



Project Implementation Report

(1 July 2023 – 30 June 2024)

Project Title:	Upgrading of China Small Hydropower (SHP) Capacity
GEF ID:	6919
UNIDO ID:	140196
GEF Replenishment Cycle:	GEF-6
Country(ies):	China
Region:	EAP - East Asia and Pacific
GEF Focal Area:	Climate Change Mitigation (CCM)
Integrated Approach Pilot (IAP) Programs¹:	NA
Stand-alone / Child Project:	Stand-alone
Implementing Department/Division:	ENE/CTI
Co-Implementing Agency:	NA
	Ministry of Water Resources (MWR), China, P.R.
Executing Agency(ies):	Ministry of Finance (MOF), China, P.R.
	International Center for Small Hydro Power (ICSHP), China, P.R.
Project Type:	Full-Sized Project (FSP)
Project Duration:	60 months
Extension(s):	19 months
	1 extension granted
GEF Project Financing:	8,925,000 USD
Agency Fee:	847,875 USD
Co-financing Amount:	74,428,450 USD
Date of CEO Endorsement/Approval:	5/5/2016
UNIDO Approval Date:	7/4/2016
Actual Implementation Start:	7/29/2016
Cumulative disbursement as of 30 June 2024:	USD 7540786,76
Mid-term Review (MTR) Date:	1/17/2022
Original Project Completion Date:	7/29/2021
Project Completion Date as reported in FY23:	12/31/2023

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

Current SAP Completion Date:	12/31/2023 Insert the project completion date as currently seen in the system
Expected Project Completion Date:	12/31/2023
Expected Terminal Evaluation (TE) Date:	9/1/2023
Expected Financial Closure Date:	6/30/2024
UNIDO Project Manager ² :	Heng LIU

I. Brief description of project and status overview

Project Objective

The answer to the question should include: (i) the project's objective consistent with the one introduced in the CEO Endorsement/Approval document and (ii) core indicators. Project managers are encouraged to use the description from earlier PIRs, if applicable, unless changes have occurred during the reporting period.

The Project aims at supporting the SHP capacity expansion programme of the Chinese Ministry of Water Resources (MWR), by reducing the environmental impact of SHP plants to better meet the challenges imposed by climate change. The objective of this project is to reduce GHG emissions and dependence on fossil fuels through the promotion of upgrading, greening and improving the management of existing SHP stations, contributing to the competitiveness of China's industries. Alongside important social and economic benefits, the project will improve local river ecology, hence contributing to adaptation of SHP plants to climate change.

Proje	ect Core Indicators	Expected at Endorsement/Approval State		
6	Greenhouse Gas Emissions Mitigated (metric tons of CO2e)	Direct	1,975,500	
		Indirect	5,567,318	
11	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment		25%	
6.4	Increase in installed renewable energy capacity	Small Hydropower	23.47MW	

Baseline

Project managers are encouraged to use the baseline description from earlier PIRs, if applicable, unless changes to the project's baseline have occurred during the reporting period.

The awareness, understanding, as well as a long-term vision over the necessity and benefits of green hydropower refurbishment are lacking in China. This is complemented by the absence of relevant expertise and necessary skill, both at policy level and project developer level. This resulted a significant gap with present international green hydropower development, as project owners are unwilling to take initial measure to upgrade to green hydropower due to the lack of relevant inventive measure and expertise. However, through the financial support of GEF funding, this situation will be changed. GEF funding is needed to cover the incremental costs related to the greening of the SHPs to ensure additional environmental and social benefits such as delivering water demand downstream, flood control, irrigation, water quality, and to increase the financial viability of the plants.

Please refer to the explanatory note at the end of the document and select corresponding ratings for the current reporting period, i.e. FY24. Please also provide a short justification for the selected ratings for FY24.

² Person responsible for report content

In view of the GEF Secretariat's intent to start following the ability of projects to adopt the concept of adaptive management³, Agencies are expected to closely monitor changes that occur from year to year and demonstrate that they are not simply implementing plans but modifying them in response to developments and circumstances or understanding. In order to facilitate with this assessment, please introduce the ratings as reported in the previous reporting cycle, i.e. FY23, in the last column.

Overall Ratings ⁴	FY24	FY23
Global Environmental Objectives (GEOs) / Development Objectives (DOs) Rating	Satisfactory (S)	Satisfactory (S)

The Project introduces green upgrades and standardised safety measures to demonstration SHP plants and improves the institutional frameworks of green SHP development, and therefore contributes to sustainable energy production and GHG emission reduction of China. In this fiscal year, all Project components have been progressing as planned without any major environmental problem reported. Despite that the continuous drought across China has been negatively impacting its outcomes in outputting clean electricity and cutting GHG emissions, those less impacted plants are still outputting additional clean energy and contributing GHG emission cuts. Therefore, the overall rating is Satisfactory (S).

Implementation Progress (IP) Rating	Highly Satisfactory (HS)	Highly Satisfactory (HS)
---	--------------------------	--------------------------

With the restrictions lifted in December 2022, progress of the Project has been picking up at a quick pace with planned activities under the three components (see Section II for details) completed and KPIs reached, including policy recommendations for green SHP incentives, green upgrades and safety management of demonstration plants, and capacity building among stakeholders. Therefore, the implementation rating is Highly Satisfactory (HS).

Overall Risk Rating	Low Risk (L)	Low Risk (L)
----------------------------	--------------	--------------

With Covid-19 policies lifted in China, the implementation risk of the Project significantly lowered. After completing the demonstration activities as planned, the co-financing of the Project has overachieved.

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.

Please fill in the below table or make a reference to any supporting documents that may be submitted as annexes to this report.

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress in FY24
Component 1 – Policy and	l institutional framew	ork for green SHP de	evelopment in China	

³ Adaptive management in the context of an intentional approach to decision-making and adjustments in response to new available information, evidence gathered from monitoring, evaluation or research, and experience acquired from implementation, to ensure that the goals of the activity are being reached efficiently

⁴ Please refer to the explanatory note at the end of the document and assure that the indicated ratings correspond to the narrative of the report

Outcome 1.1: Policy and institutional framework for promoting green SHP plants are strengthened						
Output 1.1: Green SHP Assessment Standard and aligned technical standards formulated and	Final version of Green small hydro standard	Preliminary version of Chinese Green SHP standard	Draft and Final versions of Chinese Green SHP Ministerial standard	Target completed in FY21, with no further progress in FY24		
revised	Management rules for green SHP Assessment	No management rules for green SHP	Management rules for green SHP Assessment	Rules prepared and submitted to MWR, and integrated into MWR's managerial rules		
	Guidance on green SHP construction and technical guidelines on how to implement green hydro measures published	No technical guidelines on green SHP in China	Guidance published	Target completed in FY21, with no further progress in FY24		
	Technical Guidelines on Dehydration Recovery in Downstream River of Small Hydro aligned to Green SHP Assessment Standard	No aligned technical guidelines	Technical Guidelines developed in alignment to Green SHP Assessment Standard	 Target completed in FY21, with no further progress in FY24 		
	Green SHP Development Strategy	No strategy adopted	Green SHP Development Strategy developed	Target completed in FY17, with no further progress in FY24		
	Establishment and improvement of the online Management Information System for Green Hydropower	No online system	Online Management Information System for Green Hydropower	System operational since FY21, now integrated into MWR's umbrella system		
Output 1.2: Preferential green SHP policies developed and	Green SHP labelling system established	No system in existence	Green SHP labelling system established	No progress to date.		
recommended	Incentive policies in 8 provinces recommended for adaption	Few (1-2) specific green incentive policies in place	At least one incentive policy recommended for adoption in each of 8 provinces	- Incentive policies now in place in 8 provinces		
	Introduction of mandatory ecological flows	Guidelines in place in 5 provinces	Mandatory ecological flows introduced in 2 provinces	Ecological flows now mandatory for all SHP plants across the country		
	National and provincial incentive policies recommended for adoption including a section on gender consideration	No green SHP incentive policies in place	At least one incentive policy recommended for national adoption	Research and recommendation completed and submitted to MWR, and final report accepted by UNIDO in FY 24		
Output 1.3: Safe Production standard criteria rolled out	Safe production standard rolled out nationwide	Draft 'document' on safe production	Safe production standard rolled out nationwide	Target completed in FY21, with no further progress in FY24		
nationwide	Provincial safe production standards issued	No provincial standards issued	Issuance of provincial standards on safe production in 8 provinces	Target completed in FY21, with no further progress in FY24		
Component 2 - Technical	demonstration for re	efurbishment and gre	en upgrades of SHP	plants		
Outcome 2.1: 19 refurbish are in place	ned green SHP plants	(formerly 24) are ful	ly operational and in	nproved management and safety standards		
Output 2.1: business plans and feasibility studies finalised for upgrading SHP demonstration plants	Number of detailed feasibility studies and business plans	No studies or plans	19 studies and plans prepared	Target completed in Project Preparation Phase and implemented accordingly		

	including gender considerations			
Output 2.2: Preferential green SHP policies developed and	No. of demonstration plants	0	19 (formerly 24)	 Final reports of 19 plants have been accepted by UNIDO in FY 24
recommended	Additional Installed Capacity (MW)	0	20.2 (formerly 23.47)	Additional 20.2 MW capacity installed (updated according to progress reports from owners of the remaining 19 plants)
	Annual MWh generated	0	133,585 (formerly 157,000)	 No progress to date.
	Annual GHG emissions reduced	0	94,696 (formerly 110,000) tCO₂e	 In this report period, no additional GHG emission cut contribution due to lower than long-term average outputs under extreme and continuous drought (updated according to actual output of the remaining 19 demonstration projects)
	No. of pilot sites with ecological flow maintained year round	0	19 (formerly 24)	All pilot projects with e-flow maintained year- round in compliance with mandatory national policy
	#/% of female-led (management team) pilot SHP plants (beneficiaries)		15	– 17 of the demonstration plants now with female leadership (updated according to the final report for monitoring and performance analysis of demonstration activities)
	#% of female employees at pilot SHP plants		25%	104 female employees (28%) out of 368 in total (updated according to the final report for monitoring and performance analysis of demonstration activities)
	Number of rivers with improved ecology		19 (formerly 24)	All 19 rivers with improved ecology (updated in FY24 according to case studies)
Outcome 2.2: Improved p	performance and safe	ty management for S	HPs in place	
Output 2.3: Socio- economic and environmental impact of green SHP rehabilitation	No. of Environmental and Social Management Plans prepared	0	19 (formerly 24)	Monitoring of ESMP implementation completed in FY 23, with no further progress in FY24
recorded	No. of baseline and socio-economic and environmental studies of local area and population prior to rehabilitation, including a chapter on gender	0	10	 Ex-ante (baseline) survey, analysis and reports of 10 demonstration projects completed in FY21, with no further progress in FY24
	No. of socio- economic and environmental impact studies post SHP rehabilitation, including a chapter on gender	0	10	Final report of ex-ante and ex-post comparison and analysis completed in FY 23, with no further progress in FY24
	% of female/male beneficiaries at project areas	41%	50%	 The F/M ratio of plant employees reached 44% after completion of demonstration, without consideration of indirect beneficiaries. Data for all beneficiaries at entire project areas are not available and difficult to collect
	No. of case studies prepared (% that includes gender section/dimension)	0	19 (100%, formerly 24)	 Case studies and analysis for 19 individual plants finalized at TE (FY24) Final report for assignment completed in FY 23, with no further progress in FY24

Component 3 – Capacity building and knowledge sharing for the SHP industry in China

Outcome 3.1: Knowledge and awareness of decision makers, experts and technicians about green SHP retrofitting and management are improved

Output 3.1: Capacity building programme for SHP project owners, developers and technicians delivered to	Training materials on green hydro and safe SHP with considerations on gender	No material developed	Material developed with a chapter on gender	Target completed in FY21, with no further progress in FY24
1200 people	No. of train-the- trainer sessions	None	1	Target completed in FY21, with no further progress in FY24
	No. of trained trainers	0	50	 Target completed in FY21, with trainers offering training in subsequent training workshops
	No. of training workshops delivered to project owners, developers, managers, technicians and design institutes	0	15	- 8 workshops in total completed, with - 6 workshops completed by end of FY22 - 2 workshops completed in FY23
	Total No. of trainees	0	1200 (min. 300 female, 25%)	Completed, no further progress in FY24
	No. of study tours	0	1	Target completed in FY20, with no further progress in FY24
	No. of study tour participants	0	25 (min. 7 female, 25%)	− Target completed in FY20, with □ No further progress in FY24
Output 3.2: Capacity building programme for 200 officials on green SHP and Safety and Protection regulation	Training material developed on policy and regulation on Green Hydro and on Safe Production with considerations on gender	No material developed	Material developed on policy and regulation of green SHP and standardised safety measures, with chapters on gender	- Target completed in FY21, with no further progress in FY24
	No. of training sessions for MWR officials in provinces	0	4	□ No further progress in FY24
	No. of officials trained	0	200 (min. 50 female, 25%)	Target completed, no further progress in FY24.
	No. of study tours	0	1	 Target completed in FY20, with no further progress in FY24
	No. of study tour participants	0	30 (min. 8 female, 25%)	Target completed in FY20, withno further progress in FY24
Output 3.3: Inception awareness raising	Inception awareness raising workshop	0	1	Target completed in FY18, with no further progress in FY24
workshop held	No. of attendees at workshop	0	150 (min. 38 female, 25%)	Target completed in FY18, no further progress in FY24
	Awareness raising and marketing material available for the public	Shortage of effective and quality material	Public awareness raising, marketing and training material developed and adapted for Chinese conditions and made available in printed and electronic format. Posters available at project sites	 A brochure in Chinese and English was developed and made public, featuring knowledge and experiences from the project in FY 24 Posters have been prepared for use at demonstration sites in FY 24
	Awareness raising and marketing material available for project developers and officials including consideration on gender	No material in Chinese	Public awareness raising, marketing and training material developed (with a chapter on gender) and adapted for Chinese conditions and made available	 A project film has been prepared in English and Chinese and made public in FY 24 Project newsletters were developed in English and Chinese, featuring progress and knowledge sharing

	T		T	
			in printed and electronic format.	
	National and provincial seminars on green hydro	0	3	target completed, no further progress in FY24
	Chinese Green SHP website established	0	Website established and regularly updated	 A website has been completed featuring knowledge and experience accumulated through the project in FY 24 Posts to share knowledge and experience have been organized and published in FY 24
	International green hydro event held in China with a side event relevant to gender	0	1	 1 international webinar organised in Beijing in FY 23, and no further progress in FY24
Output 3.4: Establishment of pilot green SHP plants	Training material developed for green SHP establishment with consideration on gender	Ad-hoc training material	Material developed with a chapter on gender, promoted by MWR and ICSHP.	Target completed in FY21, with no further progress in FY24
	Establish 24 refurbished SHP plants as pilot green SHP plants	0	24	- Target completed, with - 21 plants completed by end of FY22 - Another 3 plants in FY23
	No. of trainees receiving training	0	350 (min. 88 female, 25%)	 Target completed, with no further progress in FY24
Output 3.5: Establishment of safe production standardization carried out	Training material developed for safe production establishment	Draft training material	Material developed and promoted by MWR	Target completed in FY21, with no further progress in FY24
	Promoting safe production standardization in 24 refurbished SHP plants	0	24	- Target completed, with further progress in FY24
	No. of trainees receiving training	0	200 trainees (min. 50 female, 25%)	 Target completed, with no further progress in FY24

III. Project Risk Management

1. Please indicate the <u>overall project-level risks and the related risk management measures</u>: (i) as identified in the CEO Endorsement document, and (ii) progress to-date. Please expand the table as needed.

Describe in tabular form the risks observed and priority mitigation activities undertaken during the reporting period in line with the project document. Note that risks, risk level and mitigations measures should be consistent with the ones identified in the CEO Endorsement/Approval document. Please also consider the project's ability to adopt the adaptive management approach in remediating any of the risks that had been sub-optimally rated (H, S) in the previous reporting cycle.

	(i) Risks at CEO stage	(i) Risk level FY 22	(i) Risk level FY 23	(i) Mitigation measures	(ii) Progress to-date	New defined risk⁵
1	Political risk	Low (L)	Low (L)	crafted in line with national policies and objectives. MWR has	Active communication is maintained with Chinese government partners through reporting, instant messaging groups, enewsletters, etc to share progress and updates under the Project. Chinese governmental partners including MWR	

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

		_	•			
				stages of the project design and have ensured their full support throughout the project and beyond. In addition, the provincial governments have been involved in the project preparation and have stated their interest in greening projects.	and local water departments are actively engaged in annual workplans and implementation, technical demonstration, and policy recommendations, which aligns project progress is well with national priorities of the SHP industry.	
2	Implementation risk	Low (L)	Low (L)	China has a very active national SHP industry which in part is already active in exporting equipment and knowledge. The Project will further strengthen industry actors across the value chain in extending their product and service portfolio towards more ecological sound solutions.	The implementation of the Project has so far further strengthened the value chain of the Chinese SHP industry by adding values through experiences of managing social and environmental impacts of SHP development. Additional values are also created through enhanced industrial capacities among SHP professionals.	
				MWR, Provincial governments and SHP owners expressed their interest in the project during the PPG and helped to identify potential demonstration projects. Throughout the project, there will be regular and continued contact with stakeholders which should lead to their continued interest and participation.	Technical demonstration has been carried out and completed in close collaboration with not only SHP owners, but also government agencies, local communities, and researchers. The partnership formed through the demonstration is highly valuable for both the implementation of the Project itself and bolstering the confidence of the industry among the stakeholders.	
				Capacity building is an essential part of the Project. Knowledge and skills on SHP upgrading and operation and maintenance is already strongly established in the country. The pilot projects will be located at existing sites with qualified staff who will be further trained in environmental and management aspects.	Capacity building activities under the Project, including an array of training and awareness raising efforts, though significantly impacted and delayed by the Covid-19 pandemic, have been completed with good outcomes. Analysis of the outcomes have been completed, with further awareness raising efforts (film, brochure, posters, newsletters, SNS campaigns) undergoing and to be made public soon.	
				Management organizations were selected for their experience and skills in managing other similar GEF projects. A project management unit will be set up at the national level and monitored under M&E plan. Clear indicators for tracking outcomes and outputs with a focus on implementation milestones and project results and impacts have been prepared.	Management of the Project has been undertaken smoothly with active contribution from the PMO, MWR and UNIDO. The coordination and interactions between these partners have been kept at a very intimate and frequent level with monitoring and evaluation implemented as planned. Indicators for tracking outcomes of the Project have been closely monitored and evaluated by Terminal Evaluation of the Project.	

3	Technical risk	Low (L)	Low (L)	There is limited technical risk since technological measures are widely used in many other countries. Detailed assessment of suitable sites for measures will be carried out and training for operating personnel will be provided, including from technology importers, when necessary.	All activities for technical demonstration were backed up by detailed feasibility studies and business plans, and by end of FY23, have been completed with impacts monitored and recorded. Final reports of technical demonstration and impact analysis were accepted by UNIDO in FY 24.	
4	Project sustainability	Low (L)	Low (L)	A Project Steering Committee including different agencies will be established to oversee project implementation and will ensure collaboration. Members will include representatives of MWR, MOF, MEP, ICSHP and the provincial DWRs. By making all market players fully aware of the advantages of greening SHP and by equipping them with the capacity and tools to realize these benefits, the project aims to generate a self- reinforcing market. In addition, the incentive mechanisms that will be recommended will create a positive context that is expected to ensure the attainment of the project outcomes and their sustainability.	The partnership and positive work relation between partners under the Project have enabled sustained implementation of the Project. Technical demonstrations have been successfully completed with outcomes and impacts monitored and recorded, which has been valuable experiences to showcase the technical and financial feasibilities of the demonstrated measures. These experiences are also valuable in bolstering confidence among the SHP industry and potential financers to sustain the adoption of the demonstrated measures. Contributions from the Project in improving Chinese SHP policies and institutions are expected to contribute further to the sustainability of the green upgrades of SHP development across the country. Such sustainability is further consolidated by improved industrial capacity and raised awareness through the Project.	
				Strengthening and expansion of technical capability through training are built into existing organisations in Component 3. Training activities will be closely monitored and supported under the M&E plan. Linkage to experts and specialized institutions for training and support will be established and coordinated. To ensure that further green SHP projects are built after this project, the project will include a clear awareness raising activity for potential SHP owners, financiers and provincial government to understand the benefits of the measures. In addition, the project will review and recommend possible incentive measures which will	The capacity building and knowledge sharing component under the Project has been completed with its impacts sustained. These include the training of SHP owners, technicians, officials, etc., who, with improved capacity, are going to sustain their direct contribution to the green development of SHP across the country. Moreover, training programmes are completed with heavy involvement of universities specialised in water management, who are going to, even after Project completion, continue benefiting parties that seek knowledge and education with them. Moreover, awareness-raising materials and campaigns, including brochures, posters, films, webpages, and SNS posts, have been released publicly to sustain the impact from the Project.	

				support further investment.		
5	Financial risk	Low (L)	Low (L)	This will be mitigated as much as possible through the choice of greening measures, the allocation of a grant, and the development of incentive policies. Demonstration projects are only selected on evidence of co-finance for the project. There is stringent selection of borrowers through assessment and due diligence of each borrower's historic and future financial management capacity.	After completion of the demonstration activities, a total of 53.12 million USD cofinancing was secured, which is at a ratio of 12:1 against the GEF contribution. The leveraged co-finance includes 20.00 million from central government allotment, 9.01 million from local government, and 24.11 million (inclusive of bank loans) by owners themselves.	
				The banking sector has shown its interest in these projects through the provision of loans, as part of the co-finance, for the demonstration projects. The letters of commitment to invest provided by the projects include the loans from banks. Proper dissemination of the results will be organized to raise awareness in the banking sector.	Loans provided by banks have been part of the co-financing for the refurbishment of demonstration plants, making up approximately 6.2% of the owner's self-finance. Professionals in the banking sector have been actively engaged in knowledge sharing and awareness raising activities of the Project, which is expected to bolster their confidence in the SHP industry of the country.	
6	Environmental and social risk	Low (L)	Low (L)	The project specifically aims to improve the environmental and social circumstances of the SHP. Although in China, formal EIAs are not required for upgrading SHP projects, an environmental and social management plan (ESMP) will be prepared for each project and will identify any risks where applicable. Mitigation measures will be proposed at that time. In addition, an environmental and social impact assessment study will be carried out at 10 of the sites before and after the project. Annual environment and safeguards M&E reports will be provided, which will follow up with necessary actions.	All demonstration activities have been completed with ESMPs prepared beforehand and implemented with impacts recorded and analysed by an independent and specialised expert. These include the monitoring and analysis of implementation of mitigatory measures for (water, solid, & air) waste and noise control, occupational health and safety, soil erosion control, gender mainstreaming, etc. No major environmental or social issues were reported during construction and operation.	
				This Project will pursue thorough and gender responsive communication and ensure stakeholder involvement at all levels, with special regard to	During the processing of project implementation, gender equality is one of the priorities for activities under the Project. Female members account for at least 25% of project teams of all contracted tasks. Accessibility assistance, including that for transport, childcare, etc,	

				involving women and men, as well as CSOs and NGOs promoting GEEW, and a gender expert. This shall mitigate social and gender related risks, promote gender equality, create a culture of mutual acceptance, and maximize the potential contribution of the project to improving gender equality in the energy field. 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 daycare, etc.	was available for all events organized. Specialised training and knowledge have been offered to female professionals within the SHP industry through tailored capacity building programmes under the Project to help them grow their careers.	
				Every participating SHP has been asked to sign a confirmation letter to reinforce their commitment to the GEF project.	All participating SHP plants for technical demonstration have completed their activities as agreed, and final reports have been accepted by UNIDO in FY 24.	
7	Climate change risk	Moderate (M)	Moderate (M)	Changing patterns in rainfall may affect the availability of the water flow and hydropower output. Activities included in the greening of the SHP should help to mitigate against adverse impacts and improve resilience.	The extreme and continuous drought across China's hydropower-rich areas is significantly impacting the outputs from hydropower plants including the demonstration ones under the Project. The current outputs could be even lower than long-term average before the interventions, which stops them from contributing to additional GHG emission cuts.	

2. If the project received a <u>sub-optimal risk rating (H, S)</u> in the previous reporting period, please state the <u>actions taken</u> since then to mitigate the relevant risks and improve the related risk rating. Please also elaborate on reasons that may have impeded any of the sub-optimal risk ratings from improving in the current reporting cycle; please indicate actions planned for the next reporting cycle to remediate this.

If the project has received a sub-optimal risk rating in FY23, please elaborate here on any actions taken towards the mitigation of these risks.

The overall risk rating of the Project in FY24 was Satisfactory, which is above the sub-optimal level.

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

Please elaborate if the project is facing delays in implementation, explain the related reasons, and indicate whether you are planning to request an extension of the above-reported project completion date. If so, please provide information on the related project-level national consultation and decision-making process

that have been/will be observed. Kindly note that this section will be used as a reference for the justification of any upcoming extension request(s), if applicable.

An extension of the Project has already been agreed with UNIDO and GEF Focal Point to end of 2023 in 2021. In FY 24, the project was completed as planned without any delay.

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

If the project has undergone a Mid-Term Review, please summarize the outcome and elaborate on specific actions taken towards implementing the recommendations included in the report.

NB: The information provided in this section will be used by the GEF Secretariat to measure the project's ability to adopt an <u>adaptive management approach</u>. This will be measured through the assignment of a <u>project-level proactivity index</u>.

The Mid-Term Review (MTR) in January 2020 concluded that up until the review, 'major activities [of the project] are continuously progressed as planned', and the project was rated as 'smoothly implemented'. The MTR also find a few problems regarding the implementation of the project and made recommendations for improvements, including (1) strengthening communication and coordination within the project management team, (2) providing additional practical training in reimbursement and financial management for project owners, (3) increasing public engagement and awareness raising, and (4) supporting the formulation of local policy incentives for green SHP development.

Given the MTR recommendations, a few specific actions in response to them are taken, including (1) organising monthly meetings to share updates and progress to facilitate better communication and coordination between the PMO and UNIDO team, (2) offering detailed written & in-person guides and tutorials for project owners to prepare documents for reporting progress and processing reimbursements, and setting up rules for appraisal and acceptance of piloting projects for final reimbursements, (3) fast-tacking the development of publicly-accessible documentary film, brochures, and e-newsletters, and preparing four seminars (3 domestic and 1 international) for knowledge sharing, and (4) developing policy recommendations for provincial SHP authorities.

IV. Environmental and Social Safeguards (ESS)

UN	As part of the requirements for projects from GEF-6 onwards , and based on the screening as per the IDO Environmental and Social Safeguards Policies and Procedures (ESSPP), which category is the ject?
	Category A project
√	Category B project
	Category C project
(Ву	selecting Category C, I confirm that the E&S risks of the project have not escalated to Category A or B).

Notes on new risks:

- If new risks have been identified during implementation due to changes in, i.e. project design or context, these should also be listed in (ii) below.
- If these new/additional risks are related to Operational Safeguards # 2, 3, 5, 6, or 8, please consult with UNIDO GEF Coordination to discuss next steps.
- Please refer to the UNIDO <u>Environmental and Social Safeguards Policies and Procedures</u> (ESSPP) on how to report on E&S issues.

Please expand the table as needed.

	E&S risk	Mitigation measures undertaken during the reporting period	Monitoring methods and procedures used in the reporting period
(i) Risks identified in ESMP at time of CEO Endorsement	In the PPG phase, it decided that ESMP needs to be prepared for each of the pilot project.	Implementation of the ESMPs prepared before start of the demonstration activities were monitored and analysed by one national expert in four provinces (Hubei, Chongqing, Yunnan, and Shaanxi, with same process completed in another 4 provinces in the previous fiscal year) where demonstration plants.	The ESMPs were prepared before the start of the demonstration activities with active inputs from project owners, national experts and local communities based on recorded baseline conditions. Implementation of the demonstration activities, including both phases of construction and operation, were surveyed, monitored and analysed by an independent national expert against the ESMPs and baselines to ensure compliance.
(ii) New risks identified during project implementation (if not applicable, please insert 'NA' in each box)	NA	NA	NA

V. Stakeholder Engagement

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes** regarding engagement of stakeholders in the project (based on the Stakeholder Engagement Plan or equivalent document submitted at CEO Endorsement/Approval).

Please note that the UNIDO GEF Coordination Team will copy-paste the answer to this question into the GEF Portal.

As identified in the PPG phase of the Project, primary target beneficiaries of the project are energy and environmental policy-making and implementing institutions at national and local levels, primarily MWR and MEP, SHP owners (end beneficiaries), designers, installers, training institutions, energy professionals, service providers and the financial sector. The outcomes of the planned project activities and potential recommendations for bridging the gaps have been discussed with all the potential stakeholders during the PPG stage.

Progress:

Implementation of the Project, including policy and institution, technical demonstration, and capacity building and knowledge sharing, and decision makings during the implementation have fully engaged stakeholders of green SHP. Policy studies completed in the reporting period have made extensive consultation of related experts. Monitoring and analysis of the impacts of demonstration activities also take into consideration of a wide range of stakeholders including local communities. To further engage others, FY24 has seen a large amount of efforts dedicated to knowledge sharing and awareness raising. These include a bilingual brochure for knowledge sharing, 19 posters for SHP demonstration projects, a bilingual documentary film, several posts and a website published to share publicly knowledge and experience from the Project. As a routine, apart from PSC members, the final PSC meeting open to additional stake-holding parties was held in FY 24.

Challenges:

While trying its best to engage stakeholders on a wider scale, the project is challenged in this regard by:

 <u>Differences of priorities of stakeholders</u>: stakeholders under the Project have different priorities and, in some cases, they are competitive with each other. For example, SHP regulators prioritises minimising the environmental impacts of SHP development while owners are more concerned about economic outcomes.

Outcomes:

Though challenged, the outcomes from extensively engaging stakeholders are encouraging, including:

- Inclusive sharing of benefits from green SHP development: by extensively engaging stakeholders, the project is balancing their priorities and creating inclusive opportunities for sharing the multiple benefits from green SHP development among them. Green SHP develop generates an array of benefits shared across the spectrum of stakeholders, including economic gains, environmental improvements, climate mitigation, gender mainstreaming, etc., which showcases the feasibility of continuing green upgrades of the SHP industry of China.
- **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.).

Please summarize relevant feedback received on the project.

The Ministry of Water Resources and the Ministry of Finance expressed great satisfaction with the project achievements that the Project has put additional values to the Chinese program of rural small hydropower capacity expansion and efficiency improvements under its 13th FYP by outputting considerable ecological, economic and social benefits. This, on one hand, has supported the sustainable development of China's green SHP in its institution, technology and capacity, and empowerment of women, and on the other, has created success stories from China that could be learned elsewhere in the world.

Moreover, feedbacks from Project partners have been quite positive towards the outcomes under these project Components:

- <u>Policy and institution</u>: MWR and local water departments have provided affirmative feedbacks regarding the policy outputs from the Project regarding Green SHP labelling, central and local incentive policies according to follow up information collected by vendors.
- <u>Technical demonstration</u>: Owners of and local residents close to the pilot plants are positive to the outcomes of the technical demonstration, in particular the improved environmental measures and benefit sharing, according to monitoring and analysis of independent national experts for impact studies and case studies.
- <u>Capacity building and knowledge sharing</u>: Participants to training programmes, seminars and
 other awareness-raising events have showed their approval of these activities through vendors
 organising them. These include SHP owners, technical personnel, officials, financiers, journalists,
 etc.
- 3. Please provide any relevant stakeholder consultation documents.

Please list here the documents which will be submitted in addition to the report, e.g.:

- Project Steering Committee minutes
- Aide Memoire
- Meeting Agenda, etc.

All attachments are to be named as per the GEF required format, i.e.: "GEFID_Document Title", e.g. 9714 PSC minutes.

- 6919_Meeting Minutes of 2023 NPCC Meeting.pdf
- 6919 Name List of the Participants

VI. Gender Mainstreaming

1. Using the previous reporting period as a basis, please report on the **progress** achieved **on implementing gender-responsive measures** and **using gender-sensitive indicators**, as documented at CEO Endorsement/Approval (in the project results framework, gender action plan or equivalent),.

Please note that the UNIDO GEF Coordination team will copy-paste the answer to this question into the GEF Portal.

The implementation of the Project during this reporting period has paid further attention to gender mainstreaming compared to the former reporting periods. The progress in this regard include:

- Further attention in supporting female specialists in participating the Project in technical and supporting capacities: In the recruitment of consultants and vendors to support the implementation of the Project, equal participation of female candidates has been encouraged. For example, the developer team for the project website is predominately composed by female specialists (3/4).
- Improved gender equality among demonstration plant employees: The support provided to female employees has seen increasing average income of female employees at over three quarters of the demonstration plants. Though improved and automated operation has saved labour requirements of the plants, around 3/4 of the plants saw no decrease of female employees, in particular those in leading roles.
- Improved capacity among female SHP professionals: The capacity building and knowledge sharing activities during this reporting period has continued helping female professionals (owners, technicians, officials, etc) in improving their capacity, so that they could upgrade their skills to equally compete for higher positions in their careers and increase their participation in the development and management of Green SHP.
- <u>Highlighted monitoring of the gender indicator:</u> The monitoring and evaluation of the Project during this reporting period has put gender indicators to an even higher stage, requiring at least 25% female participation of all activities.

VII. Knowledge Management and Communication

1. Using the previous reporting period as a basis, please elaborate on any **knowledge management and communication activities / products**, as documented at CEO Endorsement / Approval.

Please note that the UNIDO GEF Coordination team will copy-paste the answer to this question into the GEF Portal.

Project Component 3 is dedicated to capacity building and knowledge sharing among stakeholders and the general public, particularly electricity consumers. During this reporting period, knowledge and experience accumulated through the implementation have been shared and disseminated under tools and products including case studies, technical reports, Project film and brochure, etc through project website and social media. The organised knowledge management and sharing activities in this reporting period include:

- A brochure in Chinese and English was developed and made public, featuring knowledge and experiences from the project
- A project film in English and Chinese was developed and made public
- Posters were developed for use at 19 demonstration sites
- A website was completed featuring knowledge and experience accumulated through the project
- Several posts to share knowledge and experience were organized and published

These efforts have successfully contributed to capacity building among SHP professionals as well as awareness-raising among the general public.

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

Please list the relevant knowledge management and communication covimechanisms/tools and any documents that will be submitted in addition to the report, e.g.:

- online information exchange/sharing platforms
- relevant technical reports
- Link to project websites, videos, publications
- flyers, etc.

All attachments are to be named as per the GEF required format, i.e.: "GEFID_Document Title", e.g. 9714_Flyer.

The knowledge sharing tools developed during this reporting period include:

- Project brochure in English and Chinese (see annexed)
- Project film in English and Chinese (see annexed)
- Project website (link: https://small-and-green.icshp.org/)

VIII. Implementation progress

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes achieved/observed** with regards to project implementation.

Please note that the UNIDO GEF Coordination team will copy-paste the answer to this question into the GEF Portal.

Progress:

During this reporting period, the Project has progressed as planned and been outputting satisfactory outcomes under its components, including (1) the study and recommendation for national incentive policies for green SHP development was finalised; (2) final reports from demonstration plant owners and analysis of the social-economic and environmental impacts of demonstration finalised; (3) various knowledge sharing products and tools were developed and made publicly available such a project brochure, a project film, 19 posters, a project website and etc..

Challenges:

A consultant was recruited in 2023 to produce content for the Project website and produce 8
articles for a Wechat public account (*Gong Zhong Hao*) for featuring knowledge and experience
accumulated from Project. However, due to health reasons, the consultant declared the
contracted tasks couldn't be finalized before June 2024 and requested the cancellation of her
contract. Therefore, the ISA contract (Index No. 00513748) was cancelled in in the first half of
2024.

Outcomes:

- <u>Policy and institution</u>: The final report of the study and recommendation for national incentive policies for green SHP development was accepted by UNIDO.
- <u>Technical demonstration</u>: The final reports from demonstration plant owners and remaining technical reports were accepted by UNIDO.
- <u>Capacity building and knowledge sharing:</u> Capacity building has continued progressing with
 various knowledge sharing products and tools developed. These products and tools are being
 made publicly available to continue benefiting the industry after the conclusion of the Project.

2. Please briefly elaborate on any **minor amendments** ⁶ to the approved project that may have been introduced during the implementation period or indicate as not applicable (NA).

Please tick each category for which a change has occurred and provide a description of the change in the related textbox. You may attach supporting documentation, as appropriate.

Results Framework	N/A
Components and Cost	N/A
Institutional and Implementation Arrangements	N/A
Financial Management	N/A
Implementation Schedule	N/A
Executing Entity	N/A
Executing Entity Category	N/A
Minor Project Objective Change	N/A
Safeguards	N/A
Risk Analysis	N/A
Increase of GEF Project Financing Up to 5%	N/A
Co-Financing	N/A
Location of Project Activities	N/A
Others	N/A

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

Please provide a description of the main expenditures during the reporting period. Describe the current status of funds mobilization activities and the related implications for project implementation. Provide information on status of obtained / mobilized co-financing, etc. as per CEO Endorsement/Approval document.

IX. Work Plan and Budget

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

Please fill in the below table or make a reference to a file, in case it is submitted as an annex to the report.

The project has been completed by the end of 2023.

X. Synergies

1. Synergies achieved:

Describe potential synergies arising out of UNIDO internal cooperation and/or cooperation with (external) bilateral and multilateral projects/programmes, if applicable.

Outputs and outcomes of the project are expected to create synergies with the following projects or programmes:

- World Small Hydropower Development Report (200192). The selected green hydropower pilot plants from GEF project will be included in the case study of the report;
- Technical Guidelines for Development of Small Hydropower Plants (170216). The standards and technical guideline, as well as rehabilitation measure will be good reference and integrated to the project 170216;

⁶ As described in Annex 9 of the *GEF Project and Program Cycle Policy Guidelines*, **minor amendments** are changes to the project design or implementation that do not have significant impact on the project objectives or scope, or an increase of the GEF project financing up to 5%.

 Other GEF projects on small hydropower (Madagascar 120094, Nigeria 120119, Burundi 140332). The training materials and other advocacy documents from the project will be shared with those projects.

3. Stories to be shared (Optional)

Please 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. Please include links to any stories/videos available online.

Not available.

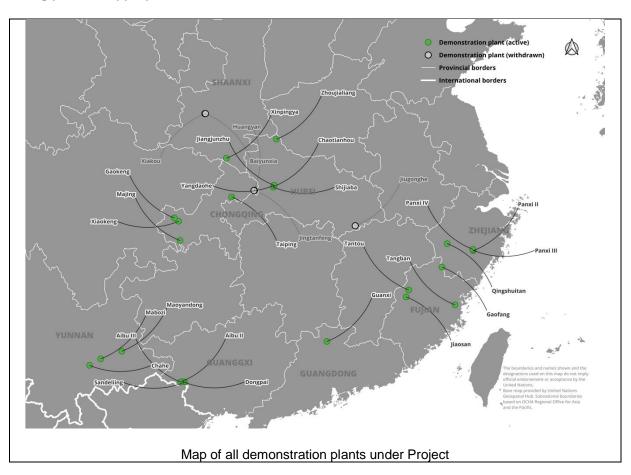
XI. GEO LOCATION INFORMATION

The Location Name, Latitude and Longitude are required fields insofar as an Agency chooses to enter a project location under the set format. The Geo Name ID is required in instances where the location is not exact, such as in the case of a city, as opposed to the exact site of a physical infrastructure. The Location & Activity Description fields are optional. Project longitude and latitude must follow the Decimal Degrees WGS84 format and Agencies are encouraged to use at least four decimal points for greater accuracy. Users may add as many locations as appropriate. Web mapping applications such as OpenStreetMap or GeoNames use this format. Consider using a conversion tool as needed, such as: https://coordinates-converter.com Please see the Geocoding User Guide by clicking https://coordinates-converter.com Please

Location Name	Latitude	Longitude	Geo Name ID	Location and Activity Description
Maoyandong II	24.32098611111111	103.72640555555556	15	Demonstration SHP plant (Active)
Mabozi	23.99358055555557	102.7376777777778		Demonstration SHP plant (Active)
Chahe	23.7141583333333334	102.2104138888889		Demonstration SHP plant (Active)
Jiugonghe	29.5731361	114.68383888888889		Demonstration SHP plant (Withdrawn)
Zhoujialiang	33.05019166666667	110.98274166666667		Demonstration SHP plant (Active)
Chaotianhou	31.16573055555555	110.84691944444444		Demonstration SHP plant (Active)
Yangdaohe	31.20957777777778	110.86284166666667		Demonstration SHP plant (Active)
Shijiaba	31.142025	110.8357777777778		Demonstration SHP plant (Active)
Jiangjunzhu	31.213731066954473	110.87655507902205		Demonstration SHP plant (Active)
Majing	28.96862777777776	106.45878055555555		Demonstration SHP plant (Active)
Xiaokeng	29.759669444444445	106.39330277777778		Demonstration SHP plant (Active)
Gaokeng	29.89082777777776	106.18868611111111		Demonstration SHP plant (Active)
Jingtanfeng	31.0106306	109.9470555555556		Demonstration SHP plant (Withdrawn)
Huangyan	31.0020583	109.92966111111112		Demonstration SHP plant (Withdrawn)
Taiping	30.74279444444446	108.8809611111111		Demonstration SHP plant (Active)
Tangban	26.291641666666667	119.3675305555556		Demonstration SHP plant (Active)
Jiaosan	26.62444444444446	117.0752777777777		Demonstration SHP plant (Active)
Tantou	26.915063888888888	117.19654444444444		Demonstration SHP plant (Active)
Gaofang	27.86891111111111	118.75523888888888		Demonstration SHP plant (Active)
Baiyunxia	34.0512778	107.6266277777777		Demonstration SHP plant (Withdrawn)
Xiakou	34.0516	107.64806666666668		Demonstration SHP plant (Withdrawn)
Xinpingya	32.29391944444444	108.63169166666667		Demonstration SHP plant (Active)
Guanxi	24.7394777777778	113.35196388888889		Demonstration SHP plant (Active)
Sandeliing	22.99053888888889	106.67766666666667		Demonstration SHP plant (Active)
Dongpai	23.0083555555555	106.612625		Demonstration SHP plant (Active)
Aibu II	22.99978055555557	106.48873333333333		Demonstration SHP plant (Active)
Aibu III	22.993775	106.48935277777778		Demonstration SHP plant (Active)

Qingshuitan	28.84128611111111	119.00054166666666	Demonstration SHP plant
			(Active)
Panxi II	28.549130555555557	120.22378888888889	Demonstration SHP plant
			(Active)
Panxi III	28.5677	120.2206361111111	Demonstration SHP plant
			(Active)
Panxi IV	28.60841944444444	120.2028722222223	Demonstration SHP plant
			(Active)

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



EXPLANATORY NOTE

- 1. **Timing & duration:** Each report covers a twelve-month period, i.e. 1 July 2023 30 June 2024.
- 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 Envir	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, an substantial global environmental benefits, without major shortcomings. The project can be present "good practice".						
Satisfactory (S) Project is expected to <u>achieve most</u> of its <u>major</u> global environmental objectives, and yields satisfaction 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 access 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.

LIST OF ANNEXES

- 1. **6919__Meeting Minutes of 2023 NPCC Meeting.pdf**: Meeting minutes of 2023 NPCC Meeting for GEF Upgrading of China SHP Capacity Project
- 2. 6919_Name List of the Participants.pdf: Name list of the participants to 2023 NPCC Meeting
- 3. **6919_project-brochure-in-English (final version).pdf**: Finalized project brochure in English language
- 4. **6919_project-brochure-in-Chinese (final version).pdf**: Finalized project brochure in Chinese language
- 5. **6919_project-film-in-English+Chinese (final version).mp4**: Finalized project film in Chinese and English languages
- 6. Project Terminal Evaluation Full Report

All annexes are accessible at: https://unidocloud-my.sharepoint.com/:f:/g/personal/x_hu_unido_org/EkBAu0QGnchBo0iSgt8TnSUBY7LNVCGnzLxw6IPV-zb_Kg?e=Brjeza