GEF-8 REQUEST FOR CEO ENDORSEMENT/APPROVAL

TABLE OF CONTENTS

General Project Information

Project Title Chemicals and Wastes Financing Partnership Facility (CWFPF)	
Region Global	GEF Project ID 11681
Country(ies) Global	Type of Project FSP
GEF Agency(ies): ADB UNIDO	GEF Agency Project ID
Project Executing Entity(s) Vinachemia (Viet Nam) Ban Toxics Inc.(Philippines) Thailand Environmental Institute (Thailand) ADB	Project Executing Type Government Others Others GEF Agency
GEF Focal Area (s) Chemicals and Waste	Submission Date 12/19/2025
Type of Trust Fund GET	Project Duration (Months) 60
GEF Project Grant: (a) 29,083,000.00	GEF Project Non-Grant: (b) 0.00
Agency Fee(s) Grant: (c) 2,617,000.00	Agency Fee(s) Non-Grant (d) 0.00
Total GEF Financing: (a+b+c+d) 31,700,000.00	Total Co-financing 314,416,553.78
PPG Amount: (e) 275,300.00	PPG Agency Fee(s): (f) 24,700.00
Total GEF Resources: (a+b+c+d+e+f) 32,000,000.00	
Project Tags CBIT: No NGI: No SGP: No Innovation: No Competitive Window: No	
Project Sector (CCM Only) Mixed & Others	

Taxonomy

Focal Areas, Chemicals and Waste, Disposal, Eco-Efficiency, Persistent Organic Pollutants, Plastics, Unintentional Persistent Organic Pollutants, New Persistent Organic Pollutants, Polychlorinated Biphenyls, Best Available Technology / Best Environmental Practices, Mercury, Artisanal and Scale Gold Mining, Cement, Non Ferrous Metals Production, eWaste, Waste Management, Industrial Waste, Hazardous Waste Management, Sound Management of chemicals and waste, Emissions, Industrial Emissions, Green Chemistry, Open Burning, Convene multi-stakeholder alliances, Influencing models, Deploy innovative financial instruments, Transform policy and regulatory environments, Demonstrate innovative approache, Strengthen institutional capacity and decision-making, Local Communities, Stakeholders, Large corporations, Private Sector, Individuals/Entrepreneurs, SMEs, Capital providers, Financial intermediaries and market facilitators, Consultation, Type of Engagement, Participation, Partnership, Information Dissemination, Academia, Civil Society, Non-Governmental Organization, Community Based Organization, Public Campaigns, Communications, Strategic Communications, Awareness Raising, Beneficiaries, Gender Mainstreaming, Gender Equality, Innovation, Capacity, Knowledge and Research, Targeted Research, Capacity Development, Workshop, Knowledge Generation, Professional Development, Seminar, Training, Indicators to measure change, Learning, Theory of change, Adaptive management, South-South, Knowledge Exchange, Peer-to-Peer, Conference, Exhibit, Field Visit, North-South, Twinning

Rio Markers

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
Principal Objective 2	Significant Objective 1	Significant Objective 1	Significant Objective 1

Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. (max. 250 words, approximately 1/2 page)

The CWFPF will be an operational platform designed for strategic, multi-focal, multi-stakeholder and long-term cooperation to deploy technical expertise and channel resources effectively for Chemicals and Wastes programs and/or projects. It will also support a " Multilateral Development Banks (MDB) coordination mechanism[1][1]" to provide thought leadership, share knowledge, financial models and experiences with other international finance institutions (IFIs).

At the operational level CWFPF involves: i) a governance and advisory framework, ii) links with strategic technical partners, iii) a policy hub and 'e-marketplace' to stimulate demand and support transactional information flows, iv) a suite of pilot / demonstration sub-projects (UNIDO-led) in high impact sectors of the Philippines, Thailand and Malaysia, v) trust fund aligned with 'partner managed funds', vi) dedicated private sector 'seed venture' window to provide reimbursable grants to early-stage private enterprises along a range of thematic areas, and vii) support for additional resource mobilization.

The trust fund would finance investment readiness work such as: localization of CWP incidence, spot testing, monitoring, abatement / remediation strategies, natural capital assessments and valuations, abatement / remediation cost / financial and economic analyses, market analytics, detailed engineering designs, risk assessments (including Environment and Social Safeguards (ESS)) and/or supply chain studies and analysis to promote circularity for proposed investments, as well as feasibility/pilot studies for identified interventions focusing on POPs/mercury reduction and addressing priorities identified in the Global Chemicals Framework (GCF). Under the 'seed ventures' window, funds would be made available to early stage small and medium enterprises which plan, or are already active in the marketplace. Funds would be provided on a reimbursable grant basis; with a view to generate reflows to the main trust fund. The GEF role here would be catalytic and enabling.

Global environmental benefits (GEBs): In summary the following GEBs will be achieved: i) Persistent Organic Pollutants (POPs) avoidance CI 9.1 = 583.66 MT; ii) Mercury prevention CI 9.2 = 0.78 MT; iii) POPs Mercury containing waste CI 9.6 = 13,492.8 MT; iv) Highly Hazardous Pesticides (HHPs) CI 9.7 1,000MT; v) Avoided residual plastic waste CI 9.8 = 191,800 MT; vi) Unintended-POPs CI 10.1 = 7.74 MT; vii) Carbon Dioxide (CO2) directly avoided CI 6.2 = 6,131,563 MT, and viii) 26,120,000 people benefitting (of which 50% women). Additional GEBs will be achieved under Outcome 4.1, at significantly larger scale given the potential ADB sovereign pipelines which will be pursued; as well as policy and technology outreach / transfer supported through the strategy.

[1] *This could be an extension of a coordination mechanism already being led by ADB under the GEF 8 Net Zero Nature Positive Accelerator Integrated Program (IP), Clean and Healthy Ocean IP and possibly the Greening Transportation Infrastructure Development (GRID IP).*

Project Description Overview

Project Objective

To establish a dedicated finance facility to support investments in chemicals and wastes pollution (CWP) reduction / elimination and net-zero, nature positive development in key polluting sectors to foster zero-waste societies.

Project Components

1. Decision making frameworks for CWP investment

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)
1,200,000.00	8,678,000.00

Outcome:

1. National/sub-national governments and financial institutions' decision making on CWP investments strengthened

United Nations Industrial Development Organization (UNIDO)

Output:

1.1 Policy barriers on Chemicals and Waste (C&W) management, including considerations of policy inconsistencies and coherence at national and sub-national level, identified and strategies to address the barriers developed.

1.2 Capacity building at national and subnational levels on policy formulation and implementation conducted.

1.3. Urban / peri-urban level sustainability strategies developed / updated.

2. Chemicals and Wastes Pollution Partnership Finance Facility

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)
15,000.00	200,000.00

Outcome:

2. Chemicals and Wastes Financing Partnership Finance Facility (CWFPF) established

Asian Development Bank (ADB)

Output:

2.1 Governance, institutional arrangements, structure / strategy and operational modalities for finance facility developed, including eligibility and selection criteria

2.2 Partnership development and resource mobilization initiatives for finance facility supported.

2.3 Concept paper and Establishment paper prepared, approved and C&W Trust fund (or similar mechanism) initiated with Implementation Guidelines drafted

3. Investment Readiness for the finance facility

Component Type	Trust Fund
Investment	GET
GEF Project Financing ($)	Co-financing ($)
7,678,500.00	35,650,000.00

Outcome:

3. Pipeline of 'bankable' projects for the finance facility identified / validated

(ADB, UNIDO)

Output:

3.1 Robust pipeline of investible chemicals and wastes projects in selected areas with potential financing institutions, including ADB created (linked to 1.3)

3.2 CWFPF integrated knowledge hub and 'e-marketplace' created, functional, and among others, contributing to knowledge management and learning (KML)

3.3 Pilot / demonstration carried out as proof of concept in specific C&W sectors (to be confirmed):

1) Electronics (Thailand)

2) Cement (Vietnam)

3) Textiles (Philippines)

4) Environmentally persistent pharmaceuticals (EPP) (Philippines)

5) New Persistent Organic Pollutants (POPs) in manufacturing (Viet Nam)

4. Investments in C&W pollution reduction / elimination projects

Component Type	Trust Fund
Investment	GET
GEF Project Financing ($)	Co-financing ($)
17,092,000.00	249,000,000.00

Outcome:

4. Investment readiness support for chemicals and wastes pollution reduction / elimination projects in selected project countries

(ADB**)**

Output:

4.1 Specialized project preparation support provided to eligible institutions, leading to formulation of **at least 6 sovereign investment projects** covering a range of priority products, processes and sectors, of which:

a) at least **two s**overeign investment projects support new approaches to facilitate access to capital by Civil Society Organization (CSOs), women and youth-led businesses into in urban CWP prevention, abatement and elimination projects, and

b) **one** project (sovereign or public private partnership) pilots new approaches to attract private capital in CWP prevention, abatement and elimination.

Targets:

a) Provide "CWP lens" overlay on at least **$ 1 billion i**n potential sovereign loan projects

b) Mobilize at least $ 20 million for CW Trust Fund (or similar mechanism)

4.2 At least 12 innovative chemicals management solutions advanced by early-stage private enterprises benefitting from seed venture financing

5. Knowledge management, learning and communications

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)
1,313,000.00	3,393,000.00

Outcome:

5. Knowledge management, learning and communications strategy implemented

Output:

5.1 Communications and visibility plan implemented

5.2 KML strategy implemented at operational level

M&E

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)
400,000.00	1,385,000.00

Outcome:

6.Performance monitoring and evaluation system implemented

Output:

6.1 Project performance monitoring system in place

6.2 Mid-Term Review and Terminal Evaluation conducted

Component Balances

Project Components	GEF Project Financing ($)	Co-financing ($)
1. Decision making frameworks for CWP investment	1,200,000.00	8,678,000.00
2. Chemicals and Wastes Pollution Partnership Finance Facility	15,000.00	200,000.00
3. Investment Readiness for the finance facility	7,678,500.00	35,650,000.00
4. Investments in C&W pollution reduction / elimination projects	17,092,000.00	249,000,000.00
5. Knowledge management, learning and communications	1,313,000.00	3,393,000.00
M&E	400,000.00	1,385,000.00
Subtotal	**27,698,500.00**	**298,306,000.00**
Project Management Cost	1,384,500.00	16,110,553.78
Total Project Cost ($)	**29,083,000.00**	**314,416,553.78**

Please provide Justification

Note: ADB Share = $ 20,046,000; UNIDO Share = $ 9,037,000

PROJECT OUTLINE

A. PROJECT RATIONALE

Describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

Hazardous chemicals and other pollutants continue to be released in large quantities into the atmosphere, biosphere, geosphere, and hydrosphere. Many of these substances are only partially characterized, yet they are widespread and already linked to serious adverse impacts on human health, the environment, and socio-economic development. The global chemicals industry is driven by a number of 'megatrends' (e.g construction, agriculture, electronics etc.) and continues to expand into very complex supply chains, trade and distribution of chemical products or products which contain chemical elements.

Although chemicals are part of our everyday lives, bring us enormous health, economic and social benefits, and are essential to transition to sustainable development, there are significant health and environmental risks associated with the lifecycle of hazardous chemicals, which need to be prevented and mitigated, through eliminating the use of certain hazardous chemicals, groups of chemicals, or specific applications and practices, and through reducing exposure, and more broadly better managing chemicals along their value chain so as to

minimize associated risks. The ample knowledge on the risks, impacts and solutions is not matched by decisive action at the international and national levels.

While Multilateral Environmental Agreements (MEAs) and other global frameworks such as Strategic Approach to International Chemicals Management (SAICM) and its successor Global Framework on Chemicals address these risks and promote solutions, implementation needs to be strengthened and un-regulated issues need to be addressed. Some of the main causes of the persistent problems associated with the current state of play of how our societies and economies use and manage chemicals of concern (COCs) are detailed below.

There is a **lack of regulatory enforcement and governance**, with many countries, particularly in developing regions, suffering from weak regulatory frameworks or limited enforcement capabilities related to chemical and hazardous waste management. Even where legislation exists, the capacity to enforce laws and monitor compliance is often insufficient, leading to ongoing chemical pollution. Limited transparency and accountability mechanisms further exacerbate the situation, allowing harmful practices to continue unchecked. Strengthening governance structures and enforcement mechanisms will be essential to overcoming this challenge. **Insufficient technical capacity and knowledge gaps** represent also significant barriers to managing hazardous chemicals and waste is the lack of technical expertise and knowledge in many regions. Local stakeholders, including industry players, regulatory agencies, and civil society, often lack the technical understanding necessary to properly handle hazardous substances or implement life-cycle management approaches. This is further complicated by the rapid pace of innovation in the chemicals industry, which can outstrip the ability of regulatory frameworks to keep pace with new developments. Comprehensive capacity-building efforts will be needed to close this gap.

Adequate and sustainable financing remains a critical issue in the management of chemicals and hazardous waste. Many governments and private sector entities face budgetary limitations that may delay or restrict their ability to invest in safer, more sustainable alternatives. Additionally, transitioning to circular business models or implementing extended producer responsibility systems requires initial capital investment, which may not be readily available in all regions or industries.

Another barrier is the **complexity of global supply chains.** The global nature of the chemicals industry means that supply chains are highly complex, involving multiple stakeholders across different countries and regions. Ensuring accountability and compliance at every stage of the supply chain, particularly in the context of transboundary shipment of hazardous waste, is a considerable challenge. Different countries have varying levels of regulatory oversight, and weak points in the supply chain may lead to illegal dumping or improper disposal of hazardous chemicals. Addressing this complexity requires stronger international cooperation and harmonization of standards.

Public awareness of the risks posed by hazardous chemicals is generally low, particularly in regions where these substances have already caused long-term environmental damage. Engaging the broader public and key stakeholders, including industry players and local communities, is essential for building a shared understanding of the risks and fostering a collective commitment to addressing chemical pollution. However, achieving meaningful engagement across diverse sectors and geographies is often difficult due to competing priorities and limited access to information.

The **chemicals industry is often resistant to change,** particularly when it comes to adopting more sustainable practices that could disrupt existing profit models. In many cases, transitioning away from hazardous chemicals can be seen as costly or unnecessary, particularly when there is insufficient market demand for safer alternatives. Resistance to adopting extended producer responsibility schemes or circular business models is common, especially in industries that are heavily reliant on chemicals, such as agriculture, construction, and electronics. Overcoming this resistance will require strong incentives, both financial and regulatory, to encourage industry players to adopt more sustainable practices.

Nonetheless, there is the issue of cross-cutting impacts of climate change which poses an additional challenge to chemical and hazardous waste management. Extreme weather events, such as floods or hurricanes, can lead to the unintentional release of hazardous chemicals into the environment, exacerbating pollution. Additionally,

the pressure on governments and industries to prioritize climate change mitigation and adaptation may divert resources away from addressing chemical pollution. Ensuring that chemical management is integrated into broader climate resilience efforts will be essential for long-term success.

Multilateral Environmental Agreements (MEAs) such as the Basel, Rotterdam and Stockholm Conventions, the Minamata Convention (BRS-M), and other voluntary instruments have reduced some of the risks, but progress is uneven, with significant implementation gaps, including a pace which cannot keep up with advanced developments and marketing forces associated with the global chemicals industry. Ongoing research and development by chemists across a wide range of industries makes increasingly revolutionary contributions to every aspect of daily lives. This continual process of identification, synthesis, marketing, and end use has led to increased safety, utility, productivity, and convenience across all sectors of industrial and consumer goods.

Despite parallel development of approvals and monitoring capacity, the lifetime impact of these chemicals is often not understood before they are already in wide use. In some cases, less persistent or hazardous materials can be easily substituted. In other cases, the use of specific hazardous chemicals cannot be easily avoided or rapidly transitioned away from.

Even when a substitution or transition can be achieved the legacy of these chemicals can exist in the environment forever. The BRS-M conventions operate to identify, measure, monitor, control, and educate the use, transport, and fate of these chemicals however the supporting environment of policy, legislation, research capacity, technical capability, and knowledge/awareness are often insufficient to safely and completely manage these pollutants.

The primary target chemicals of the BRS-M conventions are due to their potential to bio-accumulate. This characteristic places BRS-M and similar chemicals, both naturally occurring and synthesized, as a significant contributor to the triple planetary crisis of climate change, pollution, and loss of nature and biodiversity. This proposed GEF project will contribute directly in addressing the above-mentioned barriers and to supporting the missions of the BRS-M Conventions to avoid or take lifecycle approaches to hazardous chemicals in new products, manage legacy chemical pollution, and facilitate the safe collection, concentration, and disposal of these chemicals.

From the perspective of ADB and UNIDO, the chemicals and waste approach will, where possible, use proven, transferable approaches to support replicability across chemicals groups, industry sectors, and geographic regions. Where differentiated solutions are needed to address specific challenges, these will be drawn on best practice from partner agencies.

The primary areas for policy innovation will be:

- Policy and legislation related to extended producer responsibility and transboundary shipment of hazardous waste
- Market based instruments (MBI) to mobilize funding for pollution management and remediation
- Life-cycle management approaches for chemicals such as those used in photovoltaic and electric vehicle manufacturing

The new Global Framework on Chemicals (GFC) has added some fresh perspectives on the chemicals and wastes sector, and takes a life-cycle approach to products and wastes. The GFC advocates a 'whole of society' framework – multi-stakeholder, multi-sectoral and multi-level (global, regional, national) -towards the sound management of chemicals and waste. This GEF project will be aligned with the GFC, and among other things, address key financial priorities which include "adequate, predictable and sustainable financing, technical assistance and capacity-building and technology transfer. Up to now, international financial institutions (IFIs) have had limited involvement in this sector, however, within their operations, there is considerable scope to promote sustainable production, consumption and product innovation, sustainable materials management and circular business models at scale. The GFC states: *"International, regional and national financial institutions*

*and their governing bodies, as well as private sector, are strongly encouraged to expressly integrate sound management of chemicals and wastes activities in the scope of activities that they fund." (*https://www.chemicalsframework.org/page/financial-considerations).

The newly proposed Chemicals and Wastes Financing Partnership Facility (CWFPF) squarely responds to this recommendation. In the absence of such a finance facility, the business as usual will continue to generate pollution, degrade natural systems and biodiversity, and perpetuate climate change. The CWFPF has potential to be transformational in that it will apply a "chemicals and wastes pollution" ("CWP") lens on key elements of the operational portfolio of a regional MDB backed by subject matter expertise and knowledge support of a UN technical agency. The project will be catalytic through support for a knowledge hub, e-marketplace, demonstration / pilot subprojects, strategic alliances with other GEF programs / projects, a dedicated trust fund associated with a number of 'partner managed funds' which will support investment readiness and preparation to design, prepare and package sovereign projects, as well as invest in innovative, early-stage private sector companies - - all with a view to generating global environmental benefits. A key component of the work will be reach out, sharing and coordination with other MDBs, DBs and national development financing institutions.

There are a number of challenges to successful management of chemicals and wastes which will be addressed in this project. Principal among these are:

1. Inconsistencies, uneven application and conflicts across policies and regulations which govern management of chemicals and wastes. Included here is relatively low capacity for law enforcement which limits market confidence for investors which follow environment, social and governance (ESG) standards and practices.

2. Inaccurate or incomplete national and sub-national inventories of chemicals and wastes, compounded by lack of credible and systematic monitoring data to support programs and policies.

3. Population pressures, which spur continuous efforts for economic development across various sectors, which places low value on environment and social concerns, with emphasis on financial rates of return.

4. Low awareness of the manifold impacts of societal exposure to chemicals and wastes, combined with limited capacity of government and non-government stakeholders to consider implementation of sustainable and durable solutions for complex problems.

5. Lack of access to finance with which to integrate chemicals and wastes solutions into development programs and projects. This is coupled by some reluctance of international and national financing institutions to venture into these areas due to incomplete understanding and perceived risk, and

6. Absence of incentives for private sector to invest in technological solutions which will reduce, eliminate or replace chemicals of concern in order to achieve net zero, nature positive business models.

Project Justification

Throughout recent history the chemicals industry, in lock step with manufacturing, technology development and consumer demand has been accelerating its development and synthesis of new and innovative products and compounds to address immediate and developing demands from industrial, domestic, and institutional consumers.

Whilst testing and quality assurance have developed the rate of change combined with economic and situational imperatives have often seen chemicals and compounds released into the environment without a thorough understanding of their potential impacts and longevity in the natural environment.

Heavy metal pollution can be traced back to pre-history with metal smelting sites often being identified by their chemical signature. As industrialization gained pace mines and metallurgy sites developed, were exploited, and fell into disuse with institutional and local knowledge losing track of exact locations, conditions, and activities.

Recent incidences of mine workings collapsing and releasing millions of gallons of heavily contaminated water into streams and rivers is an obvious example. But less obvious are the persistence of heavy metals and chemicals in production sites, or brownfield locations. The insidious nature of these elements entering the food chain or directly through soil contact can be linked directly to public health issues, biodiversity loss, and even childhood cognitive development.

Persistent organic pollutants which bioaccumulate have been linked to the loss of apex predator species and impacts through the natural systems where they have been used. Often mobilized at short notice to address a "greater" threat such as mosquito born malaria or aggressive crop diseases these chemicals persist both in nature and in their original compound stockpiles.

Pollution both historic and recent represents a systems failure and whilst throwing the majority of consumer and industrial goods "away" poses a significant but short-lived threat to the environment these ore persistent compounds and materials, even plastics, represent a cumulative and hazardous risk for future development and sustainability.

Addressing legacy pollution has, traditionally, been avoided by governments and multilateral institutions as the inevitable conversations around previous decisions, compensation, cost of remediation, and responsibility have been unpalatable. Driven by a growing awareness of the impacts of these chemicals and wastes combined with an increased openness by institutions to address past failures the situation is now conducive to the development of facilities, such as the Chemicals and Waste Financing Partnership Fund, to begin addressing these challenges.

The approach is, by necessity, divided into the preventing the new development, use and release of hazardous materials and strategies to address existing or legacy pollution. Innovative solutions including extended producer responsibility, product as a service, and life cycle investment approaches can effectively manage and fund the use and disposal of new chemical compounds however existing pollution is more challenging.

Examining the cause of the pollution can, in isolated cases of point source pollution or negligence, identify a responsible party and catalyze a legal process to recover costs and drive decontamination and remediation. The majority of situations experiencing non-point source pollution or where the original responsibility is lost to time or avoided by institutional structuring the cost, liability, and future responsibility needs to be carefully understood and managed. The CWFPF funding will be catalytic in identifying the nature and source of pollution, quantifying the scale of the issue, and identifying established or innovative solutions to the remediation of the pollution.

By establishing these simple facts, the outputs from the CWFPF can instruct dispassionate discussions and negotiations around the management of responsibility, liability, appropriate clean up technology, global environmental benefits of remediation, budget development, and financing modalities.

The CWFPF will be critical in leveraging the full benefits of the pollution management intervention. Whilst traditional measures of direct economic cost and value have often seen pollution management ignored due to lack of economic return the use of systems dynamics and mapping, supported by digital solutions, data management, and AI pattern identification will introduce new social, environmental, and economic

The long-term benefits of improved chemicals and waste management include reduced public health costs, higher national productivity through the protection of cognitive ability, and enhanced natural capital from ecosystem remediation. Additional co-benefits encompass increased real estate values, biodiversity regeneration, and improved overall ecosystem health. These measures also contribute to lower public utility costs, greater resource availability, strengthened climate change adaptation and mitigation, enhanced resilience, and new economic opportunities driven by innovative technologies.

Whilst there will, inevitably, be situations which are beyond the scope of this initial fund it remains a critical first step in genuinely addressing the degeneration of global natural systems and the impact on human health resulting from historic decision making.

Legacy pollution, whilst typically not presenting a dynamic risk, remains a consistent and persistent negative impact on the ecosystems and population which co-exist knowingly or unknowingly with it. It is this cumulative impact on bio-diversity loss, human health, development, or resource isolation, often measurable over centuries

which support the justification of a one-time remediation cost. However, without the resources mobilized by the CWFPF this level of understanding measurement, and articulation is not available.

By adding this extended impact of pollution to the project calculations it is possible to increase the resilience of the proposed solutions over time. As urban conurbations continue to expand and habitable land areas are reduced through climate change, desertification, and sea level rises populations are increasingly going to be pushed into closer contact with previous contaminated sites. This is a lesson learned from experience of other funds, that site selection and future impact analysis is essential.

Box 1: Why is the CWFPF important?

The Asian Development Bank (ADB) manages a robust portfolio of programs and project across a wide range of sectors; water and urban, transport, energy, health, agriculture, food and rural development - in addition to its extensive private sector operations. ADB is also among the MDBs that has committed to mainstreaming nature into their lending and non-lending operations. However as most of these initiatives lack a dedicated focus on the management of hazardous chemicals and waste, bringing a "CWP lens" to relevant operations, the CWFPF represent a unique opportunity to achieve significant global environmental benefits. This is particularly important given the cumulative and persistent risks posed by legacy pollution, improper disposal, and the unchecked release of hazardous substances as explained in this proposal. Through its applications, the CWFPF will ensure that environmental sustainability, public health, and economic resilience are holistically advanced, while simultaneously catalyzing innovative solutions for public and private capital mobilization, remediation, liability management, and long-term risk mitigation.

Chemicals and Wastes Financing Partnership Facility (CWFPF)

What is a Financing Partnership Facility (FPF)?

Financing Partnership Facilities (FPF) are defined as operational 'platforms' for strategic, long-term and multi-partner cooperation that link various forms of assistance in a coordinated manner for well-defined purposes. A typical FPF will aim to pool financial resources, share the risks involved, and combine knowledge and technical expertise in planning and channeling resources for defined development programs or projects.

FPF's can provide value addition to a particular sector or thematic area. They can: i) contribute to preparation of larger investment programs and projects, ii) enable projects to expand or add a new activity/ component, iii) enable the implementation of projects that do not have approved funding from regular funding channels; v) provide non-financial services such as technical advice, information materials, and other knowledge resources, vi) improve the quality of the designs and the monitoring and evaluation of the programs, vii) if there is a 'direct charge' modality, this can enhance responsiveness to country project design needs, or address project 'bottlenecks' and similar implementation constraints, and viii) leverage additional financial resources with a clear focus[1][2].

The table below provides information on a number of different sector-based FPFs at ADB, each with its own priorities, structure, governance and institutional arrangements and funding sources and procedures.

Table 1. Example of ADB's Financing Partnership Facilities

Title (reference)	Summary

Urban Financing Partnership Facility (UFPF) https://www.adb.org/what-we-do/funds/urban-financing-partnership-facility	UFPF focuses on urban environmental infrastructure projects and offers technical assistance, early-stage investment, and guarantees to foster bankable urban projects that can attract long-term investment.
Energy Financing Partnership Facility (EFPF) https://www.adb.org/what-we-do/funds/clean-energy-financing-partnership-facility	Facilitates increased public and private financing in renewable energy and energy efficiency sectors
Ocean Resilience and Coastal Adaptation FPF https://www.adb.org/what-we-do/funds/orcatf	Focuses on enhancing the resilience of coastal and marine ecosystems
Water Financing Partnership Facility (WFPF) https://www.adb.org/what-we-do/funds/water-financing-partnership-facility	Enhances water security for ADB's developing member countries through investments in water infrastructure and services
Community Resilience (CRFPF) **https://www.adb.org/what-we-**do/funds/community-resilience-financing-partnership-facility/overview	Supports community-level resilience initiatives, focusing on vulnerable populations and integrating climate change adaptation
Regional Cooperation and Integration FPF https://www.adb.org/what-we-do/funds/regional-cooperation-integration-fpf	Promotes economic cooperation and integration among member countries, supporting projects that foster regional connectivity
Health FPF https://www.adb.org/what-we-do/funds/hfpf	Supports health sector improvements through investments in public health infrastructure, services, and capacity building

A number of lessons from the operational experience of these, and other financing facilities have been and will continue to be incorporated into the design of the CWFPF. Some perspectives are included in the project approach section under Outcome 3.

Future Scenario Analysis

In support of the project justification, a future scenario analysis has been conducted, which is provided in detail in an Appendix file. Four scenarios considered include: i) business as usual. ii) green growth push, iii) crisis-driven transformation and iv) policy stagnation amid crisis. In summary, and especially under the fourth scenario. In summary the CWFPF does not challenge governments directly but instead creates space for progress by:

1. **Setting Environmental Criteria for Finance (the CWP Lens):**

- **ADB's leverage:** CWFPF integrates strict environmental and social safeguards into its funding criteria, ensuring that only projects meeting CWP standards receive support.
- **Incentivizing reform:** By tying finance to performance, CWFPF rewards compliant projects and encourages others to adapt.

2. **Supporting Subnational and Private Leadership:**
   - **Local governments:** CWFPF partners with progressive cities, provinces, or municipalities to pilot circular economy, green chemistry, or safe waste management projects, demonstrating feasibility and building momentum for national adoption.
   - **Private sector:** CWFPF's seed venture window funds early-stage enterprises developing non-toxic alternatives, recycling innovations, or pollution monitoring tools, proving market viability.
   - **Civil society:** CWFPF provides grants and technical assistance to CSOs, universities, and industry associations to develop solutions, advocate for reform, and build public awareness.
3. **Building Trust Through Data and Transparency:**
   - **Knowledge hub as a neutral platform:** The e-marketplace becomes a trusted source for pollution data, best practices, and investment opportunities, filling gaps left by government inaction.
   - **Capacity building:** CWFPF trains local officials, engineers, and entrepreneurs in CWP management, creating a cadre of experts who can drive change from within.
4. **De-Risking Investments:**
   - **Blended finance tools:** CWFPF uses guarantees, first-loss capital, and technical assistance to make projects bankable, attracting private and impact investors who would otherwise stay away.
   - **Pilot projects as proof of concept:** CWFPF-funded demonstration projects (e.g., safe e-waste recycling, non-toxic textiles) showcase success stories, reducing perceived risks for scaling up.
5. **Facilitating Quiet Diplomacy:**
   - **Behind-the-scenes engagement:** CWFPF works with reform-minded officials, industry leaders, and financiers to develop pragmatic solutions that align with economic goals (e.g., job creation, cost savings).
   - **Regional knowledge-sharing:** CWFPF convenes stakeholders to share lessons, harmonize standards, and build peer pressure for adoption.

The key message is that the CWFPF does not replace government action but acts as a cushion, enabling those who want to act to do so despite inertia. By:

- Setting standards for finance,
- Supporting subnational and private sector leadership,
- Building capacity and trust, and
- De-risking investments,

The CWFPF keeps the door open for reform, ensuring that progress is possible even when national policy lags.

Summary: Relevance of CWFPF Across Future Scenarios

Scenario	Governmental Attitude	Financial Resources	Technical Capacity	Pollution Trends	CWFPF Relevance
Business-as-Usual	Reactive, inconsistent	Scarce, short-term	Uneven, inadequate	Worsening, informal dominance	**High**: Fills gaps in finance, coordination, and knowledge.
Green Growth Push	Proactive but selective	Increasing but uneven	Improving but patchy	Mixed progress	**Critical**: Accelerates private sector engagement and policy implementation.
Crisis-Driven Transformation	Urgent, comprehensive	Significant, targeted	Rapidly expanding	Dramatic reduction	**Shifted but vital**: Scales innovations and supports global standards.
Policy stagnation in spite of Crisis	Risk-averse, incremental	Scarce, risk-averse	Uneven, underfunded	Routine disasters, no reform	**It acts as a cushion,** enabling reform where possible

To summarize:

1. **CWFPF remains relevant in all scenarios**, but its role and focus would adapt to the context:
    - In Business-as-Usual (scenario 1), it is a catalyst for change.
    - In Green Growth Push (scenario 2), it accelerates and coordinates action.
    - In Crisis-Driven Transformation (scenario 3), it scales and standardizes solutions.
    - In Policy Stagnation (scenario 4), it acts as a cushion, enabling reform where possible.
2. **Main drivers of relevance:**
    - **Governmental attitude:** The more proactive governments are, the more CWFPF can leverage its multi-stakeholder platform.
    - **Financial resources:** CWFPF's ability to de-risk investments and mobilize blended finance is always valuable.
    - **Technical capacity:** The knowledge hub and e-marketplace become even more critical as technical needs grow Cross-cutting themes:
        - **Gender and social inclusion** must be integrated into all scenarios to ensure equitable outcomes.
        - **Transboundary cooperation** is essential, especially in Asia, where pollution does not respect borders.

Scope of the project

The project will focus on chemicals and waste interventions linked to the Stockholm Convention on Persistent Organic Pollutants (POPs), Minamata Convention on Mercury (Hg), and the Global Framework on Chemicals through combining the financial capabilities of ADB and the technical expertise of UNIDO and their associated partners.

National/sub-national policy decision-making frameworks for CWP investments will be strengthened through the identification of policy inconsistencies on C&W management related to investments, and development of a strategy to overcome policy barriers next to capacity-building on policy formulation leading to the development/update of urban/peri-urban level sustainability strategies, and ultimately, to the preparation of a preliminary framework for C&W pollution reduction/elimination investments.

As fundamental basis of future C&W bankable investments, the CWFPF and associated Trust Fund (or similar mechanism) will be established/initiated by ADB through the development of governance, institutional arrangements, strategy, structure, and operational modalities as well as partnership development in collaboration with UNIDO, and others. The proposed Trust Fund will support the preparation of sovereign loan / investment projects, public-private partnerships, and a SEED venture facility to invest in early stage private sector enterprises. In parallel to the set-up of the Trust Fund, a pipeline of 'bankable' projects in selected C&W areas will be defined through: i) government and private sector interaction and investment framework, ii) a functioning 'knowledge hub and e-marketplace' which will include an online marketplace/knowledge management and transactional platform, iii) pilot demonstrations in the potential sectors of electronics, buildings, textiles, environmental persistent pharmaceuticals, and new POPs chemical additives in products, iv) review of, and alignment with, ADB's Country Partnership Strategies and associated programming and indicative pipelines, v) support for early stage enterprises engaged in a range of business areas which address chemicals management themes, and vi) interaction with potential pipelines of Partner-Managed Funds (see Figure 2 schema of operating model)

Eligible investments with the target to provide 'CWP lens' overlay on at least $ 1 billion in potential sovereign loan projects will be provided to at least 6 investment projects, to at least 2 investment projects preparation support to facilitate access to capital by CSOs, women and youth-led business into urban CWP prevention, abatement and elimination projects, as well as to investment projects to attract private capital in urban CWP prevention, abatement and elimination projects. The project will also include a "seed venture" window which will provide 'recoverable grants" to at least 12 early-stage enterprises which advance business models to eliminate or reduce chemicals and wastes (see Outcome 4 for more information). This project will be supported through a knowledge management learning and communications component throughout the project duration, and will implement a cost recovery plan to address financial sustainability concerns.

The project will address the upstream interventions in terms of supporting enabling policy and strategy formulations addressing financing and investments aspects within national/sub-national C&W frameworks and thus will introduce green elements into planning and implementation for selected sectors. Capacity-building and investment criteria will examine the types of investment that can lead to bankable projects leading to Global Environmental Benefits, which could be invested into through the newly established CWFPF. In the mid-stream and down-stream level the project will implement demonstration/pilot interventions in the potential sectors listed below and will then have investment readiness support for chemicals and wastes pollution reduction / elimination projects, based on governance arrangements and selection criteria to be established and verified.

Global Environmental Benefits (GEBs) in line with the GEF-8 Chemical and Waste Focal Area will be achieved through upstream policy support to identify policy gaps and provide strategies to address its barriers related to potential chemicals and waste financing investments, including risks analysis and strategy. Direct GEBs will be anticipated through the demonstration/pilot projects at the midstream and downstream level through the following potential interventions:

<u>UNIDO-led Demonstration / Pilot Sub-projects</u>

Included will be support pilot / demonstration sub-projects in the following sectors (see appendix for detailed country sub-project proposals)

Textiles: Philippines:

The textile industry holds significance in many regions, providing substantial employment, foreign exchange earnings, and essential products crucial for human well-being. In Asia and the Pacific for example, the textile sector is rapidly expanding, marked by increased availability of raw materials, manufacturing capabilities, and consumer retail consumption. Many multinational companies involved in global supply chains have operations in the region, spanning textile manufacturing, garment production, and retail sectors. Globally, the clothing industry, valued at USD 1.3 trillion, employs over 300 million people across its value chain, with cotton production alone contributing significantly to employment in low-income countries. The sector encompasses all stages from fibre production—whether from cotton growth or crude oil extraction for synthetic fibers—to fabric manufacturing, dyeing, garment assembly, retail sales, and product end-of-life. It is projected that the industry's market value chain will reach USD 1,412.5 billion by 2028, growing annually at a rate of 4.4%. However, there are environmental and human health challenges associated with the virtually absent recycling of textile waste, unsound use of POPs during production processes and released at the end of life through improper disposal. The approach to achieving GEBs include the reduction, elimination, and avoidance of harmful chemicals such as Perfluorooctane sulfonic acid (PFOS), Perfluorooctanoic acid (PFOA,) Per- and polyfluoroalkyl substances (PFAS), and Perfluorohexane sulfonic acid (PFHxS) through textile waste upcycling, green chemistry chemicals and/or sustainable materials, preventing the environmentally sound disposal of textile waste with POPs and reduction of u-POP emissions through resource recovery and recycling of non-POPs-containing articles.

In the Philippines, the textile and garment industry, though diminished from its peak, continues to play a crucial economic and social role. It employs over 405,000 workers—68% of them women—and remains a key export and regional development sector. While garment exports have declined sharply since 2000, the value chain includes strong traditional fibers (e.g., abaca, piña) and regional textile hubs such as Taytay, Rizal. The textile sector is hampered by outdated machinery, weak integration between textile and garment production, and dependence on imported inputs. Environmental pressures stem from large volumes of cutting waste, weak recycling infrastructure, and the use of hazardous chemicals such as PFAS and azo dyes. Given that 68% of the workforce are women and that indigenous groups contribute traditional fibers such as abaca and piña, mainstreaming gender equality and safeguarding indigenous livelihoods are essential for sustainable sector transformation.

Socially, cheap “fast fashion” imports undermine traditional textile livelihoods, while women-led small enterprises struggle for visibility and support despite their adoption of sustainable practices. Environmental regulations relevant for the textile sector are the RA 6969 (Toxic Substances and Hazardous Waste Management Act) and RA 9275 (Clean Water Act), with additional effluent standards and voluntary certification schemes (e.g., OEKO-TEX). However, regulations on chemical safety in finished textile goods and textile waste recycling remain minimal. The Philippine Tropical Fabrics Law (RA 9242) and the 2023 revised IRR promote local natural fibers but do not address chemical or waste challenges. Several initiatives provide a foundation for progress. The Department of Trade and Industry (DTI)/ Board Of Investment (BOI’s) Textile-Garment Industry Roadmap (2020–2029) charts competitiveness goals but lacks environmental integration. Department of Science and Technology (DOST)-Philippine’s Textile Research Institute (PTRI’s) Regional Yarn Production and Innovation Centers (RYPIC) and the TexRev program on textile waste upcycling demonstrate technological

potential for circular practices, while LGUs like Taytay and Baguio are experimenting with textile waste assessments and collection.

Environmentally persistent pharmaceuticals (EPP): Philippines

Pharmaceuticals are biologically active substances designed to regulate biological functions in organisms, but when they enter the environment, they can adversely affect non-target wildlife and ecosystems. Environmental exposure to pharmaceuticals, or environmentally persistent pharmaceutical pollutants (EPPPs), can lead to resistance in bacteria, genotoxicity, ecotoxicity, and endocrine disruption. Because many pharmaceuticals are designed to resist degradation, they persist in the environment, contaminating water sources and soils. This contamination can occur through wastewater, animal husbandry, and the use of manure as fertilizer, resulting in widespread environmental exposure and biomagnification in food crops[2][3].

In response to these concerns, EPPPs were recognized as an emerging policy issue at the 2015 International Conference on Chemicals Management (ICCM 4), leading to cooperative action to raise awareness and fill knowledge gaps. A 2016 global review identified 631 pharmaceutical compounds in the environment of 71 countries, with some, like ciprofloxacin, on the World Health Organization's list of 'Critically Important Antimicrobials.'[3][4] Cases like the near-extinction of vultures in India due to diclofenac contamination[4][5], and the feminization of fish from estrogen pollution[5][6], highlight the harmful effects of these pollutants.

The pharmaceutical manufacturing sector in the Philippines accounts for about 2% of GDP and is among the country's top 15 manufacturing segments. With a market size of USD 4.1 billion in 2021, the Philippines is ASEAN's third-largest pharmaceutical market, hosting operations of 14 of the world's top 20 pharmaceutical companies alongside local manufacturers, toll producers, and distributors. Both sectors support significant employment and serve critical domestic and export markets. In the pharmaceutical sector, expired and unused medicines are commonly discarded in household trash or flushed, with antibiotics and other bioactive compounds detected in rivers, coastal waters, and even protected reefs. Such practices exacerbate antimicrobial resistance (AMR), contaminate ecosystems, and pose health risks. Hospital systems for expired pharmaceuticals remain fragmented, and households lack accessible, safe disposal pathways.

In the country, the pharmaceutical sector is regulated primarily by the DOH and FDA, supported by DENR/EMB for hazardous waste management. While pharmaceuticals are classified as hazardous waste (M503), there are no comprehensive policies on environmentally persistent pharmaceuticals, AMR, or nationwide take-back schemes for expired medicines. Hospitals implement varying disposal practices, but clear national guidance and harmonized inter-agency frameworks are lacking. University and hospital-based initiatives such as UST's "Recipio" take-back program, voluntary hospital agreements, and the MEDispose educational campaign in Davao City show growing awareness of pharmaceutical waste issues, but remain small-scale and fragmented. As women comprise the majority of the health workforce and caregivers, gender-responsive approaches to safe disposal are critical; culturally sensitive awareness programs can also help reach indigenous communities that may lack access to formal healthcare systems. Research initiatives under DENR-

EMB and ERDB on AMR, PFAS, and wastewater detoxification provide an important scientific base for addressing emerging contaminants.

Buildings / cement sector: Viet Nam

The building sector, mostly through the production of clinker and cement, is responsible for a significant portion of energy consumption, greenhouse gas emissions, use and release of POPs and Hg, and resource use. Pilot in the building sector could aim to promote energy efficiency, reduce carbon footprints, and encourage the adoption of sustainable construction practices, including developing green building standards, and incorporating environmentally friendly materials and technologies to enhance resource efficiency.

Viet Nam is among the world's top clinker/cement producers, with around 120 Mt/yr installed capacity across modern precalciner lines and legacy assets. The sector anchors domestic construction and significant exports but operates below its nominal capacity due to demand cycles and overcapacity. Kiln systems are energy and emission-intensive, with coal the dominant fuel and limestone and clay the key raw materials.

Mercury (Hg) is introduced via coal and raw materials, volatilizes in the kiln, and partitions largely to flue gas, with yearly emission in the range of 8 to 9.5 t/yr. Many plants lack Hg-specific controls; stack concentrations and national inventories indicate significant releases. Co-processing and dust handling can also generate U-POPs if poorly managed; local communities face cumulative air-quality risks. Financial and operational constraints have slowed adoption of targeted Hg abatement and optimized raw material and fuel management. Viet Nam regulates multiple environmental quality parameters and has Hg limits for certain combustion and incineration sources; standards exist for kilns co-processing waste. However, Hg-specific performance requirements, monitoring frequency, and best-practice guidance for cement are not yet comprehensive, and incentives to deploy Hg controls (e.g., sorbent injection, dust shuttling strategies, selection of low mercury alternative fuel and raw materials) are limited. Ongoing policy updates tied to Minamata and Stockholm implementation, and the shift toward eco-industrial parks and cleaner fuels, create room to codify BAT/BEP for Hg.

Past national assessments established Hg baselines and identified kilns as priority sources; some plants upgraded APCS for particulates, NOx and SO_2 and piloted alternative fuels. Still, measure targeting Hg measures remain rare. While the sector is male-dominated, gender-responsive training and employment opportunities in cleaner production practices can help broaden participation, and engagement with nearby indigenous and rural communities is important to address local exposure risks from kiln emissions.

Electronics: Thailand

The electronics sector, a key driver of technological innovation and societal progress, is also a major contributor to global environmental concerns. From raw material extraction to electronic waste disposal, the industry impacts the environment significantly. Key issues include resource depletion, hazardous chemical releases, and unprecedented rates of electronic waste generation. These challenges worsen global environmental degradation and contribute to social and economic inequities, especially in developing countries such as in the Asia and Pacific region where much electronic waste is disposed. Increasing capacity building for EEE repair, facilitating the reuse of functional components in similar or different equipment categories can be supported by policy interventions and Specific, Measurabke, Achievable, Relevant (or Realistic) and Time-bound (SMART) planning, focusing on circular and modular design. Additionally, promoting the replacement or avoidance of hazardous chemicals in manufacturing ICT components aims to reduce harmful substances, such as Medium Chain Chlorinated Paraffins (MCCP) in cables and mercury in backlights for computer monitors. Downstream,

is necessary to ensure a more efficient collection of E-waste, addressing them to environmentally safe recycling facilities,

The country hosts global brands and domestic producers in electronic components, (hard disks, solid state disks, printed circuit boards), assembly, and supporting industries, with strong integration into global supply chains. On the downstream side, the country generates over 750,000 tonnes of e-waste annually (10.5 kg per capita in 2022), while until recently it was also a destination for imported electronic scrap. E-waste management is split between a small, formal recycling sector with modern facilities and a far larger informal system of collectors, junk shops, and backyard recyclers that dominate household flows. This dual structure provides livelihoods but drives inefficiencies, hazardous releases, and lost resource value. Informal e-waste recycling practices—manual dismantling, open burning of wires, crude acid leaching—generate toxic emissions including dioxins, furans, heavy metals, brominated flame retardants, and mercury, exposing workers (especially women) and communities. Resource recovery is inefficient: only around 29 tonnes per million generated are formally collected, with most material stored, dumped, or processed unsafely. Illegal e-waste imports, despite bans, continue to surface, adding to the burden. Socially, informal recycling sustains vulnerable groups but under unsafe conditions, with women overrepresented in hazardous dismantling roles and excluded from decision-making. Therefore, ensuring gender-equitable participation in safer, formalized systems and considering indigenous or rural communities that depend on informal recycling for livelihoods are important dimensions of sector reform.

Without systemic reform, Thailand risks escalating pollution, health impacts, and trade exposure as importing markets tighten standards. Thailand has a general hazardous waste framework (Factory Act, Hazardous Substances Act, Environmental Quality Act) but lacks a dedicated, enforceable e-waste law. A draft Waste Electrical and Electronic Equipment (WEEE) Act—introducing Extended Producer Responsibility (EPR)—is under consultation, and a new Industrial Waste Management Act is also being prepared. Strategic frameworks exist (National E-waste Management Plan 2018; Strategic Plan 2022-2026), alongside Basel-aligned bans on imported e-waste. Institutional responsibilities are split between the Pollution Control Department (policy/standards), Department of Industrial Works (industrial waste licensing), FDA (consumer chemicals), and local governments (collection), with Bangkok Metropolitan Administration standing out for advanced capacity. Yet overlaps, enforcement weaknesses, and the absence of a financing mechanism delay effective implementation. Until EPR is legislated, household e-waste collection and recycling remain ad hoc and underfunded. Thailand has piloted several initiatives: voluntary take-back programs (Pollution Control Department (PCD), 2014), high-tech recycling demonstrations with Japan (NEDO, 2019), and UNIDO/GEF projects on green chemistry and industry-urban symbiosis. Public-private partnerships, such as telecom-led e-waste kiosks, illustrate emerging business models, while ASEAN-Japan cooperation is advancing regional standards for recycler certification. The Basel import ban (2020/2025) and draft WEEE Act mark important regulatory progress.

New POPs/Hg chemicals additives in products: Viet Nam.

The Stockholm and Minamata Convention lists chemicals, which are used in certain products for example in consumer, industrial products, and have a wide-spread application range including paper, PVC, plastic products, thermometers, switches, relays, and usually have environmental and health risk when used improperly and disposed of in an environmentally unsound manner. Viet Nam's manufacturing base—plastics, paints/coatings, plating, textiles, electronics—has expanded rapidly, driven by around 120,000 SMEs alongside foreign-invested firms clustered in industrial parks. The sector underpins exports, jobs, and supply chains for construction, electronics, and consumer goods. Inputs include flame retardants, plasticizers,

surfactants, and specialty additives; some are legacy or newly listed POPs (e.g., Polybrominated diphenyl ethers (PBDEs), Hexa Bromo Cyclo Dodecane (HBCDD), Perfluorooctanoic acid (FOAS), Short Chain Chlorinated Paraffins (SCCPs), Medium Chain Chlorinated Paraffins (MCCPs)) that persist through products and recycling streams. POPs and other hazardous substances enter via imported chemicals, articles (EEE plastics, foams, cables), and process aids (plating, paints).

Downstream recycling of WEEE/ End of Vehicle Life (ELVs) and mixed plastics risks re-mobilizing POP-contaminated polymers into new products; open burning and low-temperature processing generate U-POPs (dioxins/furans). SMEs lack screening, substitution know-how, and EoL controls; lab capacity and product testing are limited. Informal operations and scattered supply chains heighten worker and community exposure; women are overrepresented in lower-paid, higher-risk tasks (sorting, manual cleaning) with limited access to PPE and decision-making. Viet Nam has modernized environmental and chemicals laws and updated its Stockholm NIP; standards exist for emissions from certain sources and for mercury across media. However, controls on POPs in products (thresholds, conformity assessment, market surveillance) remain patchy; guidance for safer alternatives and green-chemistry investment is nascent; enforcement is fragmented across ministries. A new Chemicals Law (expected effect in 2026) and eco-industrial park policy create an opening to embed life-cycle requirements, product limits, and investment screening for hazardous substances.

Recent GEF programs have built inventories, monitoring, eco-labeling pilots, and green-chemistry demonstrations (plating, paints), plus PCB inventory and U-POPs avoidance. Yet uptake is uneven and financing scarce, especially for SMEs. Women workers are disproportionately represented in low-paid, high-exposure tasks, underscoring the need for gender-sensitive protections; indigenous communities in rural areas, often dependent on low-cost consumer goods, may face heightened risks from products containing hazardous additives.

Mainstreaming Gender Equality and Social Inclusion

The CWFPF is meant to be both a financing engine and a technical catalyst to close the funding gap. Mainstreaming gender in chemicals and waste management programs is quite a new strategy, therefore, CWFPF will ensure to integrate gender equality and social inclusion (GESI) and chemicals and waste management lens by considering the different needs and experiences of men and women on toxic chemical exposure. CWFPF will systematically ensure GESI perspectives and chemical safety considerations will shape the design, implementation, and evaluation of the program interventions. Having a gender and social inclusion perspectives in chemicals and waste management program is essential in advancing gender equality in sound chemical management.

The Gender Equality and Social Inclusion Plan (GESIAP) is a tool to support the design and implementation of effective actions for bringing gender equality issues into the 'mainstream' of project objectives, activities, outputs, and operations. The GESIAP provides:

- An overview of the project, its gendered dimensions, policy context, and mainstreaming gender and social inclusion strategies in chemicals and waste management.
- A sector-specific gender assessment in the Philippines, Thailand, and Viet Nam based on the role, risks, social and economic impacts of chemical exposure in the textiles, electronics, pharmaceuticals, and cement industries,
- Strategic priorities and priority actions for mainstreaming gender and social inclusion in the program.
- Gender Equality and Social Inclusion Action Plan details the activities, indicators, targets, budget, and responsibilities to guide the implementation and ensuring women's equality and empowerment.

By integrating GESI perspectives throughout the project design and implementation, chemicals and waste interventions become more effective and sustainable in delivering greater social, economic, and global environmental benefits.

---

[1] https://www.adb.org/documents/financing-partnership-facilities.

[2] Tim aus der Beek, Frank-Andreas Weber, Axel Bergmann, Gregor Grüttner, Alexander Carius Umwelt (2016) Pharmaceuticals in the environment: Global occurrence and potential cooperative action under SAICM, https://www.umweltbundesamt.de/en/publikationen/pharmaceuticals-in-the-environment-global Accessed December 4, 2017

[3] WHO list of Critically Important Antimicrobials for Human Medicine (WHO CIA list), http://apps.who.int/iris/bitstream/10665/255027/1/9789241512220-eng.pdf?ua=1

[4] Oaks J.L., Gilbert M., Virani M.Z. Watson R.T., Meteyer C.U., Rideout B.A., Shivaprasad H.L., Ahmed S, Chaudry M.J.I., Ar-shad M., Mahmood S., Ali A., Khan A.A. (2004): Diclofenac residues as the cause of population decline of vultures in Pakistan. Nature 427, 630–633.

[5] Kidd K.A., Mills K.H., Palace V.P., Evans R.E., Lazorchak J.M., Flick R.W. (2007): Collapse of a fish population after exposure to synthetic estrogen. P. Natl. Acad. Sci. USA 104, 8897-8901.

B. PROJECT DESCRIPTION

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the guidance document. (Approximately 3-5 pages) see guidance here

Theory of Change

The Theory of Change, summarized in the diagram below, builds on the recognition that, unlike other GEF focal areas, there is currently no dedicated financing facility for Chemicals and Waste (C&W). Existing interventions tend to focus on individual country projects, often at the end-of-life stage, with limited ability to generate scale, mobilize private investment, or link systematically to the international Conventions on chemicals and waste—the Stockholm Convention on POPs, Basel Convention, Rotterdam Convention, and Minamata Convention on Mercury.

At the same time, the complexity of persistent organic pollutants (POPs) and other hazardous chemicals, many of which are embedded in global supply chains such as textiles, electronics, plastics, and construction, underscores the urgent need for an alliance between financing institutions and technical agencies. Partnerships such as that between ADB and UNIDO bring together financial incentives, risk management, and policy instruments with technical know-how, sectoral expertise, and country networks—creating the foundation for transformational change toward zero-waste, net-zero, and nature-positive societies.

Challenges and gaps remain significant: fragmented policies and weak enforcement, limited institutional capacity and awareness, insufficient financing options and risk aversion, complex access rules that especially disadvantage local governments, women, and youth, and low awareness of C&W investment opportunities.

The establishment of a new financing facility also faces **risks**: weak political will, low private sector and financial engagement, poor coordination among government and industry actors, and erosion of societal support if human rights, gender, or indigenous concerns are neglected.

The project is based on the assumption that governments are willing to improve regulatory frameworks, that institutional support exists to enable an environment conducive to the Chemicals and Waste Finance Partnership Facility (CWFPF), that a minimum set of inclusive policies for women, youth, and vulnerable populations is in

place, and that technical capacity in the relevant sectors is available. These requirements, while providing a foundation, are not sufficient on their own and will need to be strengthened through targeted project interventions. Capacity building for policymakers will help close regulatory gaps, harmonize responsibilities, and integrate chemicals and waste priorities into national financing frameworks. Institutional coordination and public–private partnerships will be reinforced to ensure stronger engagement of financial institutions and industry in creating an enabling environment. Gender and social inclusion will be mainstreamed into policy frameworks so that women, youth, and indigenous groups benefit directly from chemicals and waste investments. Finally, technical support and know-how will be enhanced through training, pilot demonstrations, and partnerships with academia and industry, improving the availability of sustainable alternatives and project preparation expertise.

On this basis, and with the involvement of key **stakeholders**—governments at all levels, private sector and financial institutions, civil society and NGOs, women's and indigenous organizations, academia and research institutions, and international partners—the project advances six interconnected areas of intervention:

1. **Decision-making and governance framework for C&W investments**: Develop strategies, build policymaking capacity, and provide technical assistance to strengthen coherence and sustainability in C&W investment decision-making.

2. **Establishment of the CWFPF operational platform**: Define institutional arrangements, operational modalities, strategy, and eligibility criteria, mobilize partnerships and resources; and initiate the C&W Trust Fund associated with a number of other 'partner-managed funds'.

3. **Proof of concept through demonstrations / pilots**: Implement demonstration projects in sectors such as textiles, pharmaceuticals, electronics/e-waste, cement, and POPs in manufacturing to validate environmental, social, and financial sustainability (in other words – bankability).

4. **Investment readiness and seed financing**: Enable both sovereign and private sector transactions. Prepare at least six investment projects which have components addressing C&W, including two which include incentives for CSOs, youth, and women, and one which features approaches to mobilize private capital. Support at least 12 seed venture investments in early stage companies addressing C&W concerns.

5. **Knowledge management, leaning and communications to facilitate scaling**: Capture, curate and disseminate lessons, create a virtual marketplace, and enable national and sub-national governments, private companies and institutional investments to access policy, technical, financial and other data through the CWFPF.

The **expected outcomes** are strengthened national and subnational decision-making on C&W investment, a validated pipeline of bankable projects, and an operational financing mechanism that leverages public and private capital. This will contribute to systems transformation by scaling investments in chemicals and waste management toward zero-waste, net-zero, and nature-positive development pathways.

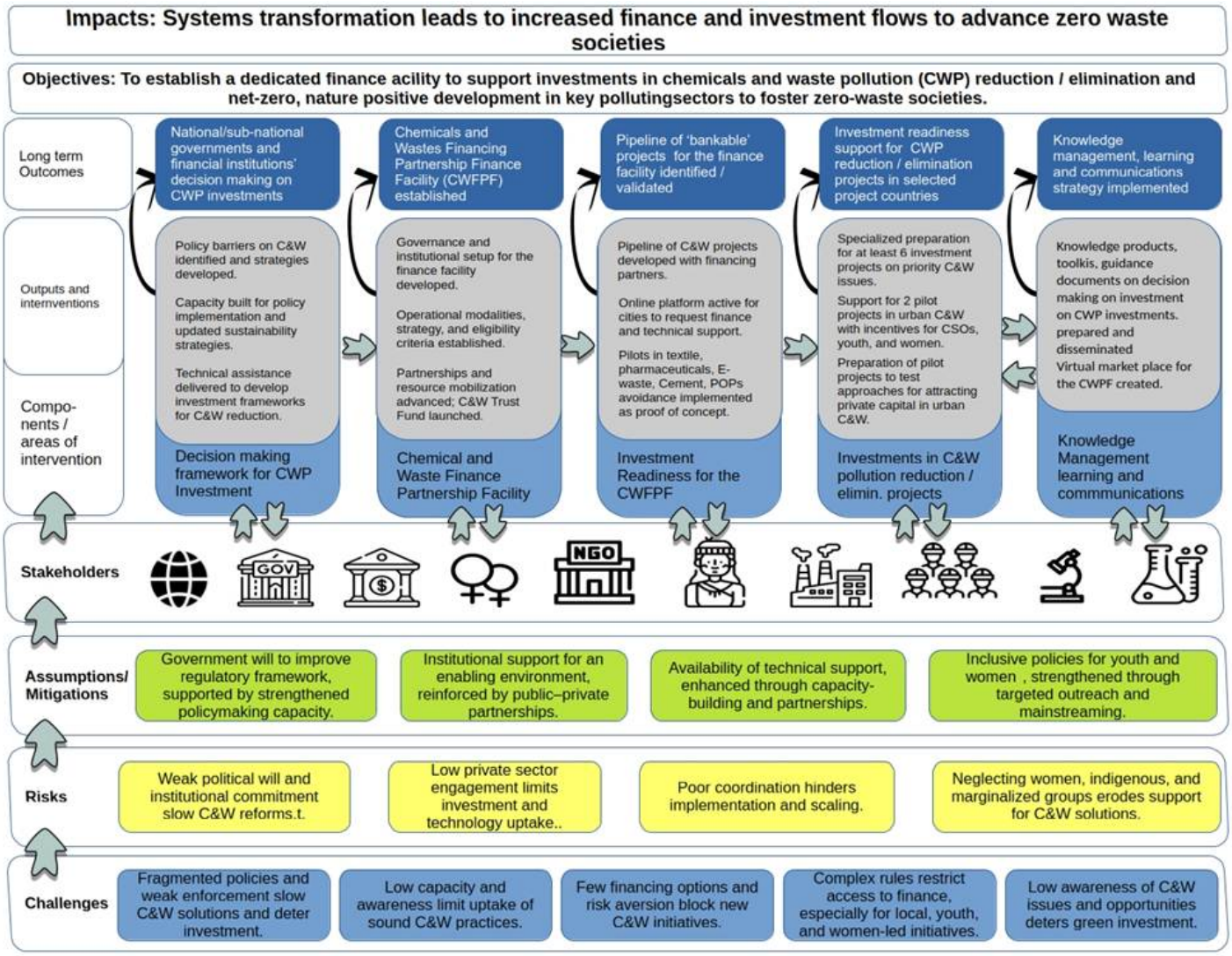


Figure 1: CWFPF Theory of Change

Institutional Arrangement and Coordination with Ongoing Initiatives and Project.

Please describe the Institutional Arrangements for the execution of this project, including financial management and procurement. If possible, please summarize the flow of funds (diagram), accountabilities for project management and financial reporting (organogram), including audit, and staffing plans. (max. 500 words, approximately 1 page)

See below.

Will the GEF Agency play an execution role on this project?

Yes

If so, please describe that role here and the justification.

Rationale for Agency (ADB) Execution:

1. ADB refers to the GEF Policy on Minimum Fiduciary Standards and respectfully requests consideration for the exemption on the Agency execution provision. The CWFPF is a **global project**, which in fact has all the hallmarks of a *bona fide* program, and features a global platform which will serve as a knowledge / policy hub and marketplace for partnership development, information / data exchange and analytics.

2. Even though this is a not a NGI project, there will also be a **private sector engagement component** which will provide reimbursable grants to enterprises. Some of these may be global /cross border in the nature of their business operations. The modus operandi envisioned is that each GEF-related investment would require some form of co-investment or matching funds other sources. Investment 'after-care' and monitoring of the performance of investee firms will be important to ensure that GEBs are addressed within business models, and also the potential for reimbursement back into the facility is increased. ADB will need to play a proactive role in this regard.

3. **ADB is the main source of investment pipeline** for both sovereign and non-sovereign aspects of the CWFPF. The purpose of the GEF financing is to catalyze a new suite of investments in a range of sectors which internalize chemicals and wastes avoidance, reduction or elimination. The pipeline of potential investments referenced in the GEF proposal are all from ADB. Through Agency execution modality, the CWFPF will be sufficiently well integrated into ADB operations, including: transport, energy, water and urban, climate and nature, agriculture and food systems, and public-private sector and private sector operations – to **enable close interaction between the CWFPF and ADB sector and thematic operations.** Parenthetically, efforts will also be made to support requests which may catalyze project financing from other International or national financial institutions. ADB would be well placed to facilitate this.

4. ADB will ensure **adherence to the Environment Safeguards and Management Framework (ESMF)** which is an inherent part of the project. Principles of the ESMF will be applied at both the project level (individual sovereign and non-sovereign investments) to ensure risk mitigation (among others), and also at the CWFPF (facility) level to ensure periodic and timely monitoring and reporting to the GEF, ADB and other partners. In order for the ESMF to be successfully applied during implementation, it will be important to have support from the ADB Safeguards Department, and its constituent divisions.

5. Hosting and supervising the CWFPF management team with some level of internalization within ADB will also permit **alignment with other financing partnership facilities and ADB's flagship programs.** Importantly, this includes ADB's new Critical Minerals Partnership Financing Facility, Nature Solutions Finance Hub, Circular Economy program and Resilient River Basins initiative.

6. In view of the shift in the global financing architecture for climate and nature, ADB has **ability to mobilize private sector and leverage capital including blended finance opportunities** beyond the CWFPF. ADB's Blended Finance team supports concessional project structuring and processing, leads and represents the interests of donors / contributors and ensures adherence to blended finance principles. Between 2012 and 2025 the team has $ 776 million in concessional funds and $ 1.5 billion in parallel funds under management.

7. **ADB demonstrates leadership among international financial institutions** in a number of areas; i) as Chair of the Heads of MDBs group, helps to coordinate action and system-wide collaboration; establish arrangements and frameworks to guide these actions (such as the Joint Collaboration Framework on Critical Minerals to Manufacturing Supply Chains, (https://www.adb.org/news/joint-mdb-statement-critical-minerals-manufacturing-value-chains), ii) Chair of MDB Heads of Nature group. collaborates to fund nature-positive initiatives and employ standardized methods to track and report MDB investments in protecting natural capital, and iii) as part of the Paris Alignment institutions, is fully committed to meeting sovereign and non-sovereign operations, including ambition to commit $100 billion in climate finance by 2030.

8. **ADB has ability to convene multiple stakeholders** across a range of sectors. including water and urban, agriculture and food systems, energy, transportation, education, health. This will be important in order to build up to scale, a credible pipeline of opportunities,

9. ADB has a **strong focus on knowledge and innovation.** The approach advances development solutions that leverage financing, technical assistance, strategic partnerships, digital technologies, and operational learning to enhance development effectiveness, support evidence-based decision-making, and accelerate the scaling of transformative solutions and innovative financing approaches.

10. The chances of achieving the GEB targets, co-benefits and also the **ambition to influence up to $ 1 billion in investments** and mobilize additional resources for a proposed chemicals and wastes trust fund, are greatly increased if there is some direct involvement of ADB in GEF execution.

It will be challenging to find an external organization that has the same depth and breadth as ADB to be able to deliver the CWFPF.

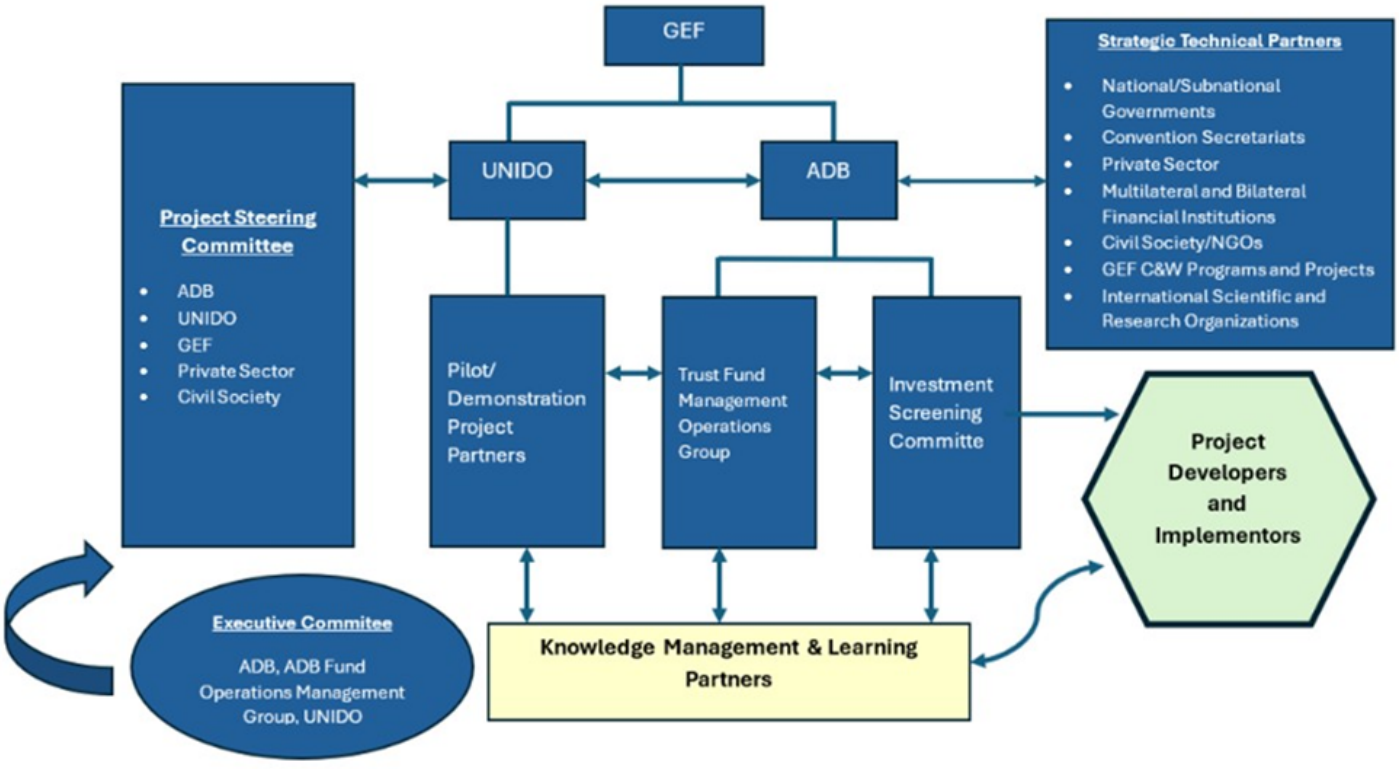


Figure 8: Organigram of CWFPF

CWFPF Project Steering Committee (PSC)

This group will consist of ADB, UNIDO and the GEF as core members, and will bring in relevant national and subnational government representatives, private sector, civil society and other organizations on an *ad hoc* basis. The PSC will meet on an annual basis and be responsible for high level work program and progress review, resource mobilization, additional partnership development and visioning in terms of the long-term

viability of the CWFPF. The independent fund operations management group will serve as Secretariat to the PSC.

CWFPF Executive Committee

The Executive Committee will consist of ADB, UNIDO and representatives of the independent fund operations management group. The committee will meet on a quarterly basis, or as needed, and discuss workplan and operational progress, implementation challenges, policy and reporting concerns, resource mobilization and others.

ADB Fund Manager (funded by ADB)

Within ADB there will be a designated staff member who will act as Fund Manager once a trust fund facility has been established. This is required under ADB's Trust Fund Guidelines. The Fund Manager would have reporting and supervisory responsibility. No GEF funds will be used, as this will be resourced internally by ADB.

ADB Independent Fund Operations Management Group (supported by GEF)

An independent fund operations management group will have dedicated terms of reference consisting of several individuals with specialized skills, will be engaged to be the main point of contact for interactions with project partners and stakeholders, and process incoming requests for support. The fund operations management group will be decentralized, with specialists supporting the CWPFP operations from different locations around the world. These professionals will be selected through ADB's robust procurement system.

Core members of the group will include: I) CW Fund Operations Manager, ii) Administrative and Finance Analyst, iii) Senior Chemicals Management Specialist, iv) Mapping and Deal Origination Specialist, v) Investment Care Specialist, vi) Communications, Knowledge Management and Learning Specialist, vii) Gender and Safeguards Specialist, viii) CWFPF Technical Associate, x) Monitoring and Evaluation Specialist, and xi) Private Sector Finance Specialist.

The fund operations management group will: i) participate in relevant activities which create demand for or originate project preparation support, ii) provide technical and financial advice to project creators and developers, iii) recommend the nature of support most likely to generate interest from downstream investors, including ADB, iv) screen incoming requests for support from the CWFPF, using the "CWP lens", to ensure that criteria are sufficiently addressed, through transparent consultative process with sector or subject matter experts, v) engage prospective operational and investment entities early in the process to ensure that project preparation is aligned with potential investment fund availability, vi) process funding for project preparation activities, vii) monitor progress, viii) provide regular reports and act as Secretariat to the CWFPF Project Steering Committee, and viii) play a lead in communications, knowledge management and learning.

UNIDO Project Management

Project Implementation

1. The United Nations Industrial Development Organization (UNIDO) is the GEF Implementing Agency (IA) for the project s components 1, 3 (output 3.1. and 3..3), 5 on KM (together with ADB). In this role, UNIDO will provide oversight monitor mechanism on the project's implementation, manage the overall budget, and supervise project execution. Specifically, UNIDO will be responsible for:

Designing the execution arrangement with the Project Executing Entity (PEE), including the terms of reference and disbursement schedule;

- Releasing payment tranches upon satisfactory delivery by the PEE in accordance with the execution agreement;
- Providing technical and financial oversight to the PEE;
- Supervising the development, implementation, and evaluation of the project;
- Contracting independent evaluators for undertaking the MTR and TE;
- Reporting to the GEF on annual progress, MTR, and TE;
- Participating in the Project Steering Committee.

Execution arrangements for countries: From an overall perspective, the project will be aligned with the institutional arrangements established under the Chemicals and Waste Facility Project Facility as illustrated in Figure 8a. Below in Figure 8b, is a schema of the national institutional arrangements in relation to the CWFPF.

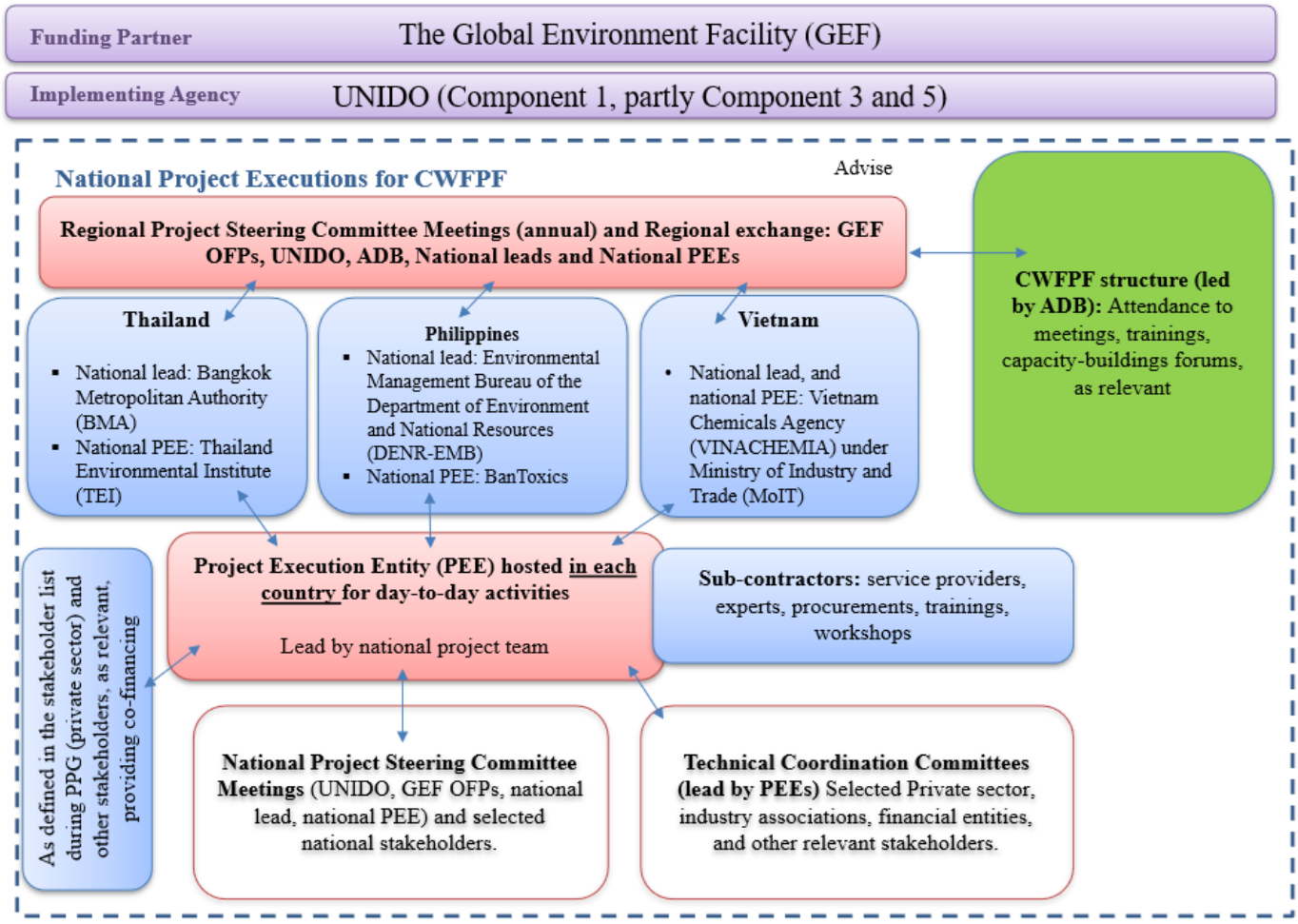


Figure 8b: UNIDO national institutional arrangements in relation to CWFPF

Philippines

For the Philippines, the Department of Environment and Natural Resources (DENR) will act as the project lead with responsibility for verifying compliance with environmental standards and the

achievement of pilot objectives. Day-to-day national execution will be carried out by a third-party executing entity, Ban Toxics Inc, to manage all administrative functions, including procurement, fund disbursement, and contractual arrangements required for pilot implementation. A HACT assessment has been conducted in 2023 with low-risk findings.

There will be two Technical Working Groups (Pilot Coordination Committees), one for pharmaceuticals and one for textiles. DENR-EMB will lead the Pilot Coordination Committee for pharmaceuticals and DOST-PTRI will lead the Pilot Coordination Committee for textile. These dedicated Pilot Coordination Committees, composed of all relevant stakeholders, will guide planning, oversee activities, facilitate knowledge exchange. Detailed Terms of Reference for the Technical Working Groups will be defined during the project inception phase.

Thailand

Bangkok Metropolitan Authority (BMA) will serve as the national project lead and will provide overall guidance and monitoring, including the lead of the national project steering committee (PSC). Thailand Environment Institute (TEI) will be the national execution entity (Project execution entity) to provide day-to-day execution support, including project management unit (PMU), procurement services, and human resources. TEI was subjected to a HACT assessment in April 2026 and was evaluated as low risk.

Viet Nam

The Ministry of Industry and Trade (MOIT), through VINACHEMIA, will serve as the national project owner. MOIT is the national focal point for the Minamata Convention on Mercury, and will therefore oversee implementation of the cement pilot, verify compliance with industrial and emission standards, and validate the achievement of mercury and CO_2 reduction objectives.

VINACHEMIA will be the national execution agency (Project execution entity) responsible for day-to-day activities under a contractual arrangement with UNIDO as the IA. VINACHEMIA was subject to the Harmonized Approach for Cash Transfer (HACT) Assessment in March 2025 and was evaluated as low risk.

Technical coordination for each pilot will be ensured through dedicated Pilot Coordination Committees, composed of MOIT/VINACHEMIA, other governmental entities, provincial authorities, industry associations, enterprises, and other relevant stakeholders. These committees will guide planning, oversee implementation, and ensure systematic knowledge exchange.

Each PPE will designate internally, or recruit directly, project management personnel to form the Project Management Unit (PMU). The PMU will consist of a Project Coordinator, and a National Administrative and financial expert, and additional national experts such a gender expert, knowledge management expert, and technical experts (textile, pharmaceuticals, cement, manufacture and/or electronics) will be recruited on temporary basis. Draft tasks of the national PMU team are provided in the Annex.

The PMU will manage and coordinate all project activities carried out by external service providers. The PMU's function will conclude once the final terminal evaluation report and all other required documentation have been completed and submitted to UNIDO, and following the operational and financial closure of the project.

The PMU's consolidated responsibilities will include:

- Execution of project activities.
- Recruiting and managing national and international consultants.
- Facilitating collaboration with different stakeholders, incl. relevant public and private sector entities;

- Managing project procurement, financial resources, and annual work plans;
- Organizing and leading project coordination and stakeholder meetings.
- Monitoring project progress and ensuring timely submission of reports, including progress reports, GEF Project Implementation Reports (PIRs), and annual work plans to UNIDO;
- Addressing project delays or challenges by informing UNIDO to ensure timely support or corrective actions.

In managing these responsibilities, the PMU will also take into consideration potential time lags that may arise from procurement processes, permitting requirements, and other necessary administrative approvals. To mitigate these risks and maintain progress toward project objectives, the PMU will integrate buffer periods into the work plan, allowing flexibility to address such procedural delays without significantly impacting the overall schedule.

National Project Steering Committees

For each UNIDO-supported country, a Project Steering Committee (PSC) will be established at the beginning of the project to ensure effective oversight, maintain coherence, and promote institutional ownership, while providing advisory input on key project topics. The PSC will function as an advisory body, offering operational guidance and facilitating high-level coordination essential for the project's successful implementation. The PSC will meet annually to assess project progress and approve the workplan for the following year. Proposed members of the PSC are the GEF Operational Focal Point (OFP), UNIDO, and stakeholders to be selected during the Inception Phase of project execution. Stakeholders from relevant organizations and institutions will be identified and invited to join the PSC at the project's commencement.

Key functions of the PSC include:

- Approving the annual workplan and budget;
- Enhancing synergies between the GEF project and other relevant initiatives;
- Authorizing significant changes to project outputs or workplans in response to evolving needs, ensuring these modifications align with the approved project document, GEF policies, and UNIDO regulations;
- Providing strategic advisory services to optimize project outcomes and ensure alignment with broader environmental and sustainability goals.

The PEE will act as the secretariat for the PSC, reporting on project progress and aiding in the implementation of the committee's decisions.

Procurement, ownership, and transfer of project assets

Assets, including equipment procured with the project budget by the PEE, shall remain under the ownership of the PEE until they are formally transferred to designated national counterparts, project beneficiaries, or other entities. The PEE shall maintain a comprehensive inventory of all assets purchased under the project and coordinate with UNIDO to determine the timing and conditions for the transfer of ownership, which may occur during project implementation, one year after purchase, or at another agreed-upon time, ensuring that all transfers align with project objectives. Assets under this project are envisioned to be acquired through co-financing to the extent possible. The PEE shall ensure that all project equipment is sufficiently insured and maintained while under their ownership and require any equipment recipients to maintain minimum insurance on the equipment during the lifetime of the project. The costs associated with the maintenance and insurance of the equipment

have been carefully considered and incorporated into the project budget to ensure seamless implementation.

Legal clause

"The present project is governed by the provisions of the Standard Basic Cooperation Agreement between the Republic of Philippines and UNIDO, signed and entered into force on 26 February 1993."

"The Kingdom of Thailand agrees to apply to the present project, mutatis mutandis, the provisions of the Revised Standard Technical Assistance Agreement concluded between the United Nations and the Specialized Agencies and the Government on 4 June 1960."

"The Government of the Socialist Republic of Viet Nam agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed and entered into force on 21 March 1978."

Strategic Technical Partners

The CWFPF will engage directly and indirectly with a range of Strategic Technical Partners to provide advice on i) specific technology issues, ii) national / subnational policy considerations, iii) participation and inclusion of key stakeholder groups in project activities, including civil society, iv) coordination and knowledge sharing across other programs and projects, and v) assistance with resource mobilization. Consultations will be undertaken on an *ad hoc* basis, although there will likely be formal cooperation agreements developed which structure the relationships between ADB/CWFPF and the parties (see below section on cooperation with ongoing initiatives and projects).

Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing (max. 500 words, approximately 1 page)

In addition to other partners to be identified, the project will include the following organizations in the consultative and partnership development process:

Wageningen University and Research (WUR) / Beijing Normal University (BNU)

ADB has a formal Cooperation Agreement with WUR. In collaboration with WUR and a team at Beijing Normal University (BNU) in PRC, there is an opportunity to support the creation of a "**PFAS in Food Systems" hub** at ADB. The European Commission (EC) currently works on PFAS regulations for substances of very high concern (WVHC). There is mounting public pressure to seek alternatives that are cleaner and safer. The challenge is that there are thousands of different types of PFAS, with a variety of different chemical characteristics and degrees of toxicity. The CWFPF will engage with WUR and BNU to strengthen ways to detect and monitor substances which contain PFAS, find ways to reduce PFAS pollution, and develop safe alternatives. In order to operationalize PFAS investment opportunities, the CWFPF will consider efforts to gather and curate: i) data supporting the financial costs to society related to PFAS derived health issues either through health care costs or loss of human capital, ii) data supporting the impact of PFAS uptake on plant and animal health, nutrient use efficiency, and productivity. Given the current issues around fertilizer cost studies examining the impact of PFAS on crops ability to uptake fertilizer and efficiently convert those nutrients to growth would be very interesting, and iii) data and where possible, case studies, examining PFAS management and remediation strategies and technologies. Nature based solutions to support remediation would be particularly interesting.

Basel, Rotterdam and Stockholm Convention Secretariat and Minamata Convention Secretariat:

The CWFPF will strengthen its working relationship with these key Convention Secretariats. It will support their efforts towards implementation of multi-faceted solutions to phase out and disposal of POPs and mercury, disposal of PCBs through energy grid modernization, integrate with the SC financial mechanism, (e.g upscaling links to climate change and biodiversity), strengthening of national reporting, private sector engagement, focus on upstream and prevention of chemicals pollution, and reinforce partnerships. Collaboration on capacity development and training through the CWFPF knowledge hub will be supported.

Yale University Centre for Green Chemistry and Green Engineering

Based on GEF ID 10353 (UNIDO) this GEF project will work with the Yale University to draw on its green engineering network for example: i) American Chemicals Society and Green Chemistry Institute, ii) UN Green Chemistry and Commerce Cycle, iii) Japan Green and Sustainable Chemicals Network, iv) Chinese Academy of Sciences, (among others. It will also draw on the UNIDO-Yale project work on green chemistry opportunities for investment, which could include: i) manufacturing, ii) textiles, iii) food and pharmaceuticals, iv) energy, etc; and the Green Chemistry Accelerator Programme.

Global Opportunities for Long-term Development (GOLD) (GEF ID 10569)

GOLD is an initiative aimed at reducing the use of mercury in artisanal and small-scale gold mining (ASGM) with a model for sustainable artisanal gold mining that can be replicated in different countries. GOLD's specific objectives include (i) reduce mercury use; (ii) improve mining practices; enhance legal and regulatory frameworks; and (iii) increase market access to gold from certified mercury-free mining techniques. These objectives are met through GOLD supplying (i) technical assistance on technologies that reduce or eliminate the need for mercury in gold processing; (ii) capacity building to promote best practices in mining operations; (iii) awareness and education about the health and environmental risks associated with mercury use in mining; (iv) health and safety improvements, reducing the exposure of miners and local communities to hazardous substances; (v) environmental monitoring to monitor and mitigate the environmental impacts of mining activities.

Implementing Sustainable Low and Non-Chemical Development in Small Island Developing States (ISLANDS) (GEF ID 10185)

ISLANDs' key goal is to reduce chemicals and waste impacts on the environment and public health in small island developing states (SIDS), who face unique challenges and limited capacity to deal with the adverse effects of pollution. ISLANDS objectives are to (i) reduce the release of chemicals and waste, specific persistent organic pollutants (POPs), mercury, and other hazardous chemicals; (ii) strengthen policy and regulatory frameworks that enhance national and regional policies, laws, and regulations for better management of chemicals and waste; (iii) promote sustainable practices that encourage the adoption of environmentally sound management practices and technologies that prevent pollution and reduce waste; and (iv) raise awareness and build capacity among stakeholders, including government, private sector, and communities, about the risks associated with hazardous chemicals and waste. To accomplish these objectives, ISLAND finances (i) an integrated approach to chemical and waste management with broader environmental and sustainable development goals; (ii) regional collaboration among SIDS to share best practices, successful technologies, and effective policies; (iii) public-private partnerships for the planning and execution of projects to leverage resources and expertise; (iv) community involvement in the decision-making process, ensuring that interventions are tailored to local needs and conditions; and (v) monitoring and evaluation mechanisms to assess the effectiveness of the interventions and adjust strategies as necessary.

How will the CWFPF facilitate linkages between GEF ISLANDS and the ADB "Circular Pacific via Regional Recycling Network" (CP-RRN) investment project (currently funded for $ 10.6 million)? Consultations have been under taken with the UNEP Chemicals and Wastes team and the ADB Pacific Water and Urban team. ADB has participated in steering meetings convened by the GEF Executing Entity, the Secretariat of the Pacific Regional Environment Programme (SPREP). The ADB regional project management unit (PMU) will continue to engage with the SPREP. There will be collaborative work on the policy front, with respect to creating a regional framework for extended producer responsibility (EPR) initiatives for all recyclable materials in the region. There will be a number of technical points of intersection and sharing, including work on end-of-life vehicles (EOLVs), where a pre-processing hub is being considered in Fiji. In

future, technical collaboration may also extend to collection and treatment of waste oils and electronic wastes (including lithium-ion batteries and photovoltaic panels).

Financing Agricultural Resilience and Mitigation (FARM) (GEF ID 10872)

FARM finances projects and programs that enhance sustainable agricultural practices to combat climate change, promote biodiversity, and support sustainable development by ensuring that agricultural productivity and livelihoods are improved. The primary objectives of the project financing are (i) to encourage the adoption of agricultural practices that reduce emissions and increase resilience to climate change impacts; (ii) protect and enhance biodiversity within agricultural landscapes, promoting practices that help conserve wildlife habitats and plant varieties; (iii) implement soil and water conservation techniques to improve land productivity and reduce degradation and erosion; (iv) enhance the capacity and income of smallholder farmers through access to sustainable technologies and practices; and (v) align agricultural development with environmental conservation to ensure long-term sustainability of resources. FARM pursues these objectives by financing (i) cutting edge technologies and practices, such as precision agriculture, that can increase efficiency and reduce environmental impact; (ii) capacity building support for farmers and agricultural workers to adopt sustainable practices and technologies; (iii) policy and institutional support to governments and organizations that increase sustainable agricultural practices and create favorable market conditions for sustainably produced goods; (iv) research and development in new solutions to agricultural challenges that are environmentally sound; and (v) community engagement in the planning and implementation of projects to ensure that the solutions are accepted and culturally appropriate.

Global Covenant of Mayors (GCOM)

GCoM has a range of initiatives and collaborative efforts to mobilize resources for sustainable urban development and climate action across cities globally. GCoM's financing program is a multifaceted approach that leverages international partnerships, innovative finance models, and capacity building to support cities around the world in achieving their climate goals and enhancing urban sustainability. GCoM, using its vast network and including ASEAN Mayors, supports cities through (i) innovative financing models that include working relationship with multilateral, bilateral and commercial banks**;** (ii) funding opportunities through partnerships, like the City Climate Finance Gap Fund and the FMDV Global Fund for Cities Development, bridging the gap in early project development phases; and (iii) focus on energy and climate resilience, improving urban energy access and enhancing climate resilience.

C40 Cities Climate Leadership Group

C40, a network of the world's megacities committed to addressing climate change, provides direct financial support and technical support to develop and finance sustainable urban climate change solutions. C40's support includes (i) direct funding from philanthropic organizations, national governments, and international institutions to reduce greenhouse gas emissions; (ii) capacity building and technical assistance to help cities develop projects that are bankable and sustainable; (iii) facilitating access to finance as an intermediary between cities and potential funders, including international financial institutions, private investors, and government funding programs; (iv) innovative financing models designed to attract private investment into public sector initiatives like green bonds, public-private partnerships, and climate funds; and (v) networks and partnerships, leveraging its extensive network of global cities, financial institutions, and other stakeholders.

Local Governments for Sustainability (ICLEI)

ICLEI supports local and regional governments in their efforts to address climate action, energy efficiency, resilient cities' planning, sustainable urban mobility, biodiversity and circular economy strategies. ICLEI's Transformative Actions Program (TAP) aims to transform initial infrastructure project concepts with low-emission and climate-resilient development into mature, robust, and bankable projects ready for financing and implementation. Projects that demonstrate high transformative potential are given increased visibility to potential investors and connected to project preparation facilities and financial partners. For a project to be eligible for TAP, it must be submitted by a local or subnational government (or a partner with the government as a key stakeholder), have been approved by a decision-making body like a municipal council, and must seek funds specifically for infrastructure investments aimed at accelerating net-zero and climate-resilient

development. Projects are scored based on their potential for transformative impact, including their ability to mitigate greenhouse gas emissions, adapt to climate change, and support local and national sustainability priorities.

Global Electronics Management (GEM) Program (GEF ID 11553)

The Global Electronics Management (GEM) Program aims to significantly reduce the generation of electronic wastes (e-wastes) and increase circularity and resource recovery in the electronics sector of developing countries, through the creation of an enabling environment, including access to finance, technology and policy and legislative change that fosters responsible electronics management.

GEM is envisaged to catalyze the transition from environmentally unsound practices within the electronics value chain towards a cleaner, more sustainable and resource-efficient supply chain and lifecycle. With the global electronics market increasingly reliant on digitalization and modern conveniences, the program systematically addresses the substantial environmental impacts associated with this sector, including resource depletion, chemical pollution, and greenhouse gas (GHG) emissions. Embracing an inclusive value-chain approach, GEM seeks to foster cleaner production methods and promote sustainable consumption patterns along the entire lifecycle of products, from design to re-use. This encompasses reducing hazardous chemicals in production processes, innovating designs for resource and energy-efficient electronic components and products, and establishing markets for durable and repairable goods. Furthermore, GEM aims to cultivate a resource efficient value chain by facilitating the reuse, repair, and material recycling of valuable electronic components, while mitigating hazardous waste streams through environmentally sound resource recovery initiatives. Achieving transformational change in the electronics industry will be incentivized through policies and fostering multi-stakeholder cooperation, demonstrating customized strategies to replace resource-intensive processes and materials with more sustainable alternatives and creating a more circular and transparent value chain. Under this CWFPF project, the electronics sector will also be included as pilot project, and thus synergies, and coordination from the GEM project will be sought to ensure efficient knowledge exchange and sharing of lessons learned.

Eliminating hazardous chemicals from supply chains (GEF ID 11169)

The program aims to transition fashion and construction supply chains toward green by design and strengthen the enabling environment necessary to support this transformation. Fashion and construction are among the top three economic sectors that contribute significantly through their supply chains to pollution, greenhouse gas (GHG) emissions, land degradation, water pollution, and threats to biodiversity. Fashion, for example, contributes more GHG emissions than all global transport, including air travel. For its part, construction contributes 39% of global GHG emissions, and contributes significantly to water pollution, land degradation, biodiversity loss, and chemicals pollution. The Supply Chain Integrated Program seeks to address environmental degradation from globally significant supply chains through the lens of chemicals. Ideally, it will be the catalyst for integrating actions across several environmental dimensions. The program aims to create clean, circular (as far as possible), regenerative, and transparent supply chains that drive innovations in new materials, methods, and policy. Under this CWFPF project, the sectors of building and textile will also be targeted, and thus synergies, coordination, lessons learned with the 'Eliminating hazardous chemicals from supply chains' program will be sought.

Global Elimination Program for PCBs (GEF ID 11749)

The program will leverage electricity sector operations to engage utilities and use a "Standardized Template Approach" (STA) to integrate the environmentally sound management of PCB into transmission and distribution (T&D) projects. The STA is an approach that integrates the environmentally sound management (ESM) of PCB into energy sector T&D lending operations of multilateral development banks MDBs) such as the World Bank and the African Development Bank (AfDB) and other GEF implementing agencies with similar programs, in line with the individual institutions' operational policies and practices. The approach is characterized by providing standard templates and tools to project teams and clients, which can be integrated and added as subcomponents to new or existing T&D operations. Although teams can customize the STA as

needed, this approach can simplify project preparation, harmonize cooperative procurement and knowledge sharing, and facilitate scaling up of the Global Program.

The CWFPF will learn from, and advance this model in Asia and the Pacific region (this includes Central West Asia), and explore opportunities to catalyze a similar effort to address PCB pollution under GEF 9.

Core Indicators

Indicate expected results in each relevant indicator using methodologies indicated in the GEF-8 Results Measurement Framework Guidelines. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)	8500000	6131563	0	0
Expected metric tons of CO_2e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)				
Expected metric tons of CO_2e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)	8,500,000	6,131,563		
Expected metric tons of CO_2e (indirect)				
Anticipated start year of accounting	2027	2027		
Duration of accounting	10	15		

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 9 Chemicals of global concern and their waste reduced

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
626.00	1,584.44	0.00	0.00

Indicator 9.1 Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)

POPs type	Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
	584.00	583.66		

Indicator 9.2 Quantity of mercury reduced (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
42.00	0.78		

Indicator 9.3 Hydrochloroflurocarbons (HCFC) Reduced/Phased out (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.4 Number of countries with legislation and policy implemented to control chemicals and waste (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
3	3		

Indicator 9.5 Number of low-chemical/non-chemical systems implemented, particularly in food production, manufacturing and cities (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
1	1		

Indicator 9.6 POPs/Mercury containing materials and products directly avoided

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
14,240.00	13,492.80		

Indicator 9.7 Highly Hazardous Pesticides eliminated

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
	1,000.00		

Indicator 9.8 Avoided residual plastic waste

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
100,000.00	191,800.00		

Indicator 10 Persistent organic pollutants to air reduced

Grams of toxic equivalent gTEQ (Expected at PIF)	Grams of toxic equivalent gTEQ (Expected at CEO Endorsement)	Grams of toxic equivalent gTEQ (Achieved at MTR)	Grams of toxic equivalent gTEQ (Achieved at TE)
6.60	7.74		

Indicator 10.1 Number of countries with legislation and policy implemented to control emissions of POPs to air (Use this sub-indicator in addition to Core Indicator 10 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Indicator 10.2 Number of emission control technologies/practices implemented (Use this sub-indicator in addition to Core Indicator 10 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		13,060,000		
Male		13,060,000		
Total	**0**	**26,120,000**	0	**0**

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

Duration of accounting.

The accounting duration for all estimates provided in the CEO-ER was indeed 2 years for the pilot projects and 5 years for the Seed Investment initiatives. The estimates related to the sovereign project were not reported in the CEO-ER document. Therefore, the accounting duration reported in the CI table has been revised to the correct value of 5 years.

GEBs associated with the UNIDP pilot projects.

The GEB calculations for the pilot initiatives in Thailand, the Philippines, and Vietnam were originally based on a period of only 2 years, assuming that the pilot projects would have a total duration of 3 years. All the methods adopted for the calculation of the GEB are described in detail in the country annexes. However, all pilot initiatives have been designed to remain sustainable throughout the entire CWFPF project duration and to be scalable beyond the end of the project. It is therefore reasonable to assume that the pilots will continue delivering GEBs for at least 4 years.

Accordingly, the GEB estimates associated with the pilot initiatives have been recalculated assuming a results period of 4 years within a total project duration of 5 years.

With specific references to each Core Indicator (CI)

- CI 9.1: The PFAS concentration in textile garments (Philippine pilot) was originally calculated using a value of 10 mg/kg, within a literature range of 2.4–295 mg/kg. The amount of PFAS avoided through the textile pilot has now been recalculated using a less conservative, but more realistic, value of 60 mg/kg (approximately 20% of the maximum reported value).
- CI 9.6: POPs-containing waste resulting from waste avoidance and recycling activities under the textile pilot in the Philippines was not included in the original calculation. This has now been incorporated. The amount of textile waste potentially contaminated by POPs (PFAS) that will be avoided or recycled in the Philippines was estimated at 12 t/day. Considering only the avoided waste component, approximately 3,066 tons of textile waste potentially contaminated by POPs will be avoided during the project period (equivalent to 2.1 t/day over 4 years).

- CI 9.6: POPs-containing waste resulting from the avoidance of POPs use in industrial processes in Vietnam was not included in the original calculation. This has now been incorporated. The amount of waste potentially contaminated by POPs (PFOS, SCCPs, MCCPs, or HBCDD) resulting from the phase-out of POPs in manufacturing processes can be estimated by dividing the amount of POPs avoided (40 t) by an assumed average POPs concentration of 1% in products. This results in an estimated amount of approximately 4,000 tons of POPs-contaminated waste avoided.

- CI 9.2: Unfortunately, the mercury amount reported in the CI table at PIF stage was mistakenly expressed in tons instead of kilograms. At PIF stage, as it can be checked from the project description, the project actually committed to avoiding 40 kg of mercury emissions from the pilot projects. This estimate has now been revised upward to 390 kg, based on updated calculations for avoided mercury releases from the Vietnam pilot (doubled to 780 kg if calculated for 4 years duration instead of 2 years).

- CI 9.8: Compared to the PIF stage, the pilots have also identified opportunities for plastic waste avoidance amounting to approximately 3,500 tons, corresponding to 7,000 tons when calculated over a 4-year period.

GEB associated Seed investments

The GEBs associated with the Seed Investments were not included at PIF stage, as consultations with innovators constituted one of the expected outcomes of the PPG activities. The GEBs potentially achievable through the Seed Investments were carefully scrutinized in order to avoid overestimation, resulting in a conservative assessment approach. For the Seed Investments, a calculation period of 5 years was adopted during PPG development.

- CI 9.7: The avoidance of HHPs (1,000 tons from Seed Investments) had originally been reported under CI 9.1. This has now been corrected and reassigned to CI 9.7.

GEB associated with sovereign programs

Unlike the PIF, the GEBs associated with the six sovereign programs described under Output 4.1 were not included in the CEO-ER. These sovereign programs are expected to be launched into 2027 as they are under preparation, and they are intended to replicate and scale up some of the results demonstrated by the pilots.

At PIF the sovereign programs were expected to generate additional GEBs, including:

- 2 tons of avoided mercury releases;
- 5,000 tons of POPs- and mercury-containing waste avoided;

- 2 g TEQ of U-POPs avoided; and
- 7.6 million tons of CO_2 equivalent emissions avoided.

These sovereign programs were not included in the current CEO-ER due to pending verification. The verification has recently been completed, resulting in the selection of loan and investment programs different from those initially identified at the PIF stage. Three out of the four selected programs include components directly related to chemicals and waste (C&W) management or greenhouse gas (GHG) avoidance. It is assumed that the GEB contribution from these loan programs can be calculated based on the theoretical overlap between the CWFPF implementation period and the duration of each ADB loan program.

The following sovereign loans contributing to project co-financing and to be supported by the CWFPF in strengthening the chemicals and waste perspective, have been selected:

Sector Loan: People's Republic of China: Yellow River Basin Green Farmland and High-Quality Agriculture Development Project. Project Number: 54027-002. Implementation period: April 2023–March 2028.

◦ Most of the GEB will come from coordination with subproject activities under its Output 2: "Green and climate-resilient agricultural production bases developed." Calculated over at least 2 years of overlap with the CWFPF, this will generate 140448 tCO2eq/yr, for a total of 280896 tCO2eq.

◦ An estimated minimum of 12 waste management systems for plastic film, fertilizer and pesticide packaging, and organic waste (crop residue and livestock manure) recycling will be established. Tentatively, it is assumed that each waste management system will process a minimum of 500 t of waste per year, of which around 10% will be considered HHP-contaminated plastic, for a total of: 500122yr = 12000 t of plastic waste avoided; and 1200 t of waste contaminated by POPs or HHP properly disposed of.

Proposed Programmatic Approach and Policy-Based Loan for Subprogram 1. Republic of the Philippines: Marine Ecosystems for Blue Economy Development Program. Project Number: 58379-001. Implementation period: March 2023–December 2028. Under Reform Area 2, "Plastic and other solid waste management and circularity enhanced," this loan project will achieve the following:

◦ Annual national plastic leakage to the ocean reduced to about 260,000 tonnes per year (against a 2019 baseline of about 360,000 tonnes per year). Source: DENR-BMB.

◦ 80% of the annual plastic product footprint recovered and diverted (2023 baseline: 40%). Source: DENR-EMB.

◦ About 1,200 Obliged Enterprises registered under EPR programs covering an estimated annual plastic packaging footprint of about 660,000 tonnes (2023 baseline: 869 Obliged Enterprises and an annual plastic packaging footprint of about 508,000 tonnes). Source: DENR-EMB and EPR Compliance Audit Reports.

◦ About 350,000 hectares of blue carbon ecosystems verified through ground-truthing, included in the DENR geospatial mapping system, and made publicly available (2020 baseline: 356,396 hectares not verified through ground-truthing), resulting in carbon sequestration of 5,600,000 t over 2 yrs, assuming a carbon sequestration rate of 8 t/ha/yr (Source: DENR-BMB and GDO).

◦ Considering a 2-year overlap between the CWFPF project and this Philippine loan, it may be expected that, at a minimum, the CWFPF will contribute to the reduction of 104,000 tons of plastic leaking into the ocean and reduce the plastic footprint associated with EPR enforcement by at least 60,800 tons.

Loan. People's Republic of China: Shanxi Changzhi Low-Carbon Climate-Resilient Circular Economy Transformation Project (Project Number: 51381-001). Implementation period: March 2024–March 2030. The minimum GEB expected under this project will be:

◦ At least 50,000 t of CO2 avoided over the project implementation period (with a contribution from CWFPF-supported initiatives, calculated on the basis of a 4-year overlap, estimated at 33,333 tCO2eq).

◦ At least three domestic solid waste material recovery, recycling, and transfer facilities, each with a minimum capacity of 160 tons per day, constructed and operational. Assuming a probability of accidental open burning in uncontrolled dumpsites of around 10%, and an emission factor of 300 µg TEQ/t of material burned (UNEP Toolkit 2013), this could result in the avoidance of U-POPs in the order of 7 g over a duration of 4 yrs.

ADB Ventures Seed Technical Assistance (Project Number: 57166-001). Implementation period: This project does not provide detailed estimates related to its GEB potential, but only criteria for climate impact as follows:

◦ Climate Impact. ADB Ventures Seed will apply a climate impact investing lens to evaluate a company's potential contribution to climate impact, including: (i) climate mitigation – reduction or prevention of greenhouse gas emissions; (ii) climate adaptation – prevention or reduction of the adverse impacts of climate change; and (iii) climate resilience – increasing the ability and capacity to recover from the adverse impacts of climate change. As the project document does not provide any indication of the amount of GHG emissions prevented, this project has not been used to calculate its potential GEB contribution.

Based on the above, the updated GEB relevant to the C&W focal area are reported in the following table. Detailed estimates are provided in the attached Excel worksheet. The table below reports the revised committed GEB amounts, assuming a 4-year duration for the pilots and including avoided POPs waste from the textile and manufacturing industries, with HHP moved to 9.7, as well as the inclusion of GEB contributions from three loan projects, in comparison with the amounts committed at the PIF stage.

Refer to Appendix 1 Core Indicators and Appendix 2 GEF GEB Estimates

Key Risks

	Rating	Explanation of risk and mitigation measures
CONTEXT		
Climate	Low	UNIDO demonstration projects will lead to GHG avoidance or reduction through project activities outlined under Output 3.3 For the ADB CWTF: Climate risk assessments be included in the Trust Fund screening criteria and also feed into any proposed investment project. The project preparation activity or investment project will need to outline specific risks and mitigation efforts (as well as climate benefits)
Environmental and Social	Moderate	An consolidated ESS framework has been prepared for the CWFPF which will address commensurate risks. UNIDO demonstration projects are designed to yield substantial global environmental benefits (in the areas of chemicals and

		waste, indirectly to climate change) as well as positive socio-economic impacts related to gender, the private sector, and the youth. For the ADB CWTF: Environment and social safeguard assessments will need to be included in the Trust Fund screening criteria and also feed into any proposed investment projects for both private and public sectors. The project preparation activity or investment project will need to outline specific risk mitigation measures. Also additional measures may be required, including ethnical and minorities or indigenous peoples management concerns. GEF funds will not be associated with any involuntary resettlement
Political and Governance	Low	For ADB, relationships with Government are defined by Country Partnership Strategies and other country-specific protocols. In some cases, for example fragile and conflict affected States, ADB will have specific guidance in place. In other cases where there is political upheaval, for example Myanmar and Bangladesh, the project will be guided by ADB policy with respect to operations in the country
INNOVATION		
Institutional and Policy	Moderate	ADB and UNIDO will ensure that in-country protocols of both organizations are followed. There is a consolidated communications and visibility plan, which forms part of the KML strategy which will guide such interaction. At the CW Trust Fund level, similar measures will be taken to adhere to the policy, practice and reporting requirements of all investors or stakeholders in the Fund. There may be implementation risks which the project will face which will involve careful relationship management at national, subnational levels. Further at the policy level, the project communications / visibility and KML strategy will focus on encouraging transformational change, incrementally. The KML capacity development actions will help address implementation gaps.
Technological	Moderate	UNIDO sub-projects will endeavor to connect with manufacturers, copyrights and non-disclosure policies may serve as barrier in technology sharing. ADB CWTF: investments will be subject to due diligence with respect to technologies developed or deployed. In fact the CWFT could support technological assessments which contribute to loan / investment project preparation. For the private sector SEED ventures initiative, technological risks will be assessed prior to each grant allocation to an enterprise. For private sector, technological assessment is one of the due diligence measures outlined. as the GEF Council has reinforced in GEF 9 replenishment consultations, there can be some level of ‘calculated risk” required in order to advance transformational change.
Financial and Business Model	Moderate	ADB CWFPF: There may be risk in that the investment readiness does not give rise to viable investments. This is not uncommon for these types of funds based on prior experience. The finance facility will put in place: a) solid governance arrangements, b) strong fund management and sector / product domain expertise, c) appropriate due diligence measures, and d) rigorous screening and financial oversight. The strategy will be to cast a wide net, but be selective about potential “winners”. CWFPF Fund Parameters could also be considered too narrow. Currently under the GEF C&W focal area programming directions, the priority focus is on Convention-listed chemicals.

		This might be considered ‘narrow’ by other donors as well as project developers and owners. The Facility will need to be sufficiently flexible to accommodate participation from parties that are interested in other ‘chemicals of concern’. This would include lead (Pb), for example, implying coverage of heavy metals, or methane (CH4), which would extend the applicability of the Fund to such initiatives as landfill remediation, livestock management, natural gas processing or wetland / marshland conservation. This opens up the opportunity for the Facility to host a number of other Trust Funds.
EXECUTION		
Capacity	Moderate	UNIDO will be the co-implementing agency focusing on the pilot/ demonstration projects. UNIDO has proven track records working on the proposed interventions, especially with BAT/BEP. through national execution entities (HACT assessed) ADB CWFPF: will provide appropriate capacity gap assessment and training for country partners as needed for sovereign projects. For private sector, enterprise capacity will be among the key selection criteria. If there is insufficient capacity for implementation, advice will be given to the firm to find ways to address this through co-financing
Fiduciary	Moderate	For both ADB and UNIDO similar to financial and business model risks, there will be regular reporting and oversight. If there are gaps, low levels of disbursement, or if there is mission drift - under the governance structure, remedial action will be considered. Under the ADB TF Guidelines there are specific actions outlined to address fiduciary risk scenarios.
Stakeholder	Low	Stakeholder mapping and engagement is an essential first step for all project design and development activities. The roles of communities, civil society, women, youth and vulnerable populations have been referenced in the GESIAP and also the Stakeholder Engagement Matrix. This said one step to eliminate or reduce stakeholder risk, will be to support country programming and country partnership strategy (CPS) development within ADB, with upstream chemicals management assessments and how these segments of society will be impacted. A chemicals management assessment would inform the country gender, social and poverty analyses that are standard processes within the CPS. The CPS process will feed into CWFPF pipeline development.
Other	Moderate	The project cannot be all things to all people. Therefore, expectations will need to be well managed across all stakeholders through transparency and disclosure. For investors and donors the ‘marketplace’ will have a special function which will provide a dashboard, combined with reporting requirements to specification.
Overall Risk Rating	Moderate	ADB, UNIDO and others have been working on developing this initiative for almost 3 years. At first there were challenges across groups of stakeholders in understanding whether or not there is a need for such niche, or supply-driven financing for this work. However as stories about chemicals of concern become mainstreamed in the media, as the science on chemicals becomes stronger and more credible, and as financial institutions such as ADB are taking a closer look at such areas as critical minerals supply chains, it is clear

		that there are some serious global challenges with international chemicals management that need to be addressed systematically and very soon. As we prepare this proposal ADB continues to get requests for support from its operations divisions. ADB is also getting requests from external partners – for example one UK scientific group has detected presence of arsenic in rice imported from Mekong countries. While there is limited scientific evidence, one can surmise that there is groundwater leakage from mining activities that impinge on agricultural commodity supply chains. This is a big deal and it is only going to get bigger. So we are shifting from a model that was previously thought to be supply driven, to one that shows strong elements of being increasingly driven by demand. The timing of the CWFPF is fortuitous, hence the 'risk' is considered moderate

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Explain how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this. (max. 500 words, approximately 1 page)

The project is consistent with all three objectives of the GEF 8 Chemicals and Wastes Focal Area, and indeed has been designed to enhance the technical and financial capability of countries to achieve such objectives. It will contribute to creation and strengthening of the enabling environment and policy coherence to transform manufacture, use and sound management of chemicals and to eliminate waste and chemical pollution. It will contribute to reducing the build-up of hazardous chemicals in the environment. Finally, it will directly address elimination of hazardous chemicals and wastes. The project is also aligned with the missions and mandates of the BRS-M Conventions, and addresses priorities outlined in the new Global Framework for Chemicals (GFC).

Activities such as policy gap analyses, strengthening regulatory frameworks, capacity-building, and innovative financial solutions, including the establishment of Extended Producer Responsibility (EPR) schemes, are consistent with GEF-8 priorities. Furthermore, demonstration pilots of advanced recycling technologies, integrated dismantling centers, and community-based enterprises explicitly address the GEF's strategic objectives by transitioning hazardous waste management practices towards environmentally sound, circular economy models.

Regionally, the interventions align with ASEAN's collective sustainability objectives, notably its commitment to enhanced waste management and chemical safety standards. No significant contradictions with existing country policies were identified; however, gaps such as weak regulatory enforcement and informal recycling practices may present challenges which will be proactively addressed through multi-stakeholder consultations, localized action plans, formalization of informal sectors, and capacity-building workshops, ensuring integrated alignment at national and local governance levels

Through UNIDO-led pilot /demonstrations (Component 3) and ADB private sector Seed investments, the project aims to: i) avoid or phase out 1563 MT of POPs (CI 9.1), ii) 0.39 MT of mercury avoided / reduced (CI 9.2); iii) 4113.4 MT of POPs / mercury containing waste from ESM disposal (CI 9.6); iv) 11,500 MT of avoided residual plastics waste (CI 9.8); v) 0.37 gTeq of U-POPs (CI 10.1); vi) 108,667 MT of CO2e avoided (CI 6.2), and vii) 26,120,000 people benefitting (of which roughly 50% women). Additional GEBs will be achieved

under Outcome 4.1, at significantly larger scale given the potential ADB sovereign pipelines which will be pursued; as well as policy and technology outreach / transfer supported through the strategy

The UNIDO-led demonstration sub-project activities are also aligned:

- With the Philippines' national regulatory framework, including the Toxic Substances and Hazardous Waste Management Act (1990), the Clean Water Act (RA 9275), DAO 2016-08, and the DOH guidelines "Hospital pharmacy management manual -4th edition" and the "Green and Safe Health Facilities Manual, 2021", with specific reference to the provisions related to the disposal of pharmaceutical waste under Category.

- With the Thailand's key environmental priorities outlined in its Strategic Plan on Integrated E-Waste Management (2022-2026), the National Strategic Plan on Chemicals Management, and Thailand's Climate Change Master Plan, thus reinforcing the country's international commitments under multilateral environmental agreements including the Stockholm Convention on POPs, the Minamata Convention on mercury, and the Basel Convention on hazardous waste.

- With the Viet Nam policy and regulation established by Ministry of Industry and Trade (MOIT), the national focal point for the Minamata Convention, and Ministry of Natural Resources (MONRE), the national focal point for the Stockholm Convention. Activities will contribute to the implementation of Viet Nam's chemicals management strategies, inform updates to sectoral regulations, and help develop financial partnerships to scale cleaner industrial practice.

Finally the project is taking a bold step, much in line with the emerging global financial architecture for climate and nature - by taking steps to mobilize
private capital.

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment

We confirm that gender dimensions relevant to the project have been addressed during Project Preparation as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

1) Does the project expect to include any gender-responsive-measures to address gender gaps or promote gender equality and women's empowerment?

Yes

If the project expects to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment, please indicate in which results area(s) the project is expected to contribute to gender equality:

Closing gender gaps in access to and control over natural resources;

Yes

Improving women's participation and decision-making; and/or

Yes

Generating socio-economic benefits or services for women.

Yes

2) Does the project's results framework or logical framework include gender-sensitive indicators?

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during Project Preparation as required per GEF policy, their relevant roles to project outcomes has been clearly articulated in the Project Description (Section B) and that a Stakeholder Engagement Plan has been developed before CEO endorsement**.**

Yes

Select what role civil society will play in the Project

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier;

Member of project steering committee or equivalent decision-making body ; Yes

Executor or co-executor;

Other (Please explain)

Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in section B project description?

Yes

Environmental and Social Safeguards

We confirm that we have provided information regarding Environmental and Social risks associated with the proposed project or program, including risk screenings/ assessments and, if applicable, management plans or other measures to address identified risks and impacts (this information should be presented in Annex E).

Yes

Please provide overall Project/Program Risk Classification

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate	Medium/Moderate		

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described during Project Preparation in the Project Description and that these activities have been budgeted and an anticipated timeline for delivery of relevant outputs has been provided.

Yes

Socio-economic Benefits

We confirm that the project design has considered socio-economic benefits to be delivered by the project and these have been clearly described in the Project Description and will be monitored and reported on during project implementation (at MTR and TER).

The project has potential to generate significant social and economic benefits for governments, local communities / civil society and private sector. The narratives throughout this CER package provide supportive insights on this – the private sector engagement strategy, the gender and social inclusion action plan, the project approach, including support for demonstration sub-projects which will be implemented by private sector entities (UNIDO), grant-based support for early-stage enterprises seeking to make transformational changes in markets where chemicals are a key element of supply chains, to a number of sovereign loans or investments to ADB developing member country (DMC) governments which seek to make fundamental advances in infrastructure, industry and public services.

During project inception there will be discussion on socio-economic indicators (SEIs) and how they can be introduced into the CWFPF results architecture; and then subsequently tracked / monitored and included in the reporting regimen.

The following SEIs and related co-benefits will be considered

Direct beneficiaries: numbers of people (sex-disaggregated) gaining benefits including improved access to resources, job opportunities or improved health scenarios,

2. Poverty reduction: measuring impacts on income, food security and access to basic services resulting from various interventions supported under the CWFPF,
3. Sustainable livelihoods: assessing best environmental practice / best available technologies (BET/BAP) in relevant sectors and subsectors covered by CWFPF, especially those that enhance economic stability on a number of levels,
4. Gender equality: Support and tracking of differentiated impacts on women and girls (as indicated in various sections of the main approach and GESIAP)

ANNEX A: FINANCING TABLES

GEF Financing Table

Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant($)	Agency Fee($)	Total GEF Financing ($)
ADB	GET	Global	Chemicals and Waste	POPs	Grant	20,046,000.00	1,804,000.00	21,850,000.00
UNIDO	GET	Global	Chemicals and Waste	POPs	Grant	9,037,000.00	813,000.00	9,850,000.00
Total GEF Resources ($)						**29,083,000.00**	**2,617,000.00**	**31,700,000.00**

Project Preparation Grant (PPG)

Was a Project Preparation Grant requested?

true

PPG Amount ($)

275300

PPG Agency Fee ($)

24700

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	PPG($)	Agency Fee($)	Total PPG Funding($)
ADB	GET	Global	Chemicals and Waste	POPs	137,650.00	12,350.00	150,000.00
UNIDO	GET	Global	Chemicals and Waste	POPs	137,650.00	12,350.00	150,000.00
Total PPG Amount ($)					**275,300.00**	**24,700.00**	**300,000.00**

Please provide Justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total($)

Total GEF Resources	**0.00**

Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing($)	Co-financing($)
CW-1	GET	2,908,300.00	46130000
CW-2	GET	15,995,650.00	173715000
CW-3	GET	10,179,050.00	94571553.78
Total Project Cost		**29,083,000.00**	**314,416,553.78**

Confirmed Co-financing for the project, by name and type

Please include evidence for each co-financing source for this project in the tab of the portal

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
GEF Agency	UNIDO	Grant	Investment mobilized	100000
Recipient Country Government	Bangkok Metropolitan Administration	In-kind	Recurrent expenditures	23174996.48
Private Sector	University of Santo Tomas (UST) hospital	In-kind	Recurrent expenditures	294739.42
Private Sector	UST hospital	Equity	Investment mobilized	837726.63
Private Sector	UST faculty of pharmacy	In-kind	Recurrent expenditures	257543.08
Private Sector	UST faculty of pharmacy	Grant	Investment mobilized	77586.21
Private Sector	Dolomatrix	Equity	Investment mobilized	621206.9
Private Sector	Dolomatrix	Grant	Investment mobilized	372413.79
Recipient Country Government	Department of Environment and Natural Resources-Ecosystems Research and Development Bureau (DENR-ERDB)	Grant	Investment mobilized	44703.49
Private Sector	Bayo Manila	In-kind	Investment mobilized	5549031

Private Sector	St. Louis Sacred Heart Medical Center	Equity	Investment mobilized	495490.32
Private Sector	St. Louis Sacred Heart Medical Center	Grant	Investment mobilized	933544.8
Private Sector	St. Louis Sacred Heart Medical Center	In-kind	Recurrent expenditures	231789.99
Recipient Country Government	Philippine Fiber Industry Development Authority (PHILFIDA)	Grant	Recurrent expenditures	167574.94
Recipient Country Government	PHILFIDA	Equity	Investment mobilized	220573.93
Recipient Country Government	Department of Science and Technology (DOST)	Equity	Investment mobilized	111864
Recipient Country Government	DOST	In-kind	Recurrent expenditures	99153
Recipient Country Government	Philippine General Hospital	In-kind	Recurrent expenditures	18718.17
Recipient Country Government	Philippine General Hospital	Loans	Investment mobilized	14925.37
Recipient Country Government	Philippine General Hospital	Grant	Investment mobilized	81819.14
Recipient Country Government	Baguio General Medical Center	In-kind	Recurrent expenditures	60020.91
Recipient Country Government	Baguio General Medical Center	Equity	Investment mobilized	42872.1
Private Sector	Holy Child Central Colleges, Inc	In-kind	Recurrent expenditures	86193
Recipient Country Government	Local Government Unit (LGU) Taytay	Equity	Investment mobilized	2112271.45
Recipient Country Government	LGU Taytay	Grant	Investment mobilized	675926.87
Recipient Country Government	Department of Health (DOH)	In-kind	Recurrent expenditures	96714.6
Recipient Country Government	DENR: Environment and Management Bureau - Foreign Assisted and Special Projects Service (EMB-FASPS)	In-kind	Recurrent expenditures	2428510.78
Private Sector	Lloyd Laboratories	Grant	Investment mobilized	68987.07

Private Sector	Vina-Buhmwoo CO Ltd	Equity	Investment mobilized	573465
Recipient Country Government	Vietnam Chemicals Agency	Equity	Investment mobilized	723405
Recipient Country Government	Vietnam Chemicals Agency	In-kind	Recurrent expenditures	6672451
Recipient Country Government	LGU Baguio City	Equity	Investment mobilized	3303095.44
Recipient Country Government	LGU Baguio City	Grant	Investment mobilized	601891.66
Recipient Country Government	LGU Baguio City	In-kind	Recurrent expenditures	265348.24
GEF Agency	Asian Development Bank	Loans	Investment mobilized	49700000
GEF Agency	Asian Development Bank	Loans	Investment mobilized	180000000
GEF Agency	Asian Development Bank	Loans	Investment mobilized	30000000
GEF Agency	Asian Development Bank	Grant	Investment mobilized	3300000
Total Co-financing				**314,416,553.78**

Please describe the investment mobilized portion of the co-financing

ADB Co-financing (see Roadmap for documentation)

Green Farmland Demonstration and High-Quality Agricultural Development Program in Yellow River Basin; The project will have the following outcome - sustainability of green agricultural production systems in the participating project provinces improved. There are three inter-linked outputs: i) Output 1: Institutional, technical, and management capacity and coordination strengthened. This output will address the issue of insufficient institutional capacity and coordina-tion, and incentives at the farm level to balance production and environmental protection priorities, ii) Green and climate-resilient agricultural production bases developed. This output will address the outdated and inefficient agricultural production system, which constrains production efficien-cies and limits farmers' income potential. It will overhaul outdated production systems to ensure they are more efficient with positive impacts on the environment. Upgraded and greener agricul-tural production systems, with reduced carbon-intensive chemical fertilizers and pesticides, will have positive impacts on climate change mitigation and reduce negative environmental externali-ties from nonpoint source pollution as a result of more efficient use of these environmentally sen-sitive production inputs, and iii) Agricultural value chains strengthened. This output will address the constraints faced by agribusiness which hamper their ability to add value to food and raw agri-cultural products through processing, storing, and marketing their products. It will support stronger cooperation links between farmers and agribusiness to ensure the stable supply of high-quality raw products.

Shanxi Changzhi Low-Carbon Climate-Resilient Circular Economy Transformation Project (PRC). The project demonstrates a comprehensive approach to integrated, sustainable, and green urban and economic transformation through three mutually reinforcing outputs.

Output 1: Institutional capacity and knowledge for green transformation enhanced.

This output includes investments in institutional strengthening and capacity development, in-creased green skills, knowledge sharing, and digitalization. It includes (i) significant investments in at least two smart city ICT systems for local governments with multiple functions such as utility operation and service management across administrative bureaus, and training to operate and maintain these platforms. Training will cover, inter alia, green skills, circular economy develop-ment, treated wastewater reuse, reuse of recycled construction materials, etc.

Output 2: Financing for low-carbon climate-resilient circular economy established.

This output will establish a financing platform for SMEs and SOEs to facilitate green climate trans-formation and enable innovation and entrepreneurship. The project-defined business financing cri-teria focus on energy-efficient and low-carbon facilities, infrastructure, and services, such as clean energy vehicles, renewable energy, materials recovery, and construction waste recycling.

Output 3: Urban green infrastructure and services improved. This output includes transformative and integrated urban planning and investments in low-carbon climate-resilient infrastructure and services, and the circularization of material flows. Investments include wastewater treatment plants (WWTPs) with a capacity of 13,000 tons per day and33 km of sewer pipes, and treated wastewater reuse facilities with capacity of 19,600 tons per day, including effluent from one existing WWTP and 50 km of distribution pipes; (iv) three new solid waste management transfer and sorting facilities with capacity of 160 tons per day, among others.

Programmatic Approach and Policy-Based Loan for Subprogram 1 Republic of the Philip-pines: Marine Ecosystems for Blue Economy Development Program ($ 500 million)

The proposed program will accelerate integrated marine and coastal management to support sustainable blue economy development. The program adopts a programmatic approach comprising two subprograms to sequence complex and strategic reforms across multiple implementing agencies, policies, and plans. The reform areas are interconnected and strengthen the productivity and diversity of the Philippines' blue economy, improve the health and resilience of coastal and marine ecosystems and communities, and promote women's empowerment. There are three main re-form areas: i) Reform Area 1: Integrated and inclusive management of coastal and marine eco-systems enabled. This reform area supports establishing and implementing a coordinated, science-based, and inclusive framework for the sustainable management of marine and coastal eco-systems; ii) Reform Area 2: Plastic and other solid waste management and circularity enhanced. This reform area strengthens the Philippines' capacity to reduce marine plastic pollution and ad-vance circular economy transitions, and iii) Reform Area 3: Planning, budgeting, and investment in natural capital strengthened. This reform area enhances the country's capacity to systematical-ly account for and invest in natural capital, especially coastal and marine ecosystems.

ADB Ventures Seed Technical Assistance. The main outcome for the ADB Ventures Seed Technical Assistance will be the growth of early-stage companies with technology-enabled solu-tions that contribute to climate impact in ADB's DMCs. The reimbursable TA grant mechanism under ADB Ventures Seed will encourage cross-border market expansion of technology providers to ADB's DMCs and generate pipeline for ADB Ventures investment operations. The CWFPF seed ventures component will build on and advance this TA.

Cofinancing summary (See Roadmap for documentation):

A. Title: Green Farmland Demonstration and High-Quality Agricultural Development Pro-gram in Yellow River Basin

Type of Investment: Loan

Duration: September 2028 (with possibility of extensions)

Amount towards CWFPF: USD49,700,000

B. Title: Shanxi Changzhi Low-Carbon Climate-Resilient Circular Economy Transformation Project (PRC)

Type of Investment: Loan

Duration: March 2030 (with possibility of extensions)

Amount towards CWFPF: USD180,000,000

C. Title: Policy-Based Loan for Subprogram 1 Re-public of the Philippines: Marine Ecosys-tems for Blue Economy Development Program

Type of Investment: Loan

Duration: December 2028 (with possibility of extensions)

Amount towards CWFPF: USD30,000,000

D. Title: ADB Ventures Seed Technical Assistance

Type of Investment: TA

Duration: December 2028 (with possibility of extensions)

Amount towards CWFPF: 263,000,000

UNIDO Co-financing

UNIDO has provided a range of co-financing from public and private sectors (as well as UNIDO itself). These are elaborated / summarized in a separate worksheet in the appendix; along with the corresponding documentation support.

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	12/19/2025	Yoko Watanabe		yokowatanabe@adb.org
GEF Agency Coordinator	12/19/2025	Ganna Onysko		g.onysko@unido.org

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Please attach the Operational Focal Point endorsement letter(s) with this template.

Name of GEF OFP	Position	Ministry	Date (MM/DD/YYYY)
Ms. Analiza Rebuelta-Teh	Undersecretary and GEF Operational Focal Point	Department of Environment and Natural Resources	11/28/2025

Ms. Chayan Pakdeejit	Permanent Secretary	Ministry of Natural Resources and Environment	12/4/2025
Nguyen Duc Thuan	GEF Operational Focal Point, Director	Vietnam Environment Protection Fund, Ministry of Agriculture and Environment	4/10/2026

ANNEX C: PROJECT RESULTS FRAMEWORK

Please indicate the page number in the Project Document where the project results and M&E frameworks can be found. Please also paste below the Project Results Framework from the Agency document.

Results	Performance Indicators with Baselines and Targets			GESI Indicators	Means of Verification	Assumptions and Risks
Objective	**Indicators**	**Baseline**	**End-of-Project Targets**			
	(GEF and ADB indicators) Number of direct beneficiaries from project interventions (disaggregated by gender and measured by number of people) *GEF Core Indicator 11: People benefiting from GEF-financed investments disaggregated by sex*					
Outcomes	**Outcome Indicators**					
Results	**Performance Indicators with Baselines and Targets**				**Means of Verification**	**Assumptions and Risks**
Project Component 1: Decision making frameworks for CWP investment						
Outcome 1 National/sub-national governments and financial institutions' decision	1. Quantity of POPs, COCs, and related wastes potentially avoided through improved	Financing facilities specifically dedicated to infrastructure upgrades for hazardous chemicals and	A CWFPF is established to support at least one full-scale project in each pilot country and maintained to enable additional	1. Percentage of marginalized communities with improved access to safer, less	Meeting minutes, technical and legal reports	**Assumptions** Public entities with rule-making authority recognize the establishment

making on CWP investments strengthened	regulatory and financing frameworks 2. Number of Job positions (M/F) created through enhanced regulatory and financing mechanisms	waste management are limited in the participating countries. Enterprises usually rely on the general financial market, with little dedicated facilitation or technical assistance.	project financing.	toxic environments due to avoided POPs, COCs and related waste 2. Number of jobs created for women, youth, and vulnerable groups through new investments or enterprises supported		of the CWFPF as a strategic initiative for addressing community needs. **Risks**
Output 1.1 Policy barriers on C&W management, including considerations of policy inconsistencies and coherence at national and sub-national level, identified and strategies to address the barriers developed.	3. Number of policies reviewed or assessed 4. Number of national or subnational strategies developed to address identified barriers	In the pilot and candidate countries, regulatory systems for chemicals and waste exist but remain fragmented, with unclear definitions, limited sustainability provisions, and weak enforcement. Sector-specific regulations—such as for building, manufacturing. textiles, pharmaceuticals, and e-waste—are either absent, non-binding, or only partially operational, while voluntary schemes have limited uptake. Financial instruments and strategies to link upstream production with downstream waste management are also underdeveloped.	Policies and regulations for each pilot sectors are assessed (totally 5 sets of policies and regulations), with gaps and inconsistencies identified. Proposed amendments and strategies are developed to strengthen enforcement, promote circularity, and create conditions for bankable initiatives with strong potential to deliver global environmental benefits.	3. At least 75% of policy roadmaps include gender-responsive and socially inclusive provisions and commitments. 4. 40% of women and vulnerable groups actively engaged in national and sub-national policy consultation processes	Meeting minutes, technical and legal reports	**Assumptions**. Public entities responsible for rule-making and strategy development in the two sectors are willing to collaborate in identifying policy barriers and developing suitable financial and environmental solutions. These stakeholders share a common vision of establishing financing partnerships and mechanisms to support the textile and pharmaceutical sectors in advancing toward greater financial and environmental sustainability **Risks**
Output 1.2 Capacity building at national and subnational	5. Number of training	In the pilot countries, some training initiatives on chemicals and	In the pilot countries, at least **10 structured capacity-building**	5. All training materials, modules, case studies and e-learning	Training materials, training attendance sheet, training reports and result of pre	**Assumptions:** Representatives from private and public entities

levels on policy formulation and implementation conducted.	sessions conducted 6. Number of individuals (M/F) successfully trained (as measured against training indicators)	waste exist, often linked to sector-specific projects or voluntary schemes, but structured capacity-building on policy formulation, implementation, and financing is limited. National and subnational agencies generally lack technical capacity, and coordination across institutions and with informal actors remains weak.	**programs** on policy formulation and implementation for chemicals and waste management, including financing aspects, are conducted. Each program delivers at least **2 training sessions**, engaging a total of **400+ participants** from national and subnational authorities, with gender balance and inclusion of vulnerable groups actively promoted.	modules have gender-inclusive content. 6. 40% women's and vulnerable groups' participation and at least two women-led and vulnerable groups organizations (including youth, indigenous peoples, and other underrepresented sector) are engaged in capacity-building activities and strategy development.	and post-training tests	in the two sector are actively involved in increasing the capacity on policy formulation to ensure that sustainable solutions are promoted **Risks**
Output 1.3. Urban / peri-urban level sustainability strategies developed / updated.	7. Number of sustainability strategies developed or updated	In the pilot countries, no urban or peri-urban strategies currently exist that specifically address the financial and environmental sustainability of chemicals and waste management in key sectors such as textiles, pharmaceuticals, e-waste, cement, or manufacturing.	One urban-level sustainability strategy developed for each specific sector in the pilot countries, for a total of 5.. One urban-level sustainability strategy developed for each specific sector pilot countries, for a total of 5..	7. Strategies explicitly integrate the concerns of women, youth, and vulnerable groups.	Meeting minutes, technical reports, draft and final strategy documents	**Assumptions**: Municipalities facing chemical and waste management pilot sectors are willing to engage in the development of plans and strategies aimed at reducing POPs/COCs usage, waste generation and promoting environmentally sound disposal practices **Risks**:

Activity 1.1.1: Comprehensive Policy and Regulatory Review
Activity 1.1.2: Multi-Stakeholder Consultative Workshops
Activity 1.1.3: Strategy Development and Policy Harmonization Roadmap

Activity 1.2.1: Training on Environmental Financing Tools and Mechanisms, including Extended Producer Responsibility (EPR)
Activity 1.2.2: Development of Strategy Frameworks for Chemicals and Waste (incl. Financial Aspects)

Activity 1.3.1: Urban–Peri-Urban Sustainability Assessments and Needs Mapping
Activity 1.3.2: Multi-Stakeholder Strategy Co-Development Workshops
Activity 1.3.3: Technical Support for Integrating Chemicals and Waste Management and Financing Models into Urban/Peri-Urban Strategies

Project Component 2: Chemicals and Wastes Financing Partnership Finance Facility (CWFPF)						
Outcome 2 Chemicals and Wastes Financing Partnership Finance Facility (CWFPF) established	9. Governance structure for CWFPF formally established and operational (Y/N).	CWFPF still to be approved and established, so no governance structure exists yet	Governance structure established and operational by Year 2, supported by institutional and operational documents as detailed under the relevant outputs.	9. CWFPF governance framework includes a formal GESI policy outlining equal representation, inclusive consultation, safeguards policy to protect women and vulnerable groups, and clear GESI strategy in place.	As specified under related outputs (e.g., governance charter, approved Concept/Establishment Papers, Implementation Guidelines, meeting records)	Assumptions: Participating institutions and partners actively support governance arrangements; gender and inclusion measures are incorporated. Risks: Delays in stakeholder consultations; institutional disagreements over governance modalities; low participation of women and vulnerable groups in governance.
Output 2.1 Governance, institutional arrangements, structure / strategy and operational modalities for finance facility developed, including eligibility and selection criteria	10. Establishment Paper and operational strategy for CWFPF completed and approved (Y/N) 11. Availability of a formalized governance framework, with **representation of women and vulnerable groups** in institutional arrangements	No Chemicals and Waste Financing Partnership Facility (CWFPF) governance or operational structure currently exists; no eligibility or selection criteria in place.	A fully developed Governance and institutional framework for CWFPF in place, including strategy, operational modalities, and eligibility/selection criteria, with at least 40%**representation of women and vulnerable groups** in institutional arrangements	10. Concerns of women and vulnerable sectors are integrated into the strategy and governance structure of facility. 11. Proportion of women and vulnerable groups in decision-making and advisory bodies of the CWFPF with at least 40% representation in steering	Approved Establishment Paper and strategy documents. Records of governance body composition and meeting minutes.	**Assumptions:** Governments and financing partners are committed to the establishment of CWFPF; consensus can be achieved on governance and criteria. **Risks:** Delays in agreement on structure; limited private sector engagement; insufficient follow-through on inclusion

				committee, technical working groups, and advisory panel.		commitments. Mitigation through early stakeholder consultation and formal integration of gender/social criteria.
Output 2.2 Partnership development and resource mobilization initiatives for finance facility supported.	12. Number of **new partnerships** (public, private, and civil society) established to support CWFPF. 13. Percentage **of mobilized resources** earmarked for gender-responsive and socially inclusive C&W projects.	No partnerships or resource mobilization initiatives currently linked to CWFPF; no gender-responsive earmarking	At least 20 strategic partnerships secured with multilateral/bilateral donors, private sector, city networks, and NGOs, At least 30% of resource mobilization commitments explicitly support gender and social inclusion.	12. Partnerships secured with donors, private sectors, and NGOs that prioritize gender, equity, and social inclusion outcomes. 13. At least 20% of mobilized resources earmarked for women, youth, and socially inclusive C&W projects.	Partnership agreements/MoUs. CWFPF resource mobilization reports, including allocation tracking by thematic area and social inclusion.	**Assumptions:** Donors and private sector recognize the value of CWFPF and commit resources; gender and inclusion are accepted as integral to financing agreements. **Risks:** Limited interest from key donors or private sector; earmarked funds for gender/social inclusion not sustained. Mitigation through proactive engagement, visibility campaigns, and showcasing inclusive pilot successes.
2.3 Concept paper and Establishment paper prepared, approved and C&W Trust fund (or similar mechanism) initiated with Implementation Guidelines drafted	14 Availability of Concept Paper, Establishment Paper, and Implementation Guidelines for CW Trust Fund (Y/N) 15, Availability of an operational Trust Fund operationalized with gender and social inclusion provisions integrated into	No Trust Fund exists; no guiding papers, approval, or implementation guidelines in place.	A C&W Trust Fund or similar mechanism, formally established under ADB Trust Fund Guidelines, with approved Concept and Establishment Papers and operational Implementation Guidelines, compliant with GEF and ADB gender policies.	14. Establishment paper, Trust Fund (or similar mechanism) and implementation guidelines are compliant with GEF and ADB gender equality policies and include gender and social dimensions.	Approved Concept Paper, Establishment Paper, and Implementation Guidelines. Trust Fund (or similar mechanism) initiation documents and governance records.	**Assumptions:** ADB management and financing partners endorse the Trust Fund concept and provide timely approval. **Risks:** Delays in internal approval processes; weak uptake from partners; risk of gender/social

	governance and guidelines.			15. Equitable participation, protection from risks, and fair access to benefits are integrated into the establishment paper and trust fund implementation guidelines.		provisions being deprioritized. Mitigation through early consultation, alignment with ADB/GEF safeguards, and partner buy-in on inclusion policies.
2.3 Concept paper and Establishment paper prepared, approved and C&W Trust fund (or similar mechanism) initiated with Implementation Guidelines drafted						
Project Component 3: Investment Readiness for the finance facility						
Outcome 3 Pipeline of 'bankable' projects for the finance facility identified / validated	16. Quantity of POPs, COCs, and related waste directly treated or removed through implemented pilots 17. Quantity of POPs, COCs, and related waste potentially avoided through full-scale implementation	In the pilot or candidate countries, no pipeline of investible chemicals and waste (C&W) projects has yet been identified or submitted to potential financing institutions in the targeted sectors.	POPs, COCs, and related waste directly avoided through the implemented pilots (see country annexes for the estimated quantification)			**Assumptions** Private and public entities are interested in applying to the CWFPF to implement full-scale initiative **Risks**
Output 3.1 Robust pipeline of investible chemicals and wastes projects in selected areas with potential financing institutions, including ADB created (linked to 1.3)	18. Number of projects identified and assessed for financial and environmental sustainability 19. Number of Chemical and Waste C&W projects included in financing institution's pipeline	No project assessed so far for inclusion in the CWFPF pipeline although some initiatives may be promising	A total of 10 projects among the 3 pilot countries identified and assessed for inclusion in the CWFPF pipeline,	18. Gender-responsive criteria are integrated in the pilot pipeline to ensure women, youth, and vulnerable groups benefit equitably from new livelihood, training, and enterprise. 19. Feasibility studies will systematically assess gender-differentiated risks and benefits, particularly	Meeting minutes, site visit reports, project assessment reports	**Assumptions** Initial research conducted during project design confirmed that several entities are interested in proposing pilot projects or activities for further evaluation and potential selection during implementation **Risks**.

				for women engaged in informal recycling and healthcare waste handling, to ensure that investment proposals contribute to safer and more inclusive working conditions.		
Output 3.2 CWFPF integrated knowledge hub and 'e-marketplace' created, functional, and among others, contributing to knowledge management and learning (KML)	**20. Number of registered platform users** (governments, private sector, CSOs, academia). **21. Number of project–investor matchmaking engagements facilitated** via the platform of which *% of listed projects and knowledge items tagged with gender/social inclusion*	No integrated knowledge hub or e-marketplace exists specifically for chemicals and waste financing. While some platforms exist in related areas (e.g., climate, project preparation, or green technology matchmaking), none combine transparency, project incubation, policy learning, and finance matchmaking tailored to chemicals and waste.	Knowledge hub and e-marketplace established, with more than 200 registered users by year 3 Matchmaking between at least 50 investment-ready C&W projects and financing partners, and embedding gender/social inclusion criteria in all core functions.	20. Number of women's groups, CSOs, and youth-led enterprises actively engaged in the policy hub and marketplace platforms. 21. Number of inclusive financing or partnership opportunities brokered for women and marginalized stakeholders through the marketplace.	Platform analytics (user registration, engagement statistics). CWFPF records on seed financing allocation and supported projects. Published knowledge products and training materials.	**Assumptions:** Stakeholders actively engage with the hub and e-marketplace; technical providers deliver a functional and user-friendly system; cost recovery models ensure sustainability. **Risks:** Low user uptake, weak content generation, or poor interoperability with other platforms; risk of limited inclusion of women-led or vulnerable groups. Mitigation through co-design with stakeholders, strong outreach, and embedding gender/inclusion criteria into procurement and operation.
Output 3.3 Pilot / demonstration carried out as proof of concept in specific C&W	22. Number of pilot projects demonstrated and assessed		At least 1 pilot demonstrated for the reductionof POPs, COCs and mercury in each key sector of textile,	22. Number of pilot projects incorporated measures to address gender-	Meeting minutes,site visit report, pilot design documentation, pilot monitoring report, financial	**Assumptions** Private and public sector representatives are

sectors (to be confirmed) 1) Electronics (Thailand) 2) Cement (Vietnam) 3) Textiles (Philippines) 4) Environmentally persistent pharmaceuticals (EPP) (Philippines) 5) New POPs in manufacturing (Viet Nam):			pharmaceutical, electronics, building, manufacturing industry	specific exposure risks and participation opportunities.	and environmental assessment reports	interested in piloting initiatives to test their financial and environmental potential for scaling up, as well as to assess the financing needs for full-scale implementation at the provincial or national level. **Risks**

Activity 3.1.1: Country-Led Identification and Pre-Screening of Priority Pilot Projects

Activity 3.1.2: Project Structuring and Feasibility Analysis for Selected Pilots

Activity 3.1.3: Structured Engagement with Financing Institutions (ADB and Others)

Activity 3.2.1 Finalize terms of reference for service providers and conduct procurement and eventual contracting for development, operations and maintenance for the life of project,

Activity 3.2.2 Prepare and execute workplan based on the two phase approach described above to create and operationalize the knowledge hub and e-marketplace, and

Activity 3.2.3 Finalize and Implement cost recovery plan.

Activity 3.3.1: Detailed Design and Site Preparation for Selected Pilot Projects

Activity 3.3.2: Procurement, Installation, and Commissioning of Pilot Systems

Activity 3.3.3: Pilot Operation, Monitoring, and Adaptive Optimization

Project Component 4: Investments in C&W pollution reduction / elimination projects

Outcome 4: Investment readiness support for chemicals and wastes pollution reduction / elimination projects in selected project countries	23. Number and value of investment projects prepared and financed under CWFPF by sector, with gender and social inclusion dimensions.	No pipeline of investible chemicals and wastes projects has yet been identified, prepared, or financed in participating countries.	Investment projects and early-stage enterprises supported under CWFPF for an overall amount of around USD 1 billion.		CWFPF project pipeline database, Fund Operations Manager records, investment agreements, project appraisal documents, and CWFPF progress reports.	**Assumptions** Strong demand and absorptive capacity for investment; active engagement from private sector, governments, and financing partners.

Risks
Delays in project preparation or financing approval; insufficient private sector interest; macroeconomic instability; barriers to participation of women and youth-led enterprises.

Output 4.1 Specialized project preparation support provided to eligible institutions, leading to formulation of at least 6 investment projects covering a range of priority products, processes and sectors of which: a) 2 would facilitate access to capital by CSOs, women and youth-led businesses, and one will pilot new approaches to attract private capital), and b) At least one investment project piloting new approaches to attract private capital in CWP prevention, abatement and elimination	24. Number of investment projects receiving specialized project preparation support 25. Share of supported projects with gender and social inclusion plans 26. Number of investment projects piloting approaches to mobilize private capital for CWP abatement and elimination. 27. Volume of private financing mobilized through pilot	No specialized facility exists to systematically provide project preparation support for C&W investments in participating countries. No dedicated projects exist in participating countries that explicitly pilot private capital mobilization for CWP.	At least 6 projects prepared with CWFPF project preparation support, covering a range of sectors (MSW, e-waste, industrial wastewater, plastics, hazardous waste, pharmaceuticals, textiles, etc.). 2 projects explicitly targeting CSOs, women and youth-led businesses; 1 piloting approaches to mobilize private capital. All projects integrate gender and social inclusion indicators. At least one investment project designed and supported as proof of concept for private capital mobilization in CWP (e.g., wastewater treatment upgrades, landfill remediation, industrial retrofits). Engagement of private solution providers (e.g., detoxification, remediation, and monitoring technologies).	24. Number of women and youth participants trained or mentored in project preparation and accessing financial support. 25. At least 2 of 6 investment projects developed with women, youth, or CSO engagement. 26. Private sector partner adopted ESG and gender-responsive investment criteria through the pilot. 27. Policy and institutional recommendations developed to scale gender-inclusive private sector participation in chemical and waste investments.	CWFPF Trust Fund records and pipeline database. Feasibility studies, financial/economic analyses, safeguards reviews. Approved project designs and funding proposals. Project documentation, financing agreements, and CWFPF reports. Records of private sector participation (equity, debt, co-financing).	Assumption: Eligible institutions request support and demonstrate capacity to implement projects. Risk: pipeline generation slower than anticipated due to regulatory, institutional, or technical bottlenecks. Mitigation: close coordination with ADB/UNIDO country programming, technical assistance for pipeline origination, and early engagement of financiers. **Assumptions:** Private sector appetite exists for CWP investments when risks are properly mitigated. **Risk**: Low investor confidence due to regulatory uncertainty or long payback periods. Mitigation: Use of risk-sharing instruments, blended finance, and co-investment with development partners.

Output 4.2: At least 12 innovative chemicals management solutions advanced through CWP Seed Venture financing	28. Number of early-stage enterprises supported with catalytic seed funding 29. Share of supported startups integrating gender and social inclusion strategies	Limited availability of dedicated early-stage financing mechanisms for chemicals and waste startups in Asia-Pacific.	At least 12 startups supported (4-5 per year), with seed funding up to USD 400,000 each. Solutions advanced in six thematic areas: green chemistry, circular economy, detoxification, monitoring, agri-chemical risk reduction, and climate–chemicals nexus. 30% of startups women-led, 100% explicitly addressing women, youth, and vulnerable groups at design/impact stage.	28. Number of women, youth, and marginalized entrepreneurs participating in CWP Seed venture calls and consultations 29. At least 20% of CWP Seed sub-program investees are women or youth-led enterprises	CWFPF Seed Ventures program records. Startup investment agreements and progress reports. Monitoring reports of commercial performance and impact metrics via the CWFPF knowledge hub.	**Assumption:** Strong pipeline of early-stage enterprises exists and is willing to engage with CWFPF. **Risk**: Seed ventures fail to scale or attract follow-on investment. Mitigation: Co-investment with regional/local investors, recoverable seed funding mechanism, and capacity support via ADB networks.

Activity 4.1.1 Participate in country programming strategy and indicative pipeline development with ADB's Sector and Thematic Groups, Resident Missions and other offices; as well as with other international and national financing institutions as appropriate.

Activity 4.1.2 Similar to Activity 4.1.1, regularly scan ADB's country programming strategies and indicative pipelines across multiple sectors and countries, and where appropriate identify potential private sector entry points for particular technologies or services. This could also include working in consultation with the Office for Markets Development and Public-Private Partnership (OMDP) as well as Private Sector Operations Department (PSOD).

Activity 4.1.3 In support of the UNIDO Component of CWFPF: i) Help to identify and validate pilot-stage companies or investment vehicles with potential for near-term implementation, ii) Focus on the demonstration / pilot sectors, iii) Highlight high-potential areas of applied research or retrofittable clean production with relevance to treaty chemicals; and iv) Structure co-investment opportunities where CWFPF resources can be matched with private capital

Activity 4.2.1 Stakeholder Alignment. Initial discussions between stakeholders to agree on the CWP Seed objectives, structure, and roles. Seek endorsement from the financing partners.

Activity 4.2.2 CWP Seed sub-program design finalization. Refine program components, selection criteria, and delivery model in collaboration with CWFPF.

Activity 4.2.3 Resource Mobilization. Confirm initial funding allocations and secure co-financing commitments from targeted partners.

Activity 4.2.4 CWP Seed planning and implementation roll out

Activity 4.2.5 After care, monitoring and other services provided for investee enterprises.

Project Component 5: Communications, Knowledge Management, and Learning						
Outcome 5: Integrated Communications, Knowledge Management, Learning and Strategy Implemented	30. Number of communication and knowledge management products, events, and learning exchanges implemented under CWFPF.	Not applicable (CWFPF currently at proposal stage)	A full CKML strategy in place to convey the message of CWFPF objectives and opportunities.		As detailed in the relevant outputs	**Assumptions** CKML strategy will be effective in communicating CWFPF potential and ensure its success. **Risks** Low uptake of knowledge products; insufficient visibility among key target groups challenges in sustaining knowledge hub/e-marketplace beyond project life.
Output 5.1 Communications and visibility plan implemented at operational level	**31. Number of CWFPF branded communications products featuring gender and social inclusion narratives produced and disseminated** through different media **32. Number of high-visibility events conducted** (e.g., policy dialogues, investor roundtables, conferences).	0 products 0 events;	≥30 CWFPF communcation products targeting different stakeholders through various media ≥6 high-visibility events; ≥100% of communication products are gender sensitive and culturally appropriate.	31. Communication materials for knowledge events and products highlight success stories and contributions of women, youth, and communities in waste and chemical innovation. 32. Number of women, youth and vulnerable sectors are aware on the campaigns, events, communication materials	Approved Communications & Visibility Plan; Asset registry/branding logs; Event reports; Web/social analytics; Media coverage.	**Assumption:** timely ADB/UNIDO coordination and steady content pipeline. **Risks:** low engagement, branding inconsistencies. Mitigation: audience segmentation, editorial calendar, QA checks, periodic plan reviews.

				and knowledge products.		
Output 5.2 5.2 KML strategy implemented at operational level	**33. Number of knowledge products developed and disseminated**, of which% include gender-sensitive and socially inclusive content. **34. Number of knowledge-sharing events conducted, of which % of participants from women, youth, and vulnerable groups.**	No CWFPF-specific KML products or events exist (0).	At least **20 knowledge products** produced and disseminated, of which **≥40%** include gender/social inclusion content. At least **12 knowledge-sharing events** held (regional/global), with **≥40% participation by women, youth, and vulnerable groups**.	33. Number of knowledge products that include GESI analysis and showcase community innovation practices. 34. Percentage of participants in CWFPF knowledge-sharing events who are women, youth, or representatives of vulnerable groups	KML plan progress reports. Repository on Knowledge Hub / e-Marketplace. Event participant lists (sex- and group-disaggregated). Published knowledge products (reports, briefs, case studies).	***Assumptions:*** Stakeholders (countries, private sector, CSOs) actively contribute lessons and case studies; digital platforms (hub/marketplace) are functional and accessible. *Risks:* Limited uptake or application of knowledge by decision-makers; challenges in ensuring gender-sensitive data and participation in all regions.

Activity 5.1.1 Implement the Communications and Visibility Plan, which will be subject to periodic review and adjustment.

Activity 5.2.1 Implement the CWFPF KML plan through establishment of learning agenda, creating a suite of knowledge products, and supporting a range of knowledge management channels

GESI indicators

Component 6: Monitoring and Evaluation						
Outcome 6 Performance monitoring and evaluation system implemented	35. Performance monitoring and evaluation system for CWFPF established and operational.	N/A	Comprehensive M&E system established and operational, including reporting on technical, financial, gender, and social inclusion indicators.	35. Require funded projects to report on gender outcomes and social benefits and not just technical and financial results.	See details as per relevant output below.	**Assumptions** Participating institutions and projects comply with M&E requirements; reliable data can be collected and reported. **Risks** Inconsistent reporting quality; delays in submission of M&E data; weak

						integration of gender/social inclusion in monitoring; insufficient capacity to sustain system after project closure.
Output 6.1 Project performance monitoring system in place	36. Monitoring system including evaluation guidelines implemented and operational. 37. Number CWFPF-TF reports against agreed M&E indicators, including gender/social inclusion. 38. Number of CWFPF Executive committee and CWFPF Advisory committee meetings held	N/A	Monitoring system including evaluation guidelines implemented and operational by Year 1. At least 10 CWFPF-TF reports produced over the project cycle (semi-annual reporting, including gender and social inclusion). Quarterly Executive Committee meetings and annual Advisory Committee meetings convened over the project cycle.	36. CWFPF M&E framework integrates gender and social inclusion indicators aligned with GEF and ADB standards 37. Gender and social inclusion indicators are in the M&E framework.	Approved M&E Plan and operational monitoring system. CWFPF-TF semi-annual technical and financial reports. Meeting minutes of CWFPF Executive Committee and Advisory Committee. Public dashboard on Knowledge Hub / e-Marketplace.	***Assumptions:*** Fund Operations Manager enforces compliance; committee members actively participate; projects can provide sex-disaggregated and inclusive data. ***Risks:*** Weak data quality or delays in reporting; insufficient participation in committee meetings; gender/social data not consistently collected.
Output 6.2 Mid-Term Review and Terminal Evaluation conducted	**39. Mid-term review completed** (Y/N). **40. Terminal evaluation completed** (Y/N).	N/A	Mid-term review conducted by Year 3. Terminal evaluation completed by project closure in line with GEF requirements.	39. Midterm review and terminal evaluation captured how gender and inclusion goals were achieved including institutional capacity to sustain inclusive practices.	Independent evaluation reports (MTR and TE). GEF, ADB and UNIDO evaluation tracking system records.	***Assumptions:*** Evaluations conducted by independent qualified experts and findings integrated into implementation. ***Risks:*** Delays in review timelines; limited uptake of evaluation

	40. Adjustments to project design and operations ensured that the CWFPF evolves as a gender-responsive and socially inclusive financing mechanism.	recommendations.

ANNEX D: STATUS OF UTILIZATION OF PROJECT PREPARATION GRANT (PPG)

Provide detailed funding amount of the PPG activities financing status in the table below:

Project Preparation Activities Implemented	GETF/LDCF/SCCF Amount ($)		
	Budgeted Amount	Amount Spent To date	Amount Committed
International Consultant - International Advisor on Chemicals and Waste (ADB)	26,500.00	109.20	26,500.00
International Consultants- Private Sector Finance Advisor (ADB)	7,467.00	7,352.00	7,467.00
International Consultants - Knowledge Management and Communications Specialist (ADB)	53,217.00	8,297.95	53,217.00
International Consultants - Gender, Indigenous Peoples, and Social Safeguards Specialist (ADB)	35,300.00	19,700.00	35,300.00
International Consultants to draft UNIDO Annex and advise on technical interventions (UNIDO)	20,650.00	5,287.53	5,287.53
International consultant to draft safeguard documents for UNIDO	20,000.00	11,847.42	11,847.42
International consultant to draft gender documents for UNIDO	12,000.00	10,227.52	10,227.52
National consultants in the Philippines, Vietnam and Thailand to conduct baseline (UNIDO), including travel	60,000.00	55,006.92	56,679.34
Trainings, Workshops, Meetings (including Travel) - ADB Stakeholders Meetings and Workshops	15,166.00	790.00	2,321.00
Trainings, Workshops, Meetings (including Travel) - UNIDO Stakeholder meetings	20,000.00	3,959.37	3,959.37
Trainings, Workshops, Meetings (including Travel) - UNIDO HACT assessments	5,000.00	4,493.68	4,493.68
Total	**275,300.00**	**127,071.59**	**217,299.86**

ANNEX E: PROJECT MAP AND COORDINATES

Please provide geo-referenced information and map where the project interventions will take place

Location Name	Latitude	Longitude	GeoName ID
Philippines	13.40882	122.56155	

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Thailand	15.5	101	

Location Description:

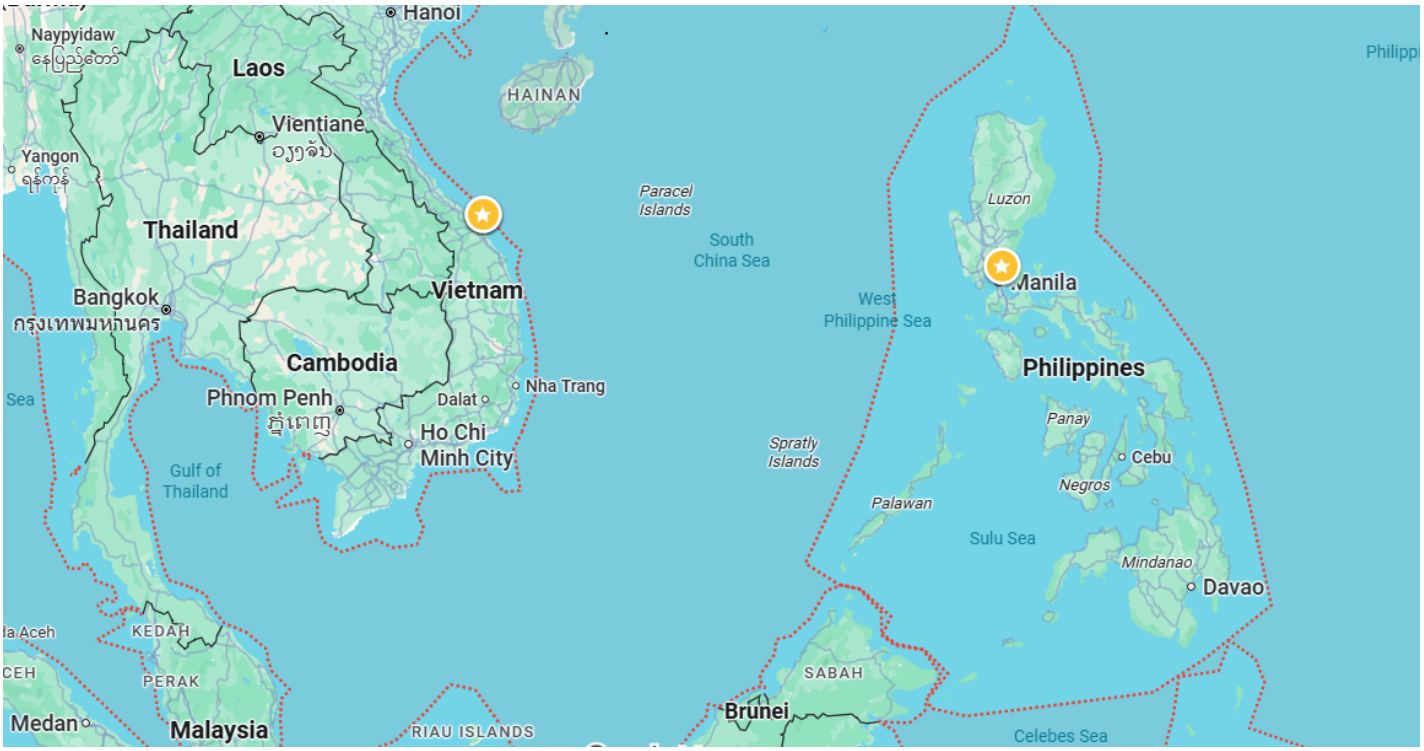
Activity Description:

Location Name	Latitude	Longitude	GeoName ID
VietNam	16.16667	107.83333	

Location Description:

Activity Description:

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



Source: Google Maps

ANNEX F: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

Attach agency safeguard datasheet/assessment report(s), including ratings of risk types and overall project/program risk classification as well as any management plans or measures to address identified risks and impacts (as applicable).

Title
26-05-25 REVISED CWFPF Environmental and Social Management Framework Consolidated
25-12-19 ANNEX F CWFPF Environment and Social Management Framework consolidated

ANNEX G: BUDGET TABLE

Please upload the budget table here.

Appendix A: Indicative Project Budget Template

Expenditure Category	Detailed Description	Component (USDeq.)									Sub Total (USDeq.)	Sub Total (USDeq.) ADB	GRAND TOTAL	Responsible Entity

		Component 1	*Component 2*	*Component 3*	*Component 4*	*Component 5*	*Sub-Total (UNIDO)*	*Sub-Total (ADB)*	*M&E*	*PMC*	**UNIDO**		**ADB & UNIDO**	(Executing Entity receiving funds from the GEF Agency)[1]
		UNIDO	***ADB***	***ADB & UNIDO***	***ADB***	***ADB & UNIDO***			***ADB & UNIDO***	***ADB & UNIDO***				
Goods	Laptops and software peripherals		-	-	10,000	10,000	-	20,000	-	-	-	20,000	20,000	ADB
	Materials and software for conferences, PPE for national site visits, document printing (PEEs/UNIDO) (details in budget Appendix 3 and also in Annexes' J, K and L)	11,000	-	18,000	-	5,000	34,000	-	-	-	34,000	-	34,000	Contracted parties by UNIDO
SUB TOTAL		**11,000**	**-**	**18,000**	**10,000**	**15,000**	**34,000**	**20,000**	**-**	**-**	**34,000**	**20,000**	**54,000**	
Grants/ Sub-grants	Investment Readiness Support for Sovereign Lending and Investment Projects		-	-	8,240,000	-	-	8,240,000	-	-	-	8,240,000	8,240,000	ADB
Revolving funds/ Seed funds / Equity	Private Sector Seed Venture Investment Grant Funds		-	-	8,000,000	-	-	8,000,000	-	-	-	8,000,000	8,000,000	ADB
SUB TOTAL		**-**	**-**	**-**	**16,240,000**	**-**	**-**	**16,240,000**	**-**	**-**	**-**	**16,240,000**	**16,240,000**	
Contractual Services – Individual	Graphics and Design Artist		-	-	-	110,000	-	110,000	-	-	-	110,000	110,000	ADB
Contractual Services – Company	Operations and maintenance of knoweldge hub and e-		-	500,000	-	-	-	500,000	-	-	-	500,000	500,000	ADB

	marketplace													
	Audio-visual production		-	-	-	223,000	-	223,000	-	-	-	223,000	223,000	ADB
	Contractual services – companies specific to the 3 country interventions, including local Policy Research and Documentation Firm, Training and communication services, Cement-sector consulting firm, Manufacturing sector consulting, Contractual services for execution of the pilot projects, Consulting firm to provide training on financial bankability, including project design and networking, Consulting firm to prepare KM package, Contract for techncial studies in the textile sector, Consultancy with experience on E-	352,000	-	5,593,125	-	215,000	6,160,125	-	-	-	6,160,125	-	6,160,125	PEE contracted parties in 3 countries bu UNIDO

	waste and circular economy (PEEs/UNIDO) (details in budget Appendix 3 and also in Annexes' J, K and L)												
SUB TOTAL		**352,000**	**-**	**6,093,125**	**-**	**548,000**	**6,160,125**	**833,000**	**-**	**-**	**6,160,125**	**833,000**	**6,993,125**	
International Consultants	Senior Chemicals Management Specialist		-	20,000	120,000	40,000	-	180,000	-	-	-	180,000	180,000	ADB
	Monitoring and Evaluation Specialist		-	-	-	-	-	-	100,000	-	-	100,000	100,000	ADB
	Private Sector Finance Advisor		-	25,000	60,000	25,000	-	110,000	-	-	-	110,000	110,000	ADB
	Knowledge Management and Leaning Specialist		-	100,000	-	100,000	-	200,000	-	-	-	200,000	200,000	ADB
	International consultants supporting/specific to the 3 countries, including Chemical & waste expert, Environmental Policy & Financing expert, Expert on POPs, mercury and COC reduction technologies in industrial processes, Expert on waste management, treatment and recycling technologies, EEE repair and E-waste recycling expert, Environmental & Social	125,000	-	194,002	-	-	319,002	-	-	-	319,002	-	319,002	Contracted parties by UNIDO

	Impact Expert- (PEEs/UNIDO) - (details in budget Appendix 3 and also in Annexes' J, K and L))													
SUB TOTAL		**125,000**	**-**	**339,002**	**180,000**	**165,000**	**319,002**	**490,000**	**100,000**	**-**	**319,002**	**590,000**	**909,002**	
Local Consultants	Mapping and Deal Origination Specialist		-	-	125,000	-	-	125,000	-	-	-	125,000	125,000	ADB
	Investment Care Specialist		-	-	125,000	-	-	125,000	-	-	-	125,000	125,000	ADB
	Media Relations Officer		-	25,000	-	85,000	-	110,000	-	-	-	110,000	110,000	ADB
	Gender, Environment an Social Safeguards Specialist		-	20,000	100,000	-	-	120,000	-	-	-	120,000	120,000	ADB
	CWFPF Technical Associate		15,000	25,000	45,000	25,000	-	110,000	-	-	-	110,000	110,000	ADB
	Monitoring and Evaluation Specialists		-	-	-	-	-	-	150,000	-	-	150,000	150,000	ADB
	National consultants (UNIDO) National consultants specific to the 3 countries such as Manufacturing sector expert, Building and cement sector Expert, National expert on Chemical & Waste policy and financing, Gender & Stakeholders Management expert, Knowledge Management Consultant, , National	517,000	-	820,000	-	180,000	1,517,000	-	-	324,500	1,841,500	-	1,841,500	Contracted parties by UNIDO

	project coordinator, National admin and financial assistant (PEEs/UNIDO) - (details in budget Appendix 3 and also in Annexes' J, K and L)													
SUB TOTAL		**517,000**	**15,000**	**890,000**	**395,000**	**290,000**	**1,517,000**	**590,000**	**150,000**	**324,500**	**1,841,500**	**740,000**	**2,581,500**	
Salary and benefits / Staff costs	Fund Operations Manager		-	-	-	-	-	-	-	734,000	-	734,000	734,000	ADB
	Administration and Finance Analyst		-	-	-	-	-	-	-	220,000	-	220,000	220,000	ADB
SUB TOTAL		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**954,000**	**-**	**954,000**	**954,000**	
Trainings, Workshops, Meetings	Trainings, workshops and meetings		-	85,000	200,000	200,000	-	485,000	-	-	-	485,000	485,000	ADB
	workshops and conferences (UNIDO) workshops and conferences specific to national workshops/trainings on the country-specific interventions (PEEs/UNIDO) - (details in budget Appendix 3 and also in Annexes' J, K and L)	135,000	-	106,373	-	-	241,373	-	-	75,000	316,373	-	316,373	
Travel	**International**		-	20,000	55,000	75,000	-	150,000	-	-	-	150,000	150,000	ADB
	Domestic		-	2,000	12,000	20,000	-	34,000	-	-	-	34,000	34,000	ADB
	Travel specific to the 3 country-specific interventions (PEEs/UNI	60,000	-	125,000	-	-	185,000	-	-	13,500	198,500	-	198,500	UNIDO and contracted parties

	DO) - (details in budget Appendix 3 and also in Annexes' J, K and L)													
SUB TOTAL	**SUB TOTAL**	**195,000**	**-**	**338,373**	**267,000**	**295,000**	**426,373**	**669,000**	**-**	**88,500**	**514,873**	**669,000**	**1,183,873**	
Other Operating Costs	**…**		-	-	-	-	-	-	-	-	-	-	-	
	Misc/audits for the 3 countries (PEEs/UNIDO) - (details in budget Appendix 3 and also in Annexes' J, K and L)		-	-	-	-	-	-	-	17,500	17,500	-	17,500	UNIDO
	Mid-term review and terminal evaluation (UNIDO M&E)		-	-	-	-	-	-	150,000	-	150,000	-	150,000	UNIDO
SUB TOTAL	**SUB TOTAL**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**150,000**	**17,500**	**167,500**	**-**	**167,500**	
GRAND TOTAL		**1,200,000**	**15,000**	**7,678,500**	**17,092,000**	**1,313,000**	**8,456,500**	**18,842,000**	**400,000**	**1,384,500**	**9,037,000**	**20,046,000**	**29,083,000**	

[1] In exceptional cases where GEF Agency receives funds for execution, Terms of Reference for specific activities are reviewed by GEF Secretariat

	Total
UNIDO	9,037,000
ADB	20,046,000
	29,083,000

Please explain any aspects of the budget as needed here

Please see 26-05-25 Appendix 3 REVISED UNIDO Demonstration Sub-project Detailed Budgets

ANNEX I: RESPONSES TO PROJECT REVIEWS

From GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF.

ANNEX I: Response to STAP Review

STAP COMMENTS	ADB/UNIDO RESPONSE
1. Overall, the project rationale could be made more explicit. There were instances when it was difficult to understand the points being made. For example, it is difficult to understand this paragraph on page 13: "Long term public health costs, reduction in national cognitive ability with resulting productivity losses, natural capital value increase of the remediated systems, real estate value increase, bio-diversity regeneration and its contribution to overall natural system health, public utility cost reduction, resource availability, climate change adaption and mitigation, climate change resilience, and economic development driven by innovative technology mobilization."	We agree. Thank you for this comment. In the course of the project development stage, we clarified the project rationale and removed some unclear sentences like the one cited in your comment. The project rationale is now anticipated in in the summary, and detailed along the CEO-ER section. The CWFPF will be an operational platform designed for strategic, multi-focal, multi-stakeholder and long-term cooperation to deploy technical expertise and channel resources effectively for Chemicals and Wastes programs and/or projectsThe facility aims to put a "chemicals and wastes pollution" (CWP) lens - which is currently missing - on certain types of investments, including existing ADB pipelines. To do so, the project will undertake a policy review and development of urban-level strategies to identify and remove barriers and increase capacity on C&W management; pilot upstream and downstream quasi-commercial initiatives in specific sectors to measure their environmental, financial and social sustainabiliy (in one word, their bankability); apply the CWP lens to sovereign and private pipelines, by supporting the development of six C&W large project and by establishing seed financing to promote innovative technologies (already identified at CEO-ER stage, but to be further verified ad project implementation). The above flow of actions will be strengthened and propagated through a a policy hub and 'e-marketplace' to stimulate demand and support transactional information flows.
2. Systems thinking: the proposal's rationale highlights some of the root causes and challenges of chemical management, including the lack of regulatory enforcement and governance, insufficient technical capacity and knowledge gaps, inadequate and sustainable financing, complexity of global supply chains, low public awareness of risks from hazardous chemicals, and resistance of the chemical industry. However, a deeper systems analysis was not done, likely because the project itself is broad and the specifics, such as the location of specific interventions, are not yet determined. It is essential that a systems analysis be done for each project pipeline after the Financing Partnership Facility has been established and operational.	ADB: This is noted. The purpose of the facility for sovereign and also private sector projects is to add a "chemicals and wastes lens" to the way in which individual projects are conceptualized, designed and implemented. The facility itself will support such systems analysis depending on the context of each specific project being considered for support. UNIDO: For the pilots under component 3, UNIDO is aiming to implement pilots in the following countries and sectors: the Philippines: textiles; and EPP. Vietnam: POPs-containing products, and cement Thailand: Electronics. As part of UNIDO's PPG activities, systems analysis were carried out for each country, resulting in three specific country annexes, including baseline, alternative scenario and project description
3. Uncertain futures were not discussed, possibly due to the same reason above. However, the systems analysis for specific projects should consider the drivers of change, such as economic and population growth, technological readiness (e.g., for elimination strategies,	A scenario analysis based on 4 scenarios has been developed and attached to the CEO-ER document as a separate annex, while the conclusions have been placed in the main text, at the end of the project rationale section.

chemical alternatives), climate change, etc., and how these drivers could change in the future. This will be essential for developing robust solutions that remain valid in different plausible futures.	4 scenarios were considered: 1. Business-as-Usual: Fragmented progress, weak enforcement, informal sector dominates. 2. Green Growth Push: Selective action, private sector engagement, uneven progress. 3. Crisis-Driven Transformation: Urgency sparks reform, systemic change, global standards. 4. Policy Stagnation Amid Crisis: Inertia persists in spite of environmental crisis, CWFPF enables pockets of progress The scenario analysis has been based on the evolution of the following main drivers: **Governmental Attitude:** The degree of political will and regulatory enforcement toward chemicals and waste management, ranging from reactive and inconsistent to urgent and comprehensive. **Financial Resources beyond CWFPF**: The availability and allocation of public and private funding for environmental projects, from scarce and short-term to significant and targeted. **Technical Capacity:** The strength of local and regional expertise in monitoring, enforcement, and innovation, from uneven and inadequate to rapidly expanding. **Pollution Trends**: The trajectory of chemicals and waste pollution, from worsening and unchecked to dramatically reduced through systemic action. **External Drivers:** The influence of climate change, resource depletion, population growth, and economic pressures on environmental decision-making. War, geopolitical conflicts or extreme economic collapse were not considered in the analysis as it is assumed that these events would substantially disrupt the CVFPF operating environment. Based on this Scenario Analysis, **CWFPF remains relevant in all scenarios**, but its role and focus would adapt to the context: • In Business-as-Usual (scenario 1), it is a catalyst for change. • In Green Growth Push (scenario 2), it accelerates and coordinates action. • In Crisis-Driven Transformation (scenario 3), it scales and standardizes solutions. • In Policy Stagnation (scenario 4), it acts as a cushion, enabling reform where possible. The main drivers for the relevance of CWFPF are

	Governmental attitude: The more proactive governments are, the more CWFPF can leverage its multi-stakeholder platform. **Financial resources:** CWFPF's ability to de-risk investments and mobilize blended finance is always valuable. **Technical capacity**:.The knowledge hub and e-marketplace become even more critical as technical needs grow Cross-cutting themes: Gender and social inclusion must be integrated into all scenarios to ensure equitable outcomes. **Transboundary cooperation** is essential, especially in Asia, as pollution does not respect borders Furthermore, a systems analysis for specific projects has been carried out in the country annexes developed for the 3 pilot countries, outlining the main drivers of changes and assessing how these drivers could change in the future.
4. Objectives – The project's objective, "to establish a dedicated finance facility to support investments in chemicals and waste pollution reduction…" is clear and justified. This will be a unique and possibly innovative financing solution that could be replicated and scaled if successful.	Noted
5. Theory of Change (ToC) – The proposal presents a theory of change diagram supported by narratives. The ToC contains several expected elements showing the causal pathways to achieving targeted impact. However, some of the logical connections toward achieving project objectives and the underlying assumptions could be strengthened. For example, what is the justification that increased policy coherence and enforcement capacity will unlock investment potential to address C&W problems – how are policy coherence and enforcement linked to finance? Also, what is the basis for the assumption that private and public institutions are willing to support the enabling environment for establishing a C&W finance facility, and what happens if the assumption does not hold? Furthermore, it is unclear how "knowledge sharing and guidance on strategies for CWP investment" is an assumption. Also, the proposal needs to align the assumptions listed as bullet points on page 21 with those included in the ToC diagram. On the list on page 21, more explanation is required to understand the meaning of "specialized products such as sustainability-linked loans or policy-based loans to assist governments". Will such loans	We agree and, as suggested, Theory of Change, including a new illustration, has been expanded during the PPG stage: 1. Any investor knows that policy misalignment, inefficient or slow judicial systems, and unclear procedures act as significant disincentives for investment. They also create a breeding ground for corruption and illegal environmental practices 2. In general, when policies across different sectors (e.g., health, environment, industry) are aligned, they provide a clear framework for businesses and investors. For example, consistent rules on chemical management reduce the risk of conflicting regulations that could disrupt investments. 3. Often the market for disposal services of hazardous waste does not take off because the liability risk for non-compliance is too low (i.e. penalties much lower than ESM cost). 4. Many countries have ratified international conventions related to chemical or waste, however the transposition in the national law is absent or ineffective, therefore breaking the rules envisages by such conventions bring no consequences, and therefore no investment to implement such conventions will take place. 5. The procedures for the issuance of environmental permits is often cumbersome or too

assist governments or leave them with greater debts requiring repayment solutions? Other questions that need clarification in the project logic include how inconsistent policies are a barrier to the treatment of waste or implementation of less hazardous chemicals; what is the logic that addressing policy inconsistencies will strengthen the decisions of financial institutions; why does the lack of monitoring data present a barrier to the funding of C&W projects; how will demonstration projects alleviate the barrier of low capacity of public/private institutions? Overall, the ToC needs to be further strengthened to ensure a logical pathway and robust assumption to achieve the project outcome. The STAP theory of change primer can be a helpful guide when revising the ToC.	long, with the result that informal (and unsafe) management of waste prevail over formal, which requires higher investment. 6. Policy coherence and enforcement reduce the 'free rider' problem where some businesses bypass environmental regulations to cut costs (the case of “informal” waste manager for instance). This levels the playing field, encouraging ethical investors who prefer markets where compliance is the norm. 7. A coherent policy framework and reliable enforcement make it easier to structure partnerships between governments and private investors. This is particularly important in sectors like waste management, where infrastructure projects often require co-financing. 8. It is absolutely evident why the lack of effective monitoring data presents a significant barrier to funding C&W projects. Monitoring is essential for identifying and measuring the extent of problems, such as PCB contamination or the presence of POPs in plastics. Without data demonstrating the existence and severity of an environmental problem, why would any investor be willing to undertake investments to address it? 9. In the case of POPs, investments in environmental monitoring and product oversight have unfortunately been neglected. As a result, contamination by certain POPs has often been discovered too late, by which point it had become so serious and widespread that only massive investments could address it (e.g., the PCB inventory challenges in many countries). 10. On the “assumption that private and public institutions are willing to support the enabling environment for establishing a C&W finance facility” that will be further confirmed at PPG stage. 11. Concerning the “specialized products such as sustainability-linked loans or policy-based loans to assist governments”, these will be further clarified at PPG stage to verify and prevent any unacceptable financial risk for the governments. 12. Demonstration projects offer tangible evidence that certain approaches work, reducing uncertainty for institutions that may lack the confidence or expertise to implement them independently. Furthermore, demonstration projects are needed to identify country-specific technological solutions, measure costs, verify the regulatory requirements to implement and scale up certain technological approaches. In other words, they can showcase feasible solutions tailored to specific contexts, making it easier for institutions to adopt and scale these models.
6. Project Components Component 1. Decision-making frameworks for chemicals and waste pollution (CWP) investment. There is a need for more clarity on this component, including the timeline of expected outputs. For example, which jurisdiction is being targeted? Are the expected outputs (e.g., addressing policy barriers, capacity building, urban/peri-urban strategies) going to be pursued after a country seeks to access the facility, or would it be done for all countries that could access the	Component 1: Expected outputs are going to be pursued for the countries having pilot projects. Outputs 1.1.-to Outputs 1.3 have been expanded to address the following: This output will support the identification and removal of policy and financing barriers to effective Chemicals and Waste (C&W)

facility at the onset of establishing it? On the criteria for identifying beneficiaries/partners (page 22), does it mean that potential beneficiaries/partners that do not have the institutional and technical capacity to evaluate waste management needs… (criteria 4) or have systems in place for data collection and curation… (criteria 5) will not be able to benefit? Would that be justifiable, especially since these are issues that the project should help potential beneficiaries address and capacity development is part of the project activity Output 1.2? • Output 1.1 is a "comprehensive policy review of national and subnational policies related to C&W management." What is the scope of this ambitious activity? How will a "policy harmonization plan" be developed that respects jurisdictional authority but promotes policy coherence within a level of government? How will providing incentives or EPR schemes increase the availability of funds for waste management, etc.? (p24). How will mapping finance policy help to promote policies such as allocating a percentage of national environmental funds for local-level C&W projects? • Output 1.2. What is the scope of assessing the capacity of local authorities to implement and enforce C&W policies? • Output 1.3. What is the scope for "all targeted urban/peri-urban areas"? The activities are highly ambitious, if not unrealistically ambitious of "conducting a comprehensive baseline/assessment of existing urban/peri-urban sustainability strategy" and the "development/update of sustainability strategies, which will include specific goals, targets, and indicators for effective C&W management, especially related to hazardous waste management, pollution, and international chemicals conventions." (p25). Many goals and targets already exist but cannot be met, not because the goals are lacking but because of a lack of capacity and financial resources. • Output 1.4. Again, the activities described are extremely ambitious and do not appear to draw on lessons learned from other programs. For example, how will this program enable "GEF support to address the key barriers to transformation and understanding the drivers of environmental degradation," such as reducing single-use items for consumption? How will this project "look at measures to rebuild materials supply and waste management chains to incorporate materials recovery"? (p26) Component 2. Establish CWFPF – chemicals and wastes financing partnership finance facility that entails building a model for governance, institutional arrangements, and operating modalities. It is positive that these activities will	management at national and sub-national levels. A comprehensive review of existing policies will be conducted to identify gaps, overlaps, and inconsistencies, followed by stakeholder consultations—including government agencies, industry, women's organizations, and indigenous representatives—to map practical challenges and inform strategy development. In the pilot countries (Philippines, Viet Nam, Thailand), policy fragmentation remains a key barrier. Responsibilities for hazardous chemicals, solid waste, and sector-specific by-products are spread across multiple agencies, creating overlaps, gaps, and unclear guidance. This fragmentation limits local authorities' ability to access financial resources and implement coherent waste management, disproportionately affecting women and marginalized groups. To address this, the project will develop a harmonization plan to integrate C&W frameworks across national and local levels, ensuring coherent legal responsibilities and inclusive, gender-responsive approaches. It will also review financing mechanisms—including Extended Producer Responsibility (EPR) schemes, market-based instruments, and incentives for circular economy investments—to enable sustainable cost recovery and support local authorities in s

build on “key lessons from past and ongoing partnership financing facilities” (p30). Such learning will be essential for success. GEF funds would be used to develop and promote the CWFPF, e.g., through road shows, demonstrations, and investor round tables. More details and logic of how these uses of GEF investment will help mobilize resources, and evidence that these are productive strategies, should be presented when the project is further developed.	Output 1.4, Has been removed and integrated into work described under Outcome 4.
Component 3. Line up “investment ready” projects for financing, which involves conducting feasibility studies/pilot projects in the selected five sectors/issues. The activity includes grading each potential investment, presumably relying on developing a “traffic light” grading system that was not described. Output 3.1 includes activities intended to promote the circular economy through education and case studies but does not include major technological impediments to circularity, such as the complexity plastics which curtails the ability for recycling (unless down-cycing is included but even that is insufficient to stem the load of waste plastics).	Component 2: Noted. Resource mobilizations efforts have actually been started, notably with donor countries which are GEF Council members, as well as interactions with various private sector financiers. Kindly refer to the Communications, Knowledge Management and Learning Strategy, as well as the Private Sector Engagement Strategy for more information.
The thorough monitoring and evaluation of GEBs from pilot/demonstration projects is expected to inform future scalability and replication (page 31). However, monitoring and evaluation of GEBs will not be sufficient for replication, scaling, and, ultimately, the type of systems transformation expected through this project. Other factors are necessary, including sociocultural factors, e.g., behavior change, capacity, finance, multi-stakeholder engagement, etc. Hence, STAP encourages the proponent to conduct a rigorous analysis of how scaling can be achieved, including developing a dedicated theory of change for scaling and transformation through the project. Pilot/demonstration projects • Electronics (p16). Pilot and commercial plants already exist for the safe dismantling of electronics. How will this support re-using used ICT components without engaging with ICT product manufacturers? Also, note that to our knowledge, mercury is no longer part of the back-lighting system of new computer displays. • Buildings (p16). How will efforts to reduce GHG emissions, carbon footprint, etc, in the building sector interface with existing initiatives? • Environmentally persistent pharmaceuticals and new POPs/Hg chemical additives in products (p17) have the problem description but lack examples of solutions. The possibility of a “green chemistry” innovation is necessary but insufficient to enable a transition in the market-place.	Component 3: This is noted. On the ADB side, as indicated in the main endorsement narrative there will be selection criteria by which investments in both sovereign and private sector projects will be supported. Governance arrangements, for example including an investment screening committee, will be established for robust assessment on ‘grading’ each potential project. As part of ADB’s internal requirements for such funds, “Implementation Guidelines” will be prepared, and on a case by case basis, domain experts consulted to assess the scientific and technical merits of each investments – much along the lines of the STAP comment. The pilot projects under the CWFPF are explicitly designed as pre-commercial, system-level verifications—not merely technology demonstrations aimed at achieving GEB. Their core objective is to fully demonstrate and measure environmental, financial, and social sustainability, ensuring that each intervention is bankable, replicable, and transformative at scale. For this reason, rather than developing “technological annexes” to this CEO-ER,

	a “country annex” fundamentally replicating the sections of a full CEO-ER document was developed for each country hosting CWFPF pilots (i.e. Philippines, Thailand and Vietnam) Each pilot will: Verify Systemic Viability: Test not only the technical feasibility of solutions but also their integration into local regulatory, financial, and sociocultural contexts. This includes assessing behavioral adoption, institutional capacity, and multi-stakeholder engagement—critical factors for scalability. Measure Holistic Impact: Quantify Global Environmental Benefits (GEBs) alongside financial returns, social inclusion (e.g., gender equity, youth employment), and institutional readiness, using these metrics to refine the theory of change for scaling. Develop Scaling Pathways: For each pilot, a dedicated scaling strategy will be co-created with stakeholders, identifying: 1. Financing mechanisms (e.g., blended finance, revolving funds, or ESG-linked instruments). 2. Policy and regulatory enablers (e.g., harmonized standards, EPR schemes, or tax incentives). 3. Capacity-building needs (e.g., training for local governments, private sector, and CSOs). 4. Behavioral and cultural levers (e.g., community engagement, awareness campaigns, or incentive structures). By treating pilots as pre-commercial 'system proofs', the CWFPF ensures that scaling is evidence-based, context-adaptive, and transformative—not just technically feasible, but also socially embedded, financially viable, and institutionally supported. As said above, the pilot projects have been outlined in the three specific country Annexes, in summary for the following: **Philippines:** **Expired Pharmaceuticals:** Finalization of design for household/community collection and hospital-based waste minimization pilots, including confirmation of sites, collection and transport systems, treatment upgrades, and standard operating procedures. Site preparation will cover permits, infrastructure mobilization, and staff training. Gender measures will ensure safe, accessible collection points and inclusive training for female health workers, pharmacists, and community representatives, with occupational safety tailored to gender-specific risks. **Textiles**: Technical design of the upcycling facility and related interventions, including waste flow mapping, machinery layout, supply chain logistics, and training modules. Preparations will include readiness assessments, installation planning, and policy alignment. Gender mainstreaming will ensure

	women's access to training and supervisory roles, attention to ergonomic safety, and inclusiveness for women in informal or small-scale operations. **Thailand:** Detailed training schedule for EEE repairers will be developed. Furthermore, detailed engineering and operational plans will be developed for both repair/refurbishment and collection/urban mining pilots. This will include environmental and social safeguards, technical specifications, and workflows for safe POPs handling, worker protection, and waste tracking. Site preparation will cover permitting, partner agreements, and infrastructure upgrades to enable safe and effective pilot rollout. **Viet Nam:** **Cement sector**: Technical design will focus on operational trials with existing equipment (e.g., dust shuttling, fuel substitution, kiln optimization) rather than large-scale capital investments. Preparatory steps include raw material and fuel characterization, baseline stack testing for mercury and CO_2, and design of monitoring protocols. Staff training will ensure women engineers and laboratory staff are actively engaged. **POPs in Manufacturing:** A competitive mechanism will be launched to select 1–2 enterprises, followed by finalization of technical designs for substitution of POPs. Preparations will include eligibility criteria, call for proposals, applicant screening, and technical support for design refinement. At selected sites, process audits, baseline POPs monitoring, and preliminary equipment designs will be conducted. Gender-responsive measures will ensure outreach to women-led SMEs and training formats that encourage female staff participation in implementation.
Component 4. Invest in C&W pollution reduction/elimination projects. The list of criteria for choice of projects is comprehensive and connects to enabling elements and the overall goal of the project, e.g., innovation and scalability.	Component 4: Noted. Please see ADB comment above on selection criteria, governance and implementation guidelines.
Component 5. It is good that the project has a dedicated component for knowledge management, learning, and communications, which will be embedded in the key project outcomes.	

7. Stakeholders: the proposal shows that several stakeholders have been engaged, and a more detailed stakeholder analysis will be carried out at the PPG stage. We encourage that stakeholder engagement should also include Indigenous Peoples and local communities (currently, the proposal did not provide an answer as to whether they were consulted). Their perspective will be beneficial for implementing some of the interventions in the project.	Kindly refer to: 1) Stakeholder Consultation Matrix, 2) Stakeholder Engagement Strategy. During PPG it was challenging to consult with specific IP groups, however as noted above in the criteria for screening of each investment on the ADB C&W trust fund side, these types of consultations and considerations will be required – and will be specific to the type of project. For example a mining project may be more strict about IP engagement, whereas an urban-based waste infrastructure investment less rigorous if there are no IP groups inhabiting a project area.
8. Gender: it is commendable that the proposal includes gender-specific indicators for most project components. The proposal also presents gender dimension information that focuses not only on the impacts on women but also on how they can be agents of change in the targeted sectors. STAP encourages the proponent to follow through in ensuring that the gender perspective is considered as the project is further developed and during implementation. As a small point, clarification is needed when describing women's participation in the textile industry, where that industry has 60% women in the work force (p 52).	Please refer to the overarching Gender Equality and Social Inclusion Action Plan, which also includes country / sub-project specific gender and social inclusion elements. We believe that this is a well prepared and robust preparation to support the project.
9. Contribution to GEBs: the estimate of expected GEBs is presented and supported by an annex containing GEBs calculation notes. It is realistic that if the facility is successful, it has the potential to generate significant GEBs. However, the value of the GEBs can only be ascertained as countries, sub-national governments, and other beneficiaries/partners access the products and capabilities of the facility. Some specific details are included (e.g., replacement of MCCP in electronic cables (evaluation of the safety of replacements?) and reduction/substitution of HBCDDD in EPS insulation (not used in PU insulation) in Viet Nam) without adequate explanation to judge the veracity of the estimates. STAP encourages the proponent to follow good practices for each sector in estimating GEBs as project pipelines are being developed.	GEB estimates have been made based on the indicative ADB Seed Ventures pipeline (refer to relevant appendices), where some data is available. Given that the ADB sovereign pipeline is indicative it is not possible for attributable estimates to be made. However, during implementation, where specific sovereign (and private sector) investments are prepared, it is anticipated that GEBs will be significant. On the UNIDO demonstration sub-projects. More detailed estimates were conducted. These are limited to POPs - a reverse calculation of the GEBs based on the allocated financial resources, and the cost for POPs avoidance or disposal coming from other benchmark GEF projects has been carried out. The STAP guidance is appropriate. During implementation, good practices for GEF estimations will be established and applied on a sector / sub-sector basis.
G10. Policy coherence: ensuring policy coherence is one of the main components of the proposal. Given that the interventions in the proposal will cut across diverse economic sectors and different levels of government, it is	We take note of the STAP guidance paper on policy coherence. We see two main entry points. First at the 'facility" level, where policy coherence will be a key element of the knowledge hub and e-marketplace.

essential that the program prioritizes actions to ensure policy coherence across all of the sectors. This will require engaging the different actors and ensuring that different government ministries are engaged in targeted countries. The proponent is encouraged to review the STAP paper on policy coherence in the GEF for guidance on how to address policy coherence across the project cycle.	The CWFPF may indeed support specialized studies for certain classes of products or chemicals which will explore such issues as policy conflicts, cross-subsidies, incentive mechanisms etc. Secondly at the project investment level, where "whole of government" approaches will be encouraged, and policy coherence will become a required element (ie in the selection criteria) where possible.
11. Innovation: The project will promote innovation in financing mechanisms and is expected to embrace technological innovation through demonstrations/pilots. Given that innovation tends to be more risky, STAP encourages the proponent to conduct a risk assessment in line with the new GEF Risk Appetite Framework to put in place appropriate measures to address the possible risk of failure. Also, the proponent should consider how the innovation will be scaled if successful. As advised earlier, it is recommended that the proponent consider developing a theory of change for innovation and scaling of the interventions. Further, on technological innovation, the proposal mentioned AI and digital solutions in the project rationale but did not adequately follow through on their potential application in the project components. STAP encourages the use of 5 digital and other technologies to be based on a rigorous assessment, including cost and benefits analysis, to avoid unintended consequences.	Please see response below under "Risk" Also, all available tools and methods will be deployed as part of the CWFPF operations, including digital and AI to the extent possible.
f12. Risks: the risk table will require significant revision. Currently, it does not specify the specific risks to the project but only mentions what the proponents (ADB and UNIDO) will do. It is unclear why they would do what they have proposed if the risks were not mentioned. It is also essential that the risk table is completed in line with good practice. The project should seek to address major challenges, such as the risk of extreme events and fragile or conflict situations impacting the project outcomes, through the project components. The risk table should be used to address the risks that may still occur despite good project design, and the appropriate mitigation measures for these risks should be included. Please refer to STAP's upcoming information note on "clarifying risk in GEF projects," which will be listed in the publication section of STAP's website.	STAP guidance is duly noted and appreciated. For the UNIDO-supported sub-projects initial risk assessments have been carried out. More information on each demonstration sub-project is contained in the detailed appendices for each country and sector. Rapid risk assessment has been undertaken at the level of the CWFPF as indicated in the relevant table. Furthermore, the proposal itself has been subject to internal ADB review, where risk, as financial institution, is always considered. Risks of different kinds will be assessed at the project investment level with some level of rigour – as part of the selection and review criteria. Moreover, "learning from failure" will be considered within the knowledge and learning parts of the project. It should be noted, that in recent GEF Council consultations on the matter of "risk appetite" some members have encouraged Agencies to consider taking more risk,
Specific points to be addressed, and suggestions	
Overall, this project has significant potential, although its impact depends on the financing facility's effectiveness. STAP recommends that the proponent review and address all of the points raised in Section 2 above. Other considerations as the proposal is developed further	ADB and UNIDO are grateful for STAP review and would welcome continued engagement through the implementation.

include: Consider the likelihood of identifying and recovering pollution costs from responsible parties (p 13) The proposal should avoid balancing the cost of pollution management, often borne by society because those costs are externalized by producers, with tools that could help with pollution management (p 13). The proposal should provide clarity in several of the text and words used, especially in the project rationale section. For example, statements such as "legacy pollution, whilst typically not presenting a dynamic risk" (p13) should be clarified. The proposal should also be "fact-checked" as several assertions are questionable (e.g., current use of PBDEs in textiles, current use of mercury in computer screens, use of HBCDD in polyurethane foam, that reducing POPs (i.e., PFAS) in textiles involves "minor process change", that bioplastics are a preferable choice to conventional plastics and will not have adverse impacts on food production).	Given the unique nature of the project, due care and diligence will be taken both on the structure and strategy for the facility (which will benefit from both GEF and ADB policy and practice). The project preparation process – all elements including the main proposal and specific country sub-project proposals - has benefitted from the inputs of an international chemicals management specialist to ensure technical veracity.

Project Components

As shown in the Theory of Change (ToC), there will be a number of technical project components: (i) Decision making frameworks for CWP investments; (ii) Chemicals and Wastes Financing Partnership Facility (CWFPF), (iii) Investment Readiness for the finance facility, and (iv) Investments in C&W pollution reduction / elimination projects, both public and private sector, v) Knowledge management, learning and communications strategy and vi) a workstream on Performance Monitoring and Evaluation (PM&E) will facilitate efficient implementation and marking of key indicators.

Component 1: Decision making frameworks for CWP investments

Outcome 1: National/sub-national governments and financial institutions' decision making on CWP investments strengthened.

This outcome, led by UNIDO and with inputs from UN Environment UNEP will strengthen the foundational elements of the CWFPF in terms of national and sub-national CWP government and other institutions decision-making on CWP-focused programs and projects through addressing policy barriers, providing capacity-building

and, developing urban/peri-urban sustainability strategies, which will led to drafting the preliminary CW investment framework.

The following criteria will be used to identify national, regional, city and municipal government beneficiaries / partners:

- Demonstrated commitment to environmental sustainability and pollution reduction. This would include policies, legal frameworks, regulations, strategies and action plans
- CWP has significant and measurable adverse effects on the quality of environmental health (e.g. biodiversity and ecosystems services, air, water, soil etc.) in the project area(s)
- Significant health issues which are traceable to chemicals and wastes root causes in the project area(s)
- Institutional and technical capacity to evaluate waste management needs, design systems and manage / sustain project interventions and encourage innovation in policy, processes or technology as part of a broader framework of investment priorities
- Basic systems in place for data collection and curation with respect to CWP, including commitments under Stockholm (and Basel) Conventions, NIPs, etc
- Potential for transition to nature positive investments to create new business opportunities, 'green growth' etc
- Opportunities for regional cooperation on transboundary CWP issues
- Complement CWP interventions with broader risk management, particularly with respect to climate change and disaster preparedness, prevention and response
- Clear pathways to leverage financing (Capex, Opex, etc) by crowding in investments, creating revenue streams
- Equitable participation and fair access to benefits for women and vulnerable groups.
- Demonstrable political will, community stakeholder support (including women and vulnerable groups), and private sector presence.

Output 1.1 Policy barriers on C&W management, including considerations of policy inconsistencies and coherence at national and sub-national level, identified and strategies to address the barriers developed

Under this output, actions will be undertaken to identify and address policy barriers related to the management of Chemicals and Waste (C&W) and its financing investment at national and sub-national level, including the comprehensive review of existing policies to identify inconsistencies, gaps, and overlaps. Following a wide range of stakeholder consultations, including with government agencies, industry representatives, women's organizations, and indigenous community representatives, about the perceived policy barriers, practical challenges and barriers faced in the implementation of C&W policies—especially related to the financing landscape—points in the current policy landscape to address the barriers will be mapped out, followed by strategy development.

Similarly to many other countries, in the pilot countries, policy fragmentation remains a major barrier to effective chemicals and waste (C&W) management. In the Philippines, responsibilities for hazardous chemicals, solid waste, and sectoral by-products such as textile and pharmaceutical waste are spread across Department of Environment and Natural Resources (DENR), Department of Health (DOH), Food and Drug Authority (FDA), Department of Trade and Industry (DTI), and Local Government Units (LGUs), resulting in overlaps and gaps—for example, expired medicines lack clear national take-back guidance while textile waste is often misclassified at the local level. In Viet Nam, inconsistencies between national strategies on industrial emissions, climate, and circular economy and their implementation at the provincial level hinder coherent

regulation, with the cement sector lacking mercury emission standards and licensing for waste-derived fuels fragmented across agencies. In Thailand, the absence of a dedicated e-waste law leaves responsibilities dispersed among PCD, DIW, and municipalities, while informal recyclers continue to operate outside formal oversight. Across all three countries, such fragmentation prevents local authorities from fully accessing financial resources or implementing consistent waste management measures, even where national commitments and standards exist, with women and marginalized groups often most affected by weak service delivery.

To address this, a comprehensive policy review of national and sub-national policies related to C&W management will be conducted to identify inconsistencies, overlaps, or conflicting regulations that inhibit the mobilization of financial resources. This will entail engaging with government agencies, local authorities, and industry players to understand the practical challenges they face in navigating these inconsistent policies. Creating a policy harmonization plan that integrates C&W management frameworks across national and local levels will support in ensuring coherence and streamlining of legal responsibilities, while ensuring gender-responsive and inclusive approaches in policy design.

Another significant barrier preventing local authorities from addressing C&W issues is the difficulty in accessing dedicated financing mechanisms. In the Philippines, policies such as RA 6969 and RA 9003 set standards for hazardous and solid waste, but do not provide clear financing pathways for LGUs to manage pharmaceutical or textile waste. Local governments often lack eligibility to tap into national environmental funds, while mechanisms like EPR are still at pilot stage or limited to few sectors (most often, packaging) or not yet institutionalized. In Viet Nam, although national strategies on circular economy and climate change highlight the need for green financing, cement plants and manufacturing SMEs face limited incentives to invest in cleaner technologies, and provincial authorities lack direct access to international funds. In the Thai context, municipal authorities such as BMA manage hazardous household waste collection but have no sustained financing mechanism to scale up e-waste collection; the absence of an enacted WEEE/EPR law leaves them dependent on short-term budgets and voluntary corporate programs.

The lack of robust EPR schemes across all three countries prevents effective cost recovery and leaves local authorities to shoulder the burden of hazardous waste management with limited resources. In the Philippines, no EPR exists for pharmaceuticals or textiles; in Viet Nam, only draft schemes are being considered for packaging and electronics; and in Thailand, the draft WEEE Act has yet to be adopted. Similarly, the absence of broader market-based instruments—such as pollution taxes, incentives for recycling, or tax breaks for cleaner technologies—further limits financial flows into waste infrastructure and safe disposal. Reviewing the applicability of EPR and other incentive mechanisms in these specific contexts, and adapting them to national and local realities, will be a key focus of the project, with attention to the participation of women-led enterprises and indigenous producers in circular economy models.

Identifying the current financial instruments available for C&W management, both domestically and internationally, and assessing the barriers that local authorities face in accessing these resources (e.g., eligibility criteria, complex application processes, lack of technical capacity) will support in finance policy mapping. This mapping will form the baseline for the development of policy recommendations that create explicit financial channels for local authorities, such as allocating a percentage of national environmental funds or international climate finance specifically for local-level C&W projects. Working with local authorities to enhance their ability to navigate complex financing structures and support the development of proposals that meet the criteria for national and international financing is also key, especially to ensure that women-led and indigenous community initiatives can access these resources.

The absence of clear policies that promote circular economy models—such as reusing, recycling, and reducing hazardous chemicals—represents a significant policy gap. While many international frameworks advocate for circular economy practices, these models are often not embedded in national or sub-national regulations, limiting opportunities for financing projects that reduce chemical waste or transition to more sustainable materials. Analysis of existing policies and identification of gaps where circular economy models can be integrated into national and local regulations is envisaged

Gender indicators for output 1.1:

- Percentage of policy roadmaps that include gender-responsive and socially inclusive provisions and commitments.
- Number of women and vulnerable groups actively engaged in national and sub-national policy consultation processes

Activity 1.1.1: Comprehensive Policy and Regulatory Review
This activity will conduct in-depth policy and regulatory reviews in the pilot countries to identify inconsistencies, gaps, and opportunities to strengthen chemicals and waste management frameworks.

- **Philippines – Textile sector:** Review of environmental, trade, and waste regulations related to textiles, focusing on correcting misclassification of textile waste, enforcing restrictions on illegal imports, and assessing options for Extended Producer Responsibility (EPR). Special attention will be given to chemical-intensive textile processes (e.g., PFHxS, PFOA), promotion of local natural fibers, and incentives for circular economy models.
- **Philippines – Pharmaceuticals**: Systematic review of laws and policies governing pharmaceutical waste (RA 6969, FDA guidelines, DOH protocols), identifying overlaps and gaps between national regulations and local implementation. The review will also assess missing guidance on household pharmaceutical waste, take-back and EPR schemes, environmental standards including lab methods, and environmentally persistent pharmaceuticals such as antibiotics and endocrine disruptors.
- **Thailand – EEE/E-waste:** Review of regulations governing electronic equipment and e-waste, with emphasis on EPR frameworks, hazardous substances controls, and alignment with Thailand's Bio-Circular-Green (BCG) model. Financing mechanisms for green production and recycling will be assessed to support SME engagement and compliance with global standards.
- **Viet Nam – Cement sector**: Review of policies on industrial emissions, waste-derived fuels (WDF), and mercury/U-POPs control in the cement industry. Gaps include the absence of emission standards for mercury, fragmented licensing for WDF use, and limited incentives for low-carbon cement production.
- **Viet Nam – POPs avoidance in manufacturing**: Review of regulations covering POPs and their substitutes in manufacturing sectors (paints, foams, plating, textiles, plastics) and import restriction and control of POPs as such and in products. The analysis will also focus on consistency with Stockholm and Minamata Convention obligations, and coherence with circular economy policies.

Activity 1.1.2: Multi-Stakeholder Consultative Workshops
Workshops will convene key government, private sector, and civil society stakeholders to validate policy gaps, exchange experiences, and build consensus on feasible solutions.

- Philippines – Textile sector: Workshops will engage DOST-PTRI, PhilFIDA, ERDB, LGUs (e.g., Taytay, Baguio), garment manufacturers, recyclers, and advocacy groups. Discussions will focus on policy inconsistencies, textile waste segregation, circular economy opportunities, and regulation of hazardous textile chemicals. Special emphasis will be placed on supporting women-led enterprises and sustainable local fiber production, with targeted efforts to strengthen women's participation in decision-making processes.
- Philippines – Pharmaceuticals: Stakeholder consultations will bring together DENR, DOH, FDA, healthcare providers, pharmaceutical companies, Treatment, Storage and Disposal (TSD) facilities, and NGOs. The workshops will validate regulatory gaps, highlight good practices (e.g., hospital take-back systems), and discuss EPR schemes for unused medicines. They will also foster dialogue between national regulators and LGUs for better coordination in pharmaceutical waste management, with attention to gender-responsive healthcare practices and safe disposal campaigns that reach women caregivers.
- Thailand – EEE/E-waste: Workshops will convene regulators (PCD, Department of Industrial Works (DIW), MONRE), municipalities, electronics manufacturers, recyclers, junk shop associations, and NGOs. Key topics will include regulatory coherence, challenges in informal sector integration, financing for SMEs, and consumer participation in take-back programs. Inputs will guide the design of policies and investment measures aligned with Thailand's BCG model, ensuring inclusion of women workers from the informal recycling sector in policy dialogues.

- Viet Nam – Cement sector: Multi-stakeholder discussions will bring together MOIT, MONRE, provincial authorities, cement associations, and industrial partners. The focus will be on aligning industrial emission controls, WDF co-processing regulations, and climate commitments, while addressing gaps such as mercury standards and fragmented licensing frameworks, with efforts to ensure women's voices are represented in community-level consultations around emission and health impacts.
- Viet Nam – POPs in manufacturing: Consultative workshops with industry associations, SMEs, research institutions, and regulatory agencies will examine gaps in POPs regulation, substitution challenges (e.g., MCCPs, PFAS), and alignment with circular economy priorities. Participants will help define practical strategies for phasing out POPs and scaling up safer alternatives, while promoting equal opportunities for women researchers, SME owners, and workers to contribute to the transition.

Activity 1.1.3: Strategy Development and Policy Harmonization Roadmap

Each country will prepare a roadmap to close policy gaps, harmonize national and local regulations, and provide actionable steps for chemicals and waste (C&W) management in the target sectors. All roadmaps will also include gender-responsive provisions and specific commitments safeguarding the rights and participation of indigenous peoples.

- Philippines – Textile sector: The roadmap will propose integrating textile waste into national EPR framework, regulating hazardous chemicals in production, and providing incentives for sustainable practices such as natural fiber production and upcycling. It will define roles and responsibilities for LGUs, DOST-PTRI, EMB-ERDB, and industry associations, ensuring better coordination across governance levels.
- Philippines – Pharmaceuticals: The roadmap will harmonize fragmented regulations on pharmaceutical waste, focusing on clear national guidelines for expired medicine returns, proposing EPR schemes, and strengthening EMB's capacity to monitor pharmaceutical residues. It will also propose coordination mechanisms between DOH, DENR, and FDA to ensure consistent implementation.
- Thailand – EEE/E-waste: The strategy will outline a coherent policy framework linking the draft WEEE Act, hazardous waste regulations, and EPR schemes with financing mechanisms. It will include recommendations for integrating informal recyclers, generating job opportunities, scaling consumer take-back systems, and aligning with Thailand's Bio-Circular-Green (BCG) economy model.
- Viet Nam – Cement sector: A roadmap will be prepared to align policies on emissions, alternative fuel co-processing, mercury management, and climate targets. It will recommend introducing mercury emission standards, streamlining licensing for co-processing of non-hazardous waste derived fuels, and creating incentives for low-carbon cement production.
- Viet Nam – POPs in manufacturing: The roadmap will identify actionable steps for phasing out POPs (PFOS, SCCPs, HBCDD, etc.), managing substitutes (e.g., MCCPs, PFAS), and supporting SMEs with safer alternatives. It will also align with Viet Nam's Stockholm and Minamata commitments and circular economy strategies.

Output 1.2. Capacity building at national and sub-national levels on policy formulation and implementation conducted.

Even where sound policies exist, weak institutional capacity and lack of enforcement often prevent their effective implementation. Local governments may not have the administrative or technical resources to enforce regulations or engage effectively with national financing mechanisms, resulting in missed opportunities for addressing C&W issues.

Activity 1.2.1 Training on Environmental Financing Tools and Mechanisms, including Extended Producer Responsibility (EPR)

To start with, an assessment of the capacity of local authorities to implement and enforce C&W policies—particularly regarding technical know-how, administrative capabilities, and financing—will be conducted.

This output will focus on enhancing the skills and knowledge of relevant stakeholders at the national and sub-national level involved in policy formulation and implementation related to Chemicals and Waste (C&W) management, with a focus on financing investments. Tailored capacity-building programs for local authorities to enhance their capacity to implement, enforce, and fund C&W management programs, including how to effectively engage with national financing schemes and international donors, will be developed and implemented, including the following:

- Organization of workshops and training seminars at both national and sub-national levels to educate stakeholders on the principles and practices of effective policy formulation and implementation, covering topics such as policy analysis, regulatory frameworks, strategic planning, stakeholder engagement, and monitoring and evaluation. Gender-sensitive facilitation methods will be applied to ensure active participation of women and underrepresented groups.
- Development of training materials and guidelines tailored to the needs of different stakeholders involved in C&W management. This could also be e-learning modules and online courses to provide flexible learning opportunities for participants, as well as exchange of best practices in other countries. Training content will explicitly integrate gender considerations and promote inclusive practices.
- Stakeholder engagement and collaborative training with various interest groups, including government and private sector, to ensure a common beneficial understanding of potential Chemical and Waste financing investments and its roadmaps for policy formulation and implementation procedures. Engagement will explicitly include women's organizations and indigenous community representatives

Activity 1.2.2: Development of Strategy Frameworks for Chemicals and Waste (incl. Financial Aspects)

Frameworks will integrate financial, regulatory, and institutional measures to ensure long-term sustainability of C&W management in each sector.

- Philippines – Textile sector: Develop a strategy framework embedding costed investment plans for textile recycling hubs, incentives for natural fibers and non-toxic dyeing, and EPR-based financing for collection and segregation. Include financing pathways for Micro, Small, and Medium Enterprises (MSMEs) (loans, grants, blended finance), with clear institutional responsibilities (DENR, DOST-PTRI, LGUs). Framework will also address gender inclusivity by ensuring women-owned enterprises access financial schemes.
- Philippines – Pharmaceuticals: Co-develop a national framework for pharmaceutical waste management integrating EPR schemes, household take-back systems, and financing options (e.g., health budgets, donor support, green bonds). Define roles for DOH, FDA, DENR, LGUs, and TSD operators. Include costed models for logistics and disposal, and provisions for gender-sensitive occupational health measures.
- Thailand – EEE/E-waste: Establish a financing framework to operationalize the forthcoming WEEE/EPR law, with models for producer fee collection, clearinghouse design, and integration of informal collectors. Include investment plans for scaling formal recycling plants, PPP models for e-waste collection, and alignment with the Bio-Circular-Green (BCG) economy agenda. Emphasis on green finance instruments and SME access to concessional loans.
- Viet Nam – Cement sector: Develop a strategy framework for financing mercury and Green House Gas (GHG) reduction measures in cement plants, including WDF substitution, dust shuttling, and PAC injection. Costed investment pathways will consider carbon credits, green bonds, and tax incentives. Framework will define coordination roles of MOIT, MONRE, and provincial governments, and outline mechanisms to attract private co-finance for low-carbon / low mercury cement.
- Viet Nam – POPs avoidance in manufacturing: Prepare a framework to finance POPs substitution in paints, plating, foams, plastics, and textiles, aligned with Stockholm/Minamata commitments. Framework will include investment models for cleaner technologies, pooled procurement of alternatives, SME credit access, and targeted subsidies for high-risk subsectors. Responsibilities of VINACHEMIA, MONRE, and industry associations will be clearly defined, with mechanisms for gender-responsive financing.

Gender indicators for Output 1.2:

- Number and percentage of women and men participating in training workshops and capacity building activities.

- Training materials, case studies and e-learning modules are gender-responsive and socially inclusive content.

- Number of women-led and vulnerable groups organizations (including youth, indigenous peoples, and other underrepresented sector) engaged in policy and capacity-building activities.

Output 1.3 **Urban/ peri-urban level sustainability strategies developed/ updated**

Under this output, the development and updating of urban and peri-urban sustainability strategies will focus on integrating effective Chemicals and Waste (C&W) management practices into broader sustainability agendas. The aim is to ensure that C&W management becomes a central component of practical, holistic urban and peri-urban sustainability planning.

Activities under this output will include a comprehensive baseline assessment of existing sustainability strategies, with identification of key environmental, economic, social, and gender-related challenges linked to C&W management and investments. Stakeholder engagement will involve urban/peri-urban authorities, businesses, communities, women's organizations, and other groups to foster inclusive collaboration and share best practices. These activities will lead to updated sustainability strategies that set specific goals, targets, and indicators for effective C&W management, particularly concerning hazardous waste, pollution, and obligations under international chemicals conventions. The strategies will also embed gender-responsive provisions to ensure that women, youth, and differently abled persons can actively participate in decision-making and benefit equitably from sustainability outcomes.

Gender indicators for Output 1.3:

- Number of women and vulnerable sectors participating in strategy development and updating processes.

- Strategies explicitly integrate the concerns of women, youth, and vulnerable groups.

- Number of actions in urban/peri-urban strategies that promote increased participation of women in C&W management initiatives.

Activity 1.3.1: Urban–Peri-Urban Sustainability Assessments and Needs Mapping

- Assessments will identify local waste flows, environmental risks including gender specific ones, and infrastructure gaps to inform tailored sustainability strategies.

- Philippines – Textile sector: Conduct assessments in hubs like Taytay and Baguio to map textile waste flows from production and post-consumer streams. Document informal sector involvement, illegal dumping, and risks from untreated chemical discharges. Evaluate LGU and enterprises' capacity for collection, segregation, and recycling, forming the basis for local sustainability strategies, with attention to gender-specific health risks among women workers in textile recycling and informal enterprises.

- Philippines – Pharmaceuticals: Assess urban centers such as Quezon City, Davao, and Baguio for household, pharmacy, and hospital pharmaceutical waste generation. Identify gaps in segregation, take-back points, and disposal through TSD facilities. Analyse financing needs of LGUs and infrastructure bottlenecks, with special attention to residues of antibiotics and endocrine disruptors in local water bodies, and assess differentiated exposure risks for women caregivers and health workers.

- Thailand – EEE/E-waste: Map e-waste generation hotspots in Bangkok and other cities, covering flows from households, businesses, and imports. Assess the distribution between informal and formal recycling,

quantify risks from unsafe dismantling (open burning, acid leaching), and evaluate the current reach of municipal collection points. Identify gaps in integration of informal actors, municipal financing, and licensed recycling capacity, while mapping gender-differentiated health impacts on women concentrated in informal dismantling roles.

- Viet Nam – Cement sector: Assess urban and peri-urban areas near major cement production hubs to evaluate mercury and GHG emissions from kilns, including their impact on local air quality and waste streams. Analyse availability of WDF, their technical characteristics, potential tariff schemes, local infrastructure for segregation and pre-treatment, and provincial monitoring capacity. Map risks of co-processing poorly segregated waste streams containing POPs or heavy metals, including possible disproportionate exposure of women and vulnerable groups in nearby communities.

- Viet Nam – POPs in manufacturing: Conduct assessments in selected industrial clusters producing paints, foams, plating products, plastics, and textiles. Map POPs-containing inputs and waste streams, storage practices, and disposal routes. Identify infrastructure gaps for safe alternatives, challenges faced by SMEs, and risks of informal disposal. Assess local regulatory enforcement and capacity to pilot POPs-free processes, with attention to gender-specific risks faced by women in low-paid sorting and cleaning roles

Activity 1.3.2: Multi-Stakeholder Strategy Co-Development Workshops

Workshops will bring together government institutions, private sector actors, local authorities, civil society, and women's organizations to co-develop sustainability strategies tailored to each sector and country context, ensuring balanced gender participation.

- **Philippines – Textile sector**: Stakeholders will define localized strategies to improve textile segregation and collection, support upcycling and circular design enterprises, enhance informal sector inclusion, and raise awareness among producers and consumers.
- **Philippines – Pharmaceuticals**: Local health offices, hospitals, pharmacies, and waste operators will collaborate on strategies for expired medicine take-back, awareness campaigns, and improved coordination with national regulatory frameworks.
- **Thailand – EEE/E-waste:** Consultations will align municipalities, recyclers, manufacturers, and informal workers on strategies to strengthen collection networks, integrate informal actors into formal schemes, and scale public awareness initiatives.
- **Viet Nam – Cement sector:** Workshops will engage industry, regulators, and technical experts in developing strategies to reduce mercury emissions, improve dust shuttling and fuel substitution, and harmonize with climate and pollution policies.
- **Viet Nam – Manufacturing (POPs):** Stakeholders will co-develop strategies for phasing out POPs, promoting safer substitutes, and ensuring regulatory alignment with Stockholm and Minamata commitments.

Activity 1.3.3: Technical Support for Integrating Chemicals and Waste Management and Financing Models into Urban/Peri-Urban Strategies

Technical assistance will help local governments embed chemicals and waste management into their urban and peri-urban sustainability plans, with tailored financial and operational models for each sector.

- **Philippines – Textile sector:** Support will focus on integrating textile waste and chemical risk reduction into local solid waste and development plans. This will include cost–benefit analyses for recycling infrastructure, identification of financing mechanisms, and drafting of local ordinances for segregation, chemical reduction, and support to circular textile enterprises.

- **Philippines – Pharmaceuticals:** Assistance will guide LGUs in mainstreaming pharmaceutical waste management into local health and waste strategies, including feasibility analyses for collection and disposal systems, ordinances on segregation, and financing options to sustain take-back programs and safe disposal.
- **Thailand – EEE/E-waste:** Technical support will strengthen municipal e-waste systems by embedding collection and recycling targets into urban waste strategies, assessing financing pathways (e.g. EPR schemes, PPPs), and ensuring formal–informal sector integration for sustainable scaling.
- **Viet Nam – Cement sector:** Local authorities and industry will be supported in incorporating mercury and GHG reduction measures into development plans, including cost–benefit analyses of dust shuttling, sorbent injection, and alternative fuel substitution, aligned with climate and pollution strategies.
- **Viet Nam – Manufacturing (POPs):** Assistance will focus on integrating POPs phase-out strategies into industrial planning, with attention to financial mechanisms for cleaner production, incentives for safer substitutes, and alignment with national circular economy policies.

Component 2: Chemicals and Wastes Pollution Partnership Finance Facility
Outcome 2: <u>Chemicals and Wastes Financing Partnership Facility (CWFPF) established</u>

Led by the Asian Development Bank (ADB), this outcome will operationalize the institutional, governance, and financial architecture of the CWFPF. It will define the Facility's structure, strategy, and operating modalities, including eligibility and selection criteria for investments, and create the legal and administrative foundations for its trust fund. Through structured consultations and analysis of comparable facilities, the CWFPF will adopt transparent governance arrangements, a multistakeholder Steering Committee, and thematic working groups ensuring balanced participation, including gender and social inclusion considerations. Parallel efforts will focus on partnership development and resource mobilization to attract multilateral, bilateral, private, and philanthropic financing. The establishment of the Chemicals and Wastes Trust Fund (or similar mechanism) within ADB will anchor these mechanisms, ensuring long-term institutional sustainability and coherence with GEF and ADB policies. An illustration of the general structure and flow is provided below.

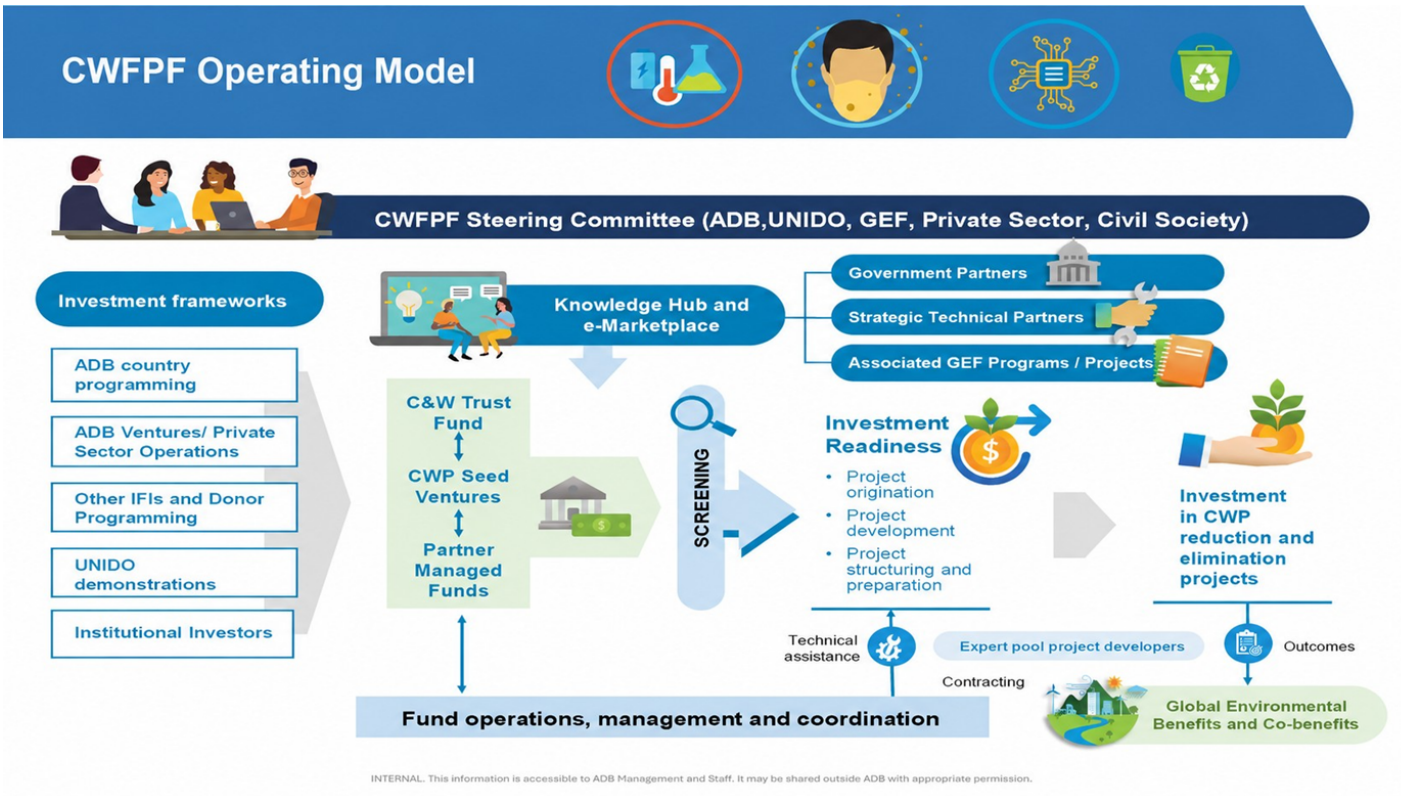


Figure 2: ***Proposed CWFPF Operating Model***

Output 2.1 **Governance, institutional arrangements, structure / strategy and operational modalities for finance facility developed, including eligibility and selection criteria**

This output will be achieved through the following actions:

Activity 2.2.1 – Development of Resource Mobilization and Partnership Strategy. Design a structured strategy to attract contributions and partnerships for the CWFPF, mapping potential partners across public, private, and philanthropic sectors. The strategy will define value propositions, engagement modalities, and communication messages aligned with GEF, ADB, and UNIDO objectives.

Activity 2.2.2 – Implementation of Branding and Visibility Actions. Develop and disseminate targeted communication materials—digital briefs, presentations, and multimedia products—to enhance the visibility of CWFPF among prospective donors and investors. These materials will highlight the facility's impact potential and gender-inclusive approach, minimizing reliance on print media.

Activity 2.2.3 – Organization of Partnership and Investor Outreach Events. Plan and conduct a series of partnership events—such as road shows, investor round tables, and matchmaking sessions—to promote the CWFPF, mobilize co-financing, and showcase investible project opportunities, in coordination with BRS Secretariats and strategic partners.

Activity 2.2.4 – Integration of Gender and Social Inclusion in Resource Mobilization. Ensure gender equality and social inclusion principles are reflected in partnership criteria, funding calls, and communication materials. Track and report on the share of mobilized resources and partnerships that explicitly support women-, youth-, and community-led initiatives in chemicals and waste management.

Under this output, potential guidelines and criteria for expanding partnerships with existing financing facilities will be drafted, based on assessments and consultations with existing Partner-Managed Funds (PMFs).

Within ADB a partner-managed fund[1][7] is one for which ADB's roles and responsibilities as a trustee may diverge from those for regular trust funds because the governance arrangements, financing modalities and/or due diligence requirements are tailored to meet the development objectives of the Trust Fund (TF) concerned and/or requirements of the relevant financing partner. In a PMF, the financing partner may be part of the TF's governance structure (e.g., Board of Directors of the TF).

For purposes of this project, below are some characteristics of PMFs as envisioned under the CWFPF, and as also informed from ADB prior experience with TFs:

a) PMFs are distinct from the proposed CWFPF Trust Fund (or similar mechanism), in legal and/or financial sense

b) PMFs can be independently governed by another agency / partner, or include ADB in the governance arrangements

c) Objectives of the PMF are aligned with CWFPF

d) PMFs are operationally distinct, and provide grants and/or technical assistance, but may also deploy other types of non-grants instruments, in addition to a number of other value added services

e) CWFPF has agreement with the PMF secretariats and fund managers on sharing of information and building on synergies and comparative advantages, and

f) Association with PMFs within the CWFPF allows for greater synergies, coordination, sharing of knowledge and information and collaborative financing opportunities.

Examples:

#1 Cities Development Initiative for Asia (CDIA) https://cdia.asia/

Multi-donor trust fund administered by ADB, with support from the Governments of Austria, Germany, the Republic of Korea, Spain and Switzerland. The vision of CDIA is "an improved quality of life and sustainability in secondary cities of Asia and the Pacific." Its mission is to help cities develop bankable infrastructure projects and link them to financing mechanisms, especially public-private partnerships and blended finance modalities. Guiding principles include identifying bankable and investment-ready projects, responding to secondary cities' needs, aligning with global agendas, and building on CDIA strengths.

The Trust Fund has identified three pathways to accomplish its goals: i) Building capacity to help secondary cities make wise investments in line with the new realities of climate change, ii) Increasing collaborations through networks and partnerships to support longer-term strategic and Paris Agreement-aligned investments; and iii) Assisting cities to combine and structure project financing in such a way as to be attractive for private sector participation and that reflect blended financing modalities that are increasingly becoming the norm.

Opportunity: i) tightly aligned fund management teams, ii) sharing of deal origination and pipeline activities and information, iii) joint financing of single or coordinated project preparation initiatives to inform investment project(s), iv) joint knowledge products, and v) donor coordination where relevant.

#2 City Climate Gap Fund https://www.citygapfund.org/

Implemented by World Bank and European Investment Bank (Bank) in partnership with the Deutsche Gesellshaft fur international Zusammenarbeit (GIZ) and others. The Global Covenant of Mayors for Climate and Energy (GCOM) provides technical assistance and facilitation services for the fund. The Gap Fund supports cities in developing and emerging countries transitioning towards low-carbon and climate-resilient pathways by providing early-stage technical assistance. GCOM and its partners, provide technical assistance to formulate city climate strategies, analyse key actions, promote improved coordination among key stakeholders, and support the preparation of projects from planning and strategy development to project concept and pre-feasibility stage.

Opportunity: Alignment with the GCOM and the City Climate Gap Fund would contribute to the CWFPF in the following ways: i) GCOM and its partners could engage with potential clients (likely to be city / sub-national governments upstream, to prepare potential pipeline, ii) GCOM and partners would pre-qualify potential investment opportunities for CWFPF, which could be discussed in a focussed, joint roundtable meeting, iii) GCOM and partners would 'open doors' to continued engagement with key financing institutions which are within their sphere of influence, iv) this could unlock additional financing support for CWFPF, and / or create cross-pollination of potential deals and opportunities for further investments of scale.

#3 Inclusive Climate Action (ICA) Cities Fund https://www.c40.org/what-we-do/raising-climate-ambition/inclusive-thriving-cities/ica-cities-fund/

The C40 Cities Climate Leadership Group (C40) ICA Fund is designed to help cities develop and implement climate projects with equity and inclusion principles at their core. There is no climate justice without social justice, and action at the city level is critical to achieving both.

The ICA Fund builds on the successes of phase one of C40's Global Green New Deal Pilot Initiative. It was launched in response to the unmet needs of cities as they navigate interlinking global crises, aiming to benefit cities by: i) Strengthening existing programmes, policies and projects by making them more equitable and inclusive, ii) Enabling cities to unlock broader, long-term organisational and financial buy-in for inclusive climate action, iii) Providing a platform to showcase cities leading on inclusive climate action.

Opportunity: Association with the C40 and ICA would be very similar to GCOM and City Gap Fund. Opportunities could include: i) Technical and organizational support working with city governments on policies and sustainability strategies (Outcome 1), ii) Providing venues, such as round tables, match-making events, to originate potential deals, iii) Joint knowledge products and dissemination, iv) access to networks of subnational governments and brokering interaction with private sector.

Contribution of PMFs to GEBs:

The dual purpose of clustering a group of 'like-minded' funds together with the CWFPF is to: i) increase awareness of PMFs on the mechanics of using a "CWP lens" and influence a broader range of investment preparation programs to achieving GEBs, and ii) foster synergies, economies of scale and efficiencies in advancing a portfolio of investment programs and projects which have potential to address GEBs at scale.

Gender indicator for Output 2.1:

- Concerns of women and vulnerable sectors are integrated into the strategy and structure of facility.
- Gender and social inclusion criteria are integrated into strategy and operational modality.
- Equal representation of women, men, and vulnerable sector in governance and institutional arrangements.

Output 2.2 **Partnership development and resource mobilization initiatives for finance facility supported**

The GEF funds will contribute to branding and marketing activities to increase awareness and understanding across countries as well as public and private funding institutions and companies. This will include preparation of visibility strategy, marketing collaterals (with reduced reliance on print materials) and support road shows, exhibits and events to target additional financial support / contributions for the FPF. This work will contribute to the proposed "knowledge hub and marketplace".

Activity set 2.2.1 There will be a number of actions, including road shows, demonstrations, investor round tables etc (described below in the "e-marketplace' section) to mobilize additional resources: a) into the Trust Fund, and/ or b) as a 'Partner Managed Fund", or other arrangement. This work will be done in close consultation with the BRS-M Convention Secretariats and be tailored to different types of funding organizations, including:

- Multilateral donors
- Bilateral donors
- City-based organizations (GCOM, ICLEI, C40)
- Private foundations and philanthropies
- Climate and environment impact funds
- Industry associations and NGOs (linked to chemicals, such as Croplife, Alliance to End Plastic Waste)
- Asset managers, venture funds, and
- Others.

The Private Sector Engagement Strategy (in the appendix) also outlines how the project will contribute to this effort.

Gender Indicator for Output 2.2:

- Partnerships secured with donors, private sectors, and NGOs that prioritize gender, equity, and social inclusion outcomes.
- At least 20% of mobilized resources earmarked for women, youth, and socially inclusive C&W projects.
- Gender and socially inclusive innovations featured in at least 50% of marketing materials (e.g. women-led recycling, youth-led plastics innovation, and indigenous peoples' partnerships in reducing Hg)

Output 2.3. Concept Paper and Establishment Paper prepared, approved and C&W Trust fund (or similar mechanism) initiated with Implementation Guidelines

A C&W Trust Fund (or similar mechanism) will be created under ADB's new Trust Fund Guidelines. Among other things, this would require a concept paper supported by an establishment paper, implementation guidelines and contribution agreements with various financing partners.

Some key lessons from past and ongoing partnership financing facilities include: i) importance of clear institutional arrangements between all parties and actors, ii) strong, relatively independent multistakeholder governance system should be put in place, and complemented by fund manager that has relative independence yet accountable, iii) beneficial to separate the 'facility' from the 'fund'[2][8], in the sense that the facility itself has a mandate which can support and enhance the fund operations (e.g. scientific studies, partner engagement, knowledge and learning, etc) and also keep open the possibility of additional trust funds depending on requirements of donors / financiers, iv) eligible investments could be open to opportunities outside ADB (with other financing partners), and v) implementation guidelines should be reviewed periodically and adjustments made from time to time, to adapt to changing institutional or environmental circumstances, or improve efficiency of operations.

Activity 2.3.1 – Preparation of the Concept and Establishment Papers

Develop the Concept Paper and Establishment Paper for the CWFPF Trust Fund (if required) in line with ADB Trust Fund Guidelines, defining objectives, structure, scope, eligibility, and governance, and incorporating the results of stakeholder consultations under Output 2.1.

Activity 2.3.2 – Drafting and approval of Implementation Guidelines

Prepare detailed implementation guidelines for the CWFPF Trust Fund, including fund flow mechanisms, application procedures, monitoring requirements, and risk management measures, ensuring alignment with ADB and GEF standards.

Activity 2.3.3 – Integration of gender equality and social inclusion provisions

Embed gender equality and social inclusion considerations across the Concept Paper, Establishment Paper, and Implementation Guidelines, ensuring equitable participation, protection from risks, and fair access to benefits.

Gender Indicator for Output 2.3:

- Establishment paper, Trust Fund and implementation guidelines are compliant with GEF and ADB gender equality policies and include gender and social dimensions.

- Equitable participation, protection from risks, and fair access to benefits are integrated into the establishment paper and trust fund implementation guidelines.

Component 3. Investment Readiness for the finance facility

Outcome 3. Pipeline of 'bankable' projects for the finance facility identified / validated

Jointly led by ADB and UNIDO, this outcome will build and validate a pipeline of investment-ready projects addressing chemicals and waste pollution across the Philippines, Thailand, and Viet Nam. It will support the identification, design, and demonstration of technically feasible, environmentally sound, and financially viable pilot projects in key sectors such as textiles, pharmaceuticals, e-waste, cement, and manufacturing. Each pilot will test scalable and replicable models capable of delivering measurable Global Environmental Benefits (GEBs) and attracting blended and private finance through the CWFPF. Complementary actions will include establishing a regional policy and knowledge marketplace to connect policymakers, financiers, and innovators, while promoting cross-country learning and replication. Through these efforts, the outcome will strengthen national capacities, foster innovation, and demonstrate pathways for sustainable and inclusive chemicals and waste investments across the participating countries.

Output 3.1: Robust pipeline of investible chemicals and waste projects in selected areas with potential financing institutions, including ADB, create

This output will focus on building a pipeline of technically feasible, environmentally sound, and financially attractive pilot projects across the Philippines, Thailand, and Viet Nam. Each pilot is designed to demonstrate practical solutions to chemicals and waste challenges in priority sectors, while also testing models for scalability, co-financing, and integration into national and regional policy frameworks. The output will ensure that the pilots not only deliver measurable Global Environmental Benefits (GEBs) but also meet the investment-readiness standards of financing institutions such as ADB, thereby strengthening the long-term sustainability of interventions.

- Philippines: Pilot projects will address both textile and pharmaceutical sectors. Initiatives include: i) an integrated pharmaceutical waste management pilot combining household take-back, hospital procurement optimization, and improved treatment and disposal; ii) a textile waste minimization and upcycling pilot in Taytay–Rizal to convert cutting and post-consumer waste into commercial-grade yarn; iii) a natural fibers pilot to promote cleaner production and market development for locally sourced fibers (e.g., abaca, silk, pineapple); and iv) an alternative cross-sector pilot on enzyme-based wastewater treatment targeting persistent pollutants in both healthcare and textile facilities.
- Thailand: Two pilots will be implemented in Bangkok and linked to the national Bio-Circular-Green (BCG) model. The first focuses on expanding repair and refurbishment capacity through training, demonstration shops, and partnerships with global manufacturers to extend product lifespans and reduce e-waste. The second will scale e-waste collection and urban mining systems by upgrading automated collection points, improving dismantling and recycling practices, and maximizing safe recovery of valuable materials and components. Both pilots will undergo bankability assessments to prepare for scaling through concessional or blended finance.
- Viet Nam: Pilot initiatives will address both cement and manufacturing industries. The first will demonstrate mercury and greenhouse gas reductions in cement plants through advanced emission controls and expanded co-processing of waste-derived fuels. The second will support competitive demonstrations of safer alternatives to POPs in priority manufacturing subsectors such as paints, textiles, plastics, plating, and foams, with a focus on co-financing and alignment with Stockholm and Minamata commitments.

Across all three countries, each pilot will undergo pre-screening, feasibility analysis, and structured engagement with financing institutions. This process will ensure technical robustness, environmental and social safeguards, financial viability, and alignment with national development priorities. The result will be a set of bankable pilot models, ready for replication and scaling through public and private finance, including ADB-supported pipelines.

Activity 3.1.1: Country-Led Identification and Pre-Screening of Priority Pilot Projects

At the project outset, each pilot country will refine and confirm priority initiatives in the eligible sectors. The pre-screening will validate technical feasibility, environmental and social benefits, scalability, and financing potential, ensuring alignment with national priorities and the investment requirements of development partners such as ADB.

- Philippines – Textile sector: Pre-screening will focus on a pilot to reduce textile cutting waste and post-consumer textile waste through waste minimization, segregation, and upcycling into commercial-grade yarn, with Taytay–Rizal as a proposed implementation site. An additional pilot on natural fiber production (e.g., abaca, silk, pineapple) will also be assessed for feasibility based on its maturity stage.
- Philippines – Pharmaceutical sector: Screening will target an integrated pharmaceutical waste pilot combining household collection, hospital procurement optimization, and improved disposal. Candidate hospitals may include PGH, UST, and Baguio General Hospital, or alternatives to be assessed. An alternative cross-sector pilot on enzyme-based wastewater treatment may also be considered based on its maturity stage.
- Thailand – EEE and e-waste sector: The selection process will validate a pilot to strengthen e-waste collection and repair systems, enhance environmentally sound recycling capacity, and integrate informal collectors into formal schemes. The pilot will emphasize Bangkok as an initial focus, with replication potential nationwide. E-waste recycling partners will be selected at this stage. Viet Nam – Cement sector: The review will confirm a pilot to demonstrate mercury and GHG emission reduction in cement plants through a combination of raw material management, waste-derived fuel substitution, and improved emission controls. Site selection will consider operational readiness and stakeholder commitment. Viet Nam – POPs avoidance in manufacturing: A competitive selection will identify one pilot enterprise in one subsector such as plating, paints, plastics, or foams willing to pilot POPs-free alternatives. The process will emphasize co-financing potential, technical feasibility, and commitment to sustained POPs reduction beyond the project period.

Activity 3.1.2: Project Structuring and Feasibility Analysis for Selected Pilots

Following pre-screening, selected pilots will undergo detailed structuring and feasibility analysis, covering technical design, environmental and social impacts, financial viability, institutional arrangements, and risk mitigation.

- Philippines – Textile sector: Feasibility analysis will assess inputs, technology requirements, and market demand for upcycled yarn and/or natural fibers, with attention to environmental metrics such as waste avoided and chemical use reduced.
- Philippines – Pharmaceutical sector: Business models will be developed for integrated pharmaceutical waste management, detailing cost structures, infrastructure needs (e.g., take-back logistics, treatment facilities), and potential savings from reduced disposal costs.
- Thailand – EEE and e-waste sector: The analysis will structure a pilot model for scaling repair and collection systems, formalizing informal sector roles, and strengthening recycling facilities. Market potential for recovered materials and financing mechanisms will be assessed.

- Vietnam – Cement sector: The structuring will define technical specifications for raw material controls, waste-derived fuel use, and emission reduction technologies. Economic analysis will include cost–benefit scenarios and financing pathways.
- Vietnam – POPs avoidance in manufacturing: Based also on the proposals received during the competitive selection, feasibility studies will assess substitution options for POPs in subsectors such as paints, plating, and plastics, including technical testing, investment requirements, and operational readiness of selected enterprises.

Activity 3.1.3: Structured Engagement with Financing Institutions (ADB and Others)

Once feasibility analyses are completed, the project will engage with financing institutions to mobilize co-financing and technical support, ensuring pilots are positioned for scale-up.

- **Philippines – Textile sector:** Investment briefs will highlight business models for upcycling facilities or natural fiber production, targeting DFIs and private investors interested in green textiles, prioritizing potential integration of the CWFPF with existing green-financing opportunities.
- **Philippines – Pharmaceutical sector:** Structured dialogues will present integrated waste management pilots to financiers, focusing on public–private partnerships and sustainability of take-back and treatment systems, again with priority toward the integration of the CWFPF model with existing green-financing opportunities.
- **Thailand – EEE and e-waste sector:** Engagement will emphasize scalable models for repair, collection, and recycling, aligning the CWFPF with co-financing opportunities offered by the Thailand's Thailand Bio-Circular Green (BCG) Economy Model - Circular Economy sub-sector.
- **Viet Nam – Cement sector**: Bilateral dialogues will be conducted with financing institution, including VEPF, integrating CWFPF with the objective to ensure the mid-term financial sustainability of to alternative fuel / mercury reduction initatives .
- **Viet Nam – POPs avoidance in manufacturing:** Targeted outreach will present bankable projects for POPs substitution, highlighting co-investment opportunities with SMEs and alignment with international conventions, to ensure that the pilots are positioned not only for successful implementation during the project period but also for replication and scaling through sustained financing and policy support

Gender indicators for Output 3.1: The pilot pipeline will integrate gender-responsive criteria, ensuring women and men benefit equitably from new livelihood, training, and enterprise opportunities.

- At least 40% of direct participants in pilot training and consultation processes represented by women and/or from vulnerable groups, with special emphasis on supporting women-led SMEs in textiles, pharmaceuticals, and electronics repair.
- Feasibility studies will systematically assess gender-differentiated risks and benefits, particularly for women engaged in informal recycling and healthcare waste handling, to ensure that investment proposals contribute to safer and more inclusive working conditions.

Output 3.2 CWFPF integrated knowledge hub and 'e-marketplace' created, functional, and among others, contributing to knowledge management and learning (KML)

The integrated 'knowledge hub' and electronic marketplace will be among the key pillars of the CWFPF Communications, Knowledge Management and Learning Strategy (see attached).

Elements of the Knowledge hub:

The CWFPF knowledge hub will serve as a central repository and an active platform for guiding, supporting, and informing policy development, data sharing, and collaborative action. Possible components include:

- Information Management and Data Curation: Centralizing national implementation plans (NIPs), best available techniques (BAT), and best environmental practices (BEP) related to chemical and waste management.

- Scenario Planning: In order to keep up with the complex shifts and new scientific knowledge in the Chemicals sector, there will be need to maintain periodic analysis of the elements of change and how the CWFTF needs to adapt.

- Interdisciplinary Studies: Exploring the linkages between chemicals and waste management, climate change, and biodiversity, ensuring holistic approaches to environmental sustainability. These studies will be made available in the hub as living documents that can be improved with a qualified participation from the relevant stakeholders.

- Informal Sector Engagement: Developing strategies and studies to effectively manage and include the informal sector in waste management initiatives. Give a voice to the informal sector on the policy hub.

- Collaboration with International Conventions: Working with the Secretariats of the Basel, Rotterdam, and Stockholm (BRS) Conventions and the Minamata Convention to develop content and outreach strategies for their Conference of the Parties (COPs).

- Capacity Development: Providing guidance on strengthening scientific and institutional capacities, especially concerning the management of original and newly listed industrial POPs including research, monitoring, and policy formulation.

- Policy and Regulatory Support: Developing policy and regulatory incentives to improve the accuracy and comprehensiveness of C&W inventories, ensuring better monitoring and management.

- Market-Based Instruments (MBIs): Conducting research on how MBIs can be leveraged to mobilize private and public financing for pollution avoidance, management, and remediation projects in the C&W sector.

Elements of the Electronic Marketplace

The proposed ‘e-marketplace” would be designed to socialize and create interest around the CWFPF, increase awareness, stimulate action, and generate demand for substantive investments in C&W pollution reduction/elimination and search for alternative approaches. Some elements would include:

- Web-Based Portal: Developing a user-friendly, transactional platform to host resources, connect stakeholders, and track project progress and outcomes. This will be based on a comparative review of other types of platforms, in order to find the best fit for CWFPF (see below),

- Support for Task Forces: Facilitating issue-based task forces that address specific policy issues, promote cross-sector dialogue, and advance project outcomes (this is also part of Scenario Planning)

- CWFPF Seed Financing Programs: Designing competitive programs for providing ‘pre-seed’ and ‘seed’ financing to early stage and small and medium-sized enterprises (SMEs) focused on cleaner materials and technologies within targeted sectors.

- Cross-Site Learning: Organizing cross-site visits to demonstrate successful projects and foster knowledge exchange, encouraging replication and adaptation of best practices.

- Investor Engagement and Matchmaking: Hosting round-table events and matchmaking services to connect investors with government project promoters, with a focus on specific chemical sub-sectors and asset classes;

- Finance Academies: Establishing City C&W Finance Academies to train municipal officials, project developers, and financiers in developing bankable projects related to chemical and waste management.

- Workshops for Green Finance: Conducting project design and preparation workshops aimed at applying a chemicals and waste perspective to green finance initiatives, targeting multilateral development banks (MDBs), development banks (DBs), and national financial institutions.

- Transactions: As the CWFPF will be 'demand driven' to the extent possible, there will be ways to receive inquiries, formal requests for support, submit / upload files and documents, among other things described in the CKML Strategy.

This comprehensive output will drive capacity building, foster investment, and promote the scaling up of effective solutions for chemical and waste management.

As part of project preparation, a "Comparative Analysis of Web-Enabled Operational Platforms for the CWFPF Knowledge Hub and E-Marketplace" was conducted (see CKML Strategy in appendix). This review benchmarks the CWFPF against a wide range of existing web-enabled operational platforms. While most focus on either: i) transparency (e.g., GCF, CIF), ii) project preparation (e.g.,SOURCE Global Project Preparation Platform (SOURCE), InvestEU), or iii) matchmaking (e.g., World Intellectual Property Organization GREEN Platform (WIPO GREEN), Circulate Capital, Breakthrough Energy), few integrate all three. CWFPF can stand out by combining:

- Transparency and Open Data

- Structured Project Preparation and Advisory

- Marketplace Matchmaking and Solution Showcases

- Policy and Learning Integration

- Investor Alignment and Catalytic Capital

By weaving these strengths into one integrated platform, CWFPF can become a unique regional / global hub for chemicals and waste investment readiness, combining open knowledge, inclusive project incubation, and catalytic finance matchmaking with safeguards, gender inclusion, and policy support. The detailed analysis is provide in Attachment X. Below are some summary points

<u>Interoperability and standards to integrate</u>

- Open data & Application Programming Interface (APIs) (GCF model) for portfolio transparency.

- Prep schema (SOURCE model) for structured submission.

- Funding taxonomy (Nationally Determined Contribution (NDC) Climate Funds Explorer) for fund discovery.

- Registry integration (Gold Standard ↔ Climate Action Data Trust (CAD Trust)) for integrity.

- Open Contracting Data Standard (OCDS) if CWFPF disburses grants/sub-contracts.
- Inclusive Electronic Know Your Customer (e-KYC) Financial Action Task Force (FATF/GSM Association (GSMA) /WB guidance) for MSMEs, women-led firms.

What features to emulate/adapt vs avoid?

Emulate/adapt:

- **Dual surface:** Public explorer + secure workspace (GCF + SOURCE).
- **Marketplace mechanics:** Pre-screened listings (InvestEU), AI matching (WIPO GREEN), funds explorer (NDC), sectoral opportunity mapping (United Nations Development Programme (UNDP) Sustainable Development Goals (SDG) Investor Platform).
- **Community & learning overlay:** Hub for Circularity, Resource Efficiency and Resilience (Hub4R's) blend of knowledge repository + e-Marketplace; International Waters: Learning Exchange and Resource Network (IW:LEARN) style peer-to-peer.
- **Integrity feature:** Traceability via CAD Trust; safeguards/GESI tagging visible per project.
- **Investor alignment:** Position CWFPF to be legible to mainstream players like Aviva and Franklin Templeton.

Avoid:

- Brochureware portals (static PDFs, no exportable data).
- Networks with no finance pathways (limit impact).

Possible components of the CWFPF platform (and timescales)

Minimal viable feature set (Phase 1-6 months)

- **Public Portfolio Explorer** – filters by country, sector, type of chemical pollutant; CSV/JSON export; API (GCF model).
- **Guided Submission Wizard** – structured prep with safeguards/GESI (SOURCE model).
- **Funds Explorer** – directory of chemicals/waste finance options (NDC model).
- **Marketplace Matching** – projects ↔ investors ↔ solutions, AI-assisted (WIPO GREEN + Hub4R showcase).
- **Knowledge & Policy Hub** – BAT/BEP guidance, toolkits, case studies (GEF + Hub4R).
- **Integrity & Reporting** – safeguards categories, gender fields, results metrics visible (IFC model).

Development / deployment phase 2 (6-12 months)

- Advisory intake (InvestEU style "request advisory" button).
- Partner APIs for MDBs/ADB and other pipelines.
- Seed finance competitions (Hub4R model, adapted for chemicals/waste SMEs).
- Finance Academies (train project developers and financiers).
- Cross-pollination with PMFs (City Gap Fund, ICA Fund) for joint pipeline building.

Recommendation matrix of providers

Based on the comparative strengths of different providers, the following recommendation matrix identifies which organizations may be best suited for specific aspects of the CWFPF Knowledge Hub and e-Marketplace. This helps clarify potential roles and partnership approaches.

Table 2: Summary of comparative assessment of service providers

Provider / Organization	Best Fit Role	Strengths	Considerations
DevResults	Core KM/Data Platform Builder	Strong in development data portals, MEL integration.	Small firm; may need consortium partner for global scale.
Dalberg Data Insights	Analytics & Data Visualization	Specializes in finance + policy data ecosystems.	More advisory than full IT build capacity.
Deloitte / PwC / Accenture	Systems Integrator & Architecture	Global scale, secure IT build, ESG reporting expertise.	Costly; ensure alignment with CWFPF's inclusive development lens.
DAI / Tetra Tech	KM + Donor Platform Developer	Deep donor-funded KM systems, environmental portfolios.	Best paired with IT integrator for robust technical build.
UNDP Digital	Policy-Finance Integration	Experience with SDG Investor Platform and development finance portals.	Dependent on UNDP partnership frameworks.
WIPO GREEN Team	Marketplace Matchmaking Engine	Built AI-driven need ↔ solution matching platform.	Chemicals/waste adaptation needed.
ADB Hub4R Team	Regional Knowledge + Marketplace Design	Recent experience designing thematic hub with marketplace element.	Water-focused; will need adaptation to chemicals/waste.
Convergence	Blended Finance Knowledge Partner	Global blended finance data and structuring support.	Not an IT builder; best as content/data partner.
Temasek Foundation	Incubation & Ecosystem Partner	Experience in catalytic capital platforms, incubators.	SE Asia focus; may need broader scope for CWFPF.

Recommendation for Action

Consider a "hybrid consortium model" by pairing a global systems integrator (Deloitte, PwC, or Accenture) for technical architecture, with a development-focused KM partner (DevResults, DAI, UNDP Digital, or ADB Hub4R Team) and a catalytic finance knowledge partner (Convergence, Temasek Foundation, WIPO GREEN). This ensures technical robustness, sector relevance, and strong finance matchmaking capacity.

The CWFPF knowledge hub and e-marketplace will also consider **cost recovery options**. These are explained in the analysis attached, and may include: i) membership / subscription fees, ii) service / transaction fees, iii) customized partnership packages, iv) training and capacity-building venues, and v) custom data services.

Activity 3.2.1 Finalize terms of reference for service providers and conduct procurement and eventual contracting for development, operations and maintenance for the life of project,

Activity 3.2.2 Prepare and execute workplan based on the two-phase approach described above to create and operationalize the knowledge hub and e-marketplace, and

Activity 3.2.3 Finalize and Implement cost recovery plan (refer to CKML Strategy for details)

Gender indicators for Output 3.2:

- Number of women, men, and vulnerable sectors participating in project activities, policy dialogues, capacity building, and in knowledge production.
- Gender and social inclusion considerations are embedded in the knowledge products, pre-seed, seed financing targets women-led businesses, and capacity development.

Output 3.3 Pilot / demonstrations carried out as proof of concept in specific C&W sectors a) electronics, b) buildings, c) textiles, d) environmentally persistent pharmaceuticals (EPP), f) industrial POPs- chemical additives in products

In alignment with the GEF Chemicals and Waste Focal Area, and its applicable sectors, Output 3.3 will focus on implementing pilot and demonstration sub-projects as proof of concept in key C&W sectors for scalability and replicable solutions, including the achievement of Global Environmental Benefits (GEBs). This will inform and advise the proposed CW Trust Fund as outlined in the process flow operating model under Figure 2 above, but also have knowledge and feedback loops to other sources of financing. The sectors have been identified through desktop research, information from prior programs and projects under the GEF C&W portfolio, and consultations between BRS Secretariat, GEF Secretariat C&W team, UNIDO, UNEP, and ADB.

The pilots will introduce technologies, methodologies, or practices to reduce the use and release of POPs and POP-containing hazardous waste across targeted sectors. These pilots will assess technical feasibility, cost-effectiveness, and environmental impact, with private sector partners contributing expertise and scaling potential. Pilot design and monitoring will also account for gender-specific exposure risks (e.g., women concentrated in certain recycling or production roles) and ensure equitable access to training and benefits.

The outcomes and lessons learned will inform larger interventions funded by the Chemicals and Waste (C&W) facility, refining approaches, improving regulatory frameworks, and enhancing capacity-building to reduce environmental and health risks from hazardous chemicals and waste. Results will highlight both technical performance and gender-responsive practices that can be replicated and scaled.

The pilots are expected to deliver measurable Global Environmental Benefits (GEBs) through collaboration with the private sector, ensuring ownership and commitment. Successful pilot activities will demonstrate proof of concept against C&W criteria, making them eligible for scaling and replication. Private sector roles include

providing technical expertise, investing in sustainable practices, offering infrastructure, and participating in capacity-building to train workers in best available techniques and environmental practices (BAT/BEP), ensuring market relevance and alignment with industry goals to maximize adoption and impact. Capacity-building will explicitly integrate gender-responsive approaches, supporting the participation of women workers, entrepreneurs, and community representatives in safe and sustainable chemicals and waste management.

The expected outcomes of the pilots, which include collaboration, cooperation, and support with relevant private sector to ensure ownership and commitment, are measurable achievements of GEBs through potential pilot activities (as outlined in the table below), and proof of concept against the C&W criteria to be eligible for up-scaling and replication through the C&W facility.

Gender indicators for Output 3.3:

- Percentage of women and men trained in BAT/BEP techniques and other pilot-related capacity-building activities.
- Number of pilot projects that incorporate measures addressing gender-specific exposure risks and participation opportunities.

More information on these proposed sub-projects is presented in the summary below:

Sector and demonstration / pilot country	Demonstration / pilot rationale
Preliminary analysis common to al sectors Feasibility study, financial and economic analyses, market analytics, use of case scenarios and situation analyses, risk assessments (including gender-specific ones), E&S risks, with E&S studies (ESIA/ESMP) to follow if necessary	
EEE / E-waste management (Thailand) Based on the GEB tool model adopted for the Global Electronic Management (GEM) project , the pilot in Thailand would allow for the following GEB over the 2 years pilot period: • CI 9.6: waste containing POPs and mercury, including E-waste avoided or safely processed: 1084 t, out of which 1004t downstream and 80 t upstream (avoided) • CI 9.1: POPs contained in E-waste processed in an environmentally safe way: from 0.1 to 0.8t, downstream. This does not include POPs avoidance which could be achieved through regulatory measures. • CI 6.2: direct GHG avoidance: 14167 t CO2e, out of which 13671 upstream and 496 downstream • U-POPs releases avoided: 0.37gTEq	The pilot will pursue a dual strategy: (i) upstream avoidance of e-waste generation through strengthening the repair and refurbishment ecosystem, and (ii) downstream management of e-waste through expanded collection and environmentally sound recycling. On the repair side, through training, capacity building and technical and financial support, the pilot will support at least 20 repair shops to ensure an additional daily repair throughput of 24 mobile phones, 8 tablets, 12 laptops and 4 desktop per shop per day, based on reasonable throughput numbers [3] [4], plus a 20% boost from second-hand market stimulation. In term of enhanced collection, the pilot intends to support the current effort of the Bangkok Municipal Administration by further strengthening and promoting the collection of household E-waste. This will entail promoting the already existing network of collection points (currently 52) and further expanding this network by additional 200 collection points, with the goal to ensure at least additional 500t/yr of E-waste collected and addressed toward environmentally sound recycling in partner recycling companies.
Cement manufacturing (Viet Nam) Through combination of mercury management measures in clinker manufacturing, including dust shuttling, selective mining, alternative fuels, A reasonable expectation is mercury emissions to air can be reduced up to 50–70%. For a typical cement plant with a capacity of approximately 2,500 tonnes of clinker per day, continuous	The Vietnamese pilot on mercury reduction will not by itself deliver large-scale reductions during its limited implementation period. Its primary role is to demonstrate the technical and operational feasibility of combined measures, notably alternative fuel substitution, selective raw material sourcing, dust shuttling, and sorbent injection. These techniques can

application of such measures over two years could reduce total mercury releases (air + product) by 300–480 kg, of which 240–384 kg would otherwise have been emitted directly to the atmosphere. Replacing 5% of coal with low-mercury alternative fuel can allow for the reduction of 60,000 t of CO2e over 2 years, and a further reduction of mercury.	often be applied at low or moderate cost and scaled across the national cement sector. A reasonable expectation is that by combining these measures, mercury emissions to air can be reduced by 50–70%. For a typical cement plant with a capacity of approximately 2,500 tonnes of clinker per day, continuous application of such measures over two years could reduce total mercury releases (air + product) by 300–480 kg, of which 240–384 kg would otherwise have been emitted directly to the atmosphere. These will be integrated by a limited testin of WDF co-processing, up to 5% of the fuel input, to achieve additional benefits in term of mercury and CO2e avoidance
Textile upcycling (Philippines) The avoided emission / releases from the textile pilot (8-12t of textile waste upcycled per day) will arise both from displacement of virgin textile production and from reduced landfill disposal. For CO2e, that will result in an avoidance of 31,000–38,000 tCO_2e over two years of operation. For avoided POPs, a conservative estimate of 10 mg/kg PFAS input On this basis, the Taytay pilot would directly avoid 63 kg of PFAS release over its operating period (calculated as 10 g/t × 12 t/day × 264 days × 2 years ÷ 10^6). The overall amount of waste avoided (to be considered as industrial waste but not POPs waste) will be in the order of 10-12 t/day (from 4800 to 5760 t over the project period). Natural fiber pilots and natural dyes can also allow for the avoidance of POPs in the manufacturing stage. Target POPs may be for instance PFAS – wich are a large group of synthetic chemicals widely used in the textile sector; POPs PBDE which are flame retardants specifically used in some specialized textile, and others. GEB 10.1 U-POPs avoidance due to the adoption of better disposal process or waste avoidance may also be expected for this sector.	The proposed Taytay pilot upcycling plant will operate as a pure mechanical process, producing yarn from garment cutting residues. Factories, which mostly process imported polyester/cotton blends from China, will segregate waste by color (avoiding de-dyeing/re-dyeing) and adopt measures to reduce cutting waste by 15–20%. With current waste generation at ~12 t/day, this implies a reduction of 1.8–2.4 t/day alongside recycling of the remaining fraction. Avoided emissions thus arise both from displacement of virgin textile production and from reduced landfill disposal. Based on maturity achieved at implementation, this pilot will be integrate with a sub-pilot aiming at natural fiber production. The pilot will achieve substantial reductions in GHG emissions and PFAS inputs, while also lowering releases of hazardous chemicals, cutting wastewater contamination, and conserving land resources otherwise consumed by textile landfilling. The avoidance of chemicals through textile waste recycling is technology and material specific. In general, two aspects should be considered: Inputs avoided: dyes, dyeing auxiliaries, finishing agents, crosslinkers, softeners, PFAS finishes, formaldehyde resins, APEO surfactants, carriers, salts, etc. Releases avoided: dyehouse effluent loads (color, COD/BOD, AOX), volatile emissions (from solvent finishes), sludge with hazardous constituents.
Environmentally Persistent Pharmaceuticals (Philippines) The pilot projects, through safe collection and disposal of unused or expired medications to prevent their release into the environment, identification of chemical or non chemical alternatives could achieve the collection and ESM disposal of around 16 to 82 tons per year of expired pharmaceuticals (32 to 164 tons over the pilot project), preventing them to enter the environment. Around 10% of this amount are antibiotics, whilst 20% are other active compounds with endocrine disrupting effects, no longer entering aquatic and terrestrial environments.	To establish a pharmaceutical take-back program in collaboration with local pharmacies, healthcare facilities, and environmental agencies. This program would focus on the safe collection and disposal of unused or expired medications to prevent their release into the environment through household waste or wastewater. In parallel, the pilot could include public awareness campaigns on the environmental risks of improper pharmaceutical disposal, and provide training for healthcare providers on prescribing practices that minimize excess medication waste. This initiative would also incorporate monitoring of water sources for pharmaceutical residues to assess the effectiveness of the intervention in reducing EPPP contamination

POPs avoidance in products and industrial processes - Viet Nam New POPs-Chemical additives in products focusing on demonstrating innovative approaches to managing and reducing POPs in various consumer and industrial products. To be quantified at pilot selection stage. A minimun requirement for proposed pilots to be selected under a competitive process will be the direct avoidance of at least 10 tons of POPs chemicals during the pilot period, sustained at replication.	Import figures highlight that Viet Nam's manufacturing sector offers significant opportunities for POPs elimination, particularly within SMEs where targeted investments can accelerate technology shifts. The pilot will therefore apply a competitive selection process to identify enterprises ready to demonstrate POPs-free alternatives, backed by technical assistance and co-financing. A key eligibility criterion will be a minimum commitment to replace at least 10 tons of POPs (PFOS, SCCPs, MCCPs, or HBCDD) during the pilot phase, with participating enterprises expected to sustain at least 5 tons/year of avoided POPs in the replication stage.

Activity 3.3.1: Detailed Design and Site Preparation for Selected Pilot Projects

This activity will ensure that all selected pilots are technically and operationally ready for implementation, including final design, permitting, baseline assessments, and training. Active participation of women and other underrepresented groups in the design stage will be promoted to ensure inclusive approaches.

- **Philippines:**

  Pharmaceuticals: Finalization of design for household/community collection and hospital-based waste minimization pilots, including confirmation of sites, collection and transport systems, treatment upgrades, and standard operating procedures. Site preparation will cover permits, infrastructure mobilization, and staff training. Gender measures will ensure safe, accessible collection points and inclusive training for female health workers, pharmacists, and community representatives, with occupational safety tailored to gender-specific risks.

  Textiles: Technical design of the upcycling facility and related interventions, including waste flow mapping, machinery layout, supply chain logistics, and training modules. Preparations will include readiness assessments, installation planning, and policy alignment. Gender mainstreaming will ensure women's access to training and supervisory roles, attention to ergonomic safety, and inclusiveness for women in informal or small-scale operations.

- **Thailand:**

  Detailed training schedule for EEE repairers will be developed. Furthermore, detailed engineering and operational plans will be developed for both repair/refurbishment and collection/urban mining pilots. This will include environmental and social safeguards, technical specifications, and workflows for safe POPs handling, worker protection, and waste tracking. Site preparation will cover permitting, partner agreements, and infrastructure upgrades to enable safe and effective pilot rollout.

- **Viet Nam:**

  Cement sector: Technical design will focus on operational trials with existing equipment (e.g., dust shuttling, fuel substitution, kiln optimization) rather than large-scale capital investments. Preparatory steps include raw material and fuel characterization, baseline stack testing for mercury and CO_2, and design of monitoring protocols. Staff training will ensure women engineers and laboratory staff are actively engaged.

  POPs in Manufacturing: A competitive mechanism will be launched to select 1–2 enterprises, followed by finalization of technical designs for substitution of POPs. Preparations will include eligibility criteria, call for proposals, applicant screening, and technical support for design refinement. At selected sites, process audits, baseline POPs monitoring, and preliminary equipment designs will be conducted. Gender-responsive

measures will ensure outreach to women-led SMEs and training formats that encourage female staff participation in implementation.

Activity 3.3.2: Procurement, Installation, and Commissioning of Pilot Systems

This activity will ensure that all selected pilots move from design to full operational readiness, with procurement of equipment, installation, commissioning, and initial performance validation.

- **Philippines:**

Pharmaceuticals: Procurement of secure collection bins, transport containers, and small-scale wastewater pre-treatment equipment (e.g., activated carbon filters, ozonation units). Contracting of licensed TSD providers and mobilization of logistics systems with pharmaceutical distributors. Commissioning will include site inspections, equipment testing, and trial runs for community collection and hospital-based minimization.

Textiles: Procurement of upcycling machinery (fiber-opening units, spinning systems, plant-based dye equipment) and infrastructure for collection and segregation. Installation will be coordinated with the private operator and LGUs. Commissioning will validate machinery calibration, trial processing of waste, and product quality standards.

Additional cross-cutting pilots: Depending on selection:

– Natural fibers: Procurement of portable extraction machinery, preparation of demonstration sites, and commissioning of cleaner processing methods.

– Bio-enzyme wastewater treatment: Fabrication and installation of packed-bed column reactors, enzyme immobilization, and integration with existing systems; commissioning through site acceptance tests and initial trials.

- **Thailand:**

Implementation of one pilot with two subsectors:

E-waste recycling: Upgrading of a formalized, safe recycling facility with POPs screening and hazardous waste treatment capabilities. Procurement of equipment, operator training (including informal actors), and commissioning of systems with environmental monitoring.

Circular electronics: Procurement and installation of collection, repair, and refurbishment systems for mobile devices and computers. Commissioning through trial refurbishments and validation of product safety and quality.

- **Viet Nam:**

Cement sector: Operation of the demonstration program with systematic monitoring of mercury and CO_2 emissions under varied operational conditions (e.g., waste derived fuel substitution rates, dust shuttling). Results analyzed against clinker quality and cost data. Adaptive optimization will refine operating protocols. Gender-responsive measures will ensure women staff are engaged in monitoring, analysis, and reporting.

Manufacturing/POPs: Procurement tailored to the chosen substitution approach—e.g., new Cr(III)-plating equipment, PFAS-free treatment systems, or redesigned non-chemical alternatives. Commissioning will

include equipment testing, process validation, and product quality verification. Monitoring tools will be installed to track reductions in POP use and releases.

Activity 3.3.3: Pilot Operation, Monitoring, and Adaptive Optimization

This activity will ensure the effective operation of all selected pilot projects, with continuous monitoring and adaptive adjustments to optimize technical performance, environmental outcomes, and financial viability. Data collection will cover volumes, costs, efficiency rates, and environmental and social impacts, providing lessons for scaling and replication across sectors and countries. Gender-responsive measures will be integrated throughout, ensuring women and men benefit equitably from training, employment, and decision-making opportunities, while addressing gender-differentiated exposure risks.

- **Philippines:**

  Pharmaceutical sector: Operational roll-out of two sub-pilots—household/community collection and hospital-based waste minimization. Activities include managing collection bins, coordinating transport and disposal with licensed TSD providers, monitoring hospital inventory systems, and operating wastewater pre-treatment units. Training will be provided for households on safe pharmaceutical waste segregation and for health workers on improved handling, minimization, and monitoring practices. Gender-responsive measures will include monitoring participation rates of women in community collection initiatives, ensuring safe working conditions for female staff and waste handlers, and actively involving women healthcare workers and pharmacists in operational decision making.

- **Textile sector:** Operation of an upcycling facility at planned capacity to process textile waste into commercial-grade yarn. Waste collection networks will be maintained, upstream minimization practices monitored, and training continuously delivered for operators and community cooperatives to minimize textile waste generation and ensure segregated collection o textile waste. Targeted outreach will encourage women's participation—particularly among small-scale producers, informal workers, and community cooperatives. Social indicators will track women's access to skilled roles in operations, quality control, and management.

  Additional and cross-cutting pilots: For natural fiber manufacturing, activities include production trials, quality checks, and crop management assessments, prioritizing women producers and artisans for training and market linkages. For the bio-enzyme wastewater treatment pilot, operational data will be collected on removal efficiency and maintenance cycles, while ensuring equal access for all staff to technical training and protective equipment.

- **Thailand:**

  The pilot will focus on strengthening e-waste management through (i) the establishment and operation of 20 repair shops with associated training, and (ii) the activation of 200 additional e-waste collection points. The repair shops will promote reuse and life extension of electronic products, with training provided for operators and technicians on safe repair practices, quality standards, and occupational health. The additional collection points will improve accessibility for households and businesses, with awareness campaigns encouraging safe disposal and consumer participation. Training will also cover the identification of e-waste potentially contaminated by POPs, particularly in recycling and urban mining activities.

  Technical support will be provided throughout implementation to ensure proper operation, performance monitoring, and adaptation to challenges. This includes mentoring on safe dismantling, tracking flows of hazardous versus reusable materials, conducting cost-effectiveness analysis, and coordinating stakeholders. Lessons learned will inform replication and scale-up under national and regional programs.

The pilots are expected to generate new job opportunities in the repair, collection, and recycling value chain, particularly for small entrepreneurs and technicians. At replication stage, scaling up repair shops and collection points could further expand employment potential, strengthen formal recycling systems, and provide safer livelihoods for workers currently dependent on informal recycling.

A gender-responsive approach will ensure that both men and women benefit equally from training and safe employment opportunities.

- **Viet Nam:**

Cement sector: Full-scale pilot operation will test co-processing of selected waste derived fuel with mercury control technologies. Continuous monitoring will track stack emissions, kiln performance, and CO_2 balance. Data on environmental outcomes (Hg capture, CO_2 reductions), operational costs, and waste management benefits will guide adaptive optimization. Gender-responsive measures will include targeted training and mentoring for women engineers and laboratory technicians, as well as ensuring equal access to decision-making roles in pilot oversight.

Manufacturing sector (POPs): Enterprises will implement POPs substitution processes at scale, monitoring environmental outcomes (kg of POPs avoided, worker exposure reductions), operational performance, and product competitiveness. Social and gender indicators will track women's participation in training, adoption of safer workplace practices, and advancement into technical or supervisory roles. Adaptive optimization will refine protocols for replication and financial viability.

Component 4: Investments in C&W pollution reduction / elimination projects

Outcome 4: <u>Investments in chemicals and wastes pollution reduction / elimination projects</u>

Outcome 4 will support the implementation of the CWFPF, with a view to formulation of at least 6 investment projects totaling $ 1 billion. This would include at least 2 investment projects which pilot new approaches (to facilitate access to capital by CSOs, women and youth-led businesses into in urban CWP prevention, abatement and elimination projects. In addition, at least one investment project will pilot new approaches to attract private capital in urban CWP prevention, abatement and elimination. It will also support a private sector development initiative through support for a "Chemicals and Wastes Pollution" **Seed Ventures** sub-program – which will provide reimbursable grants to early-stage enterprises which advance innovations in chemicals management applications. This is based on the identified themes and subthemes (below).

Output 4.1 **Specialized project preparation support provided to eligible institutions, leading to formulation of at least 6 sovereign investment projects covering a range of priority products, processes and sectors (of which 2 would facilitate access to capital by CSOs, women and youth-led businesses, and one will pilot new approaches to attract private capital)**

Since 2015 ADB has initiatives in policy groundwork, inventories, and embedding chemical safeguards in water, urban, and energy projects. In recent years, gender and women's role are consistent in waste management and youth engagement is emerging in education campaigns as part of ADB's commitment to inclusive development. Mainstreaming gender and social inclusion is aligned with ADB's Strategy 2030.

There are a number of entry points for ADB with respect to building up a pipeline:

Agriculture, Food, Nature, and Rural Development (AFNR): ADB's expanded $ 40 billion initiative addresses key challenges in sustainably transforming food systems by prioritizing ecosystem protection and nutrition improvement. ADB aims to scale up financing for agribusinesses and stimulate rural economic revival with a clear focus on creating quality jobs and promoting gender equality. Technological innovation will be encouraged, alongside necessary policy and institutional reforms. Specifically, ADB will champion innovative, nature-positive practices adapted to local contexts, and promote open trade for efficient access to nutritious foods. To maximize impact, funding will be mobilized from a diverse range of public and private sources. Actions will align with global food systems transformation efforts and ensure transparency and accountability through internationally harmonized monitoring systems. Some potential areas include: natural solutions and regenerative approaches (soil pollution, natural systems degradation, and ecosystem stability) which relies heavily on the ability of governments and society at large, to manage chemicals and wastes.

Critical Minerals to Manufacturing (CMM) Value Chains: Critical minerals like copper, nickel, manganese, cobalt, and rare earth elements are essential for modern life, from electric vehicles to artificial intelligence powered by data centres. Demand is rising fast. The clean energy market is expected to triple to more than $2 trillion by 2035, creating almost 3 million jobs – mostly in Asia and the Pacific. Global data centre capacity – which relies heavily on minerals like lithium for batteries to ensure uninterrupted power supply – is growing by 15% annually, with our region expected to contribute about a third of this growth. Asia and the Pacific is positioned meet the rising demand by localizing manufacturing and diversifying its supply chains, given the region's rich endowment of critical minerals, strong industrial base, and skilled workforce. ADB is now actively considering projects in this space to help strengthen responsible and sustainable practices across the value chain – from critical minerals exploration, extraction, processing, and refining, to technologies manufacturing, all the way to disposal or recycling.

In addition to working with Governments, ADB will help private companies seize opportunities through loans and de-risking solutions that will catalyze investments, syndications to help secure financing from commercial financial institutions, and transaction advisory services. Strong environmental, social, and governance standards and support for local value addition in mineral supply chains will be important. For manufacturing, there will be focus on six core clean energy technologies – solar, wind, hydrogen, batteries for grids, electricity networks, and electric vehicles – and the materials required to make them. Also included will be digital technologies such as semiconductors and pacemakers which are vital in healthcare and other important industries.

Water and Urban Development (WUD): One key element of the WUD strategy includes the "Resilient River Basin Initiative" (RRBI), which adopts a comprehensive source-to-sea perspective, applying landscape and systems approaches to enhance the resilience and sustainability of river basins in the face of environmental challenges, natural disasters, and human activities. ADB technical assistance currently supports (i) conduct research to analyze acute, chronic, and systemic events that pose long-term threats to river basin health; (ii) advisory services to countries and project teams to identify policy, institutional, financing, and technical investment opportunities that safeguard community safety, livelihoods, and economic wellbeing; (iii) support the preparation of new investment projects; and (iv) facilitate knowledge exchange and best practices among river basin managers.

Environmental Action Plan (pollution reduction is core pillar), focus on healthy terrestrial and marine ecosystems, air quality etc. Locus of ***ADB Circular Economy Strategy.*** The figure below illustrates potential applications across sectors.

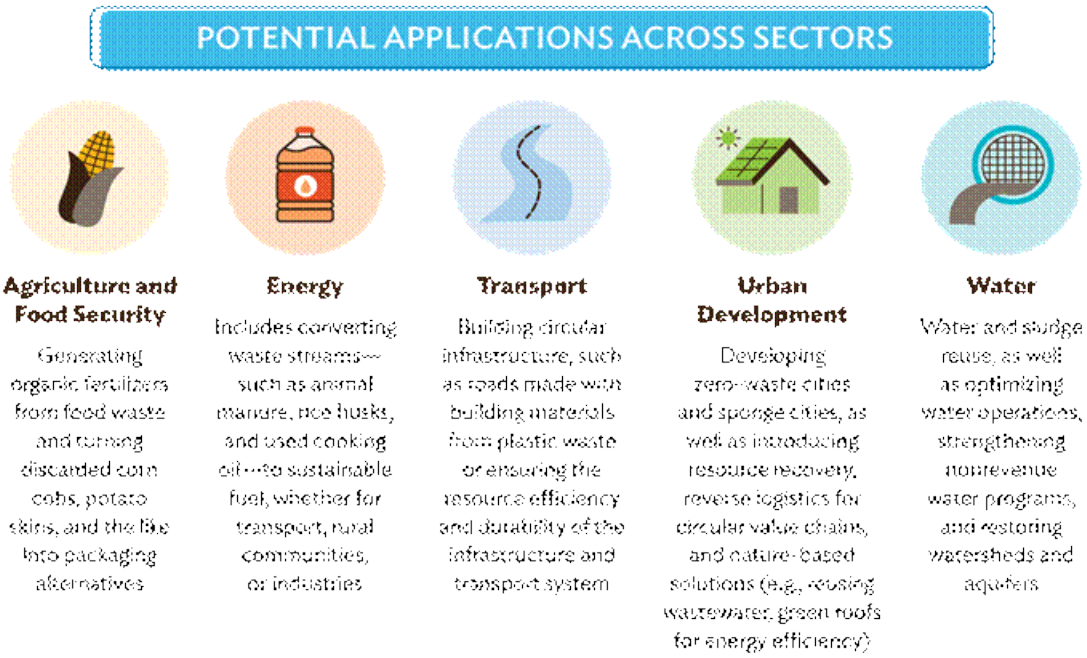


Figure 3: ADB Environmental Action Plan cross sector relevance

Energy Transition Mechanism (ETM) and Just Transition Platform- aims to accelerate the transition from fossil fuels to clean energy and leverages a market-based approach and demonstrates how fossil fuels can be phased out. This will unlock new investments in sustainable and reliable energy infrastructure. Among some of the key initiative will be to address legacy PCB contamination as older transmission systems are replaced or upgraded. The Just Transition Support Platform, part of ADB's commitment to ensuring that the benefits of the shift to low-carbon, resilient economies are shared equally and no individual, community, or region is left behind. The platform assists countries to strategically plan, implement, and finance just transition, to manage any negative impacts, and increase benefits from the transition to net zero.Any work under the CWFPF in this regard, will ensure that transformers are above 50 ppm PCB, and supported by careful documentation of disposal activities, and included in the reporting on PCB to the Stockholm Convention. Additionally, there will be quantification of mercury and POPs emissions reductions when the energy transitions are completed.

Approach to CWFPF Pipeline Development

The approach to building the pipeline from ADB side, will be to engage in the Country Partnership Strategy (CPS) process. The CPS is the primary platform for designing operations to deliver development results at the country level. Linked to the CPS is a country programming and financing framework supplemented by an indicative pipeline of technical assistance, investments, lending and non-lending products. It is highly likely that the CWFPF will finance some upstream chemicals assessments as part of the CPS and country programming formulation to better inform and guide the pipeline decisions. The CPS and country programming process at ADB also includes detailed sets of assessments, including gender, social and poverty analysis. While these assessments use standard approaches at ADB, the CWFPF will support additional elements to include chemicals assessments based on National Implementation Plans (NIPs) and others – with special focus on how community-based groups, women, youth, indigenous peoples' and other vulnerable elements of society are impacted.

Output 4.1 Specialized project preparation support provided to eligible institutions, leading to formulation of **at least 6 sovereign loan / investment projects** covering a range of priority products, processes and sectors, of which:

a) at least **two** investment projects support new approaches to facilitate access to capital by CSOs, women and youth-led businesses into in urban CWP prevention, abatement and elimination projects, and

b) **one** project pilots new approaches to attract private capital in CWP prevention, abatement and elimination, possibly a public-private partnership (PPP) (cross referenced with Private Sector Engagement Strategy).

Targets:

- Provide "CWP lens" overlay on at least **$ 1 billion i**n potential sovereign loan projects, and
- Mobilize at least $ 20 million for the proposed CW Trust Fund (or similar mechanism).

A. Programs under which sovereign CWP projects can be developed, and also make space for private sector mobilization.

Yellow River Ecological Corridor (YREC) Program

The Yellow River Ecological Corridor (YREC) Program, initiated by the Asian Development Bank (ADB), focuses on promoting sustainable management and development in the Yellow River Basin in the People's Republic of China (PRC).

The Yellow River Basin, vital to the PRC, faces mounting environmental challenges. These include water scarcity, pollution, natural disasters exacerbated by climate change, and overexploitation of resources. The YREC addresses these issues through strategic institutional reforms, innovative technologies, and knowledge-sharing partnerships. The program also an ecosystem-based, or 'nature-positive' approach, treating the entire river basin as a connected ecological corridor to mitigate disaster risks, enhance food security, and foster sustainable development.

The program involves various PRC government agencies, including the Yellow River Conservancy Commission, Ministry of Ecology and Environment, and the National Development and Reform Commission, among others. These agencies, along with private sectors and NGOs, work collaboratively to address ecological and development challenges, in particular SDG 6, 11, 12, 13, and 15

Three key pillars include:

- Institutional Strengthening: Enhance the capacity of institutions involved in managing the Yellow River Basin for improved policies, governance, and resource management
- Innovative Approaches and Private Sector Solutions: Promote innovative approaches, nature-based solutions, and private sector engagement to address the basin's complex challenges.
- Knowledge Sharing: Facilitate the exchange of best practices, lessons learned, and collaborative initiatives within the basin and beyond, supporting continuous improvement.

There are four thematic areas:

- Water and Natural Capital: Protect water resources, restore ecosystems, and optimize natural capital management.

- Sustainable and Efficient Agriculture and Value Chains: Promote climate-resilient farming systems, enhance agricultural efficiency, and develop sustainable value chains
- Climate Change Adaptation and Mitigation: Reduce vulnerability to climate change impacts, lessen carbon emissions, and promote strategies for both adaptation and mitigation, and
- Integrated Urban-Rural Green Development and Circular Economy: Foster environmentally sound development in urban settlements and rural communities, emphasizing circular economic models.

YREC loans ongoing

- Silk Road Ecological Protection and Rehabilitation Project; $200 million ADB; $335 million total
- Gansu Environmentally Sustainable Rural Vitalization and Development Project; $150 million ADB; $300 million total
- Shanxi Low-carbon and Inclusive Rural Development Project; $160 million ADB; $602 million total
- Shandong Qixia Ecological Conservation Demonstration Project; $150 million ADB; $300 total
- Green Farmland Demonstration and High-Quality Agricultural Development Program in Yellow River Basin; $157 million ADB; $355 million total (used as co-finance- see later section), and
- Shanxi Changzhi Low-Carbon Climate-Resilient Circular Economy Transformation Project; $300 million ADB; $665.1 million total (used as co-finance – see later section).

Technical Assistance (TA)

YREC utilizes several technical assistance (TA) projects that target different aspects of river basin management, such as water use, legislative mechanisms, ecological valuation, and climate resilience. The program supports high-quality, green development opportunities and has contributed to various projects, including strategic research on promoting ecological protection, and eco-compensation.

Circular Economy Program

The concept of circular economy and circularity are intuitive especially when discussed as a comparison to traditional linear value chains. Increasing the circulation of materials, components, or products (MCP) can lead to reduction in the consumption of finite natural resources, energy, and a reduction in pollution occurring during production or disposal.

Developmental Relevance

Transitioning to a circular economy supports the three pillars of sustainability by recognizing economic, social, and environmental value and contributes to the triple planetary crisis through reduction of climate change, pollution, and biodiversity loss. The cross sectoral capacity of circular economy, especially when supported by systems dynamics modelling[3][9], represents a key tool in the acceleration of progress towards the UN SDG's and ABD's Strategy 2030.

It is important to recognize that, whether as an investment opportunity or policy design process, circular economy is an enabling concept and framework rather than a standalone subject such as climate change or marine pollution.

Circular economy currently provides an accessible micro economic framework by which project developers and government ministries can identify and articulate clear links between improvements in sustainability in one area of MCP value chains with direct and indirect benefits in other areas of the value chain.

Circular Economy and ADB: Progress to Date

ADB has already completed private sector investments with Indorama and ALBA recycling at the MCP level increasing the circularity of PET water bottles in Indonesia. The future pipeline of private sector MCP projects is strong with opportunities in bioplastics, plastic recycling, electric vehicles, green cement, and legacy chemicals. Addressing resource management and pollution through circular economy approaches has also supported significant sovereign activity with the approval of the marine debris policy-based loan in Indonesia and the upcoming policy-based loan in the Philippines.

Preparatory enabling technology development undertaken through TA 9911 and TA 6669 "*Promoting Action on Plastic Pollution from Source to Sea in Asia and the Pacific*" (GEF-supported) is attracting increasing interest from governments in the region (notably *Viet Nam, Indonesia)* as they develop national capacity for plastics management and compliance with the possible global plastics treaty. Initial entry points of sovereign level support for technology solutions have the potential to lead to sectoral loans for the waste management and recycling industries in some key countries in the region.

Project, Programmatic, and Pipeline Development Opportunities

Circular Economy and Thematic Bonds

Pioneered by the World Bank and Citi the opportunity for plastic credit-based bonds represents an interesting opportunity for ABD although discussions with treasury point us strongly in the direction of a thematic bond-based approach due to lower cost of capital than the outcome-based WB/Citi approach. The global plastics treaty is catalytic for this pipeline however the opportunity to leverage off this experience and market entry to support biodiversity and other sustainability activities offers a much larger pipeline fully supported by the concepts of circularity.

Circular Economy at a Macro Economic, Cross Sectoral Scale

It is this expansion beyond plastics and the micro economic MCP level where significant opportunities lie for MDB's over the next 5 -10 years. Expanding the scope of circular economy whilst optimizing the development, investment, and operation of projects and policies requires a more detailed recognition and understanding of system dynamics. Moving beyond micro economic MCP scale to macro-economic scale project and policy design, supported by the application of systems dynamics, will allow increased ONE ADB solutions fully leveraging the cross sectoral fluidity facilitated by the new operating model.

At project and programmatic level leveraging macro-economic circular economy concepts, underpinned by system dynamics analysis, allows project officers to expand the scale, scope, and measurable outcomes of individual projects whilst also providing tangible, intuitive, and quantifiable links to programmatic lending pipelines.

Examples of ADB Cross Sectoral Projects

- ADB has already achieved the first steps in this approach with the Karachi Bus Rapid Transit project, whereby infrastructure investment leading to increased social value, reduced environmental impact, and catalyzing economic development leveraged available animal manure to generate biogas. The improved management of this animal waste further reduced methane emissions, reduced pollution both on land and in the Arabian Sea. Under traditional project outcome approaches it is difficult to fully capture and measure the range of project benefits.

- The peer review of the Bataan – Cavite Bridge project in the Philippines led to similar discussions of including coral friendly concrete to construction, the implementation of mangroves as a nature-based solution for costal protection, and related investments in port, business park, and housing development in the Bataan peninsula.

Cross sectoral circular economy approaches provide project officers and government officials a framework through which they can fully support direct, indirect, and co-benefits of projects and then articulate these during the project development and when supporting investment decisions.

One of the critical factors identified for the slow progress towards the UN sustainable development goals is the lack of fully integrated project design and outcome measurement. Climate change projects focus on climate change activities and outcomes often without fully optimizing, measuring, and reporting cross sectoral co-benefits. Critical social and environmental outcomes are either not captured or are collected as safeguards outcomes rather than mainstream project outcomes. By embracing macro-economic circular economy approaches project officers, governments, and investors will benefit from a framework to help identify these second and third level outcomes. The parallel understanding of overall cross-sectoral value chain system dynamics will also provide guidance and entry points for wider programmatic investments.

Circular Economy: An Enabling Framework

Progress towards the sustainable development goals continues to fall behind targets and the resulting increase in climate change related events, increasing degradation of natural systems from pollution, and the ongoing threats of biodiversity loss multiply the challenges faced by governments. Circular economy, supported by systems dynamics, considered as an enabling framework to guide investment, optimize policy design, and articulate opportunities and trade-offs, will represent an important tool in ADB's portfolio of support for our DMC's.

Programmatic Approach and Policy-Based Loan for Subprogram 1 Republic of the Philippines: Marine Ecosystems for Blue Economy Development Program ($ 500 million)

The proposed program will accelerate integrated marine and coastal management to support sustainable blue economy development. The program adopts a programmatic approach comprising two subprograms to sequence complex and strategic reforms across multiple implementing agencies, policies, and plans. The reform areas are interconnected and strengthen the productivity and diversity of the Philippines' blue economy, improve the health and resilience of coastal and marine ecosystems and communities, and promote women's empowerment. There are three main reform areas: i) Reform Area 1: Integrated and inclusive management of coastal and marine ecosystems enabled. This reform area supports establishing and implementing a coordinated, science-based, and inclusive framework for the sustainable management of marine and coastal ecosystems; ii) Reform Area 2: Plastic and other solid waste management and circularity enhanced. This reform area strengthens the Philippines' capacity to reduce marine plastic pollution and advance circular economy transitions, and iii) Reform Area 3: Planning, budgeting, and investment in natural capital strengthened. This reform area enhances the country's capacity to systematically account for and invest in natural capital, especially coastal and marine ecosystems. (see co-finance section).

A. Sovereign projects under which CWP lens can be applied

B. Sovereign projects under which CWP lens can be applied

Circular Pacific Regional Recycling Network

The proposed Circular Pacific via Regional Recycling Network (CP-RRN) initiative will enhance the collection, processing, and export of targeted waste streams to international markets across 14 Pacific SIDS. By establishing hub facilities supplied by participating countries, the initiative seeks to create a regional recycling network that captures economies of scale and improves resource efficiency. This collaborative approach enables Pacific Island countries to overcome the unique challenges of scale and isolation that cannot be effectively addressed by individual countries alone.

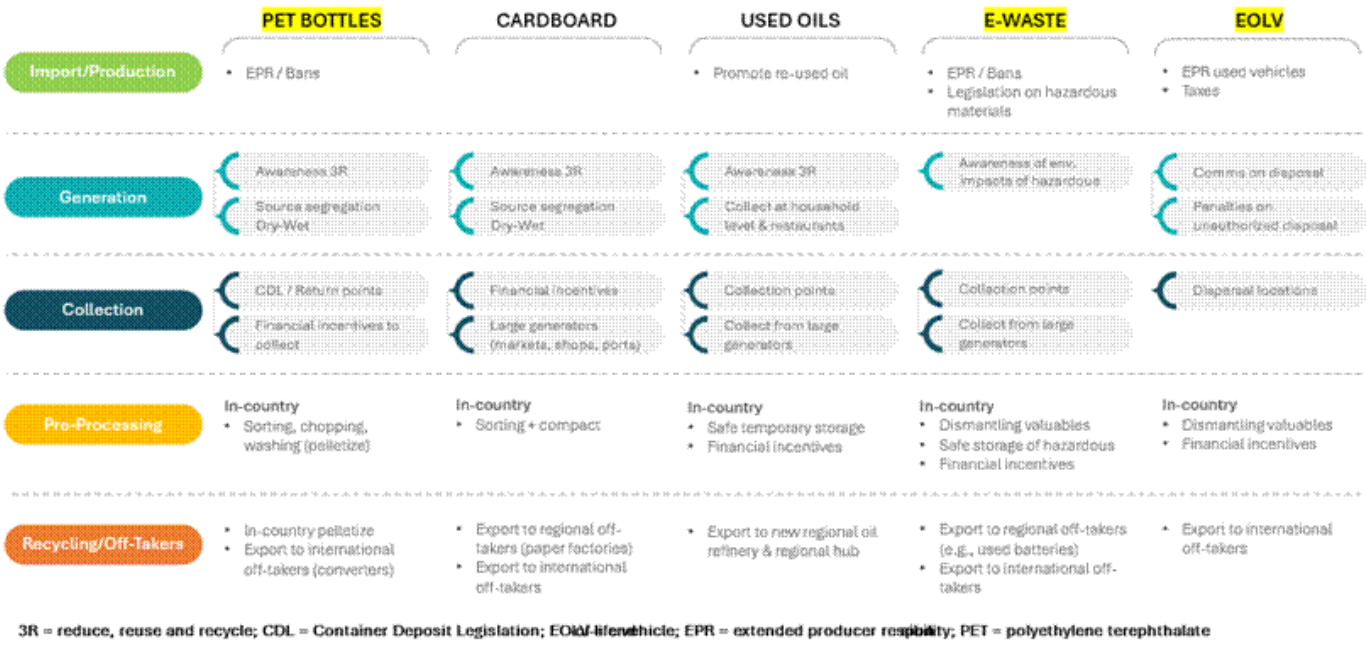
Implementation will be carried out in two phases. Phase 1, with a $10.6 million grant secured from Asian Development Fund 14 Regional Cooperation and Integration (RCI)I Thematic Window, will focus on developing regional and subregional agreements on transport, logistics, and legal frameworks, while demonstrating business cases for selected waste streams. Phase 2, which aims to leverage both sovereign and non-sovereign resources, will involve constructing (regional) recycling infrastructure, procuring and operationalizing equipment, formalizing country-specific framework contracts, and finalizing regional agreements and legislation governing both the import of products and the export of recovered materials.

The project will address key gaps along the waste value chains—such as financial incentives, public awareness, legislation and enforcement, capacity building, and appropriate technologies—to ensure the financial viability of business cases for selected waste streams and enable access to recycling end-markets. The private sector will play a pivotal role in the initiative's success. ADB will leverage existing platforms such as ADB Frontier[4][10] and ADB Wayfinder[5][11] to mobilize additional financial resources and support Pacific SMEs in expanding and scaling their operations. Equally important is the integration of the informal sector, which plays a foundational role in the collection of valuable materials and provides a vital source of income for many, particularly women. Rather than fostering competition, the project will promote synergies and incentives that strengthen collaboration between formal and informal actors, ensuring a more inclusive and effective recycling ecosystem.

The project will be closely coordinated with ongoing partner initiatives in the solid waste sector, including EU's PacWaste Plus[6][12], JICA's J-PRISM III[7][13], Australia's Pacific Ocean Litter Project (POLP)[8][14], France's SWAP, and SPREP-led regional programs[9][15]. Building on PRIF's analytical work on regional recycling[10][16], the project will align with these efforts to avoid duplication, share lessons, and leverage synergies. ADB's role will be to complement partners by filling value-chain gaps, mobilizing investment, and supporting regional policy harmonization, while exploring opportunities for cofinancing *with interested donors*. It will increase effective recycling practices across the Pacific SIDS through: i) Increased effective recycling practices across the Pacific region by reducing bottlenecks in material value chain to reach end markets, and ii) Policy and legal frameworks to promote polluters pay principle, enforcement tools and capacities improved. The illustration

below provides details on specific circularity relevance to CWFPF, notably work on PET bottles, e-waste and end-of-life vehicles (EOLV).

Figure 4: Preliminary Target Waste Streams and Value Chain



3R = reduce, reuse and recycle; CDL = Container Deposit Legislation; EOLV = end-of-life vehicle; EPR = extended producer responsibility; PET = polyethylene terephthalate

"Rejuvenating Pasig River for a Livable Manila (REPALM)" In Support of "Pasig River Urban Development" (PRUD) Philippines

The Pasig River Urban Redevelopment (PRUD) Project has been launched by the Government of the Philippines, and covers the entire river course from Laguna Lake to Manila Bay including its various tributaries. The project aims to revitalize infrastructure along the entire 27km length of the river - across nine segments that highlight the various component cities. The project features a four-phased investment initiative which will be coordinated by an inter-agency council, with a vision to transform the river into a major transportation, tourism and economic hub, along the lines of similar projects in Korea, Thailand, UK and France. https://pasigriver.com.ph/. Six main priorities include: i) water system rehabilitation, ii) transportation, iii) recreation, iv) mixed use development, v) tourism, and vi) sustainable human settlements.

ADB will consider supporting a "special initiative" aimed at rejuvenating the river as a complement to the main GOP investment. The REPALM, roughly $ 200 million if approved, would support: i) integrated planning and governance, ii) enhanced multimodal connectivity, iii) multi-river, low carbon mobility, iv) modern vessel traffic control system, v) coastal resilience and flood risk management, vi) solid waste and waste water management and river clean-up, and vii) pedestrian and bicycle mobility and green public spaces.

There is an opportunity to examine closely and influence the interventions related to vi) above, as the levels of pollution, including chemicals of concern, in the river system are considerably high. ADB's support for a full, cross-cutting suite of integrated cross-sectoral solutions to support rejuvenation of the Pasig River, leveraging upstream policy reforms, planning support, and project preparation, have strong potential to catalyze investments and private sector participation.

One example is the current deployment of "Clearbot", the artificial intelligence (AI)-powered robotic vessel designed to clear floating waste and water hyacinth from "esteros" or inland tidal channels connected to the Pasig River. Clearbot is a smart, asset-light solution that transforms environmental liabilities into bankable

public-private partnerships, delivering immediate impact and auditable data aligned with ADB's goals for pollution reduction and circular economy.

● Financial & Operational De-risking: i) 300% higher productivity, 30% lower costs, ii) 100% solar-electric; zero fuel volatility, iii) 95% lower emissions, strong ROI, and

● Targeting Complex Waste Streams (the 'Chemicals & Wastes' Lens): i) Targets water hyacinth, algae, and solid waste, ii) Restores water quality by removing pollutants

● Built-in Transparency, i) Tracks waste type & location via dashboard, ii) Ensures data-backed compliance for governments and international financing institutions (IFIs).

Reference: https://events.development.asia/materials/20251022/ai-driven-autonomous-technology-improve-waterway-management-pasig-river-case

C. Private sector-led projects and investments

HBCDD in refrigeration insulation

Hexabromocyclododecane (HBCDD) is a brominated flame retardant chemical used in building materials, textiles and electronics. ADB's private sector teams are working with a potential investee company, a mature materials manufacturer in South East Asia, to develop their bioplastics business. The company has a strong environment, social and governance ethos, and has 'green chemistry' as core competence, which supports a range of product and application lines. These include high-strength PBAT product from SK leaveo that incorporates the proprietary Cellulose Nano Crystal (CNC) technology and a unique recipe, enabling adjustable biodegradability.

These grades are functional biodegradable materials designed for packaging containers (coffee capsules, cutlery, containers), medical injection-molded products (Splints), and electronic device injection-molded products (IT accessories and packaging). Properties include fast crystallization rate, which can be utilized with traditional equipment, enhancing productivity with fast cycle times and achieving high impact strength. When rigid properties are required, they can be blended with other biopolymers to adjust their properties. The technology grades are functional biodegradable materials designed for use in mono and bico spunbond, meltblown, and staple fibre nonwoven processes.
They are suitable for applications such as diapers, feminine hygiene products, wet wipes, and filters, which are difficult to recycle due to contamination. These grades feature high crystallization temperatures, rapid crystallization rate, and excellent self-adhesion control, enabling the production of filament fibres and nonwovens using traditional spinning methods.

One aspect of development is the addition of inert material to the bioplastic compounds to increase longevity prior to decomposition. This additive also provides co-benefits in insulation of avoiding the need for additive flame retardants, in the manufacture of hygiene products it reduces the need for surfactants, and in rigid plastic substitution it increases flow in the press moulds reducing manufacturing time. A key market area for this materials manufacturer is the Expanded Polystyrene (EPS) market for insulated panels in home and industrial construction. This would effectively replace traditional refrigeration insulation which contains HBCDD POPs with a limestone dust filler. The ADB investment in this company is estimated be around $ 50 million along with other co-financiers for a total of $ 200 million.

In this connection, ADB is developing a complementary range of sovereign projects to further food supply security and climate smart production practices in the horticultural and agricultural sectors. The Climate Smart Horticulture Value Chain Infrastructure project in Viet Nam (reference to GEF ID 10915), considers the development of high efficiency integrated cold chain systems to reduce crop spoilage between field and plate. This intervention across 6 provinces gives ample opportunity for ADB's sustainable procurement policies to instruct the selection of bioplastic substitutes which will, in turn reduce the need for expanded polystyrene (EPS) and polyurethan (PU) foams commonly used as insulation and requiring HBCDD flame retardants. The

project is estimated to address @5000 tonnes of EPS and PU insulation over the project and extended impact periods.

The market for EPS / PU insulated panels is projected to nearly double between 2021 and 2031. If the bioplastic substitute in which ADB and its partners invest replaces even 10% of the HBCDD, the POPs avoidance will be significant.

https://www.alliedmarketresearch.com/expanded-polystyrene-insulated-panels-market-A15762

Reko Diq Mining Project (Pakistan)

Under its new critical minerals for manufacturing supply chains initiative, ADB's first, and recently approved project will provide a $410 million financing package for Pakistan's Reko Diq mining project, a large copper and gold mine in Balochistan. The financing includes a $300 million loan to the project operator, Barrick Gold, and a $110 million guarantee for the government of Pakistan. The project is expected to become one of the world's largest copper operations once complete.

- **Financing Details:** On ADB side, this includes two loans totalling $300 million to Barrick Gold and a $110 million financing guarantee for the government of Pakistan. The project aims to raise up to $2 billion and has a previous agreement for $700 million in financing from the International Finance Corporation (IFC), and has been in discussion with other prospective financiers, including the U.S. Export-Import Bank, Export Development Canada (EDC) and Japan Bank for International Cooperation (JBIC).
    - **Project Scope:** The Reko Diq mine is located in the Chagai District of Balochistan, Pakistan, and is situated near the borders of Iran and Afghanistan. It is one of the largest known copper and gold deposits in the world.
    - **Environmental and Social Assessment:** The Asian Development Bank has conducted an Environmental and Social Impact Assessment (ESIA) for the project. This assessment includes data on potential impacts, such as those from waste rock and tailings, and outlines management plans to address them.
    - **Operational Details:** The project is being developed by Reko Diq Mining Company (RDMC), a subsidiary of Barrick Gold. The ESIA report includes detailed assessments of various environmental aspects, including surface and groundwater, air quality, and biodiversity. The project is a Copper-Gold mining operation with an onsite processing plant to produce a high-quality copper-gold concentrate (the Concentrate) that will be exported for final processing into various products. The current Life-of-Mine (LoM) is 38 years in terms of defined resources (resources that have been identified already) with significant exploration upside. The construction phase is anticipated to take approximately 40 months, including prestripping. The mine will be a truck-and-shovel open pit mining operation with processing facilities that include crushing, grinding, and flotation. The final Concentrate will be railed to Port Qasim for final export by ship. The mine will be developed in two phases, Phase 1 is expected to have a capacity of 45 Mt per annum (Mtpa) and Phase 2 is expected to have a combined processing capacity of 90 Mtpa. Phase 1 operations are anticipated to commence towards the end of 2027 and Phase 2 operations in 2030.

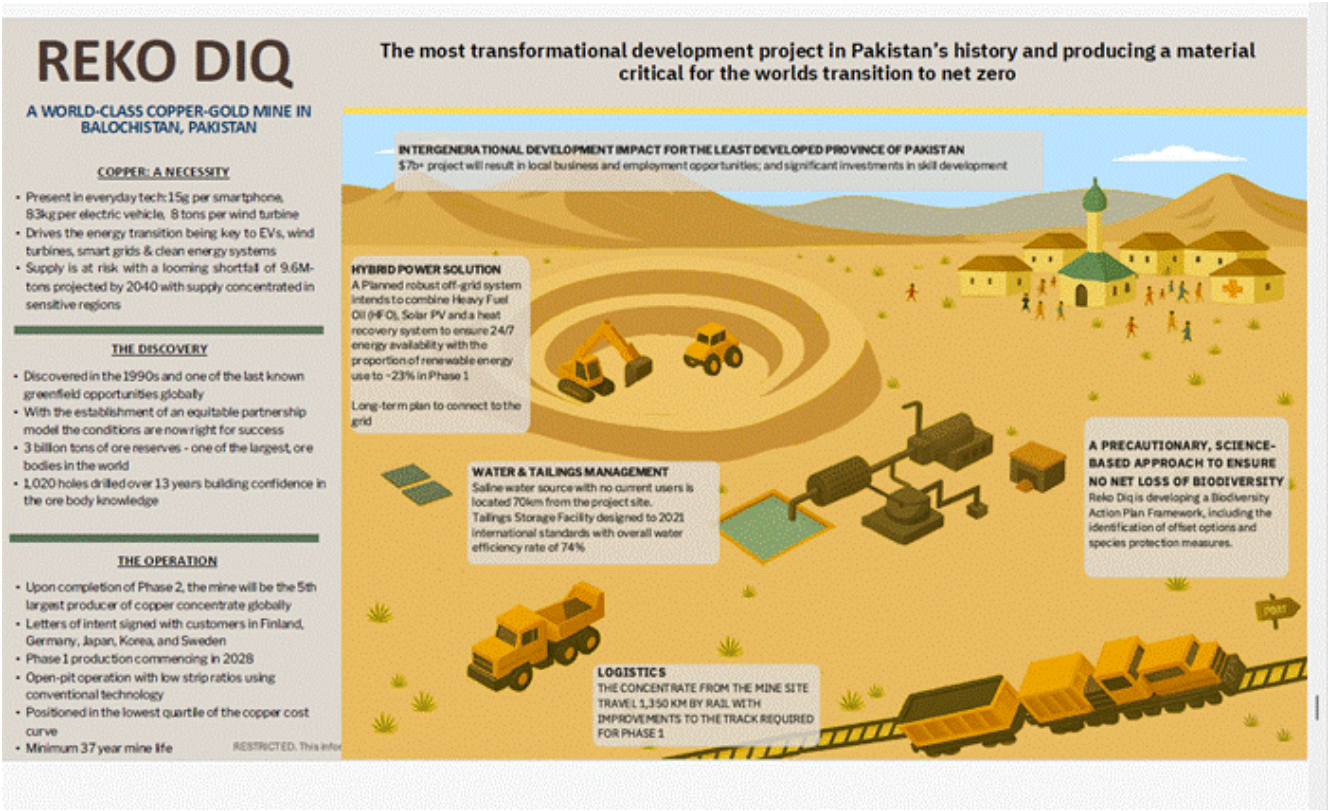


Figure 5: Source: ADB

A number of concerns have been raised by civil society groups with respect to safeguards against environmental and social risks, and policies against reprisals and investing in fragile and conflict-affected contexts.[11][17] From the perspective of CWFPF, this project represents a case where chemicals and other baseline assessments can inform responsible mining practices – especially for projects of this scale and magnitude. It is also a case where the ADB Board Direction on Critical Minerals to Manufacturing (CMM) supply chains can be applied[12][18], and will serve as a base case for future CMM investments.

Types of Sovereign Project Preparation Actions Supported by CWFPF

The nature of support under the CWFPF Trust Fund (TF) would include, but not be limited to:

i) localization of CWP incidence
ii) spot testing, monitoring, abatement / remediation strategies
iii) feasibility study for relevant interventions
iv) natural capital assessments and valuations
v) abatement / remediation cost / GEBs modelling
vi) financial and economic analyses
vii) market analytics
viii) gender assessments
ix) detailed project designs
x) use case scenarios and situation analyses,

xi) risk assessments, including E&S risks
xii) supply chain studies and analysis to promote circularity for proposed investments, and
xiiii) other types of support if eligible under the CWFPF selection criteria.

***Modalities of support through the CWFPF and associated Trust Fund** (or similar mechanism)*

Based on prior Trust Fund experience it is envisioned that the CWFPF will administer finance through: i) direct charge (up to a defined ceiling), ii) grants, iii) technical assistance, and/or iv) grant component of a larger investment loan.

Project Preparation Selection Criteria

-

The Fund Operations Management Group in screening of requests, will encourage the CWFPF to consider the following criteria:

Alignment with key sector and commodity priorities of CWFPF: The CWFPF will prioritize the following waste and chemicals categories, including infrastructures, treatment or avoidance processes:

i) Waste avoidance
ii) Municipal solid waste (MSW),
iii) Hazardous waste, including electronic wastes,
iv) Industrial and municipal wastewater treatment,
v) Landfill management and upgrades.
vi) Pesticide use in agriculture (including agricultural plastics), and
vii) Avoidance of hazardous chemical in industrial processes

Corresponding sectors under coverage could include: i) buildings and construction, ii) textiles and garments, iii) tourism, iv) horticulture; v) electric and electronic equipment; vi) manufacturing, formulation and use of chemical additives; vii) plastics industry; and viii) pharmaceuticals.

The above is summarized in the following table which also includes the referenced UNIDO-supported pilots to be developed under Component 3 of the project:

Table 3: Priority sectors and related waste management, infrastructure and chemicals areas

Sector	Reference pilots under Component 3	Waste avoidance	Municipal solid waste	Hazardous waste inc. E-waste	Industrial and municipal waste treatment	Landfill management and upgrade	Pesticide use in agriculture	Avoidance of hazardous chemicals in industrial processes
Building and construction	Reduction of mercury and GHG from cement plants (Vietnam)	P	P	P	P	P		P
Textile and garments	Upcycling of textile waste (Philippines)	P	P	P	P			P
Tourism		P	P		P			
Horticulture		P	P	P			P	
Electronic and Electric equipment	E-waste management and avoidance (Philippines)	P		P	P	P		P
Manufacturing, formulation and use of chemical additives	Replacement of chemicals in manufacturing (Vietnam)	P		P	P			P
Plastics industry		P	P		P	P		P
Pharmaceuticals	Avoidance and safe management of expired persistent pharmaceuticals (Philippines)	P		P	P	P		

Ability to generate significant Global Environmental Benefits (GEBs): and economic viability and sustainability: Projects should show promise to deliver measurable GEBs under the GEF 8 results framework and architecture. However, there should also be defined potential co-benefits which may be attainable during a project life and/or beyond. The finance facility will also need to adhere to the requirements of other donors / investors in the proposed C&W Trust Fund.

Financial and economic viability and sustainability - project demonstrates financial feasibility and the potential for sustainable operation beyond the CWFPF investment period, including cost recovery mechanisms and private sector involvement

Demonstrated interest from financing institution, including ADB for follow on investments. There should be early engagement with potential multilateral, bilateral and other financing institutions.

Innovation and scalability - utilize innovative technologies or approaches for CWP with potential for replication or scaling up in similar contexts across ADB DMCs and UNIDO target countries.

Institutional Capacity and Governance: capability of borrower to manage and implement the project effectively, considering governance, transparency, and accountability

.

Community involvement and social acceptance - strong community support, engaged stakeholders in planning and implementation, sensitive to social and cultural contexts.

Risk management - assessment of potential risks, including environmental, social, financial, and operational risks; capacity to manage and mitigate these risks effectively.

Partnership and Leveraging Resources - leveraging resources from development partners, private sector, FIs to enhance the project's impact and sustainability.

Gender equality and social inclusion - projects that consider CWP impacts on social groups, ensure equitable benefits, measures to empower women and marginalized communities.

Positive health Impact - projects that promise substantial public health benefits by reducing exposure to hazardous chemicals and improving quality of life for communities affected by pollution.

Contribution to policy and regulatory change - support strengthening policy and regulatory frameworks for CWP, including promotion of policy coherence and replacement of harmful subsidies and incentives with those that promote net zero, nature positive outcomes.

Compliance with Environmental and Social Safeguards - adherence to GEF, ADB, UNIDO safeguard policies and international best practices to ensure that projects do not result in adverse environmental and social impacts, advance net zero, and nature positive impacts.

Bankability - A project is bankable, whether from public or private sources, when its risk-return profile meets investors' criteria and can secure financing to implement the project. Key criteria for bankability include the probability of meeting the project's financial, environmental, and social goals, sufficient estimated cash flows to cover costs and produce returns that meet investor expectations, and whether the project will be implemented by a creditworthy entity. Though the assessment of whether a project is bankable may differ between specific financiers, they all need confidence that the regulatory, environmental, social, and economic factors are unlikely to prevent the project from being completed (Rana 2017; GPRBA2018).

The Fund Operations Manager will also play a role in screening of incoming requests for support, through its core team, as well as use of specialized sector-based or technical expertise depending on the nature of the request. Screening will be transparent, well documented and follow the criteria described above.

b) At least one investment project supported as pilot new approaches to attract private capital into in CWP abatement and elimination projects (possible a PPP)

This sub-output will be implemented in line with the Private Sector Engagement Strategy (attached) which will deeply embed private sector within the CWFPF operating model. CWFPF has a potential role in mobilizing private financing for enterprises that provide environmental infrastructure, industrial pollution abatement retrofit equipment, and environmental services that remove hazardous chemicals from waste streams, soils, food and water systems, urban industrial and development sites, landfills and other sensitive locations where they can harm humans and the environment. A key focus can be identifying and meeting emerging financing needs which support businesses efforts to address CWP in Asia and the Pacific and globally.

Focus areas could include:

- Compliance of the proposed technologies with the criteria set under the "Updated general technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants (POPs)". Such guidelines also contain a non-exhaustive lists of pre-treatment and destruction technologies that can be taken as reference, although not all the technologies listed have reached the commercial stage.

- Dissemination of class-based solutions that address entire chemical classes (e.g. PFAS), not individual compounds.

- Retrofit-ready technologies: targeting proven and emerging technology solutions that can be deployed at industrial or municipal scale.

- Sectoral integration: partner with all 'bankable' companies from cleantech startups and global environmental operators.

- Field readiness: able to support demonstration pilots and local site integrations via field programs.

Because all of the solutions providers are private companies, and their products and services must be paid for by customers, whether that customer is a city government or a private factory, there are a myriad of financing needs and opportunities, and they occur at all levels of the manufacturing, distribution and supply chains for these products and services, all the way down to the customer (see Financing Types table in the attached "Private Sector Engagement Strategy").

Although some public customers' procurement of chemical management equipment may be covered by ADB sovereign loans, the vast majority of the financing needs for this type of equipment in Asia Pacific cannot be covered through traditional ADB sovereign operations. The need exists, therefore, for very substantial private financing. This can happen provided the opportunities are structured in a commercially sound way, packaged as recognizable investment products or transactions, and sold to institutions looking for competitive return sovereigns as well as green impact.

Project finance opportunities include public and industrial wastewater treatment upgrades, landfill remediation and re-purposing, industrial retrofits to reduce emissions of CWP, and brownfield site remediation.

Corporate finance opportunities include equity and debt investments in CWP solutions providers as well as off-balance sheet solutions such as third-party customer financing and leasing facilities for solutions providers and their customers (incl. municipalities and other sub-sovereign agencies such as public water, wastewater, power generation and transmission utilities, agricultural businesses, urban development agencies, etc. all of whom have an interest in reducing CWP in their areas of responsibility or operations.

Grant amounts available per project investment

Ticket sizes for project preparation support would range between $ 250,000 and $ 1 million depending on the nature of the request. Efforts will be made to balance project preparation across upstream, midstream and downstream interventions.

Gender indicators for Output 4.1:

- Number of men and women participating in project activities, and
- CWFPF supports gender assessments for investment project preparation, gender equality indicators considered in screening of request for support under the facility (including consideration for increased role of women in decision-making and control over natural resources), and proposed investment projects include gender and social inclusion plans and targets.

This output will be achieved through the implementation of the following activities:

Activity 4.1.1 Participate in country programming strategy and indicative pipeline development with ADB's Sector and Thematic Groups, Resident Missions and other offices; as well as with other international and national financing institutions as appropriate.

Activity 4.1.2 Similar to Activity 4.1.1, regularly scan ADB's country programming strategies and indicative pipelines across multiple sectors and countries, and where appropriate identify potential private sector entry points for particular technologies or services. This could also include working in consultation with the Office for Markets Development and Public-Private Partnership (OMDP) as well as Private Sector Operations Department (PSOD).

Activity 4.1.3 In support of the UNIDO Component of CWFPF: i) Help to identify and validate pilot-stage companies or investment vehicles with potential for near-term implementation, ii) Focus on the demonstration / pilot sectors, iii) Highlight high-potential areas of applied research or retrofittable clean production with relevance to treaty chemicals; and iv) Structure co-investment opportunities where CWFPF resources can be matched with private capital

Output 4.2 At least 12 innovative chemicals management solutions advanced by early-stage private enterprises benefitting from CWP Seed venture financing

The CWP Seed venture sub-program will provide catalytic seed funding and deployment support to a select number of startups ready to scale across emerging markets in Asia and the Pacific.

In addition to the ADB Ventures work on pipeline development, it will be associated with a newly approved ADB "Market Acceleration Platform for Asia and the Pacific Trust Fund" (AMAP). The AMAP (currently at $ 20 million) support for private sector development will include policy and regulatory reforms, capacity development, pipeline development and facilitating the introduction of digital solutions, particularly in the areas of health care, agribusiness, education, energy transition, waste management, public financial management, and other infrastructure investments.[13][19]

Startup selection:

The CWFPF will target support for 4-5 market-ready startups per year, each with up to USD 400,000 in seed funding, to accelerate early market entry or expansion in Asia and the Pacific. These companies may include those developing safer chemical substitutes, waste detoxification technologies, pollution monitoring systems, and circular economy models.

Selection criteria:

Early-stage enterprises will be chosen through a rigorous and transparent process guided by ADB Ventures' established seed investment framework. Evaluation will cover both commercial and impact dimensions to ensure that selected companies can scale while directly contributing to CWP objectives. Headline criteria will include:

- **Strategic Alignment** – Clear contribution to reducing harmful chemicals, improving waste management, or advancing safer substitutes.
- **Team Strength** – Capable founding team with relevant domain expertise and execution capacity.
- **Market Potential** – Scalable demand in developing Asia and the Pacific, with strong prospects for replication across markets.
- **Problem–Solution Fit** – Addressing an urgent and well-defined chemical or waste challenge with demonstrated early product–market validation.
- **Competitive Differentiation** – Proprietary technology, IP, or unique approach that makes solutions defensible and impactful.
- **Business Model and Revenue Potential** – Logical path to sustainability with evidence of traction or early customers.
- **Impact** (CWP-focused) – A clear theory of change linking commercial growth with measurable outcomes to reduce hazardous substances, prevent toxic waste leakage, and protect environmental and human health at scale.

A detailed **scorecard**, adapted to emphasize chemicals and waste impact, is maintained internally to guide evaluation. Please refer to Attachment X for the full framework. The relative weighting of each area will be discussed and agreed with program stakeholders to ensure alignment with CWFPF priorities.

Rationale for SEED support:

Seed funding plays a critical role in bridging and de-risking the early-stage financing gap for chemicals and waste innovation, especially in emerging markets where traditional venture capital is limited due to higher risk, longer timelines, or complex regulatory environments. Since 2020, ADB Ventures has backed over 60 early-stage impact startups across the region.

Beyond capital:

Through its regional networks and operational presence, ADB provides startups with tailored deployment support, engaging local partners, navigating regulatory landscapes, and connecting with sovereign and non-sovereign stakeholders. ADB also enhances startups' capacity for impact monitoring, governance, and visibility, helping unlock follow-on investment and scale.

Buttressed by the CWFPF knowledge hub and e-marketplace, as well as other similar platforms, this support helps create an enabling environment for early-stage innovations to validate, deploy, and sustain their solutions across the region.

Proposed thematic areas:

The CWP Seed will target six priority areas aligned with CWFPF objectives and market-ready innovation opportunities (Figure 4 illustrates in more detail):

1. **Safe Substitutes & Green Chemistry.** Solutions that replace harmful chemicals at the source, including PFAS-free materials, bio-based solvents and adhesives, safer plastic additives (e.g., phthalates, bisphenols), and green process innovations that reduce volatile organic compounds (VOCs), heavy metals, and POPs.

2. **Circular Economy & Material Innovation.** Technologies that enable non-toxic, recyclable, or biodegradable material alternatives; innovations in chemical recycling and secondary raw material markets; and waste-to-value models for e-waste, agri-waste, and industrial by-products.

3. **Detoxification, Recovery & Treatment Technologies.** Solutions for removing hazardous chemicals from waste and effluent, such as PFAS remediation, heavy metal extraction from batteries or solar panels, and modular or on-site treatment systems for contaminated wastewater.

4. **Pollution Monitoring & Interception.** Tools and platforms that detect and prevent environmental leakage of harmful chemicals, including sensors, IoT, digital compliance systems, robotic capture of debris, and smart segregation for hazardous waste streams.

5. **Agri-Chemical Risk Reduction.** Innovations that reduce reliance on synthetic agricultural inputs and prevent runoff, such as biopesticides, bacteriophage-based disease controls, precision nutrient delivery systems, and technologies that support climate-adapted farming.

6. **Climate-Chemicals Nexus & Worker Safety.** Technologies addressing the intersection of chemical pollution and climate impact, including low-GWP refrigerants, legacy CFC/HFC destruction, and digital tools or automation that protect workers from chemical exposure in high-risk environments.

INVESTMENT THEMES		EXAMPLES OF SOLUTIONS
Safe Substitutes & Green Chemistry	Replacing harmful chemicals at the source	▪ PFAS-free materials for textiles, packaging, consumer goods ▪ Bio-based solvents, adhesives, surfactants ▪ Alternatives to toxic additives (phthalates, bisphenols) ▪ VOC, heavy metal, and POPs reduction via green process innovation
Circular Economy & Material Innovation	Enabling safer material cycles and waste-to-value models	▪ Biodegradable, recyclable, or non-toxic material innovation ▪ Chemical recycling and secondary raw materials markets ▪ Waste-to-value models for e-waste, agri-waste, or industrial by-products

Detoxification, Recovery & Treatment Technologies	Removing hazardous chemicals from waste and effluent	▪ PFAS remediation ▪ Safe rare earth/heavy metal extraction from e-waste, EV batteries, solar ▪ On-site treatment for wastewater, effluent with heavy metals, POPs
Pollution Monitoring & Interception	Detecting and preventing chemical leakage into the environment	▪ Sensors, IoT, and digital platforms for pollution detection and compliance ▪ Robotics and smart systems for waste segregation and leakage prevention
Agri-Chemical Risk Reduction	Reducing synthetic inputs and environmental leakage in agriculture	▪ Biopesticides, bacteriophages, biological controls ▪ Precision and slow-release systems for fertilizer and pesticide use ▪ Adaptation tech to address heat-driven pest/disease outbreaks
Climate-Chemicals Nexus & Worker Safety	Addressing dual risks of chemical exposure and climate impacts	▪ Low-GWP refrigerants and closed-loop systems ▪ Safe destruction of legacy CFCs/HFCs ▪ Worker protection from chemical exposure (PPE, robotics, digital tools) ▪ Digital traceability for hazardous waste and chemical containers

Figure 6: CWP Seed Venture Themes, Subthemes and Solutions Options

The CWP Seed will initially focus on emerging Asia and the Pacific. Innovations may originate from outside the region, provided they demonstrate significant impact within the target markets.

Funding mechanism embedded in CWFPF:

To maximize catalytic impact, financial sustainability, and private sector mobilization, the CWP Seed will adopt a dual financing approach combining (1) a Recoverable and Revolving Seed Funding Mechanism and (2) a CWP Emerging Fund Manager Co-Investment Scheme.

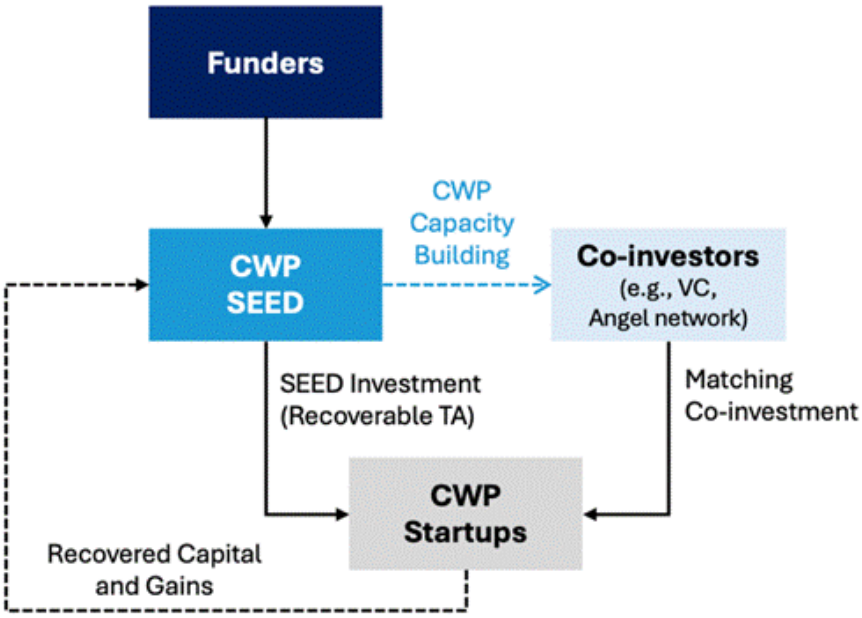


Figure 7: CWP Seed Funding Mechanism

Recoverable and Revolving CWP Seed Funding:

Startups will receive grant funding in exchange for rights to future equity, structured in line with market-standard SAFE agreements. When a portfolio company secures follow-on financing or reaches a defined liquidity event, CWP SEED may monetize these rights, recover the original grant, and recycle the proceeds into new investments. This creates a revolving capital pool, extending the reach and sustainability of funder resources while ensuring support is tied to company success.

CWP Co-Investment Scheme with Local/Regional Investors:

To strengthen local investment ecosystems and crowd in private capital for the CWP space, the platform will establish a co-investment mechanism with reputable local/regional investors, including micro-VCs, VC funds, angel networks, and other early-stage investors who typically provide early-stage investment for startups. Under this scheme, the CWP SEED program will match the capital commitments of qualified local investors into eligible startups in CWP sectors.

Through this structure, local/regional investors contribute local expertise, deal sourcing, and on-the-ground post-investment support, while ADB Ventures provides matching capital, impact-focused capacity building, governance and impact management, and regional network support. To reinforce participation, the mechanism may also include performance-based support or partial coverage of transaction costs, ensuring that resources flow to investors who successfully mobilize capital and provide hands-on value creation. This approach not only incentivizes local investors to back overlooked sectors but also accelerates the development of a pipeline of investable companies and CWP-oriented fund managers.

Targetting Impact, Outcomes and GEBs

The platform aims to accelerate the presence and impact of CWP-focused startups in emerging Asia and the Pacific by addressing key funding and market entry gaps. The intended outcomes include:

1. Catalyzed Early-Stage Funding and De-risked Market Entry

- 4-5 startups per year, over a three-year period, provided with catalytic seed funding.

- Use cases demonstrated and customer validation achieved in priority markets.
- Strengthened product-market fit and early traction to support scale-up.

2. Enhanced Development Impact

- Scalable solutions deployed to monitor, reduce, and eliminate harmful chemicals and waste.
- Startups supported to integrate ESG principles and impact measurement frameworks.

3. Ecosystem Linkages and Institutional Learning

- Expanded collaboration with development partners, corporates, and investors for market access, co-financing, and pilot deployments.
- Key learnings shared through the CWFPF knowledge hub and e-marketplace, and other stakeholders to improve engagement with CWP innovators.
- CWP Seed positioned as a replicable model for scaling treaty-aligned solutions across emerging markets in Asia and the Pacific and beyond.

Existing CWP Seed Pipeline:

Currently there is a pipeline of around 20 enterprises under consideration for CWP Seed support. Initial due diligence and profiles are presented in Appendix 6. Below is a summary table, which is supplemented by Appendix 6 (with more details including GEB potential) and Appendix 7 which is a worksheet by company on GEB potential.

Table 4: CWP Seed Provisional Pipeline of Companies

Company	Theme	Subtheme
Nibertex	Safe Subsitutes & Green Chemistry	PFAS Alternatives
N&E Innov	Safe Subsitutes & Green Chemistry	Enzymatic cleaners for industry/hospitals
UniFAHs	Agri-Chemical Risk Reduction	Ag Chemical Alternatives
Viridis	Detoxification, Recovery & Treatment Technologies	Watertech
Clearbot	Detoxification, Recovery & Treatment Technologies	Clean-up Robotic
Pureplus	Detoxification, Recovery & Treatment Technologies	Bioremediation
GreenTeams	Pollution Monitoring & Interception	Air quality and pollution monitoring
MultiRobotics	N/A	N/A
Humble	Climate-Chemicals Nexus & Worker Safety	Safer waste management
Remind	Climate-Chemicals Nexus & Worker Safety	Safer waste management
BIOM	Agri-Chemical Reduction	Bio-stimulant
EarthSense	Agri-Chemical Reduction	Precision agriculture
NETSPA	Circulr Economy & Material Innovation	Ocean waste management
NewEra Bio	N/A	N/A
Naturloop	Circular Economy & Material Innovation	Sustainable materials
Ananas	Circular Economy & Material Innovation	Sustainable materials
Earthboundsea	Circular Economy & Material Innovation	Sustainable materials
Hydroleap	Detoxification, Recovery & Treatment Technologies	Watertech
Biometalica	Detoxification, Recovery & Treatment Technologies	Rare metal recovery
Living Roots	Agri-Chemical Reduction	Biofertilizer
Kisui	Agri-Chemical Reduction	Precision agriculture
Recoolit	Climate-Chemicals Nexus & Worker Safety	Refrigerant
Coolimpact	Climate-Chemicals Nexus & Worker Safety	Refrigerant

Activities:

Activity 4.2.1 Stakeholder Alignment. Initial discussions between stakeholders to agree on the CWP Seed objectives, structure, and roles. Seek endorsement from the financing partners.

Activity 4.2.2 CWP Seed sub-program design finalization. Refine program components, selection criteria, and delivery model in collaboration with CWFPF.

Activity 4.2.3 Resource Mobilization. Confirm initial funding allocations and secure co-financing commitments from targeted partners.

Activity 4.2.4 CWP Seed planning and implementation roll out

Activity 4.2.5 After care, monitoring and other services provided for investee enterprises.

Gender indicators for Output 4.2:

- Number of women, men, and vulnerable groups are actively participating in project activities.
- CWFPF supports gender assessments for investment project preparation, gender equality indicators considered in screening of request for support under the facility (including consideration for increased role of women in decision-making and control over natural resources).
- Proposed investment projects include gender and social inclusion plans and targets.

Component 5: Communications, Knowledge Management, and Learning

Outcome 5: Integrated Communications, Knowledge Management, Learning and Strategy Implemented

Output 5.1 Communications and visibility plan implemented at operational level.

A communications and visibility plan has been prepared and is attached to this CEO Endorsement Request (CER).

Activity 5.1.1 Implement the Communications and Visibility Plan, which will be subject to periodic review and adjustment. Main elements include:

Branding and visibility

A clear and consistent brand identity is essential for credibility and recognition. As a GEF-funded initiative co-implemented by ADB and UNIDO, CWFPF communications will adhere to the **GEF, ADB, and UNIDO branding and visibility guidelines**. It will:

- Ensure all co-branded visibility materials feature correct logos, visual identity, and disclaimers. When relevant, pilot country and other partner logos may be added in accordance with agreed branding protocols.

- Maintain coherence (consistent tone, terminology, and narrative framing) across digital and print assets, including reports, social media graphics, presentations, and promotional materials, ensuring alignment with GEF, ADB, and UNIDO's corporate communications standards.
- Position CWFPF as a neutral, multi-stakeholder platform that convenes diverse actors to address chemicals and waste pollution while advancing financing solutions, highlighting collaboration, inclusivity, and innovation.

Key Communication Channels

Multiple channels will be used to engage audiences and disseminate knowledge products.

- **E-Marketplace and Knowledge Hub** – Central repository for CWFPF updates, resources, case studies, and investment opportunities, ensuring content is accessible and updated.
- **Social Media** – Channels such as LinkedIn and YouTube to highlight progress, stories, and milestones.
- **Newsletters & Email Updates** – Periodic updates on new knowledge products, funding opportunities, and events.
- **Media & Press Releases** – Targeted outreach through traditional and digital media to amplify messages and showcase results
- **Human-Interest Stories & Multimedia** – Videos, podcasts, infographics, and photo stories highlighting pilots, community experiences, and investment success stories.
- **Events & Policy Dialogues** – International conferences, roundtables, and workshops to disseminate knowledge, attract investors, and strengthen policy engagement.
- **Promotional Materials** – Flyers, banners, toolkits, and other outreach materials reflecting co-branding guidelines to support events and campaigns.

Key Messages

All communications will be gender-sensitive and culturally appropriate, amplifying the voices of women, youth, informal workers, and Indigenous Peoples. In addition, communication will target investors and donors with tailored packages, briefs, and showcases.

Clear and compelling messages are critical for positioning CWFPF as a transformational facility in the chemicals and wastes space.

- **Chemicals and wastes pollution is a global threat** and a cross-cutting challenge to health, environment, and socio-economic development, requiring urgent and collective action to achieve Sustainable Development Goals (SDGs) in line with international commitments.

- **Investments in sustainable solutions are possible and scalable** – pilot projects demonstrate pathways for replication and impact of technology transfer, innovation, and capacity building, thereby ensuring long-term sustainability

  - **CWFPF enables mobilization of finance** by aligning technical expertise with financial instruments and regulatory / policy support.

- **Circular, net-zero, and nature-positive approaches to chemicals and wastes are achievable**, including through systemic transformation of value chains**,** which delivers co-benefits for people, economies, and nature.

- **Inclusive solutions are critical** – women, youth, informal workers, and vulnerable communities must be well-considered and recognized in any chemicals and wastes action.

Audience Segmentation & Targeted Communication

Different audiences require tailored communication strategies to maximize engagement. These include:

- **Financial Institutions and Investors** – Demonstrate the value of investing in chemicals and wastes solutions, backed by robust data, risk mitigation and bankable cases.

- **Policymakers and Government Agencies** – Provide policy-relevant evidence, best practices, and investment frameworks to inform national and sub-national decision-making, in line with multilateral environmental agreements, national development plans, and SDG commitments.

- **Private Sector and Industry** – Showcase opportunities for innovation, extended producer responsibility, and circular business models, and creating incentives for sustainable production and supply chains**.**

- **Civil Society and Advocacy Groups** – Collaborate to amplify equity, health, and environmental justice narratives, and leverage awareness-raising, community mobilization, and accountability mechanisms**.**

- **Academia and Research Institutions** – Disseminate technical insights, encourage knowledge exchange, including joint studies and South-South knowledge exchange, and support innovation and commercialization.

- **Donors and Development Agencies** – Communicate progress, impact stories, and opportunities for co-financing.

- **Communities and Vulnerable Groups** – Share practical information on risks, solutions, and benefits, ensuring inclusivity, accessibility, and participatory approaches and local knowledge to strengthen ownership and ensure solutions are context-appropriate.

Refer to the attached Integrated Communications, Knowledge Management and Learning Strategy (budgeted)

Output 5.2 KML plan implemented across CWFPF operations

The CWFPF will collect, curate, analyse, and share knowledge to strengthen investments in chemicals and wastes (CWP) pollution reduction / elimination, and support transformational, scalable solutions. The budgeted plan is attached to the GEF CER documentation. One key element of the KML plan will be support for the 'integrated knowledge hub and e-marketplace' as described under Output 3.2.

Activity 5.2.1 Implement the CWFPF KML plan through establishment of learning agenda, creating a suite of knowledge products, and supporting a range of knowledge management channels.

Learning Agenda

The learning agenda will include systematic collection and analysis of sex-disaggregated data, gendered exposure assessments, and inclusion of diverse community perspectives. It will also integrate private sector insights, such as maintaining a structured industry database of CWPAR firms and producing investment readiness tools (structuring guides, term sheets, investor briefs).

CWFPF's knowledge management will focus on capturing lessons from pilots, policy support, and investment readiness activities. It may include:

- **Key sources and risks of CWP pollution** and effective pathways for prevention, reduction, and elimination.
- **Innovative financing models** that enable investments in CWP solutions, such as extended producer responsibility schemes, circular business models, and blended finance.
- **Barriers and incentives for private sector investment**, including risk-sharing tools and market entry points in such sectors as water, energy, textiles, electronics, and construction.
- **Policy and regulatory frameworks** that create an enabling environment for scaling CWP solutions in line with the relevant Convention guidance and international best practice.
- **Gender and social inclusion impacts** of CWP pollution (e.g., disproportionate exposure of women and informal waste workers) and strategies for ensuring equitable access to solutions and benefits.

Potential Capacity Development and Training

Throughout project implementation the fund operations management team will review capacity gaps and needs, emerging areas for thought leadership and also upskilling of project stakeholders through empirical and other types of awareness creation and training. Some options considered are below:

PFAS and Emerging Contaminants Training

PFAS ("forever chemicals") and emerging contaminants, covering contamination path-ways, monitoring and testing, remediation technologies, wastewater treatment, and regulatory developments relevant to textiles, electronics, water, and industrial sectors.\

Content references

SEtox – The UNEP/SETAC Scientific Consensus Model

Chemicals and Waste Governance and Convention Implementation

Hazardous chemicals and waste management frameworks, including implementation of the Basel, Rotterdam, Stockholm, and Minamata Conventions, with focus on POPs, mercury, hazardous waste streams, and circular economy approaches.

Content references:

United Nations Chemicals and Waste Management Study Programme

The BRS Conventions and their linkages with the SDGs

Enforcement of Chemicals Legislation

Chemicals and Waste Finance and Investment Readiness

Pollution reduction finance, blended finance mechanisms, circular economy invest-ments, ESG integration, and investment readiness for chemicals and waste projects to strengthen the facility's pipeline development and financing functions.

Content references:

Sustainable Financing of Institutional Capacity for Chemicals Control

Sector-Specific Technical Training (Electronics, Textiles, Pharmaceuticals)

Sector-focused technical training on e-waste management, hazardous substances in electronics and textiles, environmentally persistent pharmaceuticals, wastewater pollu-tion, and sustainable production systems to support pilot interventions and investment preparation.

Content references:

Eco-Innovation — Building Materials Supplements

Waste Management and Circular Economy

Knowledge Products

CWFPF will generate diverse knowledge products to ensure evidence and lessons are widely shared and applied:

- **Reports & Syntheses** – Document outcomes of pilots, investment readiness work, and policy dialogues.
- **Case Studies** – Showcase real-world applications, such as safer electronics recycling or green textile manufacturing, with replication potential, and lessons learned for different contexts.

- **Policy Briefs** – Provide actionable recommendations for regulators and financial institutions on enabling CWP investment frameworks, linking briefs to Convention obligations, international and national agreements, reinforcing global and national relevance.
  - **Discussion Briefs & Blogs** – Share emerging insights from pilots (e.g., EPPs in pharmaceuticals, POPs in consumer products).
  - **Toolkits & Guides** – Practical resources for governments, investors, and industry on financing mechanisms, investment screening, and risk management.
- **Event Summaries** – Capture key takeaways from stakeholder workshops, training, and south–south exchanges, including follow-up actions and commitments.

Knowledge-Sharing Approaches

CWFPF will facilitate knowledge exchange through multiple platforms and formats:

- **E-Marketplace and Knowledge Hub** – A central repository for CWFPF outputs, investment opportunities, and resources to access both technical resources and investment opportunities.
  - **Workshops & Webinars** – Regional and global learning events to connect policymakers, financiers, and technical experts.
  - **Communities of Practice** – Thematic groups on financing chemicals and waste solutions, circular economy, and GESI-responsive investment.
- **Publications & Conferences** – Dissemination at GEF, ADB, UNIDO, UNEP, and other global platforms to maximize visibility and influence, in line with multilateral policy priorities and donor agendas.
  - **Media Partnerships** – Amplify findings and innovations through targeted coverage in mainstream and specialized outlets.

Gender indicators for Outcome 5:

- Content for knowledge events and products include gender sensitive and socially inclusive elements,
- Women, youth and vulnerable sectors are targeted in communications and knowledge products.

Outcome 6: Performance monitoring and evaluation system implemented

The project will include a performance tracking and reporting system which will support monitoring efforts for the facility. For details about project Monitoring & Evaluation please consult the relevant section of this document.

Output 6.1 Project performance monitoring system in place

Project performance elements are included in the budgeted M&E Plan. All projects supported under the CWFPF TF will be required to include plans for monitoring and evaluation, which will be validated by the Fund Operations Manager. Guidelines for this will be provided based on templates used for other TFs. In addition, the operations of the TF itself will be monitored and evaluated periodically through the following: i) semi-annual technical and financial reports, ii) quarterly meetings of the CWFPF Executive Committee, iii) Annual meeting of the CWFPF Steering / Advisory Committee and other measures.

The knowledge hub and e-marketplace, will also have a 'public-facing dashboard' presentation of basic facts and progress towards goals.

Output 6.2 Mid-Term Review and Terminal Evaluation conducted

A budgeted M&E Plan has been included in the CEO Endorsement Request, as per GEF policy.

Gender indicators for M&E:

- Gender and social inclusion indicators are in the M&E framework.
- Require funded projects to report on gender outcomes and social benefits and not just technical and financial results.

Gender Equality and Women's Empowerment

A full analysis of global and country-specific gender mainstreaming has been provided in four separate annexes, and summarized below. The Results Framework includes gender-related indicators and activities, drawn directly from the Gender Equality and Social Inclusion Action Plans reported in these annexes, and included in project design, to ensure consistent tracking of progress and accountability across all project components.

CWFPF Global and country-specific Gender Mainstreaming and Social Inclusion Strategies

The Chemicals and Waste Financing Partnership Facility (CWFPF) recognizes that chemicals and waste (C&W) affect women, men, and vulnerable groups differently due to biological susceptibility, occupational exposure, and socio-economic inequalities. Women are disproportionately represented in informal recycling, textiles, and healthcare-related waste handling, where exposure to POPs, mercury, and pharmaceuticals often occurs without adequate protection. Indigenous communities, youth, and low-income households also face heightened risks from chemical contamination of food, water, and traditional livelihoods. Despite commitments under the Basel, Rotterdam, Stockholm, and Minamata Conventions, gaps remain in sex-disaggregated data, meaningful participation of women's organizations, and budget allocations for gender-specific interventions.

To address these gaps, the CWFPF integrates Gender Equality and Social Inclusion (GESI) systematically across its operations. Details can be found in the project description section, where specific activities and relevant indicators are detailed for each project Output. This includes gender analysis in project preparation, gender-responsive safeguards and financing windows, and active involvement of women's organizations, youth, and indigenous representatives in decision-making processes. CWFPF will establish baselines on exposure and participation, apply gender-sensitive criteria in project selection, and support targeted research and capacity

building. Knowledge platforms and communication materials will be designed to be inclusive and context-sensitive, while monitoring systems will collect and report sex-disaggregated data to measure progress.

Aligned with the gender policies of ADB, UNIDO, and the GEF, the CWFPF qualifies as an Effective Gender Mainstreaming (EGM) project. Dedicated resources, gender expertise, and tailored indicators will ensure women, youth, and marginalized groups benefit equitably from investments in safer technologies, circular economy models, and chemicals and waste reduction. Beyond mitigating risks, the facility seeks to expand women's agency as entrepreneurs, workers, and decision-makers in C&W solutions, linking gender equality directly with environmental and financial sustainability. Result of gender assessment work and GM plans prepared during development of pilot projects proposals in the Philippines, Thailand and Vietnam are reported below.

- **Philippines.** In the Philippines, the textile and garment industry is highly feminized, with women comprising nearly 70–90% of the workforce, often in low-paid, insecure, and hazardous roles with limited career advancement. In pharmaceuticals, women dominate the healthcare workforce but remain underrepresented in leadership, while also facing differentiated risks of exposure to environmentally persistent pharmaceutical pollutants (EPPPs) through household roles, informal waste handling, and hospital-based tasks. The project will ensure women's active participation in consultations, training, and leadership opportunities, embed occupational health and safety measures responsive to women's needs, and pilot inclusive financing and policy approaches that strengthen women's economic empowerment and reduce vulnerability to hazardous exposures.

- **Thailand.** In Thailand, gender issues in the electronics and e-waste sectors stem from both formal and informal labor structures. Women workers are concentrated in packaging, testing, and quality control roles, facing differentiated health risks from POPs and hazardous substances, with limited career advancement in male-dominated technical and managerial positions. In the informal e-waste sector, women and marginalized groups often work under unsafe conditions, with heightened exposure risks for themselves and their households. The project will embed gender-responsive measures across pilots, including training for women technicians and entrepreneurs, safer workplace provisions, and pathways for informal female workers to transition into formalized repair and recycling systems.

- **Viet Nam.** In Viet Nam, women are disproportionately concentrated in lower-skilled, lower-paid, and informal roles in cement and manufacturing, where exposure to POPs and mercury creates significant health risks. In the cement sector, women remain underrepresented in technical and leadership positions despite historic contributions, while in the manufacturing sector they are overrepresented in informal recycling and waste-handling, often without protective equipment and with limited opportunities for advancement. The project will integrate gender-sensitive occupational health and safety measures, promote women's participation in technical training and pilot design, support women-led SMEs, and ensure gender-responsive policy and financing frameworks.

Stakeholder Engagement

The Chemicals and Waste Financing Partnership Facility (CWFPF) is anchored in inclusive and participatory stakeholder engagement. A consolidated Stakeholder Engagement Plan (SEP has been prepared. This is supplemented by a Stakeholder Engagement Matrix, which details the country-level consultations undertaken by both ADB and UNIDO).

Regional and local NGOs/CSOs will be engaged in project preparation/implementation as key participants, consultants and beneficiaries of action planning, demonstrations and investments, and knowledge-sharing.

Support will be provided to enable participation in project activities by community leaders and champions (including women and youth). It is recognized that local participation and ownership of project activities is critical to successful outcomes and the sustainability of interventions

The SEP is aligned with the GEF Stakeholder Engagement Policy (2018) and with ADB and UNIDO's own standards. It emphasizes transparency, inclusivity, and meaningful participation, with particular attention to women, youth, informal workers, and indigenous communities. Stakeholders are grouped into government agencies, private sector actors, financial institutions, civil society and NGOs, academia, research institutions, and international partners. Vulnerable groups—including informal waste workers and communities near contaminated sites—are recognized as directly affected stakeholders requiring targeted engagement.

Engagement methods include consultations, policy and technical workshops, digital platforms, advisory and steering committees, and community outreach. Mechanisms for grievance redress operate at three levels: (i) corporate (ADB's Accountability Mechanism), (ii) fund-level (CWFPF online feedback and redress system), and (iii) investment-level (implementing partners' grievance channels). Monitoring will combine qualitative and quantitative tools to track inclusiveness, gender balance, and responsiveness to stakeholder feedback.

During project preparation, broad consultations were undertaken with governments, industry associations, hospitals, textile producers, cement associations, recyclers, NGOs, and local governments. These will continue throughout implementation, guided by the SEP.

In addition to the individual, group and country-level consultations marked in the Stakeholder Consultation Matrix, a roundtable meeting was hosted by ADB on 22 October 2025 in Manila. In his opening remarks the keynote speaker, Trevor Lewis, ADB Advisor for Nonsovereign Operations, highlighted that the transition to net-zero and nature-positive economies will only succeed if wastes and pollution are eliminated at their source through approaches which connect science, finance, and enterprise - and create opportunities to mobilize private capital. The meeting brought together around 85 partners from government, the private sector, and civil society working across policy, finance, and technology to discuss strategies and design for applying a "chemicals and wastes lens" to ADB operations. During the **'marketplace' s**ession a number of early stage and emerging private companies provided insights on their business models. These included **Nibertex** which has developed an alternative to per- and polyfluoroalkyl substances (PFAS), commonly referred to as 'forever chemicals' - for waterproofing of textiles; **ClearRobotics** which is piloting river-based clean up technology; **UniFAHs** which is promoting phage-based solutions for food safety; **Biometallica** which supports ways to manage electronic wastes and industrial residues from mining; and **Hydroleap** which advances electrochemical wastewater treatment. Proceedings from this event are posted here: https://events.development.asia/learning-events/chemicals-and-wastes-financing-partnership-facility-roundtable-meeting

Full versions of the consolidated Stakeholder Consultation Matrix and the Stakeholder Engagement Plan (SEP) are appendicized to this CER,

---

[1] Referred to in past ADB Trust Fund guidelines as "partner-governed funds".

[2] Although fund flow can be exclusively through the trust fund.

[3] Methodology and computer simulation technique for analyzing complex systems by focusing on their feedback loops, time delays and accumulation.

[4] https://www.adb.org/what-we-do/private-sector-financing/adb-frontier

[5] https://www.adb.org/projects/59142-001/main

[6] https://pacwasteplus.org

[7] https://www.sprep.org/j-prism-iii

[8] https://www.sprep.org/polp

[9] https://www.sprep.org/programme/waste-management-and-pollution-control

[10] https://www.theprif.org/document/regional/solid-waste-management-and-recycling/regional-recycling-scoping-network-scoping

[11] https://rightsindevelopment.org/news/balochistan-reko-diq-mine/

[12] https://www.adb.org/what-we-do/critical-minerals-to-manufacturing

[13] https://www.adb.org/news/adb-and-japan-launch-market-acceleration-platform-boost-private-sector-development-and-investment