

Project Implementation Report

(1 July 2021 – 30 June 2022)

Project Title:	Sustainable Energy Access to Manage Water Resources: Addressing the Energy-water Nexus
GEF ID:	9812
UNIDO SAP ID:	170001
GEF Replenishment Cycle:	GEF 6
Country(ies):	Cabo Verde
Region:	AFR
GEF Focal Area:	CCM
Integrated Approach Pilot (IAP) Programs¹:	n/a
Stand-alone / Child Project:	n/a
Implementing Department/Division:	ENE/CTI
Co-Implementing Agency (if applicable):	n/a
Executing Agency(ies):	Ministry of Industry, Trade and Energy (MITE)
Other Project Partners:	Ministry of Agriculture and Environment ² (MAA); ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE); Centre for Renewable Energy and Industrial Maintenance (CERMI), National Agency for Water and Sanitation (ANAS)
Project Type:	MSP
Project Duration (months):	36
Extension(s):	18 months
GEF Project Financing:	USD 1,781,484
Agency Fee:	USD 169,241
Co-financing Amount:	USD 14,949,551
Date of CEO Endorsement/Approval:	11-20-18
UNIDO Approval Date:	1-25-19
Actual Implementation Start Date:	2-28-19
Cumulative disbursement as of 30 June 2022:	USD 1,323,831

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

² The Ministry of Agriculture and Environment is the former Ministry of Rural Development.

Expected Mid-term Review Date (MTR):	May to August 2021
Expected Completion Date:	8-28-23
Expected Terminal Evaluation Date (TE):	1/2023
Expected Financial Closure Date:	8/2022
UNIDO Project Manager³:	Robert NOVAK

I. Brief description of project

Project Objective

The overall goal of the project is to address existing barriers for RE and EE in water resource management and to strengthen existing promising trends and developments in the sectors. The project is carrying out a series of components and activities intended to lead to the market-based integration of Renewable Energy (RE) and Energy Efficiency (EE) technologies in water resource management systems, with a particular focus on water pumping systems in rural areas and water desalination plants in urban centres throughout the country. These initiatives will provide the necessary catalytic support to create and sustain an environment that is conducive to promoting investments and adopting appropriate RE and EE technologies for water resource management system contributing to climate change mitigation and associated environmental and socio-economic benefits to Cabo Verde.

Baseline

Due to severe drought conditions, the domestic water consumption in Cabo Verde is still close to subsistence levels. At present, the country relies mainly on desalination using reverse osmosis technology in urban areas and pumping from the operational boreholes in rural areas, both of which requires a great amount of energy at high costs which has been one of the main deterrents to increase water access. In fact, the utility companies in the country have some of the most expensive water tariffs in Africa. Furthermore, the last part of water transportation for domestic use in rural areas is frequently done by women and children, who have to walk roughly 4 to 5 km of rugged and hilly terrain to the nearest water source to collect water. The scarcity of water resources and the lack of capital for infrastructure investment together with the weak "affordability" by customers have affected both the service provision in terms of hours per day and the drinking water quality in terms of meeting World Health Organization (WHO) standards.

The utility companies provide not only water but energy services, mainly in the urban regions of Cabo Verde. The installed capacity has been growing at a rapid pace and reached 156.5 MW in 2014. The utilities operate independent electric systems in 9 islands and produces electricity through mostly diesel plants (LFO and HFO), 5 wind farms and 3 solar power plants. As electricity production is largely dependent on diesel plants, which rely on expensive fuel imports, the price of electricity is the highest for the region at around US\$ 0.32/kWh. Almost 50% of the electricity demand comes from the domestic sector; the commercial, industrial and agricultural sectors are responsible for about 38%; while ELECTRA's internal energy consumption which includes the energy intended for desalination plants represents about 18% of the total demand.

As the fuel and fuel transportation costs are expected to increase in the future, the utilities and the national government have been actively seeking to expand the share of renewables as well as to increase EE. In Cabo Verde, the integration of least cost RE and EE technologies has been considered a top priority due to the positive externalities produced in other sectors. In the last years and as a result of the government's efforts, EE gains have been experienced, especially in the building and domestic appliances sector, while the percentage of RE in the energy mix increased from 1.2% in 2010 to around 25% in 2014.

Taking into consideration the high cost of electricity and the heavy load that pumping systems and

³ Person responsible for report content

desalination plants place on the national grid, RE and EE are meant to play a decisive role in enhancing water accessibility in Cabo Verde. It is expected that cuts in energy costs and on-grid demand will have a direct impact on reducing the financial barriers to access drinking water and improving the sanitary conditions and comfort of the population.

At the policy and regulatory level, Cabo Verde has developed an ambitious programme for increasing energy access tapping on the available RE resources, mainly solar and wind. The country contains clear plans, policies and a regulatory framework in place concerning the energy sector and the RE subsector, including a Strategic Plan for Sustainable Development (PEDS) that aims to operationalise the Government Programme and which includes a National Programme for Energy Sustainability and the Water and Sanitation Programme that address energy-water nexus issues in the country. The country also has in place different policies and regulations in order to strength the management of water.

Nevertheless, the above policies and regulations historically have been developed rather independently from each other (energy and water) and thus lack a cross-cutting approach leading to integrated solutions. This has been/is even further reasoned in the geographic and regionally fragmented landscape of the Cabo Verde islands. The rising need of energy – in general as well as in particular in water production and distribution – and the need to transform the energy landscape towards a low emission economy requires the creation of a platform for continuous dialogue (bringing relevant stakeholders together) with the aim to develop, suggest and promote the market-based integration of water-energy (and land/food) approaches into the listed national policies and regulations. This will also stipulate the participation and integration of the private sector – through the ESCO approach – in the process. In that respect the project will develop/establish the policy and institutional framework conducive to the promotion of the energy-water nexus approach and the creation of Energy Service Companies (ESCOs).

Under the baseline scenario, the barriers would not be adequately addressed, thus providing a rationale for GEF involvement. This GEF/UNIDO project will coordinate and build upon the finding and lessons learnt from on-going projects and already implemented projects as well as fill in the gaps left from those, such as increase cooperation amongst on-going and new projects and programmes that target energy-water nexus systems through building of a platform for discussions amongst stakeholders of sustainable energy-water nexus issues; cooperate and contribute to fill in the gaps of on-going projects; promote the inclusion of gender into the policies and regulations that will be developed as well as make recommendation on how to include it on already existing ones; demonstrate the feasibility and commercial viability of other RE technologies to be used in desalination systems; contribute to continue to build a curriculum for CERMI training materials in order to increase knowledge on issues related to renewable energy for water production and implementation and operation of ESCOs and; articulate between different financial mechanisms operating in the energy and water sector, thus making use of economies of scale through an integrated approach.

Overall Ratings⁴	
Global Environmental Objectives (GEOs) / Development Objectives (DOs) Rating	HS
Implementation Progress (IP) Rating	MS
Overall Risk Rating	L

⁴ Please refer to the explanatory note at the end of the document

II. Targeted results and progress to-date

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

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress to-date
Component 1 – Establishment of policy and institutional frameworks conducive to the promotion of energy-water nexus approach and the creation of Energy Services Companies (ESCOs)				
Outcome 1.1: Energy-Water nexus and Energy Services Companies (ESCOs) approach integrated in relevant national policies and regulations				
Output 1.1.1: to discuss synergies between sustainable energy system and water resource management established	<ol style="list-style-type: none"> 1. Number of “Nexus Platform” and “Websites” on sustainable energy-water nexus 2. Number of meetings of the “Nexus Platform” 3. Number of Technical Assistance services provided 4. Number of Regulatory Framework Workshops conducted 5. Number of women integrating the Nexus Platform and 6. Number and percentage of women participating in the Policy and Regulatory Framework Workshops 	<ol style="list-style-type: none"> 1. Currently there is no team specifically dedicated to the development of policies and regulations aiming at the integration of sustainable energy in water resource management and market for ESCOs. 2. There is no platform to share available information on energy-water nexus potential and activities to interested stakeholders 3. No technical assistance (TA) services are in place to support potential developers of energy-water nexus projects 	<ol style="list-style-type: none"> 1. Nexus Platform and Website established. 2. 6 meetings of the Nexus Platform conducted (2 meetings per year) 3. Women are encouraged to actively participate and be involved in the Nexus Platform and in the Policy and Regulatory Framework Workshops. At least 40% of the participants are women. 4. At least two (2) Policy and Regulatory Framework Workshops conducted 5. Provision of TA services 	<ol style="list-style-type: none"> 1. Various discussions have taken place with the government regarding the implementation of the nexus platform. The general concept and objectives of the Nexus Platform has also been formally presented and discussed with the Steering Committee. A Proposal to Scope and Establish a National Nexus Platform has been developed by UNIDO, which establishes the general concept and requirements of the energy-water nexus project. Both the government and the Steering Committee have indicated the preference to have a consultant conduct an analysis of existing structures and stakeholder preference after which they will prepare suggested detailed scope/ business plan of the platform and its implementation structure.. A ToR for the consultant has been approved by the government.
Output 1.1.2: Recommendations to integrate the gender dimension into energy-water initiatives prepared and	<ol style="list-style-type: none"> 1. Number of modified, updated and/or new laws/guidelines integrating recommendations on how to 	<ol style="list-style-type: none"> 1. No baseline assessment on the integration of gender in the development /implementation of sustainable 	<ol style="list-style-type: none"> 1. Assessment on the mutual interlinkages of RE, EE, water resource management and gender roles 2. Recommendations on how to integrate the gender dimension into energy-water initiatives 	<ol style="list-style-type: none"> 1. Given UNWomen’s inability to comply with previously granted in-kind contribution, due to their offices having been closed, the project launched a tender for the

presented to decision makers	<p>mainstream the gender dimension into energy-water initiatives</p> <p>2. Number of reports on how the integration of RE and EE in water resource management impacts gender roles</p> <p>3. Number of Nexus Platform Meetings or Policy and Regulatory Workshops in which the integration of gender in sustainable energy-water initiatives was presented</p>	<p>energy – water projects</p> <p>2. No specific laws/guidelines including the gender dimension into energy-water initiatives exist in Cabo Verde</p>	<p>3. Presentation of the assessment results and recommendations to the Nexus Platform and at the Policy and Regulatory Framework Workshops</p>	<p>hiring of a consultant, payable through UNIDO available funds, as well as obtained FAO in-kind contribution with human resources to coordinate the execution of a study on the gender dimension.</p> <p>2. The gender dimension study prioritizes desk review of baseline policies, regulatory and legal framework as well as recommendations for further gender integration in both the energy and water sectors as well as recommendation for maximized gender integration during the execution of PC2.</p> <p>3. The gender study has been concluded, with the submission of three drafts, the final one being the concluded report, and two presentation to the Project Steering Committee having taken place. Approval by the Steering Committee of the study was granted in December 2021 and again in April 2022. The final report is published in the project website.</p>
Output 1.1.3: Recommendations on how to improve the policy and regulatory environment to promote ESCOs approach in sustainable energy-water resource management projects developed and presented to decision makers	<p>1. Number of modified, updated and/or new laws or regulations to promote ESCOs approach in sustainable energy-water resource management projects</p> <p>2. Number of reports on how ESCOs can be created in Cabo Verde to support the development and implementation of sustainable energy-water initiatives</p>	<p>1. No gap analysis on the openness of the market for the development of ESCOs for sustainable energy-water initiatives</p> <p>2. No specific laws/guidelines for the establishment of ESCOs nor incentives for these companies</p>	<p>1. Gap analysis on the market instruments available for the development/implementation of ESCOs for energy-water initiatives. The analysis should consider the gender dimension.</p> <p>2. Recommendations on how to improve the policy and regulatory environment to promote ESCOs approach in sustainable energy-water resource management. The recommendations should include the gender dimension.</p> <p>3. Presentations of the gap analysis and recommendations to the Nexus Platform and/or at the Policy and Regulatory Framework Workshops</p>	<p>1. Decree law 46-2021 pertaining to ESCOs, has been published since May of 2021 and regulates the activities of, well as provides strong incentives for, the creation of ESCOs. Further support has been requested by the government to the Project geared towards activities that will guarantee full operationalisation of the regulating legislation. The government is preparing a proposal to present for Steering Committee approval.</p> <p>2. The Energy-Water Project and the government have been continuously and actively</p>

	3. Number of Meetings held by the Nexus Platform to discuss the integration of ESCOs			working with demonstration projects to incorporate the ESCOs model, where possible, using the published regulations.
Component 2 – Build capacity to support the market integration of RE and EE technologies in water resources management				
Outcome 2.1: Local capacity on energy-water nexus and ESCOs approach enhanced				
Output 2.1.1: Training material on how to integrate RE and EE technologies in water management system produced	1. Number of available training programmes on the integration of RE and EE in water resource management 2. Number of available training material on the integration of RE and EE in water resource management 3. Number of technical manuals covering design, operation and maintenance of RE based water management system	1. No specific training programme or training materials available on the integration of RE and EE in water resource management 2. Insufficient capacity and knowledge among key players on the integration of RE and EE in water resource management	1. EE in water resource management developed and integrated into CERMI curriculum 2. Training materials (gender-responsive) on integration of RE and EE in water resource management 3. Two (2) technical manuals (gender-responsive) covering design, operation and maintenance of water management system developed and available – one on RE based desalination plants and other on RE based water pumping systems.	1. CERMI and its partner company 3C, have committed to developing all training materials regarding RE and EE in water resource management. The project created the corresponding ToR in line with the project's requirements. In November 2020, CERMI submitted a corresponding proposal and in December 2020 CERMI and UNIDO celebrated a contract for the execution by CERMI of activities pertaining to PC2, including the development of the corresponding training materials. In June 2021, CERMI submitted its inception report and relevant documentation for the disbursement by UNIDO of the first payment as established within the contract's financial mechanism. In June of 2022, following a period of revision and surveys, CERMI submitted drafts of both training material which are under analysis by the Project and circulated to other stakeholders for comments. Upon approval the materials will be administered in a series of training sessions (ToTs and mass training)

				beginning in September 2022.
Output 2.1.2: Training material on development and management of ESCOs and entrepreneurship produced	1. Number of available training programmes on the integration of RE and EE in water resource management 2. Number of available training materials on the integration of RE and EE in water resource management	1. No specific training programme or training materials available on entrepreneurship and ESCOs development, management and finance 2. Insufficient capacity and knowledge among key players on entrepreneurship and ESCOs development, management and finance	1. Training programme entrepreneurship and ESCO development, management and finance developed and integrated into CERMI curriculum (gender-responsive). 2. Training material on entrepreneurship and ESCO	1. CERMI and its partner company 3C, have committed to developing all training materials regarding development and management of ESCOs. In November 2020, CERMI submitted a corresponding proposal and in December 2020 CERMI and UNIDO celebrated a contract for the execution by CERMI of activities pertaining to PC2, including the development of the corresponding training materials. In June 2021, CERMI submitted its inception report and relevant documentation for the disbursement by UNIDO of the first payment as established within the contract's financial mechanism. In June of 2022, following a period of revision and surveys, CERMI submitted drafts of both training material which are under analysis by the Project and circulated to other stakeholders for comments. Upon approval the materials will be administered in a series of training sessions (ToTs and mass training) beginning in September 2022.
Output 2.1.3: CERMI's staff and other institution's Staff trained using the programmes and modules produced in Output 2.1.1 and Output 2.1.2 on a train-the-trainer basis	1. Number of trained trainers on (i) integration of RE and EE in water resource management and on (ii) entrepreneurship and ESCOs development, management and finance	Insufficient capacity and knowledge among key players on the integration of RE and EE in water resource management as well as on entrepreneurship and development	1. Twenty (20) trainers (CERMI's and other institutions' staff) trained by the Train-The-Trainers programme on (i) integration of RE and EE in water resource management or (ii) entrepreneurship and/or ESCO development, management and finance 2. At least 40% of the trained trainers on (i) integration of RE and EE in water resource management or (ii) entrepreneurship and/or ESCO	1. CERMI and its partner company 3C, have committed to administering all training sessions under the project. In November 2020, CERMI submitted a corresponding proposal, which includes identification of target groups and data collection of training needs and, in December 2020, CERMI

	2. Number and percentage of women participating in the Train-the-Trainers programme	and management of ESCOs	development, management and finance are women.	and UNIDO celebrated a contract for the execution by CERMI of activities pertaining to PC2, including the administering of all training sessions. In June 2021, CERMI submitted its inception report and relevant documentation. CERMI is currently defining a detailed budget and timeline for the training sessions to be presented for approval.
Output 2.1.4: 10 training sessions (5 for each module) are conducted by CERMI trained staff	1. Number of training sessions carried out on integration of RE and EE in water resource management 2. Number of training sessions carried out on entrepreneurship and ESCO development, management and finance 3. Number and percentage of women participating in training activities	Insufficient capacity and knowledge among key players on the integration of RE and EE in water resource management as well as on entrepreneurship and development and management of ESCOs	1. Five (5) training sessions (gender-responsive) on integration of RE and EE in water resource management 2. Five (5) training sessions (gender-responsive) on entrepreneurship and/or ESCO development, management and finance carried out 3. One hundred (100) market enablers (project proponents/organisations/technicians) trained on i) integration of RE and EE in water resource management or (ii) entrepreneurship and/or ESCO development, management and finance 4. At least 40% of the market enablers trained on (i) integration of RE and EE in water resource management or (ii) entrepreneurship and/or ESCO development, management and finance are women.	1. CERMI and its partner company 3C, have committed to administering all training sessions under the project. In November 2020, CERMI submitted a corresponding proposal, which includes identification of target groups and data collection of training needs and, in December 2020, CERMI and UNIDO celebrated a contract for the execution by CERMI of activities pertaining to PC2, including the administering of all training sessions. In June 2021, CERMI submitted its inception report and relevant documentation. CERMI is currently defining a detailed budget and timeline for the training sessions to be presented for approval.
Component 3 – Demonstration and scaling up investment in projects focused on the use of RE and EE in water resource management systems				
Outcome 3.1: Private investment in projects addressing the energy-water nexus increased – implementation of at least 3.6MW of sustainable energy-water investment projects				
Output 3.1.1: ESCOs approach and tailored financial mechanism developed and used to support	1. Capacity installed of sustainable energy (RE and EE) water nexus projects 2. Number of tailor-made	1. Very few sustainable energy-water nexus investment projects implemented	1. ESCO approach designed and implemented – at least two (2) energy-water nexus investment projects use ESCO approach 2. Financial mechanism (gender-responsive) for energy-water nexus projects implemented – at least four	1. In December 2020, MITE and UNIDO celebrated a contract for the execution by MITE of activities pertaining to PC3.

<p>demonstration projects integrating RE and EE in water pumping and desalination systems to achieve around 1.6MW of installed capacity</p>	<p>financing instruments designed and implemented to support energy-water nexus projects</p> <p>3. Number of energy-water nexus investment projects that use ESCOs models</p> <p>4. Number of energy-water nexus investment projects that use the tailor-made financial mechanism</p> <p>5. Percentage of energy-water nexus audited projects (number of audited projects over total number projects installed)</p> <p>6. Percentage of energy-water nexus projects whose audited results were publicly disseminated (by any means of communication)</p> <p>7. Number of infographics available on energy-water nexus sector and project opportunities</p> <p>8. Number of workshops, seminars and exposure visits to the energy-water nexus investment projects</p> <p>9. Number of events (meetings/forums) carried out to promote investment in energy-water nexus initiatives and PPPs</p>	<p>2. No ESCO model adopted for sustainable energy-water nexus projects</p> <p>3. No specific financial mechanism available to promote sustainable energy-water nexus projects</p> <p>4. No infographics available on the energy-water sector and its opportunities</p> <p>5. There is few information on establishment and advantages of PPP to develop energy-water nexus projects</p>	<p>(4) of the implemented energy-water nexus projects use the established financial mechanism</p> <p>3. Successful implementation of (gender-responsive) sustainable energy-water nexus investment projects – 3.6MW of RE and EE projects associated with water resource management system implemented</p> <p>4. 100% of the installed demonstration projects are audited</p> <p>5. 100% of the installed demonstration project results are publicly disseminated</p> <p>6. At least three (3) events that can take the form of workshops/seminar with exposure visits are carried out</p> <p>7. Three (3) infographics prepared on the energy-water sector and its opportunities</p> <p>8. Two (2) meetings/forums on promotion of investment in energy-water nexus initiatives and PPPs</p>	<p>2. 26 projects proposals (total approximate capacity of 2 MW) have been identified to have the potential for receiving technical and financial support from the project for implementation within the project timeframe. Nine of the identified projects have completed the due diligence phase and have been approved by the Project Steering Committee. A further four projects have completed due diligence and are to be submitted to the steering committee for approval. The remaining projects are under analysis. Two of the approved projects have signed contracts directly with UNIDO for implementation, with the remaining contracts being executed with the MITE.</p> <p>2. Following the publishing of the ESCOs regulations, the project, through MITE, has been working with demonstration projects to incorporate the ESCOs approach, where possible, using the published regulations. At least two of the projects have the potential to meet the requirements to be considered as having integrated a full ESCOs model.</p> <p>3. The project has been working the tailored financial mechanisms by contacting different partners and entities to raise needed funds for demonstration projects. However, due to the intention of having such projects be developed in the future primarily by ESCOs, the project is working more towards access of funds from commercial banks –</p>
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				<p>which is seen to be more sustainable.</p> <p>4. The project website has been created and integrated into the government's energy portal information of completed projects have been made available. A Project dashboard with relevant infographics is being adapted to display on the website.</p> <p>5. The two of the completed demonstration projects have been fully inspected and monitored. Six of the nine PSC approved projects have been visited by a team composed by the project coordinator and a representative of DNICE.</p> <p>6. In March of 2022 1 workshop was organised by the Project for promoting and dissemination of information regarding the project.</p>
<p>Output 3.1.2: Investment projects using ESCOs approach and tailored financial mechanism implemented to reach about 2MW of installed capacity</p>	<p>1. Capacity installed of sustainable energy (RE and EE) water nexus projects</p> <p>2. Number of tailor-made financing instruments designed and implemented to support energy-water nexus projects</p> <p>3. Number of energy-water nexus demonstration projects that use ESCOs models</p> <p>4. Number of energy-water nexus investment projects that use the tailor-made financial mechanism</p>	<p>1. Very few sustainable energy-water nexus demonstration projects implemented</p> <p>2. No ESCO model adopted for sustainable energy-water nexus projects</p> <p>3. No specific financial mechanism available to promote sustainable energy-water nexus projects</p>	<p>1. ESCO approach designed and implemented – at least one (1) energy-water nexus demonstration projects use an ESCO approach</p> <p>2. Financial mechanism (gender-responsive) for energy-water nexus projects designed and implemented – at least one (1) of the implemented energy-water nexus demonstration project use the established financial mechanism</p> <p>3. Successful implementation of sustainable energy-water nexus demonstration projects – around 1.6MW of RE and EE projects associated with water resource management system implemented during the 1st Phase of the project</p> <p>4. 100% of the installed demonstration projects are audited. The audits will consider gender-dimensions.</p> <p>5. 100% of the installed demonstration project results are publicly disseminated</p>	<p>1. At least three demonstration projects within the project portfolio have the conditions to be considered as using an ESCO model.</p> <p>2. No official financial mechanism platform has been established, given the various changes that occurred between the PPG stage and the initiation of the project. The COVID pandemic also impeded the availability of some financial partners to integrate the concept of the financial mechanism. The most sustainable approach now is to engage commercial banks in supporting ESCOs and, through the Nexus Platform, utilize any sporadic funds available through the government</p>

	<p>5. Percentage of energy-water audited projects (number of audited projects over total number projects installed)</p> <p>6. Percentage of energy-water nexus projects whose audited results were publicly disseminated (by any means of communication)</p>			<p>system or international development projects to further support future demonstration projects where needed. The majority of the demonstration projects within the project portfolio have presented their own tailor-made financial structure.</p> <p>3. The two of the completed demonstration projects have been fully inspected and monitored. Six of the nine PSC approved projects have been visited by a team composed by the project coordinator and a representative of DNICE.</p>
<p>Output 3.1.3: Workshop, seminars and exposure visits organized to discuss and promote public private investment partnerships to accelerate the deployment of sustainable energy-water nexus projects</p>	<p>1. Number of infographics available on energy-water nexus sector and project opportunities</p> <p>2. Number of workshops, seminars and exposure visits to the energy-water nexus investment projects</p> <p>3. Number of events (meetings/forums) carried out to promote investment in energy-water nexus initiatives and PPPs</p>	<p>1. No infographics available on the energy-water sector and its opportunities</p> <p>2. There are no activities for the promotion of sustainable energy-water nexus projects</p> <p>3. There is few information on establishment and advantages of PPP to develop energy-water nexus projects</p>	<p>1. At least three (3) events that can take the form of workshops/seminar with exposure visits are carried out</p> <p>2. Three (3) infographics prepared on the energy-water sector and its opportunities</p> <p>3. Two (2) meetings/forums on promotion of investment in energy-water nexus initiatives and PPPs</p>	<p>1. In March of 2022 1 workshop was organised by the Project for promoting and dissemination of information regarding the project.</p> <p>2. Demonstration project case studies and overall project dashboard have been created.</p>

III. Project Risk Management

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

	(i) Risks	(i) Risk level	(i) Mitigation measures	(ii) Progress to-date	New defined risk ⁵
1	Proposed strategy for addressing the energy-water nexus is not articulated to the national policy	Low risk (L)	The project integrates activities to provide support to the integration of the findings on national strategies. the GEF/UNIDO project Output 1.1.1 will establish a national platform (Nexus Platform) to continuously discuss the energy-water nexus among key stakeholders and to make information available on the activities and progress achieved by the different project components to the interested stakeholders and the public in general (project's Website). The project has already identified partner public institutions and will ensure that their representatives provide full support throughout the project implementation and beyond.	Project Steering Committee established which include key national stakeholders and presided by the government, to discuss and provide recommendations on nexus initiatives. A consultant is to be hired to analyze and contribute to a business plan being developed for the national platform (Nexus Platform) which will continuously discuss the energy-water nexus among key stakeholders	<input type="checkbox"/>
2	RE systems are not technically viable in water management and the business model proposed does not allow beneficiaries to invest in the technology	Low risk (L)	The GEF/UNIDO project actively seeks to promote systems that have been promoted in the country and by UNIDO in similar environments and countries. The project also integrates in PC2 training programmes to establish the required skills to provide operation and maintenance services for these types of technologies. Moreover, the demonstration projects selected encompass and pay a great attention to the integration and demonstration of operation and maintenance activities. Moreover, under PC3, operation and maintenance support will be integrated into the financial mechanism to mitigate any potential technology risk. ESCOs models to ensure these services will be considered in the implemented projects as needed.	The Project Steering Committee has discussed this issue during its first meeting, and recommended that, due to the critical situation regarding access to water in the country, the project promote technology proven worldwide and/or proven at the national level. The country has some experience with stand-alone systems, as well as large amounts of RE integration in the grids, and therefore training materials are being prepared to focus on technical, financial and entrepreneurial issues regarding RE in water management and ESCOs to mitigate technological risks.	<input type="checkbox"/>
3	Delay in commissioning of demonstration and	Low risk (L)	International experts/companies with demonstrated and successful past experience.	Only mature and proven small to medium scale RE	<input type="checkbox"/>

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

	replication projects and availability of results		<p>Only mature and proven small to medium scale RE technologies are being proposed to be installed as demonstration projects. Capacity building and enabling activities will pay special attention to further defining the existing baseline in order to develop effective tailored and well-targeted training programmes and curricula. The status of projects will be regularly reviewed and any necessary corrective steps will be promptly taken. Demonstration project results and lessons learnt will be widely disseminated.</p>	<p>technologies have been selected at this stage. TA assistance is being provided by the project and by the National Directorate of Industry, Trade and Commerce. A complete due diligence of all demonstration projects is conducted prior to Steering Committee approval, including identification of any potential delays in project implementation that can be mitigated with support by the project and its partners.</p>	
4	Sector stakeholders do not participate/engage actively in the project	Low risk (L)	<p>The Project Website that will be established under Output 1.1.1 will ensure that information on the energy-water initiatives and on the project activities, progress and project results are disseminated. Stakeholders will be consulted/involved during the implementation of the project activities. PC1 contemplates the execution of 3 workshops to present the findings of PC1 and update stakeholders on the project/progress. PC2 will build the capacity of stakeholders in the areas of RE and EE applied to water resource management systems and in entrepreneurs' and ESCOs. PC3 will develop and ESCO model and implement sustainable energy-water nexus projects with public and private institutions in the country. A well-structured national results dissemination campaign demonstrating the viability of the demonstration projects and ESCO models adopted and outlining the opportunities during project implementation combined with an active dialogue and involvement of associations at the national and local level during the whole project duration will ensure the desired stakeholder response to the project</p>	<p>Due to issues involving access to water being a top priority of the government and of the country, major sector stakeholders are currently actively participating in the project, either through its Steering Committee, project development and financing mechanism. Training tools and nexus business plan are currently in development.</p>	<input type="checkbox"/>
5	Reluctance or lack of interest in the project activities from stakeholders regarding the active promotion of gender equality	Low risk (L)	<p>A thorough gender responsive communication strategy that will ensure stakeholders involvement at all levels, with special regard to involving women and men, as well as, CSOs and NGOs promoting Gender Equality and the</p>	<p>The project has continued to hold various meetings with partners promoting gender equality to develop activities in the project will ensure the desired women engagement in all project activities. A gender</p>	<input type="checkbox"/>

			<p>Empowerment of Women (GEEW), and the inclusion of ICIEG and UN Women in the development of some of the activities in the project will ensure the desire women engagement in the project activities. The demonstration projects also integrate mitigation measures to promote gender equality, create a culture of mutual acceptance, and maximize the potential contribution of the project to improving gender mainstreaming in the energy field. Gender specific targets and indicators have been established for the different project activities in the Projects Result Framework.</p>	<p>dimension study, which includes participation of ICIEG and FAO has been concluded and counted with the engagement of various stakeholders. The gender dimension consultancy has garnered gender integration recommendations for the demonstration projects within the pipeline.</p>	
6	<p>Finance institutions do not partner in business models developed for beneficiary's access to financing</p>	<p>Low risk (L)</p>	<p>Early dialogue with grant/funds/financial providers will be initiated. The financial mechanism will be fully established, having into account the financial instruments existent in the country, which will enable the access to finance for small scale promoters at affordable interest rates.</p> <p>One of the key advantages to invest in RE is the offset of either grid electricity or diesel fuel – both of which are very expensive. In fact a big percentage of the cost of the water in Cabo Verde is related to the necessary use of energy for desalination and/or water pumping. As part of the training in PC2 life cycle analysis will be taught to show the lifetime benefits of RE projects, particularly in a volatile fossil fuel market. Moreover, as part of PC1 a study will be carried out to demonstrate the impact on the water production costs of the use of RE instead of traditional fuels (grid electricity/diesel). Demonstrating these benefits is expected to lead to further investment in RE projects associated with water resource management infrastructure. For the scale-up of demonstration projects additional technical assistance will be provided to help the projects take off the ground. Training will also be provided to local financial institutions so that they fully understand the risks and benefits of RE projects and the</p>	<p>Dialogue with financial providers initiated and ongoing.</p>	

			establishment of ESCO and provide appropriate financial mechanisms for both.		
7	Low prices of oil / continued low prices of oil make RE projects and business not viable	Low risk (L)	The criteria used on the project to show the attractiveness of RE systems do not only focus on cost savings but include other aspects such as energy independence and reliability of supply, as well as, local and global environmental benefits. In all projects to be implemented under PC3 an analysis of the cost of the RE vs conventional energy system will be undertaken. Moreover, in PC1 the impact on the water production cost from the shift from traditional fuels to RE will be analysed.	Analysis of the cost of the RE vs conventional energy system is undertaken for every demonstration projects under PC3. The impact on water production cost derived from the shift from traditional fuels to RE is continuously being analysed by the project and its government counterpart.	
8	Negative impacts of project activities on local communities' e.g. decrease of revenues from sales of diesel intended for water pumping systems	Low risk (L)	ESMP developed. This plan will be implemented through the implementation of the GEF/UNIDO project. In all project implemented in PC3 the environmental and social impacts will be identified and corrective/mitigation measures appointed to be implemented.	An ESMP permit or statement by the National Directorate of Environment is required as part the due diligence process conducted on all PC3 demonstration project proposal.	
9	Climate change risks / Water supply especially ground water could be affected by climate variability	Moderate risk (M)	During the project implementation as well as during the scaling-up phase continuous climate change analysis will be performed and if necessary, mitigation strategies developed.	An approval by the entity regulating groundwater (ANAS), which includes analysis of the risks of overextraction, is required as part the due diligence conducted on all PC3 demonstration project proposal. ANAS is also a member of the Project Steering Committee and analyses each project and their impact on water extraction capacity prior to its approval.	
10	Social and Gender Risk	Moderate (M)	To mitigate this risk the project will pursue thorough and gender responsive communication showing the benefits of gender equality for both women and men, and ensure stakeholder involvement at all levels, with special regard to involving both women and men, as well as CSOs and NGOs promoting GEEW, and gender experts. This shall mitigate social and gender related risks, promote gender equality, create a culture of mutual acceptance and	The project continues to hold various meetings with partners promoting gender equality to develop activities in the project aimed at ensuring the desired women engagement in all project activities.	

		<p>understanding, and maximize the potential contribution of the project to improving gender equality in the energy field.</p> <p>To attract qualified female candidates to the project, adequate and gender responsive communication strategy will be carried out by reaching out to women's groups and associations, while also making trainings and workshops accessible for women, e.g. by providing safe transport, offering childcare, offering trainings at suitable times for women when children are in school and day-care, etc. If necessary and in the scope of the project additional bridging courses for women will be considered, developed and implemented to empower women.</p>	
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2. If the project received a sub-optimal risk rating (H, S) in the previous reporting period, please state the actions taken since then to mitigate the relevant risks.

n.A.

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

Due to the COVID-19 pandemic at least one PC3 demonstration project promoter has lowered their co-funding participation in order to channel the funds towards pandemic mitigation efforts in the community. Several other PC3 projects have delayed project implementation or due diligence phases due to restrictions. The pandemic has had a severe impact on co-funding by other institutions and organisations which had previously pledged funds and, aside from in-kind contributions from some entities, mainly MITE, no project co-funding has been confirmed, thus limiting available funds for demonstration projects. Also due to restriction, some meetings and deliverables were delayed.

IV. Environmental and Social Safeguards (ESS)

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

- Category A project
- Category B project

Category C project

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

	E&S risk	Mitigation measures undertaken during the reporting period	Monitoring methods and procedures used in the reporting period
(i) Risks identified in ESMP at time of CEO Endorsement	Negative impacts of project activities on local communities' e.g. decrease of revenues from sales of diesel intended for water pumping systems	An ESMP permit or statement by the National Directorate of Environment is required as part the due diligence conducted on all PC3 demonstration project proposal.	ESMP permits are requested.
	Climate change risks / Water supply especially ground water could be affected by climate variability	An approval by the entity regulating groundwater (ANAS), including the risks of over extraction, is required as part the due diligence conducted on all PC3 demonstration project proposal. ANAS is also a member of the Project Steering Committee and analysis each project prior to its approval.	Permits and groundwater extraction limits are requested and analysed.
(ii) New risks identified during project implementation (if not applicable, please insert 'NA' in each box)	N/A	N/A	N/A

V. Stakeholder Engagement

1. Please provide information on **progress, challenges and outcomes** regarding engagement of stakeholders in the projects (based on the description of the Stakeholder Engagement Plan or equivalent document submitted at CEO Endorsement/Approval).

Given the time elapsed between project development and project launch, the project has seen some contributing partners retracting or limiting their involvement due to lack of funds of resources. The project and its government counterpart have met with alternative partners (such as Águas de Rega) with the aim of identifying new sources of co-funding. In 2022, some main partners (such as ECREEE and CV Trade Invest) have reopened dialogue with the project regarding potential participation and support, however, not with the same pledged engagement as provided prior to COVID-19.

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

In various forms of communications (case studies, information bulletins, speeches, etc.) promoters of the demonstration projects have indicated satisfaction with the project and the impact it has had in promoting and facilitating the use of renewable energy in water production and the main benefit of lowering the cost of water production.

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

PSC Meeting Minutes April 2022
Mission Report annexed

VI. Gender Mainstreaming

1. Please provide information on **progress on gender-responsive measures** and **gender-sensitive indicators** as documented at CEO Endorsement/Approval (in the project results framework or gender action plan or equivalent).

Although gender is considered in the water sector and several analyses are conducted by ICIEG and ANAS on the impact of the water and sanitation sector on gender, the energy sector did not have prior analysis of the impacts of the sector on gender nor indicators or clear recommendations or policies/strategies addressing it. The gender focused activities (data-collection and assessments) within the project has been completed and circulated to relevant stakeholders which is intended to aid in analysis and integration of the policies/regulations/incentives of both sectors so that gender analysis and recommendations are taken on board.

This project will monitor gender-related indicators in order to follow up the percentage of women involvement in sustainable energy-water nexus initiatives. Women will be encouraged to participate in the different project activities and their participation will be tracked.

It is expected that social and economic benefits from the implementation of sustainable energy-water nexus initiatives will be shared equally by male and female workers in the respective sectors. Direct creation of jobs is an important opportunity that could benefit both men and women. Women often have a predominant role to sustain smallholder economies and are the ones that spend more time in water collection activities, therefore the project may benefit such women.

In addition, there are benefits in terms of water quality improvement and water availability for both consumption and sanitation purposes, which will impact directly on women and children, who more frequently stay at home and suffer higher negative impacts from lack of sanitation and/or from consumption of poor-quality water.

VII. Knowledge Management

1. Please elaborate on any **knowledge activities/ products** (when applicable), as outlined in knowledge management approved at CEO Endorsement / Approval.

The foreseen knowledge activities and respective products have been discussed and agreed with the relevant project stakeholders (in particular CERMI). The products are being finalized. The execution of Training of Trainers and then of a group of interested entities is scheduled to initiate in September 2022.

One project promotion and information dissemination workshop has taken place.

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

The project has developed first drafts of 2 sets of training manuals and materials: Training material on development and management of ESCOs and entrepreneurship produced and Training material on development and management of ESCOs and entrepreneurship produced. Both are under analysis for approval.

VIII. Implementation progress

1. Please provide information on **progress, challenges and outcomes** on project implementation activities.

PC1 – A Proposal to Scope and Establish a National Nexus Platform has been developed by UNIDO, which precedes a business plan to be presented to the government and the Project Steering Committee for approval within 2021. A ToR has also been developed and approved for the hiring of consultancy for analysis and development of a business plan.

PC2 – In December 2020 CERMI and UNIDO celebrated a contract for the execution by CERMI of activities pertaining to PC2 including the development of all training materials and administering of all training sessions. Drafts of training materials have been submitted and training sessions are scheduled to begin in September 2022.

PC3 – In December 2021, MITE and UNIDO celebrated a contract for the execution by MITE of activities pertaining to PC3. 20 demonstration projects identified, two of which have an ESCO model; nine projects have undergone the due diligence phase and are approved by the PSC; two demonstration projects have been completed; six additional demonstration projects are under contract with the MITE. Four project completed their due diligence phase and are to be submitted to the Project Steering Committee for approval. Various other demonstration project proposals are under due diligence.

PC4 – Mid-Term review concluded in April 2022.

2. Please provide information related to the **financial implementation** of the project.

PC1:

Gender Specialist for Gender Analysis

Disbursed: USD 8,000

PC2:

Subcontract with the Centre for Renewable Energy and Industrial Maintenance (CERMI)

Obligated: USD 108,000.00 since December 2020

Disbursed: USD 20,000.00

Latest Progress Report annexed

PC3:

Subcontract with Metrola Heritage Defense Association (ADPM) for demonstration project

Disbursed: USD 66,158.00

Final Report annexed

Subcontract with Águas de Porto Novo, SA (APN,SA) for demonstration project

Disbursed: USD 28,798.00

Final Report annexed

Subcontract with the Ministry of Industry, Trade and Energy (MICE)

Obligated: USD 900,000.00 since December 2020, contract extended in February 2022

Progress Report annexed

Disbursed: USD 485,618.00

PC4:

Mid-Term Reviewer

Disbursed: USD 5,766.12

Mid-Term Review Report annexed

IX. Work Plan and Budget

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

Outputs by Project Component	Year 1				Year 2				Year 3				GEF Grant Budget Available (US\$)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Component 1 – Establishment of policy and institutional frameworks conducive to the promotion of energy - water nexus approach and the creation of Energy Services Companies (ESCOs)													
Outcome 1.1: Energy-Water nexus and Energy Services Companies (ESCOs) approach integrated in relevant national policies and regulations													
Output 1.1.1: to discuss synergies between sustainable energy system and water resource management established	X	X	X	X		X	X	X		X	X	X	28,800
Output 1.1.2: Recommendations on how to integrate the gender dimension into energy-water initiatives prepared and presented to decision makers		X	X	X									0
Output 1.1.3: Recommendations on how to improve the policy and regulatory environment to promote ESCOs approach in sustainable energy-water resource management projects developed and presented to decision makers			X	X	X	X					X	X	22,500
Component 2 – Build capacity to support the integration of RE and EE technologies in water resource management													
Outcome 2.1: Local capacity on energy-water nexus and ESCOs approach enhanced													
Output 2.1.1: Training material on how to integrate RE and EE technologies in water management system produced		X	X	X									9,000
Output 2.1.2: Training material on development		X	X	X									60,000

and management of ESCOs and entrepreneurship produced													
Output 2.1.3: CERMI's and other institutions' staff trained using the programmes and modules produced in Output 2.1.1 and Output 2.1.2 on a train-the-trainer basis		X	X	X	X	X	X						0
Output 2.1.4: 10 training sessions (5 for each training programme) are conducted by CERMI trained staff			X	X			X	X	X	X	X	X	0
Component 3 – Demonstration and scaling up investment in projects focused on the use of RE and EE in water resource management systems													
Outcome 3.1: Private investment in projects addressing the energy-water nexus increased – implementation of at least 3.6MW of sustainable energy-water investment projects													
Output 3.1.1: ESCOs approach and tailored financial mechanism developed and used to support demonstration projects integrating RE and EE in water resource management systems to achieve around 1.6 MW of installed capacity	X	X	X	X	X	X	X	X	X	X	X	X	94,2624
Output 3.1.2: Investment projects using ESCOs approach and tailored financial mechanism implemented to reach about 2MW of installed capacity				X	X	X	X	X	X	X	X	X	403,607
Output 3.1.3: Workshop, seminars and exposure visits organized to discuss and promote public private investment partnerships to accelerate the deployment of sustainable energy-water nexus projects		X		X				X					12,000
Component 4 – Project Monitoring and Evaluation (M&E)													
Outcome 4.1: Continuous monitoring and evaluation (M&E) of the implementation of the GEF/UNIDO project													

Output 4.1.1: Terminal evaluation executed													X	45,000
Output 4.1.2: Project's progress monitored, documented and recommended actions formulated	X	X	X	X	X	X	X	X	X	X	X	X	X	15,000

X. Synergies

1. Synergies achieved.

Due to the (NEXUS) nature of the project, collaborations with other relevant stakeholders/partners have been established, both with national as well as international partners. In particular: FAO (linkage to agro-related activities; water); GEF SGP; ECREEE; Águas de Rega (which benefits from a Hungarian government credit line to reform the country's production and management of water for irrigation).

Stories to be shared (Optional)

Provide a brief summary of any especially interesting and impactful project results that are worth sharing with a larger audience, and/or investing communications time in, if any.

The project is very well recognized and project implementation is documented in a number of newsletters, articles, etc. Attached is an example of a bi-lingual project case study.

EXPLANATORY NOTE

1. **Timing & duration:** Each report covers a twelve-month period, i.e. 1 July 2019 – 30 June 2020.
2. **Responsibility:** The responsibility for preparing the report lies with the project manager in consultation with the Division Chief and Director.
3. **Evaluation:** For the report to be used effectively as a tool for annual self-evaluation, project counterparts need to be fully involved. The (main) counterpart can provide any additional information considered essential, including a simple rating of project progress.
4. **Results-based management:** The annual project/programme progress reports are required by the RBM programme component focal points to obtain information on outcomes observed.

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

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

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