UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

SUSTAINABLE DEVELOPMENT GOALS

Project Implementation Report

(1 July 2021 – 30 June 2022)

Project Title:	POPs and Chemical Pollution Solutions through Area-Based- Eco-effective- Management
GEF ID:	4854
UNIDO SAP ID:	150073
GEF Replenishment Cycle:	GEF-5
Country(ies):	China
Region:	China
GEF Focal Area:	POPs
Integrated Approach Pilot (IAP) Programs[1]:	n/a
Stand-alone / Child Project:	Stand-Alone
Implementing Department/Division:	DTA/AGR/AIS
Co-Implementing Agency (if applicable):	n/a
Executing Agency(ies):	FECO
Other Project Partners:	SUSTECH
Project Type:	FSP
Project Duration (months):	60
Extension(s):	1 extension (two years)
GEF Project Financing:	6,000,000
Agency Fee:	570,000
Co-financing Amount:	24,000,000
Date of CEO Endorsement/Approval:	12/1/2015
UNIDO Approval Date:	2/24/2016
Actual Implementation Start Date:	4/11/2016
Cumulative disbursement as of 30 June 2022:	5,799,776.50
Mid-term Review (MTR) Date:	9/15/2021
Original Project Completion Date:	4/11/2021

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

Project Completion Date as reported in FY21:	4/11/2023
Current SAP Completion Date:	4/11/2023
Expected Project Completion Date:	12/31/2023
Expected Terminal Evaluation Date (TE):	12/25/2023
Expected Financial Closure Date:	4/11/2023
UNIDO Project Manager[2]:	Mr. Zhengyou PENG

I. Brief description of project and status overview

Project Objective
Project Objective: The project will generate and demonstrate an area based chemical management replicable methodology based on an eco-effective management approach to systematically eliminate POPs and SAICM concerned chemical wastes from the total life cycles of products and industrial production systems. At the heart of the eco-effective approach to value chain management is a mindset change that stimulates innovation and rethinking. The approach aims for a massive change in material flows resulting in a 'no waste' society and redesigns the current, one way industrial systems into a circular system. The application of the eco-effectiveness approach to POPs and SAICM concerned chemicals is guided by operational tools such as the Eco-Effectiveness Life Cycle Analysis Framework. Targeted results: This project demonstrates the decrease and elimination of POPs and SAICM concerned chemicals using an eco-effective management approach in the lead-acid battery (LAB) value chain [Tianjin], and in the petroleum exploitation value chain [Dongying]. The lead-acid battery value chain currently relies on PBDE and toxic chemical inputs to improve the flame-retardant quality. The oil extraction value chain currently relies on chemical additives and a wide spectrum of chemical wastes are generated in the extraction process. This project is about the elimination of POPs and other toxic chemicals from products and production life cycles in Tianjin and Dongying. Therefore, the project addresses the socio-economic impact of exposure to POPs and hazardous chemical pollution, and seeks to integrate the concept of eco-effective.

Baseline
Baseline: The current waste and chemical management policy in PR China supports a 'take, make, waste' industrial model and in response the 'Circular Economy' policy in China tries to addresses the unsustainable waste volumes through the promotion of 'reduce, reuse, recycle' measures, developing a 'waste economy' and finding better ways to use and dispose of the waste. The 'take, make, waste' industrial model is globally dominant. Significantly, in China the un-sustainability of this model is being increasingly realized and that the Chinese 'circular economy' response is simply not enough.

Overall Ratings[3]	**FY22**	**FY21**

[2] Person responsible for report content

[3] 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

Global Environmental Objectives **(GEOs)** / Development Objectives **(DOs)** Rating	*Highly Satisfactory (HS)*	*Highly Satisfactory (HS)*
The development objective of the project that is to generate and demonstrate an area based chemical management replicable methodology based on an eco-effective management approach to systematically eliminate POPs and SAICM concerned chemical wastes from the total life cycles of products and industrial production systems remains unchanged. With the results rolling out from Tianjin and the implementation being kickstarted in Dongying, this objective can be verified with more facts and data regarding the application of the eco-effective management approach.		
Implementation Progress **(IP)** Rating	*Satisfactory (S)*	*Highly Satisfactory (HS)*
The project has realized steady and fast progress with sound results achieved according to the work plan of 2021, largely attributable to the efforts made to impart and implant the eco-effectiveness concept among key stakeholders in their mindsets for planning and implementation. The project implementation has continued the take-off momentum from last year and past the independent mid-term evaluation, a hallmark of a project as such moving into its second half stage of implementation. However, the impact of the outbreak of COVID-19 continues to this day and project implementation is still very much affected. In addition, unlike normal projects, this project is innovative in that it transforms the traditional eco-efficiency approach to a sustainable eco-effective approach to remove chemicals known to be harmful from a product or production life cycle. This makes the project activities more challenging and difficult to implement than normal projects, as it requires a combination of various work to improve capacity building and coordinate activities. Therefore, it is expected that the request for extension of the project is unavoidable.		
Overall **Risk** Rating	*Low Risk (L)*	*Low Risk (L)*
The largest risk with the project lies with the selection of the second pilot city. Dongying has successfully prepared a comprehensive project implementation plan by involving the crude oil exploitation industry and the high-tech industrial park to explore and pilot eco-effectiveness oriented development. A number of policy environment and institutional capacity building activities have been planned to mainstream the eco-effectiveness principles with Dongying's 14th Five-Year Plan for Economic and Social Development and the action plan for carbon peaking and carbon neutrality, giving due consideration to take advantage of big data technology and digit economy. With the subcontract signed between FECO and Dongying, the actual implementation of the local project activities in Dongying is in full swing.		

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 in FY22
Component 1 – Introduction and incorporation of area based eco-effectiveness approach as a component of the Yiyang and Tianjin Local Government upcoming 5 Year Economic and Social Development Plan				
Outcome 1: Incorporation of Eco-effectiveness principles into national and regional government green initiatives and environmental protection plans and programs; and enhancement of environmental management decision				
Outcome 1: Incorporation of Eco-effectiveness principles into national and regional government green initiatives and	Number of regulatory instruments and guidelines/ development plans incorporating eco-effectiveness principles	Current set of policies based on the "circular economy" model is not leading to the required	A set of 3 guidelines developed and setting-up of a new institution framework (5-year plans in demonstration area) taking	Tianjin has incorporated the concept of whole life cycle management of chemicals into the new Five-Year Plan of Tianjin for Environmental

environmental protection plans and programs; and enhancement of environmental management decision		mindset change promoted by the eco-effectiveness approach	in account the eco-effectiveness principles	Protection, which has been released. Tianjin has formulated the "Technical Guideline for POPs and Toxic Chemicals Assessment Based on Eco-effective" and three industry technical guidelines (lead battery, aluminium alloy wheel hub, and paint industry).
	Number of eco-effectiveness trainings conducted, number of qualified trainers and number of training programs developed	Institutional capacity is low and knowledge about the application of Eco-Effectiveness mainstream approaches is insufficient	At least 10 trainings conducted based on the eco-effectiveness principle and implementation of the principle across national plans and programs Development of a training program and availability of three qualified national trainers 500 national and international participants/trainees (male/female)	The project has completed 10 lectures and one semester of 32-class undergraduate elective courses. Tianjin Project Office organized three technical exchanges and training, with more than 500 trainees.
Output 1.1: Establish an enabling environment to incorporate eco effective management principles into national and local government chemical management policy	Number of knowledge exchange programs, networking initiatives and capacity building programs conducted to mainstream the eco-effectiveness strategic approach into regional plans and programs and to build specific expertise for target industrial value chains.	Due to the prevalence of end pipe solutions in national and regional agenda only few international exchange and networking initiatives exist, expertise, institutional capacity and knowledge for alternative solutions is low	Establishment of a platform which takes advantage of an international network of universities to transfer knowledge and to facilitate interaction among scientists and intellectuals to practically deploy eco-effective diagnosis, discovery and implementation of eco-effective solutions in industrial value chains.	A platform has been set up to design a series of workshops in Beijing Normal University (BNU), including training for demonstration sites and enterprises.
	Creation of a customized eco-effectiveness management guideline	No supporting/ comparable material to implement eco-effectiveness approaches available at present	A methodology developed for national and internal practitioner of eco-effectiveness approaches which provides technical support and enhances management capacity to apply this integrated approach into praxis	EKC has developed a toolkit (draft) on how to support and guide industrial value chains in eco-effective analysis and diagnosis.
Component 2 –Creation of an institutional model to facilitate knowledge and promote investment relevant to eco-effective management and to ensure related capacity building.				
Outcome 2: Establishment of institutional framework incorporating local government and local enterprises supported by an Eco Effective Knowledge Centre				
Outcome 2: Establishment of institutional framework incorporating local government and local enterprises supported by an Eco Effective Knowledge Centre	Number of management system trainings conducted on local government level; Establishment of management system database;	Current management systems at local government level lacks of consistency with the eco-effectiveness approach and training capacity	A management system at local government level in place which streamline the eco-effectiveness approach within the entire local organization structure and establishes a traceable documentation system 200 trainees (male/female)	Tianjin demonstration area organised technical and conceptual training sessions and participated in exchange sessions to share project experiences. more than 130 trainees
	Final version of a strategy paper and working plan;	At present no strategy developed on	An incentive strategy is in place to promote the research, development	Tianjin has developed the EECM Green Action Plan for Economic Development

	Number of initiatives developed for technologies and processes supporting the development of eco-effectiveness solutions	local government level to mainstream, enhance and facilitate the application of eco-effectiveness principles within demonstration areas and the selected value chains	and application of eco effective solutions and to select innovative technologies and processes	Zones, which sets out a series of management measures and special subsidy funds to stimulate the participation and enthusiasm of enterprises.
Output 2.1: Strengthen the national and local institutional capacity and promote the research for public private partnerships [PPPs] investment to implement eco-effective management as it applies to POPs and SAICM concerned chemicals	Number of study tours conducted; Number of coordination meetings held and action plans defined; Number of trainees and case studies screened	Lack of coordination, communication and of knowledge (international best practices) on local government level	Establishment of a working group and study tours for local government officials to promote the development of local eco-effective action plans and to enhance the knowledge of case studies reflecting international best practices 200 trainees (male/female)	A number of on-line workshops and meetings have been held for updating project progress, proposal preparation training, and proposal evaluation among UNIDO, FECO, LPMOs, and project consultants in the context of COVID-19. Meeting numbers: more than 60 meetings held
	ISO initiative to establish international standard for Eco Effective Management Certification monitored: dialogue established with ISO initiative leader.	Low experience in developing and applying eco-certification schemes and labels in target industries and among government officials	Feedback from ISO Eco Effective Management Systems and Product Certification development initiative integrated into Eco Effective Knowledge Centre and local institutions	The Certification Centre has completed the regional and product certification standards.
Component 3 –Pilot demonstrations at enterprises in the selected value chains to showcase eco-effective management application to encourage wider investment in eco-effective solutions and access to appropriate technologies.				
Outcome 3: Selection of at least 3 processes in each demonstration area and the pilot application of eco-effective methodology to design out toxic chemicals from total life cycles of the materials and the production systems employed.				
Outcome 3: Selection of at least 3 processes in each demonstration area and the pilot application of eco-effective methodology to design out toxic chemicals from total life cycles of the materials and the production systems employed.	An Eco-Effective diagnosis in selected value chains to estimate material flows during total product life cycle and conduct environmental risk assessments; Quantity of eliminated POPs (tons);	Integrated diagnostic tools to put eco-effectiveness principles into practice and to reduce residual point emissions are not applied	Eco-effective diagnosis undertaken in selected enterprises of target industrial chains coupled with best international practice undertaken to assess residual point emission sources and elimination/ remediation plans generated. The diagnosis would consist of an Energy and Materials Flow Environmental Risk Assessment targeting on chemicals inputs, usage in products and production processes of totals life cycle assessment; Dongying: AP reduced by means of alternatives: 0.5 ton. Total chemicals replaced by microbial alternatives: 50 tonnes per year while maintaining an EOR improvement of 8% CO2 injection volume: no less than 5000 tons	Dongying PMO has kick-started the implementation of the designed demonstration activities. Tianjin PMO has submitted the monitoring reports of the pilot value chain.

	Quantity of materials avoided, recycled or reused.		Sequestration rate: more than 80%) EOR improvement: 8% Tianjin: Phase out decabromodiphenyl oxide (PBDE) used in the outer PP container as fire retardant; Replace traditional tank formation with container formation of polar plates for better control of sulfuric acid mist; Replace gravity casting with stretch calendaring for plate grid manufacturing to reduce lead and water consumption; Replace the traditional shaft melting furnace with the closed oxygen-enriched shaft furnace for achieving higher lead recovery up to 99%.	
Output 3.1: POPs and SAICM chemicals focused eco effective diagnostic and technological management strategies/methodologies applied to target industrial value chains in the demonstration areas	Number of trainings/ trainees; establishment of an auditing team at participating enterprises;	Lack of local capacity and knowledge on the enterprise level to conduct regular eco-effectiveness audits and training according to international standards	Eco Effective auditing and technical teams established and trained with support from Knowledge Centre and International Network of Expertise 100 trainees (male/female)	The project has completed 10 lectures and one semester of 32-class undergraduate elective courses by BNC. More than 100 trainees
	Number of processes implementing a new eco-effectiveness management system; number of procedures in place; target indicators for residual emissions reductions; number of companies adopting BAT/BEP	Industrial processes in demonstration areas lack of an integrated eco-effective management system focusing on assessment of emission sources	Eco effective management systems put in place in 3 processes [Dongying and Tianjin] to facilitate proposed solutions / changes to inputs, products and production procedure. At least 4 companies adopting BAT/BEP	Dongying will select at least 3 value chains for BAT/BEP in the oil extraction process.
	Number of production systems harmonized with eco-effectiveness assessment results; Number of design innovations conducted; number of new job positions created	The design of products and process is not compliant with the eco-effectiveness principles, lack of knowledge to streamline this methodology into R&D processes	Implement design changes to production systems and to products in targeted value chains in consultation with National Eco Effective Knowledge and international experts New employment opportunities arising from eco-effective management	Tianjin PMO has established six centralised lead battery transfer points and 35 collection outlets, increasing the number of jobs by 130, including 82 for women.
Component 4 –Quantitative measurement of results of eco-effective chemical management measures expressed in materials, financial and commercial terms in pilot enterprises within selected value chains including monitoring and assessment of changes in impact on receiving ecosystems.				
Outcome 4: Documentation of results of the applied eco effective approach to chemical management including case studies of the process with reference to changed procedures, new and alternative materials, technology innovations and energy. Financial and commercial aspects of applied eco-effective management as well as the environmental monitoring and results				
Output 4.1: Eco-Effective monitoring parameters established and local government institutional capacity strengthened to	Monitoring of Circular Economy parameters is generally focused on end of pipe waste measurement;	Municipal and Research Institution Laboratories in Dongying and Tianjin are	Monitoring platform and technical parameters defined. Relevant laboratory equipment procured and	Tianjin Demonstration Area relied on the original POPs analysis laboratory and purchased POPs and toxic substances testing and analysis equipment such

capture and interpret data built	Poor capacity to measure and monitor in-process material inputs and material flows as is required by eco-effective management; Number of trainees	generally not equipped to provide monitoring support because of deficiencies in Equipment, Technical Competence and Laboratory Management Systems.	installed in selected laboratories in the Yiyang and Tianjin municipal areas. Technical training programme initiated; 100 trainees (male/female)	as polybrominated diphenyl ethers (PBDEs) and dioxins to establish a high standard laboratory, which will provide testing services for the certification of demonstration enterprises at a later stage of the project.
Component 5 –Dissemination Plan				
Outcome 5: Planning and implementation of a dissemination strategy that will communicate to a wider global audience. Eco-effective approach methodology documented and made available to wider audience				
Output 5.1: Dissemination programme planned, developed and delivered to local and global audience	Number of awareness raising campaigns related to the environmental and human health risk from POPs SAICM chemical exposure	Awareness raising campaigns are typically of a general nature to alert risk and may not be solution or alternative orientated.	Communication and Awareness raising plan established encompassing human health risks associated to the exposure of POPs taking in consideration their gender relevance	The Action Plan for the Control of New Pollutants, currently being implemented in China, makes comprehensive arrangements for the control of new pollutants, clarifies the general idea of the control of new pollutants in China, and proposes the construction of a "screening, assessment and control" approach for the environmental risk management of toxic and hazardous chemical substances, as well as a "ban, reduce and cure" system. The system of "ban, reduce and cure" is a whole process control system. The production and use of toxic and hazardous chemical substances is the main source of new pollutants. The release of these policies provides good "oxygen" for our project implementation and strengthens local motivation. FECO as the implementing agency for the POPs Convention in China has maintained a strong publicity program for raising awareness of POPs pollution in general. Specifically, each project will develop its own publicity program focusing on special chemicals, processes, products and stakeholders. The NPMO and LPMOs have incorporated this component into their work plan.
	Number of targeted awareness raising and dissemination workshops on applied eco effective management of	Limited access by general public and industries to the possibilities of eco-effective value chain	Publicity generated around establishment of Eco-Effective Knowledge Centre	The Center of Environmental Communication and Education has recorded and broadcast speeches

	chemicals in the production value chains	management including environmental, financial and commercial co-benefits	Eco Effective website established Project case studies published on website International papers and studies on eco effectiveness published on internet Technical papers relating to solutions implemented by the project published on website Open access on website for technical discussion. Dedicated stakeholder workshops for feedback and refinement of communication material	by key specialists of the project. The Center has launched a special campaign for imparting the eco-effectiveness concept and theories in schools. Ten thousand of pamphlets introducing the eco-effectiveness concept and theories have been printed and distributed. The national project management team and the two pilot cities have prepared video materials to introduce their project activities and results.
Component 6 –Project Monitoring and Evaluation				
Outcome 6: Assessment of the impact of project activities including lessons learned				
Outcome 6: Assessment of the impact of project activities including lessons learned	Assessment and analysis documentation materials addressing both the successes and, even more critically, the failures encountered	The dominant mindset is 'cradle to grave' industrial production and the paradigm of eco-effectiveness is new and challenging	To assure a project assessment process that is intellectually faithful to the principles of eco effectiveness as applied to POPs and SAICM concerned chemical management. As a secondary target the assessment process shall address the wider positive and negative impacts of applied eco effective management of the demonstration value chains.	Complete a mid-term evaluation of the project and obtain a satisfactory rating.
Output 6.1: Project impact indicators designed, applied and project implementation evaluated	Indicators for applied eco effective management of products and production processes	Eco-effective management spans a wide spectrum of potential impacts from energy and resource flows, to mindset change, to innovative design, to ecological and environmental relationships to the indirect economic, social, financial and commercial benefits.	Framework of indicators to measure impact across impact spectrum designed. Indicatively, technical indicators will include applied eco effective management impact on chemical inputs and emission in industrial value chains and on residual POPs point emission sources, material flows, energy efficiency, product life cycle design, process assessment. Socio economic indicators include such topics as mindset impact, social acceptance and economic factors including financial and commercial implications. The indicators will be informed by the wide range of records and reports generated by the project	The project has completed its audit work and summary report. The technical and socio economic indicators will be finished in the next step.

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 at CEO stage	(i) Risk level FY 21	(i) Risk level FY 22	(i) Mitigation measures	(ii) Progress to-date	New defined risk[4]
1	Inability to transform accessible information into technical knowledge appropriate for addressing the identified problems on non-point sources in the project demonstration areas	M	M	Human resources to guide transformation of information into area specific and applicable technical knowledge	The project has selected the eco-effective Knowledge Center and Beijing Normal University as the training platform to conduct training for business, society and youth from different perspectives. The NPMO has recruited an experienced technical advisor to facilitate the collaboration among international, national and local project stakeholders.	☐
	Scale and complexity of emission sources versus project resources	L	L	Strict prioritization of actions focused on POPs and other concerned chemicals. Leveraged funding from public and private sectors will be utilized	Tianjin has formulated the "Technical Guideline for POPs and Toxic Chemicals Assessment Based on Eco-effective" and three industrial technical guidelines, which all focus on POPs and SAICM chemical management. Dongying has focused on the management of POPs and SAICM chemicals in the development of its implementation programme, especially in the industrial value chain.	☐
	Accessibility on appropriate and alternative POPs mitigation technologies	L	L	Assistance through UNIDO and other UN agencies clean technology centers, technology transfer and investment promotion centers	UNIDO is actively looking for clean technologies in cooperation with knowledge transfer centers and investment promotion centers.	☐
	Fear and resistance to untried strategic eco-effective policy for the project area	L	L	Build on the stated local governments commitment to create a green economy that exceeds current laws and regulations	The NPMO organized an open and competitive selection process for pilot areas, which have shown their strong commitment to sustainable chemicals management in particular and sustainable development in general. The selected pilot areas have passed the stage when economic development was factually gained by giving way to polluting industries, and are moving toward a balance between economic development and environmental protection.	☐

[4] New risk added in reporting period. Check only if applicable.

					Tianjin has incorporated the concept of whole life cycle management of chemicals into the new Five-Year Plan of Tianjin for environmental protection, which has been released. The Plan will effectively promote the implementation and practice of eco-effective chemicals management in Tianjin. Tianjin has formulated the "Technical Guideline for POPs and Toxic Chemicals Assessment Based on Eco-effective" and three industry technical guidelines (lead battery, aluminum alloy wheel and paint industry). Dongying will do as above.	
	Misunderstanding and fear generated among local population	L	L	Appropriate and clear communication strategy and public education implemented	The NPMO has completed 10 lectures and one semester of 32-class undergraduate elective courses by BNC, which includs business representatives, government officials, the public and students. The LPMOS have also carried out training on the project concept and techniques.	☐
	Inadequate and immature appreciation of the foundations necessary and complexity of a "green" economic structure and for POPs free environment	L	L	Conversion of project inspired incentives to tangible economic benefits in the short-term to ensure sustainability.	NMPO plans to launch an industry incentive program to expand and sustain the program. Tianjin PMO has formulated incentive policies and set up certain incentive funds to encourage enterprises to implement ecological benefit management and green development, and set up expert groups to provide one-to-one guidance to enterprises. Dongying PMO is also actively developing relevant incentive policies to encourage more demonstration companies to join in.	☐
	Rising sea/water levels and emerging water scarcity may potentially interfere with value chains of demonstration areas	L	L	The development of climate resilliance strategies in demonstration areas can benefit from the introduction of eco-effectivness principles (see Annex E) and the application of BAT/BEP in target values chains and their replication	Both pilot areas are in coastal belts vulnerable to climate change impacts. Again, the holistic approach of the project will seek synergies among chemicals management and climate mitigation and adaptation measures. China attaches great importance to the issue of climate change and has formulated a series of policy plans and targets. Dongying is responding positively and has developed climate change related research and demonstration work.	☐

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

N/A

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

The outbreak of COVID-19 is continuously affecting the progress of the project, making it difficult for the smooth implementation of many activities under the project. In fact, the project has been delayed for 2 years and the epidemic is one of the very important reasons for this. For example, the field survey to the demonstration areas and demonstration enterprises, face-to-face communication between project stakeholders etc. are all affected which led to the slow implementation of the project to a large extent, and the relevant impacts lasted till now, especially the impact on the solicitation of another demonstration area for the project and that on the current certification and assessment on the demonstration parks and demonstration enterprises. All of these resulted in the tight schedule for the execution of follow-up projects and increased the execution pressure.

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

The exit of Yiyang demonstration area in the early stage of the project execution and the outbreak of COVID-19 in the mid-stage of the execution, led to the relatively slow implementation of the project. So, On November 3, 2020, FECO and UNIDO held a special on-line meeting to update the project progress and discuss the extension of the project, and both sides believed that the extension of the project for another two years is reasonable to ensure the smooth implementation of the project, which until to April 2023. However, the impact of the outbreak continues to this day and, as mentioned above, project implementation is still very much affected. In addition, unlike normal projects, this project is innovative in that it transforms the traditional eco-efficiency approach to a sustainable eco-effective approach to remove chemicals known to be harmful from a product or production life cycle. This makes the project activities more challenging and difficult to implement than normal projects, as it requires a combination of various work to improve capacity building and coordinate activities. Therefore, it is expected that the request for extension of the project is unavoidable.

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

Due to the change in the demonstration area of the project and the outbreak of COVID-19, the implementation period of the project was extended and the mid-term evaluation was also delayed until September 2021. Now, the project has been finished its MTR and receive a satisfactory rating.

The conclusion: From both technical and financial points of view, the project implementation has achieved results as planned so far, and is on the right track to progress and achieve expected results. The overall satisfactory performance of the project implementation is largely attributed to the high political commitment and competent project management.

About the comments from MTR, FECO has strengthened the policy guidance to the demonstrations areas and enterprises through continuous exchange and communication meetings.
FECO has been through communication with standard setters, industry associations, etc., to promote the in-depth integration of Eco-effective standardization with relevant domestic and foreign standards. It is hoped that the effects of the certification standard system can be expanded and made known and applied by more companies and localities.

By learning from MTR's recommendations and taking stock of the experience already gained, the project has revised and refined the advice to better continue implementation.

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?

N/A

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).

Tianjin: The systems were established in Tianjin for assessing POPs and SAICM chemicals, EECM product certification and for long-term monitoring, in order to promote the eco-effectiveness concept of C2C in Tianjin, and to improve the management of the whole life cycle of POPs and SAICM chemicals in the industrial park. The system for the management of the whole life cycle of POPs and SAICM chemicals was established in Tianjin Economic Development Area (TEDA) and the relevant platform was developed.

Dongying Municipality was finally selected as the new pilot city. An inception conference has been held with participants from the high-level officials of UNIDO, FECO, and Dongying Municipal Government, demonstrating strong and unified commitments from all sides to make the pilot project a success. Dongying Municipal Government has already embarked on establishing the project steering committee and subcontracting with the High-tech Industrial Park and the Shengli Oil Field.

CEC has formulated indicator system for assessing and certifying the products and regional eco-effectiveness by conducting comparative analysis on the certification system both at home and abroad and combining with the current development status in the country. The "Specification for assessing

the eco-effectiveness of industrial products" and its compilation instructions, "Specification for assessing the eco-effectiveness in the industrial park " were formulated. In addition, CEC actively applied for approval to use the two specifications as group standards for issuance， provided a good platform and basis for the follow-up to encourage more enterprises to get certified. At present, CEC is actively communicating with Tianjin demonstration area, but they can not go to the field for sampling and surveys due to the COVID 19， they can only conduct surveys on the standards and carry out trial assessments through online video. So far the kick-off meeting has been held with Tianjin PMO and TEDA. The relevant work is progressing.

Educational training and Publicity activities under the project are steadily progressing. In terms of educational and training, a series of 10 lectures and 32 classes have been held on-line targeting university students as well as interested individuals from research institutions and businesses by BNU. In terms of publicity, the Center of Environmental Communication and Education has recorded and broadcast speeches by key specialists of the project. The Center has launched a special campaign for imparting the eco-effectiveness concept and theories in schools. Ten thousand of pamphlets introducing the eco-effectiveness concept and theories have been printed and distributed. The national project management team and the two pilot cities have prepared video materials to introduce their project activities and results.

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.).

During the training and publicity, different industry associations, business representatives, local governments and individual experts and academics expressed their interest in the project. All agreed that the concept of eco-effective is a comprehensive and innovative concept, which is highly compatible with the domestic concept of whole life management and ecological civilisation. The project will promote green development and clean production in enterprises and achieve a balance between local environment and economy.

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

- 4854_Meeting Agenda_2021.07-2021.06

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),.

The NPMO and its consultants have given special focus and technical guidance for the LPMOs to carefully identify and mainstream all gender dimensions associated with the proposal preparation and implementation. For instance, the phase-out of POPs or chemicals alike will help to reduce exposure of the female to these chemicals within their life cycle. Project measures need to give special focus to enable the female participation from R&D and application to awareness raising.

The following strategies have been taken by FECO and LPMO to promote gender equality : (i) including adequate women in the project decision making, and paying proper attention to the impact of the policies and decisions on gender; (ii) including more women in the BAT/BEP selection processes; (iii) ensure all the displaced women and men to be appropriately resettled; (iv) training and promotion of more women to management positions in the project related enterprises; (v) the project stakeholder engagement and the project publicity activities target proportionally at females; (vi) collection of sex-disaggregated data wherever possible.

VII. Knowledge Management

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

The national stakeholders have benefitted a lot from international transfer of knowledge regarding C2C ideology and successful applications in Europe, where Environmental Protection Encouragement Agency (EPEA) is based and is the pioneer in this field. Traditional waste-to-resource recycling concept has been upgraded to upcycle rather than downcycle, recognizing downcycle will eventually lead to massive waste, while upcycle can create ever increasing abundance. To facilitate the upcycle, a series of product design changes should be introduced, such as reducing or avoiding use of POPs or chemicals alike, using dismantlable parts, and installing self-sufficient energy systems.

UNIDO and FECO are encouraging EPEA to further collaborate with the national and local stakeholders and establish long-term partnership for delivering C2C solutions in China. Initial discussions regarding establishment of joint knowledge center with the existing C2C Knowledge Center have started. The project will continue to facilitate the process and catalyse sustainable operation of such important knowledge generator and disseminator.

The project has supported the establishment of a national center for eco-effectiveness research and training within a university that offers courses on environmental studies. By now, a series of 10 lectures and 32 classes have been held on-line targeting university students as well as interested individuals from research institutions and businesses by BNU. Ten thousand of pamphlets introducing the eco-effectiveness concept and theories have been printed and distributed by CEEC.

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

The C2C Knowledge Center has maintained a WeChat website and regularly published high-quality articles and newsletters introducing international experience and local actions. The website has successfully attracted attentions of industrial and academic communities as manifested by the visitor statistics. As per the contractual TOR of the Center under the project, it will continue to work as an important knowledge generator and disseminator in the future.

- 4854_link to the Wechat Public: “Eco-effective Management”

Publicity video for the project was developed by combining with the project files, collecting project concept, videos, photos and other materials regarding important meetings, activities and project stakeholders. The project team has completed the theme planning for No.6 of 2021 version using the

story of C2C for the cover of the magazine “World Environment”. All of these are available on the world Environment website.

- 4854_Project Publicity Video
- 4854_Video of the cloud live broadcasting activities；
- 4854_ Publications “World Environment”；

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.

Progress:

In collaboration with UNIDO, the project document has been updated by incorporating changes of activities resulted from the alteration of the pilot city. The general project objectives remain the same as before.

The Mid-term review of the project was launched in September 2021 based on the consultation with UNIDO. FECO organized the project stakeholders to submit the summary report, financial report and various implementation progress materials for each sub-project as required by the independent evaluation experts. After consultation with independent evaluation experts, the reporting was carried out mainly in a combination of online and offline approaches due to the epidemics. In addition, based on the communication with Tianjin Project Office, the online live broadcast and site video were adopted by combining with the progress status of Tianjin demonstration area and demonstration enterprises. It directly reflected the actual status of the demonstration enterprises to a larger extent, so that the independent evaluation experts could understand the project more objectively. Until December 2021, the mid-term evaluation of the project has been completed and has been evaluated satisfactorily. the recommendations in MTR have been very helpful for the subsequent implementation of the project.

Considering the implementation status of the project and the substitution of the demonstration area, replacement of demonstration enterprises in Tianjin, etc., the project team had many communications and exchanges of ideas with UNIDO, revised the corresponding part of the original project document, while the overall goal of the original project remained unchanged. The revision of the project documents will lay a certain foundation for us to better execute the subsequent project.

The national project management team has gone through a round of pilot city selection process. The competent authorities of ecology and environment from Dongying Municipality, Kunshan Municipality, Shanghai Municipality, Shenzhen Municipality and Sichuan Province have expressed interests in participating in the project after extensive information exchange and communication. Dongying Municipality was finally selected as the new pilot city. An inception conference has been held with participants from the high-level officials of UNIDO, FECO, and Dongying Municipal Government, demonstrating strong and unified commitments from all sides to make the pilot project a success. Dongying Municipal Government has already embarked on establishing the project steering committee and subcontracting with the High-tech Industrial Park and the Shengli Oil Field.

The project has rolled out the preliminary version of the standards for eco-effectiveness targeting products and regions, which are under pilot assessment with selected enterprises in Tianjin Economic Development Area. However, the on-site assessment is impeded by the erratic pandemic, leaving the on-line tool as the major means of communication with limited effects.

The education, training, and publicity programs have taken advantages of available on-line tools for communication boosted by the pandemic. A series of 10 lectures in total of 32 class hours have been held on-line targeting university students as well as interested individuals from research institutions and businesses. The Center of Environmental Communication and Education has recorded and broadcast speeches by key specialists of the project. The Center has launched a special campaign for imparting the eco-effectiveness concept and theories in schools. Ten thousand of pamphlets introducing the eco-effectiveness concept and theories have been printed and distributed. The national project management team and the two pilot cities have prepared video materials to introduce their project activities and results.

Difficulties and challenges

a) The impact of COVID-19 on the project implementation

The erratic pandemic has exerted a strong and continual impact on the project implementation. Necessary on-site visits and communication with key project stakeholders in selected pilot cities have been planned, postponed, and eventually canceled. With the strict measures seemingly withdrawing, this impact could be expected to be diluted, but the implementation of the remained project activities will face more pressed time limit.

b) The capacity of Dongying's PMO for project management needs urgent improvement
Dongying Municipality has established a project steering committee and a project management office. However, their capacity and experience for international cooperation appear limited. There exist difficulties in coordination with the High-tech Industrial Park and the Shengli Oil Field. As a result, the cooperation agreements with them has not been signed yet. Progress reports and associated theme outputs are not qualified to enable payment. It constitutes a significant challenge to deliver necessary training, guidance and supervision to improve Dongying's project management skills so that the project can be completed on time with good quality.

c) Difficulties in piloting and promoting the certification of eco-effectiveness standards
Though CEC has developed the initial version of the eco-effectiveness standards, it considers infeasible to put them into certification in the market as the eco-effectiveness concept is still too new to the vast majority of companies and there is no such need of certification among them. Risk exists with the standards developed but hardly useful to guide companies to improve their designs and enhance their circularity and low-carbon performance. Therefore, the project faces a significant challenge in mobilizing those excellent and pioneer companies to participate in the eco-effectiveness standards development and certification program by making the standards practical and attractive to them.

2. Please briefly elaborate on any **minor amendments**[5] 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	Though Yiyang, one of the two pilot cities has been replaced by Dongying, the results framework of the project remains unchanged.
☒	Components and Cost	Component 3 regarding the pilot cities has been changed accordingly, but the cost remains the same.
☐	Institutional and Implementation Arrangements	*NA*

[5] 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%.

☐	*Financial Management*	*NA*
☒	Implementation Schedule	It proved that the alteration of the pilot city was time-consuming process. Accordingly, the implementation schedule has been readjusted and agreed by UNIDO and FECO. All the revisions have been incorporated in to the Project Document.
☐	Executing Entity	*NA*
☐	Executing Entity Category	*NA*
☐	Minor Project Objective Change	*NA*
☐	Safeguards	*NA*
☐	Risk Analysis	*NA*
☐	Increase of GEF Project Financing Up to 5%	*NA*
☐	Co-Financing	*NA*
☒	Location of Project Activities	The demonstration activities originally designed for Yiyang are now relocated to Dongying.
☐	Others	*NA*

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

	Description	Released Budget Current Year (a)	Obligations Current Year (b)	Disbursements Current Year (c)	Expenditures Current Year (d=b+c)	Total Agreement Budget (e)	Released Budget (f)	Obligations + Disbursements (g)	Funds Available* (h=f-g)	Support Cost (i)	Total Expenditures (j=g+i)
150073											
150073-1-01-01	Component 1	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	0.00	0.00	0.00	0.00	3,916.68	3,916.68	3,916.68	0.00	0.00	3,916.68
1500	Local travel	5,702.34	0.00	0.00	0.00	36,330.00	36,330.00	30,627.66	5,702.34	0.00	30,627.66
1700	Nat.Consult./Staff	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2100	Contractual Services	0.00	0.00	0.00	0.00	923,670.00	923,670.00	923,670.00	0.00	0.00	923,670.00
3000	Train/Fellowship/Study	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3500	International Meetings	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5100	Other Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	91,030.28	91,030.28
150073-1-01-01	Total	5,702.34	0.00	0.00	0.00	963,916.68	963,916.68	958,214.34	5,702.34	91,030.28	1,049,244.62
150073-1-01-02	Component 2	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	12,909.80	0.00	0.00	0.00	80,791.31	80,791.31	37,881.51	42,909.80	0.00	37,881.51
1500	Local travel	13,010.38	0.00	0.00	0.00	32,090.70	32,090.70	19,080.32	13,010.38	0.00	19,080.32
1700	Nat.Consult./Staff	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2100	Contractual Services	0.00	19,500.00	0.00	19,500.00	892,090.20	892,090.20	911,590.20	(19,500.00)	0.00	911,590.20
3000	Train/Fellowship/Study	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3500	International Meetings	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5100	Other Direct Costs	1,519.33	0.00	0.00	0.00	2,000.00	2,000.00	480.67	1,519.33	0.00	480.67
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	92,058.20	92,058.20
150073-1-01-02	Total	27,439.51	19,500.00	0.00	19,500.00	1,006,972.21	1,006,972.21	969,032.70	37,939.51	92,058.20	1,061,090.90
150073-1-01-03	Component 3	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	83,826.79	14,817.55	22,579.77	37,397.32	266,141.97	266,141.97	207,712.50	58,429.47	0.00	207,712.50
1500	Local travel	7,015.88	0.00	0.00	0.00	8,273.16	8,273.16	1,257.28	7,015.88	0.00	1,257.28
1700	Nat.Consult./Staff	3,000.00	0.00	0.00	0.00	3,006.28	3,006.28	6.28	3,000.00	0.00	6.28
2100	Contractual Services	(57.44)	(1,485,000.00)	1,485,032.11	32.11	2,413,935.08	2,413,935.08	2,414,024.63	(89.55)	0.00	2,414,024.63
3000	Train/Fellowship/Study	20,000.00	0.00	0.00	0.00	20,000.00	20,000.00	0.00	20,000.00	0.00	0.00
3500	International Meetings	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4500	Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5100	Other Direct Costs	2,528.73	0.00	615.09	615.09	7,000.00	7,000.00	5,086.36	1,913.64	0.00	5,086.36
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	249,668.39	249,668.39
150073-1-01-03	Total	116,313.96	(1,470,182.45)	1,508,226.97	38,044.52	2,718,356.49	2,718,356.49	2,628,087.05	90,269.44	249,668.39	2,877,755.44
150073-1-01-04	Component 4	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1500	Local travel	0.00	0.00	0.00	0.00	1,654.84	1,654.84	1,654.84	0.00	0.00	1,654.84
1700	Nat.Consult./Staff	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2100	Contractual Services	0.00	0.00	0.00	0.00	581,625.00	581,625.00	581,625.00	0.00	0.00	581,625.00
4500	Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5100	Other Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55,411.61	55,411.61
150073-1-01-04	Total	0.00	0.00	0.00	0.00	583,279.84	583,279.84	583,279.84	0.00	55,411.61	638,691.45
150073-1-01-05	Component 5	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	32,604.28	0.00	0.00	0.00	32,604.28	32,604.28	0.00	32,604.28	0.00	0.00
2100	Contractual Services	0.00	0.00	0.00	0.00	167,395.72	167,395.72	167,395.72	0.00	0.00	167,395.72
3000	Train/Fellowship/Study	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15,902.59	15,902.59
150073-1-01-05	Total	32,604.28	0.00	0.00	0.00	200,000.00	200,000.00	167,395.72	32,604.28	15,902.59	183,298.31
150073-1-51-01	Project management and Monitoring	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	10,256.64	0.00	0.00	0.00	203,546.10	203,546.10	193,289.46	10,256.64	0.00	193,289.46
1500	Local travel	0.00	0.00	0.00	0.00	9,771.21	9,771.21	9,771.21	0.00	0.00	9,771.21
1700	Nat.Consult./Staff	0.00	0.00	0.00	0.00	34.49	34.49	34.49	0.00	0.00	34.49
5100	Other Direct Costs	(918.43)	0.00	0.00	0.00	10,680.81	10,680.81	11,599.24	(918.43)	0.00	11,599.24
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20,395.96	20,395.96
150073-1-51-01	Total	9,338.21	0.00	0.00	0.00	224,032.61	224,032.61	214,694.40	9,338.21	20,395.96	235,090.36
150073-1-53-01	Evaluation	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	0.00	0.00	0.00	0.00	11,856.92	11,856.92	0.00	11,856.92	0.00	0.00
1500	Local travel	1,000.00	0.00	0.00	0.00	9,000.00	9,000.00	0.00	9,000.00	0.00	0.00
1700	Nat.Consult./Staff	(116.45)	(3,412.36)	3,589.57	177.21	11,182.21	11,182.21	7,725.87	3,456.34	0.00	7,725.87
2100	Contractual Services	0.00	0.00	0.00	0.00	271,260.00	271,260.00	271,260.00	0.00	0.00	271,260.00
3000	Train/Fellowship/Study	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5100	Other Direct Costs	(22.66)	0.00	(79.12)	(79.12)	143.04	143.04	86.58	56.46	0.00	86.58
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26,511.90	26,511.90
150073-1-53-01	Total	860.89	(3,412.36)	3,510.45	98.09	303,442.17	303,442.17	279,072.45	24,369.72	26,511.90	305,584.35
150073	Total	192,259.19	(1,454,094.81)	1,511,737.42	57,642.61	6,000,000.00	6,000,000.00	5,799,776.50	200,223.50	550,978.93	6,350,755.43
2000003299	USD Total	192,259.19	(1,454,094.81)	1,511,737.42	57,642.61	6,000,000.00	6,000,000.00	5,799,776.50	200,223.50	550,978.93	6,350,755.43

*** Does not include Unapproved Obligations**

The above statement has been certified electronically by the designated officials in UNIDO's department of finance.

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.

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

Outputs by Project Component	Year 2022		Year 2023		GEF Grant Budget Available (US$)
	Q3	Q4	Q1	Q2	
Component 1 –Introduction and incorporation of area based eco-effectiveness approach as a component of the Yiyang and Tianjin Local Government upcoming 5 Year Economic and Social Development Plan					
Outcome 1: Incorporation of Eco-effectiveness principles into national and regional government green initiatives and environmental protection plans and programs; and enhancement of environmental management decision					
Output 1.1:					201,000
Component 2 –Creation of an institutional model to facilitate knowledge and promote investment relevant to eco-effective management and to ensure related capacity building					
Outcome 2: Establishment of institutional framework incorporating local government and local enterprises supported by an Eco Effective Knowledge Centre					
Output 2.1:					309,000
Component 3 –Pilot demonstrations at enterprises in the selected value chains to showcase eco-effective management application to encourage wider investment in eco-effective solutions and access to appropriate technologies					
Outcome 3: Selection of at least 3 processes in each demonstration area and the pilot application of eco-effective methodology to design out toxic chemicals from total life cycles of the materials and the production systems employed.					
Output 3.1:					690,000
Component 4 –Quantitative measurement of results of eco-effective chemical management measures expressed in materials, financial and commercial terms in pilot enterprises within selected value chains including monitoring and assessment of changes in impact on receiving ecosystems					
Outcome 4: Documentation of results of the applied eco effective approach to chemical management including case studies of the process with reference to changed procedures, new and alternative materials, technology innovations and energy. Financial and commercial aspects of applied eco-effective management as well as the environmental monitoring and results					
Output 4.1:					438,000
Component 5 –Dissemination Plan					
Outcome 5: Planning and implementation of a dissemination strategy that will communicate to a wider global audience. Eco-effective approach methodology documented and made available to wider audience					
Output 5.1:					355,000
Component 6 –Project Monitoring and Evaluation					
Outcome 6: Assessment of the impact of project activities including lessons learned					
Output 6.1:					46,000

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.

The project focuses on a holistic approach for POPs chemicals management and sustainability enhancement. To facilitate upcycling, a series of product design changes have be introduced, such as reducing or avoiding the usage of POPs or chemicals alike, using dismountable parts, and installing self-sufficient energy systems.

The Action Plan for the Control of New Pollutants, currently being implemented in China, makes comprehensive arrangements for the control of new pollutants, clarifies the general idea of the control of new pollutants in China, and proposes the construction of a "screening, assessment and control" system for the environmental risk management of toxic and hazardous chemical substances, as well as a "ban, reduce and cure" system. The system of "ban, reduce and cure" is a whole process control system. The production and use of toxic and hazardous chemical substances is the main source of new pollutants. The release of these policies provides good "oxygen" for our project implementation and strengthens local motivation.

The cross-sectoral coordination mechanism at national and local level works as a necessary hub to ensure the achievement of synergies. NPMO supports this mechanism, and encourages LPMO to develop the coordination role with different departments, such as the Development and Reform Commission, the Taxation Bureau, and the Industrial and Commercial Bureau, etc., which can establish a good project management promotion mechanism.

During the implementation period, the project will continue to strengthen and deepen the chemical management of regional and demonstration enterprises based on the current domestic work on the management of new pollutants, so as to promote the sustainable development of the project.

3. Stories to be shared (Optional)

Eco-effective approach promotes a holistic strategy toward planning and realization of sustainable development at the product, enterprise, and regional levels. Chinese Government is launching national and local programs for carbon peaking and neutralization by regions and by sectors. In this process, it is important to avoid the carbon emission reduction achieved by generating new chemical pollution, limiting development, or lowering living standard. The pilot programs under implementation in Dongying and Tianjin are giving answers to all these questions and leading the pilot cities to sustainable development with the philosophy of health, circularity, abundance, and fairness.

EXPLANATORY NOTE

1. **Timing & duration:** Each report covers a twelve-month period, i.e. 1 July 2021 – 30 June 2022.

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 all 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 achieve most of its major global environmental objectives, and yields satisfactory global environmental benefits, with only minor shortcomings.
Moderately Satisfactory (MS)	Project is expected to achieve most of its major relevant 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 some of its major global environmental objectives with major shortcomings or is expected to achieve only some of its major global environmental objectives.
Unsatisfactory (U)	Project is expected not to achieve most 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, any of its major global environmental objectives with no worthwhile benefits.

Implementation Progress (IP)	
Highly Satisfactory (HS)	Implementation of all 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 most 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 some components is in substantial compliance with the original/formally revised plan with some components requiring remedial action.
Moderately Unsatisfactory (MU)	Implementation of some components is not in substantial compliance with the original/formally revised plan with most components requiring remedial action.
Unsatisfactory (U)	Implementation of most components in not in substantial compliance with the original/formally revised plan.
Highly Unsatisfactory (HU)	Implementation of none 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 p rospects 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.

Annex 1:

GEF- POPs and Chemical Pollution Solutions through Area-Based- Eco effective- Management

Meeting Agenda

2021.07-2022.06

Date	Content	Location	Participant
2021			
10 June（Thursday）	Expert review meeting on Full life cycle EECM technology policy report of lead battery industry production and recycling	Tele-conference	Zhang Zhidan（FECO） Jiang Feng（NTA） Su Chuang（FECO） Qian lijun(expert) Zhang huan(CEC) Zhang Xiaohui (Tianjin PMO) Qian miaomiao (Tianjin PMO) Feng yuhang(Tianjin PMO)
17 June（Thursday）	Expert review meeting on Full life cycle EECM technology policy report of aluminum alloy wheel production and recycling	Tele-conference	Zhang Zhidan（FECO） Jiang Feng（NTA） Su Chuang（FECO） Yang xiaosong(expert)

			Xue jinghua(CEC) Shi peixing(EKC) Zhang Xiaohui (Tianjin PMO) Qian miaomiao (Tianjin PMO) Wang yue (Tianjin PMO)
18 June（Friday）	Discussion and exchange on Eco-effectiveness management Certification System	Tele-conference	Peng Zhengyou(UNIDO) Ren Yong（FECO） Zhang Zhidan（FECO） Jiang Feng（NTA） Zhang Xiaohui (Tianjin PMO) Liu xinhui(expert) Wang Haiyang (Dongying PMO) Ji yinli(Dongying PMO)
28 June（Monday）	Expert review meeting on Full life cycle EECM technology policy report of coating production and recycling	Tele-conference	Zhang Zhidan（FECO） Jiang Feng（NTA） Su Chuang（FECO） Li li(expert) Xue jinghua(CEC) Chen dan(EKC) Zhang Xiaohui (Tianjin PMO) Qian miaomiao (Tianjin PMO) Li cangmin (Tianjin PMO)

1 July（Thursday）	Expert review meeting on Technical Guide of EECM	Tele-conference	Zhang Zhidan（FECO） Jiang Feng（NTA） Su Chuang（FECO） Qiang haixiang(expert) Zhang zijia(CEC) Shi peixing(EKC) Zhang Xiaohui (Tianjin PMO) Qian miaomiao (Tianjin PMO) Wang yanfei (Tianjin PMO)
1 July(Thursday)	Expert review meeting on EECM concept promotion incentive strategy	Tele-conference	Zhang Zhidan（FECO） Jiang Feng（NTA） Su Chuang（FECO） Qiang haixiang(expert) Ye jin(expert) Zhang zijia(CEC) Shi peixing(EKC) Zhang Xiaohui (Tianjin PMO) Qian miaomiao (Tianjin PMO) Wang yue(Tianjin PMO)

6 July(Tuesday)	Coordination meeting of Dongying's Implementation Plan	Tele-conference	Zhang Zhidan（FECO） Jiang Feng（NTA） Su Chuang（FECO） Ji Yinli（Dongying PMO） Wang Haiyang（Dongying PMO）
9 July (Friday)	Discussion and exchange on Eco-effectiveness Management Certification System	FECO	Ren Yong（FECO） Zhang Zhidan（FECO） Jiang Feng（NTA） Xue Jinghua(CEC) Zhang Zijia（CEC） Zhang huan(CEC)
19 July(Monday)	Expert Seminar on C2C up-cycle Concept	Tele-conference	Peng Zhengyou(UNIDO) Zhang Zhidan（FECO） Su chang(FECO) Jiang Feng（NTA） Qian haixiang(expert) Zhang xiangsu(expert) Jia qing(expert) Peng hua(expert)

			Xue Jinghua(CEC) Chen dan(EKC) Wang yue(Tianjin PMO) Wang Haiyang (Dongying PMO) Ji yinli(Dongying PMO)
29 July(Thursday)	Project Coordination meeting	Tele-conference	Peng Zhengyou(UNIDO) Peng zheng （FECO） Su Chuang （FECO） Zhang Zhidan （FECO） Jiang feng(NTA)
30 July(Friday)	Seminar with goodbaby companies	Tele-conference	Su Chuang （FECO） Zhang Zhidan （FECO） Jiang feng(NTA) Liu xinhui(expert) Zu yunlong(goodbaby) Tu zuhong(goodbaby)

20 August(Friday)	Coordination meeting with CEC	Tele-conference	Peng zheng （FECO） Zhang Zhidan （FECO） Su chuang (FECO) Xue Jinghua(CEC) Zhang Zijia （CEC） Zhang huan(CEC) Jiang feng(NTA)
26 August(Thursday)	Coordination Meeting on Project Progress and Mid-term Evaluation	Tele-conference	Peng Zhengyou(UNIDO) Zhong Xingfei （UNIDO） Zhang Zhidan （FECO） Su chuang (FECO) Jiang feng(NTA)
27 August(Friday)	Project launch meeting on publicity activity	Tele-conference	Peng Zhengyou(UNIDO) Zhong Xingfei （UNIDO） Peng zheng （FECO） Zhang Zhidan （FECO） Su chuang (FECO) Jiang feng(NTA) Luan caixia(EDC) Zhai zhixin(EDC)

13 October(Thursday)	Matchmaking sessions for mid-term evaluation	Tele-conference	Zhang Zhidan （FECO） Su chuang (FECO) Jiang feng(NTA) Chen yang(expert)
18 October(Monday)	The mid-term summary	FECO	Peng zheng （FECO） Zhang Zhidan （FECO） Su chuang (FECO) Jiang feng(NTA) Chen yang(expert)
22 October(Friday)	Interview with the representative of Beijing Normal University and Center	Tele-conference	Chen yang(expert) Zhang Zhidan （FECO） Su chuang (FECO) Jiang feng(NTA) Liu xinhui(subcontract)
22 October(Friday)	Interview with the representative of Environmental Education and Communications of Ministry of Ecology and Environment	Tele-conference	Chen yang(expert) Zhang Zhidan （FECO） Su chuang (FECO) Jiang feng(NTA) Luan caixia(subcontract)

28 October (Thursday)	Interview with the representative of Southern University of Science and Technology (SUSTech)	Tsinghua Tongfang Technology Square D, East Building/ Online Meeting	Chen yang(expert) Zhang Zhidan（FECO） Su chuang (FECO) Jiang feng(NTA) Chen dan(EKC) Shi peixing(EKC)
29 October(Friday)	Interview with the representative of Tianjin PMO and subcontractors	Tele-conference	Chen yang(expert) Zhang Zhidan（FECO） Su chuang (FECO) Jiang feng(NTA) Sun guobing (Tianjin PMO) Yuan Xuezhu (Tianjin PMO) Zhang Xiaohui (Tianjin PMO) Qian miaomiao (Tianjin PMO)
15 November(Friday)	Interview with the representative of China Environmental United Certification Center	Tele-conference	Chen yang(expert) Zhang Zhidan（FECO） Su chuang (FECO) Jiang feng(NTA) Xue Jinghua(CEC) Zhang Zijia（CEC）

30 November(Tuesday)	Expert review meeting for the call for project demonstration areas	FECO/ Tele-conference	Seven assessment experts
8 December(Wednesday)	Expert review meeting for the reports on Eco-effectiveness Management Certification System	Tele-conference	Zhang Zhidan（FECO） Su chuang (FECO) Jiang feng(NTA) Xue Jinghua(CEC) Zhang Zijia（CEC） Other three assessment experts
30 December(Tuesday)	Coordination Meeting	Tele-conference	Peng Zhengyou(UNIDO) Peng zheng（FECO） Zhang Zhidan（FECO） Su chuang (FECO)
2022			
13 January（Thursday）	• Project Tripartite Review Meeting	Tele-conference	Peng Zhengyou(UNIDO) Xu anqi(UNIDO) Peng zheng（FECO） Zhang Zhidan（FECO） Su chuang (FECO) Jiang feng(NTA) All project stakeholders:

			Tianjin PMO Dongying PMO CEC EKC BNU (Education and Training Sub-programme) CEEC (Dissemination sub-programme)
29 January(Saturday)	• Project mid-term summary meeting	FECO	Xiao xuezhi (FECO) Peng Zhengyou(UNIDO) Xu anqi(UNIDO) Peng zheng （FECO） Zhang Zhidan （FECO） Su chuang (FECO) Jiang feng(NTA) Chen yang(expert) Liu liyuan(expert)
7 February （Monday）	• Coordination meeting of Dongying's implementation plan	Tele-conference	Peng Zhengyou(UNIDO) Xu anqi(UNIDO) Peng zheng （FECO） Zhang Zhidan （FECO） Su chuang (FECO) Jiang feng(NTA) Wang Haiyang (Dongying PMO) Ji yinli(Dongying PMO) Chen jianbin (Dongying PMO)

February to April **(10 times,** **weekly meeting)**	• Coordination meeting with Dongying PMO	Tele-conference	Peng Zhengyou(UNIDO) Peng zheng（FECO） Zhang Zhidan（FECO） Jiang Feng（NTA） Su Chuang（FECO） Zang Minjie（Dongying PMO） Wang Haiyang (Dongying PMO) Ji yinli(Dongying PMO) Chen jianbin (Dongying PMO)
February to May **(7 times)**	• Coordination meeting with CEEC on dissemination	Tele-conference	Zhang Zhidan（FECO） Su Chuang（FECO） Luan caixia(CEEC) Gao fang (CEEC) Li chong (DER)
February to May **(4 times)**	• Coordination meeting with CEC on eco-effectiveness management certification system	Tele-conference	Su Chuang（FECO） Zhang Zhidan（FECO） Jiang Feng(NTA) Xue Jinghua(CEC) Zhang zijia(CEC)

2 March(Wednesday)	• Coordination meeting with Tianjin PMO	Tele-conference	Peng Zhengyou(UNIDO) Peng zheng（FECO） Zhang Zhidan（FECO） Jiang Feng（NTA） Su Chuang（FECO） Sun guobing (Tianjin PMO) Yuan Xuezhu (Tianjin PMO) Zhang Xiaohui (Tianjin PMO) Deng yan (Tianjin PMO) Wang yue (Tianjin PMO) Feng yuhang(Tianjin PMO)
18 March (Friday)	• Discussion meeting with Tianjin PMO on Environmental Protection Plan for the 14th Five-Year Plan	Tele-conference	Peng zheng（FECO） Zhang Zhidan（FECO） Su Chuang（FECO） Jiang Feng（NTA） Yuan Xuezhu (Tianjin PMO) Zhang Xiaohui (Tianjin PMO)
18 March (Friday) **(4 times)**	• Seminars on Education and training seminars	Tele-conference	Zhang Zhidan（FECO） Su Chuang（FECO） Jiang Feng（NTA） Liu xinhui (BNU)

13 April(Wednesday)	• Coordination meeting with EKC	Tele-conference	Su Chuang（FECO） Zhang Zhidan（FECO） Jiang Feng(NTA) Shi peixing（EKC）
14 April (Thursday)	• Exchange meeting on Tianjin Demonstration activities work	Tele-conference	Peng zheng（FECO） Zhang Zhidan（FECO） Jiang Feng（NTA） Su Chuang（FECO） Yuan Xuezhu (Tianjin PMO) Zhang Xiaohui (Tianjin PMO) Qian miaomiao (Tianjin PMO) Zhou yuanchi(Tianjin Demonstration) Geng shiwei(Tianjin Demonstration) Wang huizhen(Tianjin Demonstration) Chen an（DER） Deng peilang（DER） Wu chuntao（DER）