rigorous Theory of Change is part of the project design and used as a basis for the preparation of the project results framework.

Conclusion 7: Absence of defined activities in the Project Document requires considerable time for their development by the project implementing team after the project inception and thus causes implementation delays.

Recommendation 7: UNDP CO should ensure that sets of project activities are developed for each project output at the stage of the project formulation and explicitly listed in the Project Document submitted for GEF CEO approval.

Conclusion 8: Lack of specific technical knowledge in the Project Management Unit hinders smooth implementation of RE projects.

Recommendation 8: UNDP CO should ensure that management arrangements for future RE projects include the acquisition of initial short-term of international expertise for preparation and planning of activities in specific technical areas required by the projects.

Conclusion 9: Setting of project indicators and targets at the level of the project objective should be realistic in terms of what a GEF project can actually achieve during the typical relatively short implementation period.

Recommendation 9: UNDP CO should ensure that the project designers undertake a careful assessment of the potential provision of global environmental benefits from RE projects already during the projects' implementation phase and, wherever possible, focus the project objective indicators and targets on immediate post-project time periods.

Conclusion 10: Some of the targets at the level of the project objective became unrealistic due to slow progress of the baseline projects owned by third parties. Although the MTR identified some corrective actions, it did not propose adjustment to more realistic targets.

Recommendation 10: UNDP CO should ensure that the Mid-Term Review of GEF projects includes a careful assessment of the indicators, and, wherever necessary, proposes the adjustment of the targets to realistic and achievable values.

Conclusion 11: Planning and implementation of investment baseline projects can be delayed if a detailed analysis of gaps in national legislative and regulatory frameworks is not conducted at the project conceptualization phase.

Recommendation 11: For future RE projects, UNDP CO should ensure rigorous review of national legislative and regulatory frameworks that have direct impact on the inclusion of demonstration and investment baseline projects as components of the GEF projects.

Conclusion 12: Renewable energy investment projects require financing that in many cases is sourced from existing financial markets. There was no involvement of local financial sector in the project.

Recommendation 12: UNDP CO should ensure that the design of future energy projects include activities targeting the engagement of the local financial sector in order to mitigate the perception of risks related to investments into renewable energy and energy efficiency technologies and projects.

Conclusion 13: Due to the sustained commitment of the donor community to gender equality, there is an increasing need for the inclusion of gender perspectives into future design and implementation of RE projects.

Recommendation 13: UNDP CO should ensure that the design of future energy projects include gender mainstreaming based on an analysis of potential impacts of the planned interventions on men and women, and that monitoring of the projects systematically capture and report information about the gender balance of results.

Conclusion 14: At project inception, the project partners made commitments to co-financing of the project activities. Information about the actual co-financing provided was not readily available for terminal evaluation.

Recommendation 14: UNDP CO should ensure that information on actual project co-financing is systematically tracked during the project implementation and is included in the last Project Implementation Report.

Lessons learned and good practices

The project was formulated in line with the GEF fundamental operational principle of incremental cost funding under which the GEF funds are used towards the removal of barriers to implementation of baseline projects and upscaling of RE investments through the TSP. However, the EOP indicators at the level of the project objective were set in terms of quantities of energy generated and related GHG emission reductions from operation of the baseline projects. This is a self-contradiction: on one hand, the EOP targets depend on operation of the baseline projects, and on the other hand, the baseline projects are owned by third parties for which the GEF project thus does not have control over commissioning progress.

This experience from this project shows that assumptions about fast progress towards operationalisation of baseline projects within 1-2 years after the GEF project inception could prove to be not realistic, as there is usually an array of internal and external circumstances and factors that influence progress towards commissioningbaseline projects. The takeaway lesson is that it is safer to set EOP indicators and targets in terms of post-project energy generated quantities and related GHG emission reductions rather than to make unrealistic assumptions

about the environmental benefits from baseline investments during the GEF project implementation period.

Specifically in relation to private sector development of RE power output capacities, the project was developed when the monopoly of power generation, transmission, and distribution of electricity by a public company prevailed and when the policy and regulatory frameworks for support of private investments in RE were still under development. In this situation, the target for having a private sector wind project generation electricity soon after was unrealistic.

As project conceptualization and formulation usually takes several years, the project design can't anticipate all changes of external conditions, particularly in a fast-evolving and volatile international environment and negotiations related to climate change. Implementation experience from this project proves the critical importance of adaptive management for keeping the project on track towards the planned results without changing the project's basic architecture (objective and outcomes).

Also, the project design was not optimal as it did not contain activities for implementing the planned outputs. The project team that was finally in place after a relatively long recruitment process had to spend considerable amount of time in developing sets of activities for the planned outputs. Therefore, while absence of prescribed activities in the project design provides some level of flexibility, it takes considerable amount of time to develop a reasonable set of activities for implementation, which may instil important delays in project delivery.

Projects for development of NAMAs in developing countries require a certain level of technical knowledge that is usually difficult to find locally. This was proven by the implementation experience from this project. Therefore, it is desirable to solicit relevant short-term international experience at the project outset in order to fill the gap in local technical knowledge.

Experience from implementation of this project also shows the importance of continued risk assessment not only at the design phase, but throughout the entire implementation period. This concerns the identification and assessment of risks with relatively low probability that could have a very high negative impact on the implementation of the project.

NIM with full UNDP support was appreciated by the project stakeholders as an effective implementation modality, in particular for procurement of goods and services. Joint preparation of procurement documentation and joint evaluation of received bids allowed for capacity building of the designated national Implementing Partner about international procurement principles and standards guaranteed by UNDP, and ensured expeditious execution of procurement events.

Annex 1: Evaluation Terms of Reference

The Terms of Reference for the Terminal Evaluation is available through the following link: https://procurement-notices.undp.org/view_notice.cfm?notice_id=79003

Annex 2: Evaluation Matrix

Evaluative Criteria Questions	Indicators	Sources	Methodology
Relevance: How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels?			
• Does the project relate to the GEF Chemicals focal area and has it been designed to deliver global environmental benefits in line with relevant international climate change objectives?	• The project includes the relevant GEF outcomes, outputs and indicators • The project makes explicit links with global climate action goals	• Project Document • GEF 6 Focal Area Strategy	• Desk Review of Documents
• Is the project aligned to national development objectives, broadly, and to national energy transition priorities specifically?	• The project design includes explicit links (indicators, outputs, outcomes) to the national development policy/national energy policies	• Project Document • National development strategy, energy policies, etc.	• Desk Review of Documents
• Is the project's Theory of Change relevant to addressing the development challenge(s) identified?	• The Theory of Change clearly indicates how project interventions and projected results will contribute to the reduction of the three major barriers to low carbon development (Policy, institutional/ technical capacity and financial)	• Project Document • PIF	• Desk Review of Documents
• Does the project directly and adequately address the needs of beneficiaries at local and regional levels?	• The Theory of Change clearly identifies beneficiary groups and defines how their capabilities will be enhanced by the project	• Project Document • PIF	• Desk Review of Documents
• Is the project's results framework relevant to the development challenges have the planned results been achieved?	• The project indicators are SMART • Indicator baselines are clearly defined and populated and milestones and targets are • The results framework is comprehensive and demonstrates systematic links to the theory of change	• Project Document • PIF	• Desk Review of Documents
• Have the relevant stakeholders been adequately identified and have their views, needs and rights been considered during design and implementation?	• The stakeholder mapping and associated engagement plan includes all relevant stakeholders and appropriate modalities for engagement.	• Project Document • Inception report	• Desk Review of Documents • Stakeholder Interviews

		• Planning and implementation have been participatory and inclusive	• Stakeholder mapping/engagement plan and reporting • Quarterly Reports • Annual Reports (PIR)	
	• Have the interventions of the project been adequately considered in the context of other development activities being undertaken in the same or related thematic area?	• A partnership framework has been developed that incorporates parallel initiatives, key partners and identifies complementarities	• Project Document • Quarterly Reports • Annual Reports (PIR) • Stakeholder mapping/engagement plan and reporting	• Desk Review of Documents • Stakeholder Interviews
	• Did the project design adequately identify, assess and design appropriate mitigation actions for the potential social and environmental risks posed by its interventions?	• The SES checklist was completed appropriately and all reasonable risks were identified with appropriate impact and probability ratings and risk mitigation measures specified	• Project Document • SES Annex	• Desk Review of Documents
Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?				
	• Has the project achieved its output and outcome level targets?	• The project has met or exceeded the output and outcome indicator end-of-project targets	• Quarterly Reports • Annual Reports (PIR) • Site visit/field reports	• Desk Review of Documents • Interviews with project staff, stakeholders and beneficiaries
	• Have lessons learned been captured and integrated into project planning and implementation?	• Lessons learned have been captured periodically and/or at project end	• Validation Workshop Minutes *(if available)* • Quarterly Reports • Annual Reports (PIR)	• Desk Review of Documents • Interviews with project staff, stakeholders and beneficiaries
	• Has the M&E plan been well-formulated, and has it served as an effective tool to support project implementation?	• The M&E plan has an adequate budget and was adequately funded • The logical framework was used during implementation as a management and M&E tool	• Project Document • M&E Plan • AWPs • FACE forms	• Desk Review of Documents • Interviews with project staff and government stakeholders

		• There was compliance with the financial and narrative reporting requirements (timeliness and quality) • Monitoring and reporting has been at both the activity and results levels	• Quarterly Narrative Reports • Site visit reports	
	• Were relevant counterparts from the Government and civil society involved in project implementation, including as part of the Project Board?	• The Project Board participation included representatives from key project stakeholders	• Project Board Minutes *(if available)*	• Interviews with project staff, stakeholders and beneficiaries
	• How effective were the partnership arrangements under the project and to what extend did they contribute to achievements of the project results?	• A partnership framework has been developed that ensured coordination of parallel initiatives, involvement of key partners and identification of complementarities	• Annual Reports (PIR) • Quarterly reports	• Desk Review of Documents • Interviews with project staff, stakeholders and other donors
	• How well were risks (including those identified in the Social and Environmental Screening (SES) Checklist), assumptions and impact drivers being managed?	• A clearly defined risk identification, categorization and mitigation strategy (updated risk log in ATLAS)	• UNDP ATLAS Risk Log • M&E Reports	• Desk Review of Documents • Interviews with project staff, stakeholders and beneficiaries
• Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards?				
	• Did the project adjust dynamically to reflect changing national priorities/external evaluations during implementation to ensure it remained relevant?	• The project demonstrated adaptive management and changes were integrated into project planning and implementation through adjustments to annual work plans, budgets and activities • Changes to AWP/Budget were made based on mid-term or other external evaluation • Any changes to the project's planned activities were approved by the Project Board • Any substantive changes (outcome-level changes) approved by the Project Board and donor, as required	• Annual Work Plans • Validation Workshop Minutes • Quarterly Reports • Annual Reports (PIR) • Project Board meeting minutes *(if available)*	• Desk Review of Documents • Interviews with project staff, stakeholders and beneficiaries
	• Was the process of achieving results efficient? Did the actual or expected results (outputs and outcomes) justify	• The project achieved the planned results in an efficient manner	• Annual Workplans • Quarterly Reports	• Desk Review of Documents

	the costs incurred? Were the resources effectively utilized?	• Funds used for project implementation were utilized affectively and contributed to achievement of project results	• Project document	• Interviews with project staff, stakeholders, beneficiaries
	• What were the strengths and weaknesses of the implementation modality?	• The project implementation followed the division of responsibilities between the project implementing partners in an efficient manner	• Annual Reports (PIR) • Quarterly reports	• Desk Review of Documents • Interviews with project staff, stakeholders, beneficiaries
	• Was co-financing adequately estimated during project design (sources, type, value, relevance), tracked during implementation and what were the reasons for any differences between expected and realised co-financing?	• Co-financing was realized in keeping with original estimates • Co-financing was tracked continuously throughout the project lifecycle and deviations identified and alternative sources identified • Co-financiers were actively engaged throughout project implementation	• Annual Work Plans (AWPs) • Validation Workshop Minutes *(if available)* • Quarterly Reports, including financial reports • Annual Reports (PIR)	• Desk Review of Documents • Interviews with project staff, stakeholders, other donors and beneficiaries
	• Was the level of implementation support provided by UNDP adequate and in keeping with the implementation modality and any related agreements?	• Technical support to the Executing Agency and project team were timely and of acceptable quality. • Management inputs and processes, including budgeting and procurement, were adequate	• UNDP project support documents (emails, procurement/ recruitment documents) • Quarterly Reports • Annual Reports (PIR)	• Desk Review of Documents • Interviews with project staff, UNDP personnel
	• Were financial audit/spot check findings adequately addressed and relevant changes made to improve financial management?	• Appropriate management responses and associated actions were taken in response to audit/spot check findings. • Successive audits demonstrated improvements in financial management practices	• Project Audit Reports	• Desk Review of Documents
• Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results?				
	• Are there political, social or financial risks that may jeopardize the sustainability of project outcomes?	• The exit strategy includes explicit interventions to ensure sustainability of relevant activities	• Program Framework Document • Risk Log	• Desk Review of Documents

	• What are the factors that will require attention in order to improve prospects of sustainability and potential for replication?	• The exit strategy includes explicit interventions to ensure sustainability of relevant activities and identifies relevant factors requiring attention in the future	• Program Framework Document	• Desk Review of Documents
	• Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize sustainability of project benefits?	• The exit strategy identifies relevant socio-political risks and includes explicit interventions to mitigate same	• Program Framework Document • Risk Log	• Desk Review of Documents
	• Have key stakeholders identified their interest in project benefits beyond project-end and accepted responsibility for ensuring that project benefits continue to flow?	• Key stakeholders are assigned specific, agreed roles and responsibilities outlined in the exit strategy	• Program Framework Document • Risk Log	• Desk Review of Documents
	• Are there ongoing activities that may pose an environmental threat to the sustainability of project outcomes?	• The exit strategy identifies relevant environmental risks and includes explicit interventions to mitigate same	• Program Framework Document • Risk Log	• Desk Review of Documents
Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?				
	• Are there verifiable improvements in ecological status, or reductions in ecological stress, that can be linked directly to project interventions?	• The project has contributed directly to improved ecological conditions, including through reduced GHG emissions for energy generation	• Quarterly Reports • Annual Reports (PIR)	• Desk Review of Documents

CROSS-CUTTING ISSUES: PROMOTION OF UN VALUES FROM A HUMAN DEVELOPMENT PERSPECTIVE			
Evaluation Questions	**Indicators**	**Sources**	**Methodology**
Supporting policy dialogue on human development issues			
• To what extent did the initiative support the government in monitoring achievement of MDGs? • What assistance has the initiative provided supported the government in promoting human development approach and monitoring MDGs? • To what extent do the project objectives conform to agreed priorities in the UNDP country programme document (CPD) and UNDAF?	• Level of contribution of the project to the achievement of MDGs • Level of alignment of the project objectives with the CPD and UNDAF	• Project documents • Evaluation reports • HDR reports • MDG reports • National Planning Commission • Ministry of Finance	• Interviews with government partners • Desk review of secondary data
Contribution to gender equality			
• To what extent was the UNDP initiative designed to appropriately incorporate in each outcome area contributions to attainment of gender equality? • To what extent did UNDP support positive changes in terms of gender equality and were there any unintended effects? • Provide example(s) of how the initiative contributes to gender equality. • Can results of the programme be disaggregated by sex?	• Level and quality of monitoring of gender related issues	• Project documents • Evaluation reports • UNDP staff • Government partners • Beneficiaries	• Interviews with UNDP staff and government partners • Observations from field visits • Desk review of secondary data
Addressing equity issues (social inclusion)			
• How did the UNDP initiative take into account the plight and needs of vulnerable and disadvantaged to promote social equity, for example, women, youth, disabled persons?	• Level and quality of monitoring of social inclusion related issues	Project documents Evaluation reports UNDP staff Government partners • Beneficiaries	• Interviews with UNDP staff and government partners • Observations from field visits

	• To what extent have indigenous peoples, women, conflict-displaced peoples, and other stakeholders been involved in pro- ject design? • Provide example(s) of how the initiative takes into account the needs of vulnerable and dis- advantaged groups, for example, women, youth, disabled persons • How has UNDP programmed social inclusion into the initiative?			• Desk review of secondary data

Annex 3: List of People Interviewed

Representative	Organization	Function/Position
Afef Jaafar	National Energy Management Agency (ANME)	National Project Coordinator
Nafaa Baccari	National Energy Management Agency (ANME)	Director, Renewable Energy Division
Chokri Mezghani	Ministry of Local Affairs and Environment	Director, General Directorate for Sustainable Development
Sabria Bnouni	Ministry of Local Affairs and Environment	Director, General Directorate for External Relations GEF Operational Focal Point
Amin Chtioui	German Agency for International Cooperation	Project Manager
Mohieddine ben Moussa	STEG - Renewable Energy &Tozeur Project	Head of Directorate for Strategic Planning
Mohammed Mongi Ben Yaiche	Ministry of Energy and Mines	Director of General Directorate for Electricity and Energy Transition
Alissar Chaker	UNDP CO	Deputy Resident Representative (outgoing)
Eugena Song	UNDP CO	Deputy Resident Representative (incoming)
Mohamed Aymen Khaldi	UNDP CO	Project Manager
Saliou Toure	UNDP Beirut Regional Hub	Regional Technical Adviser
Omar Bey	UPC Renewables (Enerciel) – Gabes Project	

Annex 4: List of Documents Consulted

1. NAMA Support for the Tunisian Solar Plan, Project Identification Form, UNDP (2013)
2. NAMA Support for the Tunisian Solar Plan, Project Document, UNDP/GEF (2014)
3. NAMA Support for the Tunisian Solar Plan, UNDP/ANME, (2015)
4. NAMA Support for the Tunisian Solar Plan, MTR Report, UNDP (2018)
5. Annual Project Implementation Repots (PIRs), UNDP/GEF (2016-2020)
6. Combined Delivery Reports (CDRs), UNDP (2015-2021)
7. Annual Progress Reports (in French), UNDP (2017-2021)
8. Intended Nationally Determined Contribution of Tunisia, Ministry of Environment and Sustainable Development (2015)
9. Plan d'action pour l'accélération des projets d'énergies renouvelables en Tunisie, Ministère de l'Énergie, des Mines et des Énergies Renouvelables (2018)
10. Tunisia: De-risking Renewable Energy Investment, UNDP (2018)
11. Guidance for NAMA Design in the Context of Nationally Determined Contributions, UNDP, UNEP DTU and UNFCCC, 2018
12. Tunisia's 3rd National Communication to UNFCCC, Ministry of Local Affairs and Environment (2019)
13. Renewable Energy Projects in Tunisia: Guide Summary, GIZ (2019)
14. Country Fact Sheet Tunisia: Energy and Development at a Glance, MENA SELECT Working Paper (2019)
15. Coopération tuniso-allemande dans le domaine de l'énergie et des changements climatiques: Cluster Énergie-Climat, GIZ (2020)
16. Contribution déterminée au niveau national actualisée, (2021)
17. Climate Risk Country Profile: Tunisia, The World Bank Group (2021)
18. Renewables Readiness Assessment: Tunisia, IRENA (2021)
19. GEF Evaluation Policy, GEF IEO, 2019
20. UNDP Revised Evaluation Policy, UNDP, 2019
21. Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects, GEF, 2017
22. UNDP Evaluation Guidelines, Independent Evaluation Office of UNDP, 2019
23. Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects, UNDP IEO, 2020
24. Outcome-Level Evaluations, A Companion Guide, UNDP, 2011
25. Glossary of Key Terms in Evaluation and Results Based Management, OECD, 2010
26. Ethical Guidelines for Evaluations, UNEG, 2008

Annex 5: Project Results Framework (at the Project Inception)

This project will contribute to achieving the following Country Programme Outcome as defined in CPD: Outcome 3: By 2019, the State has put in place a new economic and socially-equitable development model that is inclusive, sustainable and resilient, and generating wealth and jobs; Outcome 4: By 2019, regional stakeholders generate efficiently and use optimally, sustainably and inclusively the resources in regions.
Country Programme Outcome Indicators: Number of regional development plans integrating region-specific potentials and environmental dimensions; contracts in place to enable the reinforced autonomy of regions with financial resources and the necessary human resources
Primary applicable Key Environment and Sustainable Development Key Result Area): Sustainable Development
GEF Focal Area Objective: GEF-5 FA Objective: #3 (CCM-3): "Promote Investment in Renewable Energy Technologies"

Objective/ Outcomes	Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
Objective: Tunisia's energy sector for achieving emission reductions through the deployment of a TSP NAMA.	A NAMA developed for the TSP Quantity of renewable electricity generated by on-grid baseline projects (MWh/year) Quantity of direct GHG Emissions resulting from the baseline projects and TSP NAMA (tCO2/year)	No NAMA for the energy sector No MRV system for monitoring GHG emission reductions in the energy sector Proposed Gabes and Tozeur RE plants become operational but with deficiencies (e.g. PV plant not designed for desert conditions; weak interface between RE plants and the national grid)	A NAMA developed for the TSP and submitted for registration with the UNFCCC NAMA Registry 16.9 GWh/yr is generated by 10 MW PV plant at Tozeur; and 86.4 GWh/yr is generated by 24 MW wind farm at Gabes Emissions reductions: Total direct emission reductions of 218,900 tonnes CO2e between 2016 and 2019	Project reports (Quarterly,Annual, PIR, MTE, TE) Minutes of PSC UNFCCC NAMA Registry Energy sector inventory report (First and National Inventory Reports) MRV mechanism or technology-specific mechanisms	The Government of Tunisia maintains its commitment to voluntary GHG abatement initiatives through NAMAs, especially in the energy sector Detailed sectoral inventory established and operational in collaboration with GIZ MRV mechanism(s) developed in collaboration with the PMR initiative
Outcome 1: The enabling conditions, methodologies and tools are developed for de-risking the national policy environment for implementing the Tunisian Solar Plan through a TSP NAMA	Number of committees established and operational Energy sector system dynamics model developed and implemented Number of policy and financial de- risking instruments designed using DREI analysis an implemented	No high-level Inter-Ministerial TSP NAMA Committee No cross-sectoral modelling tool exists to investigate the sustainable development (economic, social and environmental) dividends of the energy sector No methodology is used to quantify risks that hinder investments in RE, and to develop policy and financial de-risking instruments to promote large-scale private investments	A high-level Inter-Ministerial TSP NAMA Committee is established A system dynamics model is developed and implemented for the energy sector At least 4 policy and financial de-risking instruments have been developed using DREI analysis based on work initiated in the development of the project document	Project reports (Quarterly, Annual, PIR, MTE, TE) Reports on SDM for energy sector DREI reports	The Government of Tunisia maintains its commitment to voluntary GHG abatement initiatives through NAMAs, especially in the energy sector Continued commitment of the GoT to use an evidence-based approach to advocate for the sustainable development benefits of the TSP NAMA

Outcome 2: A coherent climate finance framework is established for the development of the TSP NAMA to catalyse the transformational capacity of the TSP to generate large emission reductions	Number of national guidelines Number of technical codes Number of regulations Number of financial instruments to capitalise the Energy Transition Fund	Guidelines and SD criteria exist for CDM projects but not for NAMAs Low institutional capacity of MELPSD to act as the coordinating body and quality assurer for NAMAs in Tunisia PPPs for developing RE projects do not exist No grid code for RES is available publicly to project developers No energy regulator exists in Tunisia' FNME restructured into the ETF in January 2014 (Articles 67 and 68 of the Finance Law 2014) Diversified sources of capitalisation not sufficient to support the implementation of the TSP NAMA No social and environmental safeguards required under current legislation for projects with installed capacity below 300 MW	A set of guidelines and design criteria is developed for all NAMAs by the end of Year 1; a set of social and environmental safeguard guidelines is developed for all utility-scale RE by the middle of Year 2 based on international standards A grid code is approved by stakeholders and made publicly available by the end of Year 2 Modalities for PPPs are established in regulations, and the establishment of an IER is supported The ETF is supported with at least 3 new financial instruments	Report on standardized baseline tool development and user manual Project reports (Quarterly, Annual, PIR, MTE, TE) Minutes of PSC Legislation/decrees proclaimed Grid code IER charter or similar foundational document 3 TSP NAMA technology action plans Report detailing the design and establishment of the territorial performance- based mechanism Report on the design and operationalization of the environmental and social safeguard guidelines Lessons-learned report	GoT maintains its commitment to monitor, report and verify its voluntary NAMA initiatives GoT supports the facilitation of private-sector investment in the energy sector Institutional support of STEG is obtained GoT support for the establishment and operationalization of an IER ANME maintains its commitment to restructure the ETF GoT maintains its commitment to the sustainable development of Regions through the TSP NAMA
Outcome 3: The TSP is operationalized by demonstrating a proof of- concept energy NAMA with quantified GHG emission reductions	Emission reductions from grid-connected wind and PV power Number of households benefiting from electricity generated by wind and PV plants (households/year)	Baseline projects implemented with identified deficiencies No MRV protocol / system for TSP NAMA	8,954 tCO2e/year from 10 MW PV plant at Tozeur (35,815 tCO2e between 2016 and 20 45,775 tCO2e/year from 24 MW PV plant at Gabes (183,100 tCO2e between 2016 and 2019) Number of households benefiting from renewable energy by end of project 11,544 from PV; 50,016 from wind	Project reports (Annual, PIR, MTE, TE) and minutes of PSC	Baseline projects do not suffer major alterations in scope or financing Grid-connected, utility-scale private sector projects are supported through forthcoming RE Law Standardised baseline for national grid has been developed National MRV system is in place

Annex 6: Performance Rating of GEF Projects

The main dimensions of project performance on which ratings are provided in terminal evaluation are outcomes, sustainability, quality of monitoring and evaluation, quality of implementation, and quality of execution.

Outcome ratings

The overall ratings on the outcomes of the project will be based on performance of the criteria of relevance, effectiveness and efficiency. A six-point rating scale is used to assess overall outcomes.

Highly Satisfactory (HS)	Level of outcomes achieved clearly exceeds expectations and/or there were no short comings
Satisfactory (S)	Level of outcomes achieved was as expected and/or there were no or minor short comings
Moderately Satisfactory (MS)	Level of outcomes achieved more or less as expected and/or there were moderate short comings
Moderately Unsatisfactory (MU)	Level of outcomes achieved somewhat lower than expected and/or there were significant shortcomings
Unsatisfactory (U)	Level of outcomes achieved substantially lower than expected and/or there were major short comings
Highly Unsatisfactory (U)	Only a negligible level of outcomes achieved and/or there were severe short comings
Unable to Assess (UA)	The available information does not allow an assessment of the level of outcome achievements

Sustainability Ratings

The sustainability will be assessed taking into account the risks related to financial, sociopolitical, institutional, and environmental sustainability of project outcomes. The evaluator may also take other risks into account that may affect sustainability. The overall sustainability will be assessed using a four-point scale.

Likely (L)	There is little or no risks to sustainability
Moderately Likely (ML)	There are moderate risks to sustainability
Moderately Unlikely (MU)	There are significant risks to sustainability
Unlikely (U)	There are severe risks to sustainability
Unable to Assess (UA)	Unable to assess the expected incidence and magnitude of risks to sustainability

Monitoring and Evaluation Ratings

Quality of project M&E are assessed in terms of design and implementation on a six point scale:

Highly Satisfactory (HS)	There were no short comings and quality of M&E design / implementation exceeded expectations
Satisfactory (S)	There were no or minor short comings and quality of M&E design / implementation meets expectations
Moderately Satisfactory (MS)	There were some short comings and quality of M&E design/implementation more or less meets expectations
Moderately Unsatisfactory (MU)	There were significant shortcomings and quality of M&E design / implementation somewhat lower than expected
Unsatisfactory (U)	There were major short comings and quality of M&E design/implementation substantially lower than expected
Highly Unsatisfactory (U)	There were severe short comings in M&E design/ implementation
Unable to Assess (UA)	The available information does not allow an assessment of the quality of M&E design / implementation

Implementation and Execution Rating

Quality of implementation and of execution will be rated separately. Quality of implementation pertains to the role and responsibilities discharged by the GEF Agencies that have direct access to GEF resources. Quality of Execution pertains to the roles and responsibilities discharged by the country or regional counterparts that received GEF funds from the GEF Agencies and executed the funded activities on ground. The performance will be rated on a six-point scale.

Highly Satisfactory (HS)	There were no short comings and quality of implementation / execution exceeded expectations
Satisfactory (S)	There were no or minor short comings and quality of implementation / execution meets expectations
Moderately Satisfactory (MS)	There were some short comings and quality of implementation / execution more or less meets expectations
Moderately Unsatisfactory (MU)	There were significant shortcomings and quality of implementation / execution somewhat lower than expected
Unsatisfactory (U)	There were major short comings and quality of implementation / execution substantially lower than expected
Highly Unsatisfactory (U)	There were severe short comings in quality of implementation / execution
Unable to Assess (UA)	The available information does not allow an assessment of the quality of implementation / execution

Annex 7: Evaluation Report Outline[35]

i. Opening page:
- Title of UNDP supported GEF financed project
- UNDP and GEF project ID#s.
- Evaluation time frame and date of evaluation report
- Region and countries included in the project
- GEF Operational Program/Strategic Program
- Implementing Partner and other project partners
- Evaluation team members
- Acknowledgements

ii. Executive Summary
- Project Summary Table
- Project Description (brief)
- Evaluation Rating Table
- Summary of conclusions, recommendations and lessons

iii. Acronyms and Abbreviations

1. Introduction
- Evaluation purpose
- Scope & Methodology
- Data collection and analysis
- Evaluation ethics
- Limitations

2. Project description and development context
- Project start and duration
- Development context
- Problems that the project sought to address
- Immediate and development objectives of the project
- Description of the project's Theory of Change
- Expected results
- Total resources
- Main stakeholders and key partners involved

3. Findings

(In addition to a descriptive assessment, all criteria marked with (*) must be rated)

3.1 Project Design / Formulation
- Analysis of LFA/Results Framework (Project logic /strategy; Indicators)
- Assumptions and Risks

[35] The presented TE Report outline is based on the 2020 UNDP/GEF TE guidelines that reflect the GEF-7 project development template. However, the project was prepared according to the GEF-6 project development template that was not identical with the GEF-7 template.

- Lessons from other relevant projects (e.g., same focal area) incorporated into project design
- Planned stakeholder participation
- Replication approach
- UNDP comparative advantage
- Linkages between project and other interventions within the sector
- Gender responsiveness of the project design
- Social and environmental safeguards

3.2 Project Implementation

- Adaptive management
- Actual stakeholder participation and partnership arrangements
- Project Finance and co-finance
- Monitoring & Evaluation: design at entry (*), implementation (*), overall assessment of M&E (*)
- UNDP implementation/oversight (*), Implementing Partner execution (*) and overall assessment of implementation/oversight and execution (*)
- Risk Management

3.3 Project Results and Impacts

- Progress towards objective and expected outcomes
- Relevance (*)
- Effectiveness
- Efficiency (*)
- Overall Project Outcome (*)
- Sustainability: financial(*), socio-political(*), institutional framework and governance(*), environmental(*), overall likelihood of sustainability(*)
- Country ownership
- Gender equality and women's empowerment
- Cross-cutting issues
- GEF additionality
- Catalytic/Replication effect
- Progress to impact

4. Main Findings, Conclusions, Recommendations, Lessons Learned

- Main Findings
- Conclusions
- Recommendations
- Lessons learned

5. Annexes

- Terms of Reference
- Evaluation Question Matrix
- List of persons interviewed
- List of documents reviewed
- Project results framework
- Performance ratings of GEF projects
- Evaluation Consultant Agreement Form

- *Annexed in a separate file:* TE audit trail

Annex 8: Evaluation Consultant Agreement Form

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Evaluators:

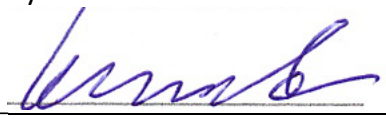
1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Name of Consultant: Dalibor Kysela

Name of Consultancy Organization (where relevant)**:** N.A.

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at Vienna 30 July 2021

Signature: 

Annex 9: Audit Trail

The audit trail is annexed as a separate file to this document.

TE Report Clearance Form

Terminal Evaluation Report for *(NAMA Support for Tunisian Solar Plan & UNDP PIMS ID: 5182)*
Reviewed and Cleared By:

Commissioning Unit (M&E Focal Point)

Name: Faiza Elleuch

Signature: DocuSigned by: Faiza Elleuch 11E3938180A140E... Date: 11-Mar-2022

Regional Technical Advisor (Nature, Climate and Energy)

Name: Saliou Touré

Signature: DocuSigned by: Saliou Touré E75AD6AF421247B... Date: 13-Mar-2022