CEO Endorsement (CEO) entry ? Full Sized Project ? GEF - 7

Reduction of POPs and UPOPs through integrated sound management of chemicals

Part I: Project Information

GEF ID
10686

Project Type
FSP

Type of Trust Fund
GET

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
Reduction of POPs and UPOPs through integrated sound management of chemicals

Countries
Philippines

Agency(ies)
UNDP

Other Executing Partner(s)
Department of Environment and Natural Resources and Environment of the Philippines ? Environment Management Bureau

Executing Partner Type
Government

GEF Focal Area
Chemicals and Waste

Taxonomy

Knowledge Generation, Training, Workshop, Seminar, Knowledge Exchange, Field Visit, Capacity, Knowledge and Research, Conference, Peer-to-Peer, South-South, Twinning, Exhibit, Focal Areas, Chemicals and Waste, Eco-Efficiency, Industrial Emissions, Best Available Technology / Best Environmental Practices, Sound Management of chemicals and waste, Persistent Organic Pollutants, New Persistent Organic Pollutants, Uninentional Persistent Organic Pollutants, Emissions, Plastics, Waste Management, Coal Fired Industrial Boilers, Mercury, Non Ferrous Metals Production, Green Chemistry, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Transform policy and regulatory environments, Stakeholders, Type of Engagement, Partnership, Participation, Information Dissemination, Consultation, Local Communities, Communications, Education, Awareness Raising, Public Campaigns, Beneficiaries, Private Sector, Large corporations, Capital providers, Financial intermediaries and market facilitators, Individuals/Entrepreneurs, SMEs, Civil Society, Academia, Community Based Organization, Non-Governmental Organization, Gender Equality, Gender results areas, Capacity Development, Access to benefits and services, Knowledge Generation and Exchange, Participation and leadership, Gender Mainstreaming, Gender-sensitive indicators, Sex-disaggregated indicators, Enabling Activities, Innovation, Learning, Indicators to measure change, Adaptive management

Sector

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 0

Submission Date

2/5/2022

Expected Implementation Start

7/1/2022

Expected Completion Date

7/1/2027

Duration

60In Months

Agency Fee($)

623,437.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CW-1-1	Strengthen the sound management of industrial chemicals and their waste through better control, and reduction and/or elimination	GET	6,312,500.00	46,203,583.00
CW-1-1	Strengthen the capacity of countries to report to the Minamata and Stockholm Conventions	GET	250,000.00	
		Total Project Cost($)	**6,562,500.00**	**46,203,583.00**

B. Project description summary

Project Objective

Reduction of the use and releases of POPs, U-POPs and GHG through the implementation of a Green Chemistry approach in key manufacturing sectors in the Philippines.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing($)
1. Comprehensive roadmap for greening the manufacturing sectors in the Philippines through a better management of chemicals, including NIP update.	Technical Assistance	1.1 NIP updated	1.1.1 The NIP updated to consider the POPs listed under the SC after 2013 1.1.2. Updated inventory of POPs and U-POPs	GET	607,600.00	4,299,805.00
		1.2 Roadmaps for greening of manufacturing sectors through Green Chemistry principles and reduction of POPs, U-POPs and other substance of concern drafted and endorsed	1.2.1. A detailed assessment of the key manufacturing sectors for which a roadmap toward sustainability was already envisaged by the government (Copper, Plastic, Paper, Paint, Furniture and Automotive, others) carried out 1.2.2. Roadmaps for the implementation of Green Chemistry approach inclusive of the reduction of POPs and U-POPs and GHG			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing($)
2. Demonstration of Green Chemistry implementation including POPs and U-POPs reduction	Investment	2.1 A sustainable financing mechanism designed and implemented in support of the Green Chemistry in key manufacturing industries 2.2 Implementation of Green Chemistry Initiatives in key manufacturing sectors.	2.1.1 A self-sustaining financial mechanism (FREEME ? Financing the Roadmap for the Environmental Enhancement of Manufacturing Enterprises) in support of Green Chemistry in key manufacturing sectors established 2.1.2 Criteria development and shortlisted sector to be identified for implementation. 2.2.1 At least 4 manufacturing facilities from the key manufacturing sectors implementing Green Chemistry approach under FREEME, with direct reduction of at least 20 tons of SCCP, PBDEs, PBBs, PFOS/PFOA	GET	3,893,400.00	27,306,033.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing($)
3. Enhancing the chemical management and reporting of POPs countrywide through the implementation of PRTR system	Technical Assistance	3.1 Environmental legislation improved and enforced and a reporting system for industrial emission implemented	3.1.1 The downstream regulation amended and enforced to include provisions related to all the new POPs listed under the SC after 2013 3.1.2. A PRTR (Pollutant Release and Transfer Register), inclusive of POPs, UPOPs, GHG and heavy metals, piloted in at least 20 factories in key manufacturing enterprises. 3.1.3 Capacity of the customs officers to prevent illegal import of POPs chemicals, POPs containing mixtures and articles increased.	GET	1,536,500.00	10,819,731.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing($)
4: Knowledge Management & Awareness, Monitoring, Learning, Adaptive Feedback and Evaluation.	Technical Assistance	4.1: Project lessons and results monitored, verified, captured, shared, sustained and replicated.	4.1.1. Development and application of adaptive overall management and risk management tools and plans for use throughout the project, and particularly in response to needs and Mid-term Evaluation (MTE) findings. 4.1.2. Collection and dissemination of lessons learned, best practices and experiences at national, regional and global level to support replication. 4.1.3. Capacity and awareness building activities organized for decision makers, stakeholders, and practitioners, to enhance the sound management of chemicals	GET	212,500.00	1,583,228.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing($)
				Sub Total ($)	**6,250,000.00**	**44,008,797.00**
Project Management Cost (PMC)						
	GET		312,500.00		2,194,786.00	
	Sub Total($)		**312,500.00**		**2,194,786.00**	
	Total Project Cost($)		**6,562,500.00**		**46,203,583.00**	

Please provide justification

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Department of Environment and Natural Resources?	In-kind	Recurrent expenditures	1,589,937.00
Recipient Country Government	Department of Environment and Natural Resources	Public Investment	Investment mobilized	1,805,000.00
Recipient Country Government	Department of Science and Technology?	Public Investment	Investment mobilized	8,654,570.00
Recipient Country Government	Department of Trade and Industry?	In-kind	Recurrent expenditures	4,423,468.00
Other	Land Bank of the Philippines	In-kind	Recurrent expenditures	374,753.00
Other	Development Bank of the Philippines	Loans	Investment mobilized	29,231,280.00
GEF Agency	United Nations Development Programme	In-kind	Recurrent expenditures	124,575.00
			Total Co-Financing($)	**46,203,583.00**

Describe how any "Investment Mobilized" was identified

Investment Mobilized is defined as the baseline and future investments relevant to the project components and goal. It refers to the current and pipeline projects, programs, initiatives undertaken and budgeted by the project partners. Investments Mobilized are identified by accounting for existing and (project timeframe) future investments of the project co-financiers/ stakeholders. These are programs, projects, and loan facilities that will be executed during the Project implementation. The identification was based on the relevance and potential contribution to the Project outcomes and goal. The Investment Mobilized for this project includes: ? Investments mobilized from the DENR will be from the laboratory costs of the Environmental Management Bureau and conducting activities related to Gender and Development ? Green loan facilities of state-owned banks such as the Green Financing Program (GFP) of the Development Bank of the Philippines. The total amount of GFP funding is USD 600 million up to 2030, out of which USD 270 million remains uncommitted for the remaining years. This amount is then discounted to 150 million

for five years of project duration. Out of the six funding windows, two (resource use efficiency, waste management and pollution control) are most relevant to the project objective and thus partially accounted for and can be accessed by project beneficiaries. This results in over US$ 29 million of investment mobilized from DBP. ? Investments mobilized from the DOST-Philippine Council for Industry, Energy and Emerging Technology Research and Development (DOST-PCIEERD) are from its Innovative Solutions to Solid Waste Management, and R&D Program for the Prevention and Control of Air Pollution. * The exchange rate used for the co-financing from the Land Bank of the Philippines is USD1=PHP50.70 (November 2021 UNORE forex). The PHP 19 million in the cofinancing letter equals to USD 374,753 in the cofinancing table.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNDP	GET	Philippines	Chemicals and Waste	POPs	6,562,500	623,437	7,185,937.00
			Total Grant Resources($)		**6,562,500.00**	**623,437.00**	**7,185,937.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount ($)

150,000

PPG Agency Fee ($)

14,250

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNDP	GET	Philippines	Chemicals and Waste	POPs	150,000	14,250	**164,250.00**
				Total Project Costs($)	**150,000.00**	**14,250.00**	**164,250.00**

Core Indicators

Indicator 9 Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
192.50	192.50	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)
SelectPerfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride	182.50	182.50		
SelectShort-chain chlorinated paraffins (SCCPs)	10.00	10.00		

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)

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)

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

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)

Indicator 9.6 Quantity of 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)

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	1,012,600	962,970		
Male	1,012,600	962,970		
Total	2025200	1925940	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Part II. Project Justification

1a. Project Description

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description);

The manufacturing industry is a fundamental pillar of the wellbeing of the Filipino society and economy through its products, innovations, job creation, and contributions to economic growth. However, when a proper strategy aligning economic goals with environmental, health, and social goals is missing, the risk of externalization of these costs is extremely high, often putting the most vulnerable populations at risk. The use of hazardous substance in the manufacturing industry is most common in small and micro enterprises (SMMEs), because these are often less expensive than their non-hazardous alternatives, and because SMMEs have limited resources and technical capacity to implement a proper management of hazardous chemicals.

The application of Green Chemistry Principles[[1]] could play an important role in reducing the potential for toxic releases or emissions from processes and products that continue to use or emit POPs. The Roadmap toward Sustainability developed by the Board of Investment (BOI) in 2015 for several industrial sectors that had already had the potential of enabling environment for greening specific sectors by proposing efficient use of natural resources; encouraging the development of green industry based on environmentally friendly technologies; and proactive prevention and treatment of pollution. The Roadmap provides a positive entry point for green chemistry development even though the concept of Green Chemistry might still be unfamiliar to many stakeholders. Today, approaches guided by the Green Chemistry Principles in manufacturing, such as, Green Labeling, Life Cycle Assessment (LCA) of products and processes, are adopted by many farsighted enterprises. Many cases have demonstrated that they can associate a reduced environmental footprint with more effective and efficient manufacturing and better access to local and/or international markets. But these efforts still significantly fall short of addressing the environmental and health risks and impacts caused by hazardous processes and chemicals.

On the one hand, the current development trends are shifting the society toward new technological standards of hygiene, connectiveness, artificial intelligence, innovative transportation with higher prevalence of electric or hybrid engine. On the other hand, the manufacturing sector as well as industrial development is often lagging behind and incapable of quickly adapting itself to the new standards. For instance, the projected increase in the need for a number of metals and minerals[[2]] associated with the development of electronic devices, electric vehicles, and renewable energy, coupled with the geometric increase of the turnover of electronic devices, has caused the booming of secondary

smelting of metals supported often by the informal recycling of e-waste, which releases a significant amount of Unintentional POPs (UPOPs). Moreover, the complexity of the new materials (highly specialized alloys and reinforced polymers, special glasses, multi-purpose coatings, insulating materials) has made it very challenging to have a reliable assessment of the safety of their contents, such as identifying the presence of restricted substances or waste classification during import, export, sales, use, transport, and disposal, worst if without the coordination and assistance from manufacturers and importers. For example, importers of products like chlorinated paint, building insulating foam, heat-resistant plastic and special textile and paper materials very often are not aware of their content of polybrominated diphenyl ethers (PBDE), Polybrominated biphenyls (PBB), Pentafluoro octane sulphonates and their derivatives (PFOS), or Hexabromocyclododecane (HBCDD), short chain chlorinated paraffins (SCCP) even because of the lack of standards related to the measurement of this substances in materials. New POPs like SCCP or HBCDD which should be theoretically banned from import, manufacturing and use entered indeed a grey zone in the Philippines as they are still imported and used pending the implementation and enforcement of the Stockholm Convention requirements by the country.

This gap is especially large for SMMEs in developing and least developed countries. For instance, chemicals safety assessment is perceived as a useful service only by large brands; SMMEs very often do not have the awareness and/or technical capacity to understand the implication of the national and international regulations on chemicals on their processes.

The difficulties of these weak capacity enterprises are further exacerbated by a number of technical challenges in the identification of industrial POPs in products or waste materials. No simple analytical methodology is available to identify PBDE, HBCDD or HBB in plastic materials or foam. Rapid testing is mostly based on the analysis of the bromine through handheld X-ray fluorescence spectroscopy (XRF) detectors, with significant limitation on the reliability of the testing and no possibility to distinguish between POPs and non-POP brominated chemicals. Likewise, official laboratory analytical methods are either not available for all industrial POPs, or quite expensive, therefore they cannot be used as routine methods for the segregation of POP versus non-POP waste.

That many Parties to the Stockholm Convention are yet to properly and sufficiently integrate Convention requirements into national legal framework and regulations does not incentivize POPs users and emitters to take actions. Admittedly, there are proactive businesses in the identification and phasing out of hazardous chemicals from their processes and products, mostly to build a green and responsible brand name. A sectoral shift away from toxic chemicals and processes toward less toxic alternatives cannot take place without updating national legal framework and regulations, strengthening law enforcement capacity, building awareness among sector players and the general public, as well as a self-sustaining financing mechanism which aids and incentivizes proactive factories to shift.

Another gap is the lack of a harmonized system code (HS)[[3][3]] for POPs including SCCP, HBCD deca-BDE, dicofol, and hexachlorobutadiene. This makes even more difficult for the Filipino customs to control the presence of these chemicals in imported materials. And in the absence of national rules

related to the allowed concentration of POPs in imported materials, the control of import and export of these POPs cannot be ensured.

In general, the issue of POPs in industry may be summarized as three-folded: a) chemical industry still manufactures POPs (like SCCP, PFOS/PFOAs, HBCD); b) manufacturing industry still importing and using POPs (including the limited amount of deca-BDE which may still be available, or PFOS, PFOAs, SCCP, HBCDD); and c) the presence of POPs in end-of-life materials which is recycled or reused in industrial processes (like HBCDD, c-PBDEs, PFOS, PFOAs). There is no evidence of the manufacturing of POP chemicals in the Philippines, therefore the project will address the import and use of POPs (case b), or the presence of POPs in recycled materials (case c).

In addressing the import and use of POPs, there exist several challenges for enterprises in the implementation of ?green manufacturing? initiatives. The first challenge is that the identification of POPs presence in commercial products and mixtures could be missing or unclear. This is the case with several brominated flame retardants classified as POPs, for instance, HBCDD is marketed with at least 40 different names; SCCP mixtures may contain ten different POPs chemicals and are sold with not less than 60 different commercial names; not to mention PFOS and PFOAs which are represented by hundreds of different chemicals. Another challenge that replacing banned chemicals with chemicals of similar structure or toxicological profile may be ineffective, such as the case of Deca-PDE, which was used by industries as an alternative for PBDE chemicals but later added as a POP.

The financial aspects also represent a substantial challenge as the replacement of chemicals in industrial processes may entail significant investments which may be not affordable by SMMEs. Identification and safe management of POPs in recyclable waste (like plastic) is out of the reach of the informal recycling sector, which will have to shift from informal to formal way of operation or abandon their business.

Considering the above, the project is developed to reduce the use and release of POPs, U-POPs and GHG through the implementation of Green Chemistry initiatives in micro, small and medium-sized enterprises in priority manufacturing sectors including Copper, Plastic, Paper, Paint, Furniture and Automotive (steel plating technologies). Main industrial POPs targeted for elimination are PFOS, PFOA, SCCP, HBCDD, and PBDEs in production processes. At least 4 factories will be selected to implement Green Chemistry initiatives and POP elimination. In parallel, a financing mechanism called Financing the Roadmap for Environmental Enhancement of Manufacturing Enterprises (FREEME) will be established under this project to provide incentives for the industrial sector in promoting the use of less toxic or alternative chemicals, appropriate green technologies, more efficient industrial processes, and management of by-products to minimize UPOPs emission and release. Furthermore, the project will update the NIP to include the POP listed under the SC after 2013, and will enhance the capacity of the Bureau of Customs to prevent the import of POPs and of POPs containing materials.

The project also aligns with the GEF-7 Chemicals and Wastes strategy on POPs. It gives emphasis on facilitating the reduction of chemicals though stronger alignment with the shift to sustainable production and consumption. It also amplifies stronger private sector engagement, including supporting enabling environments for industry to adopt better technologies and practices intended to foster increased environmental sustainability, including eliminating POPs, creating incentives for private

sector involvement, and streamlining processes for easier private sector navigation. On top of this, emphasis is also provided for development of sustainable financing at the national/regional level to sustainably eliminate chemicals covered under the Conventions, and facilitation of sound management of chemicals and waste.

The project is consistent with UNDP?s Country Program Document for the Philippines (2019-2023). Under its Outcome 2: Urbanization, economic growth, and climate change actions are converging for a resilient, equitable, and sustainable development path for communities.

The project has been developed to ensure consistency and synergy with the priorities and action plans identified under the revised and updated NIP (2014). This is in specific reference to the actions plans for the management of POPs pesticides, PFOS, PBDEs and related chemicals, PBBs, UPOPs and POPs contaminated sites. The project will likely integrate the pronouncements in the recently submitted *Philippines Nationally Determined Contribution (NDC)*.

This project is consistent with the current environmental policy and regulations as follows:

? *DENR Administrative Order 29 Series of 1992* which requires the registration of chemicals that pose unreasonable risk to public health, workplace and the environment.

? *Philippine Clean Air Act of 1999* which includes explicit provisions on the reduction and measurement of dioxins and furans releases into the environment from various sources. It has also set the standard concentration limit in air for the emission of dioxins and furans at 0.1 nanogram per normal cubic meter (ng/Nm3) for treatment facilities using non-burn technologies.

? *Republic Act 9003 or The Ecological Solid Waste Management Act of the Philippines,* which through Section 48, prohibits open burning of solid wastes. Industries are encouraged to adopt pollution prevention/cleaner production measures, which should also assist to reduce or eliminate releases of unintentional POPs.

? *DENR Administrative Order 09 Series of 2015* which set the Global Harmonized System (GHS) classification criteria, and the basic requirements on GHS labelling and Safety Data Sheets (SDSs).

? *Republic Act 10771 or the Philippine Green Jobs Act of 2016*.

? *Philippine Green Public Procurement Roadmap of 2017.*

2) The baseline scenario and any associated baseline projects;

The inventory of POPs of industrial relevance in the Philippines

The NIP updated in 2014 does not contain inventories associated with all the POPs listed under annex A or B of the *Stockholm Convention* after 2013, including deca-BDE, PFOAs, PCN, HBCDD, HCB, SCPP, and Dicofol. It is therefore necessary to update the NIP to include these new POPs, some of which are ?industrial POPs? of relevance to manufacturing processes.

PFOS / PFOAs. A comprehensive national inventory of PFOS is still lacking. Although there is no known national production of PFOS, the country imports products that contain PFOS. PFOS inventory in the last NIP were estimated based on volumes of imported articles for various industries by accounting for the percentage of the total weight of PFOS of the imported articles. A stakeholder consultation held during the PIF preparation revealed that most of the firefighting products imported are PFOS- and PFO- free, although the existence of stockpiles of old products containing PFOS cannot be completely excluded. The same consultation meeting, however, did not bring evidence of imports of PFOS linked to the metal plating sector.

PBDEs. As in the case of PFOS, a complete and comprehensive national inventory of PBDEs is still lacking. The overall amount of PBDE estimated in the NIP (which did not include deca-BDE) to be contained in e-waste has been estimated at 93.4 tons by using the UNEP guidance.

? The transportation sector estimated deca-PBDC at 24 tons, which comprises of 22 tons of c-pentaBDE contained in vehicles manufactured in the period 1990-2004, and 2 tons of c-pentaBDE in end-of-life vehicles. Updated figures are needed for this significant user sector, for instance, based on the figures provided by Swiss Agency for the Environment (SAFL), the amount of deca-BDE would be in the order of 10.6 to 45.2 tons for the vehicle disposed in 2012 alone.

? In the textile sector, deca-PBDE is applied at a percentage ranging from 7.5% to 20%, whilst the concentration of deca-PBDE in various plastics has been assessed in the order of 10% to 15% (UK HSE, 2012). The use of PBDE has completely stopped in Europe since 2012. However, it was still ongoing in China until recently.

? In the automobile industry, a research carried out by Oeko Institute for ACEA (the European Association of Car Manufacturers) found that deca-BDE has been used in the manufacturing of specific car components (including cabling) in the 10-21% concentration range up to 2017. The Swiss Agency for the Environment, Forests and Landscape (SAEFL) (2003) estimates a content of 0.625 g/kg with respect to the total weight of plastics in cars exclusive of EE plastic components (switches, transformers, lighting appliances), whilst the Danish EPA estimates an average amount of 1 to 5 g of deca-PBDE for each car. The amount of plastic in car is around 5% to 20%. Adopting the SAEFL estimate, assuming an average weight of 1.5 tons for cars, the amount of deca-PBDE in each car would be from around 47 to 188g.

Regulatory Framework

Regulation on POPs

The current regulation that controls the management of chemicals and wastes needs to be updated to include all POPs in the *Priority Chemicals List*. The DENR Administrative Order 29 Series of 1992 requires the registration of chemicals that pose an unreasonable risk to public health, the workplace and the environment. Of the 12 initial POPs in the SC, only PBBs, Mirex and Hexachlorobenzene are included in the *Priority Chemicals List*.

The country?s policy regarding recycling and reuse must be revisited and improved to incorporate focus on specific materials/products containing PBDEs, PFOS, PFOAs, HBCDD, and SCCP. Review and revision of related existing regulations and guidance is, therefore, needed to build national capacity to effectively manage and control other POPs. A national strategy for the proper management of PBDE-containing waste materials is still lacking. Knowledge resources related to PBDEs are still scattered, and there is a need to build capacity through further research, training and workshops on conducting inventories, monitoring, and undertaking material flow analyses concerning PBDEs.

Enhancing the country?s capacity requires a budget specifically allocated for POPs management so that POPs measures can be effectively implemented by concerned agencies. So far, the Philippines government has indicated that the DENR-EMB and the Fertilizer and Pesticide Authority (FPA) were the only two agencies which have mainstreamed chemicals management in their budget allocations. Further coordination and trainings are needed to enable stakeholders to issue their policy on POPs, to enhance their capacity to monitor POPs contamination and clean-up and remediate contaminated sites.

Even though DENR-EMB (incl. laboratory staff) received various trainings on POPs management, including POPs identification, environmental audits, management planning for POPs, and analysis of POPs, but these trainings did not focus on PBDEs PFOS, PFOAs, HBCDD or SCCP. POPs analysis was covered in previous trainings, there is still a lack of sampling and analysis protocols for PBDEs PFOS, PFOAs, HBCDD or SCCP as well as standard procedures for estimating POPs in relevant industries. The UNIDO/GEF projects on PCB and WEEE [(Implementation of PCB Management Programs for Electric Cooperatives and Safe e-wastes Management, (GEF 9078)) has demonstrated the effectiveness of handheld XRF for detecting brominated flame retardants in plastic waste, through correlation with laboratory data. The work has however made it evident that handheld XRF cannot provide any indication on the concentration of specific POP molecules, but only estimates based on the concentration of bromine or chlorine.

GHS. Global Harmonized System (GHS) was implemented in the workplace through the "*Guidelines for the Implementation of GHS in Chemical Safety Program in the Workplace*" issued in 2014. Also, the *DENR administrative Order No. 2015-09 GHS Guidance Manual* was released to set a GHS classification criterion and set the basic requirements on GHS labelling and Safety Data Sheets (SDSs). SDS and labels are required for hazardous substances and mixtures beginning March 14, 2015. All chemical importers, manufacturers, suppliers and distributors shall submit 16-sections SDS and labels when securing permits, licenses, clearances and certification using the GHS format together with a notarized covering letter. SDS and labels submitted are screened by a Chemical Management staff and reviewed and verified by the GHS Review Committee. DENR also set different timelines for substances subject to Chemical Control Orders (CCO) and substances on Priority Chemicals List (PCL) as: single substances and compounds in CCO and PCL ? 2016; high volume toxic chemicals ? 2017; toxic chemicals under IATA and IMDG list of dangerous goods ? 2018; and mixtures ? 2019.

Although for most POPs there are specific entries under the HS, for a number of new POPs HS codes are not established yet. There are no HS codes for the following new POPs: SCPP, Deca-BDE, HBCDD, and Dicofol; nor for products and mixtures based on these chemicals. Existing HS codes[4][4] do not allow for the identification of SCCP (a POP) versus MCCP or LCCP (non-POPs). There is no simple way to identify products containing POPs, like XPS/EPS foam or beads, chlorinated rubber paint or other paint formulations containing SCCP, plastic or textile polymers pre-treated with flame POP retardants.

PRTR. A Pollutant Release and Transfer Register (PRTR) was proposed under House Bill No. 6225- An Act Creating a Philippine Pollutant Release and Transfer Registry in 2017. This testifies the effort of the government in the establishment of such a system. However, no approval has been seen to date. The Philippines is not in the OECD?s list of adherents to the establishment and implementation of a PRTR.

Rules on Import and Export including HS codes

Although for most POPs there are specific entries under the HS, for a number of new POPs HS codes are not established yet. These chemicals need to be placed under generic HS codes. For instance, there is no specific code for SCCP, and therefore short chain chlorinated paraffins as chemicals should be placed under either one the following HS codes:

? 290319 Saturated chlorinated derivatives of acyclic hydrocarbons; n.e.s. in item no. 2903.1

? 51136 Other saturated chlorinated derivatives of acyclic hydrocarbons

In the Philippines, there are no HS codes for the following new POPs: SCPP, Deca-BDE, HBCDD, and Dicofol. The above codes however do not allow for the identification of SCCP (a POP) versus MCCP or LCCP (non-POPs). The situation is even more complex for POPs containing products like paints, foam or fibers treated or added with POPs. There is no simple way to identify products containing POPs, like XPS/EPS foam or beads, chlorinated rubber paint or other paint formulations containing SCCP, plastic or textile polymers pre-treated with flame POP retardants. Currently, HS codes are missing for HBCDD, SCCP, Deca-BDE, and are also missing for products and mixtures based on these chemicals. The situation the availability of HS specific codes for POPs is summarized in Table 1 below:

Table 1: List of available HS codes for POPs

Substance name	EC / List no	CAS no	HS Codes
Endosulfan and its isomers	-	-	382484; 292030
Endosulfan	204-079-4	115-29-7	382484; 292030
beta-Endosulfan	625-635-6	33213-65-9	382484; 292030
alpha-Endosulfan	625-034-9	959-98-8	382484; 292030
Heptabromodiphenyl ether	-	-	382488
Diphenyl ether, heptabromo derivative	273-031-2	68928-80-3	382488
Hexabromocyclododecane (HBCDD)	-	-	N/A
Hexabromocyclododecane	247-148-4	25637-99-4	N/A
1,2,5,6,9,10-hexabromocyclodecane	221-695-9	3194-55-6	N/A
alpha-hexabromocyclododecane	603-801-9	134237-50-6	N/A
beta-hexabromocyclododecane	603-802-4	134237-51-7	N/A

Substance name	EC / List no	CAS no	HS Codes
gamma-hexabromocyclododecane	603-804-5	134237-52-8	N/A
Hexabromodiphenyl ether	-	-	382488
Diphenyl ether, hexabromo derivative	253-058-6	36483-60-0	382488
2,2',3,4,4',5'-Hexabromodiphenyl ether	621-550-3	182677-30-1	382488
Hexachlorocyclohexanes, including lindane	-	-	290381; 290381; 382485
?-HCH or ?-BHC	200-401-2	58-89-9	290381; 290381; 382485
BHC or HCH	210-168-9	608-73-1	290381; 290381; 382485
(1?,2?,3?,4?,5?,6?)-1,2,3,4,5,6-hexachlorocyclohexane	206-271-3	319-85-7	290381; 290381; 382485
(1?,2?,3?,4?,5?,6?)-1,2,3,4,5,6-hexachlorocyclohexane	206-270-8	319-84-6	290381; 290381; 382485
Pentabromodiphenyl ether	-	-	382488
Diphenyl ether, pentabromo derivative	251-084-2	32534-81-9	382488

Substance name	EC / List no	CAS no	HS Codes
2,3',4,4',6-Pentabromodiphenyl ether	620-889-4	189084-66-0	382488
2,2',3,4,4'-Pentabromodiphenyl ether	621-547-7	182346-21-0	382488
Pentachlorophenol and its salts and esters	-	-	290811
Perchlorophenyl 5-oxo-L-prolinate	249-360-2	28990-85-4	290811
N2-benzyl pentachlorophenyl N2-carboxy-L-(2-aminoglutaramate)	237-155-0	13673-51-3	290811
Perchlorophenyl N-(benzyloxycarbonyl)-L-isoleucinate	237-156-6	13673-53-5	290811
Perchlorophenyl S-benzyl-N-(benzyloxycarbonyl)-L-cysteinate	237-157-1	13673-54-6	290811
Pentachlorophenyl N-[[(4-methoxyphenyl)methoxy]carbonyl]-L-serinate	245-508-5	23234-97-1	290811
Pentachlorophenol salts	-	-	290811
Sodium pentachlorophenolate	205-025-2	131-52-2	290811
Potassium pentachlorophenolate	231-911-3	7778-73-6	290811

Substance name	EC / List no	CAS no	HS Codes
Zinc bis(pentachlorophenolate)	220-847-1	2917-32-0	290811
Pentachlorophenyl laurate	223-220-0	3772-94-9	290811
Pentachlorophenol esters	-	-	290811
Pentachlorophenol	201-778-6	87-86-5	290811
Perfluorooctane sulfonic acid and its derivatives (PFOS) C8F17SO2X, (X = OH, Metal salt (O-M+), halide, amide, and other derivatives including polymers)	-	-	290431 to 290436; 382437; 293550
perfluorooctanoic acid (PFOA), its salts and PFOA-related substances	-	-	290431 to 290436; 382437; 293550
Polychlorinated biphenyls (PCB)	-	-	271091; 382482;
Polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/PCDF)	-	-	N/A
Polychlorinated naphthalenes	-	-	N/A
Naphthalene, chloro derivs.	274-864-4	70776-03-3	N/A
Tetrabromodiphenyl ether	-	-	382488
Diphenyl ether, tetrabromo derivative	254-787-2	40088-47-9	382488

Substance name	EC / List no	CAS no	HS Codes
2,4,4',6-Tetrabromodiphenyl ether	621-541-4	189084-63-7	382488
2,3',4,4'-Tetrabromodiphenyl ether	621-543-5	189084-61-5	382488
Dicofol	204-082-0	115-32-2	N/A
Bis(pentabromophenyl) ether	214-604-9	1163-19-5	N/A
Hexachlorobenzene	204-273-9	118-74-1	290362; 290392; 382486
Chlordecone	205-601-3	143-50-0	219471; 382484
Aldrin	206-215-8	309-00-2	382484; 290382; 290352
Hexabromo-1,1'-biphenyl	252-994-2	36355-01-8	290394
Clofenotane	200-024-3	50-29-3	382484; 290382; 290352

Substance name	EC / List no	CAS no	HS Codes
Chlordane , pur	200-349-0	57-74-9	382484; 290382; 290352
Dieldrin	200-484-5	60-57-1	291040; 382484
Pentachlorobenzene	210-172-0	608-93-5	290393; 382486
Endrin	200-775-7	72-20-8	291050; 382484
Heptachlor	200-962-3	76-44-8	382484; 290382; 290352
Toxaphene	232-283-3	8001-35-2	382484
Alkanes, C10-13, chloro	287-476-5	85535-84-8	290319; 51136
Hexachlorobuta-1,3-diene	201-765-5	87-68-3	N/A

Climate Change Profile of the Philippines

In the Philippines, the historic climate trends showed an increase in the average temperature of 0.62?C from 1958?2014, with associated increased number of ?hot? days and decreased number of ?cold

nights? between 1960?2003[[5][5]]. Based on The Berkley Earth dataset [[6][6]], estimated warming over Manila between 1900?2017 (average) and 2000?2017 (average) is 0.75?C. Warming over the same period in Davao in the south is estimated at 1.11?C.

The Philippines? Second National Communication to the UNFCCC (NC2) describes a sharp increase in the amount and intensity of rainfall as a result of climate change in recent years, with more rainy days observed since the 1990s. Salvacion et al. (2018) reported significant trends in monthly rainfall, with an increase of 0.34 mm/year [[7][7]].

Research shows that the Philippines is among the most vulnerable countries in the world to the impact of storms and increase wave height. Based on the research from Brecht et al[[8][8]]. Metro Manila is classified as the most vulnerable city in the world, with an estimated impacted population of 3.4 million. In terms of sea-level rise, Morin et al reported a 15mm/year sea-level rise in Manila Bay between 1960 and 2012, nine times the global average[[9][9]].

Based on the Climate Risk Profile for the Philippines [[10][10]], climate change will impact mostly the agricultural sector, and will negatively affect the availability of water resources and energy, as well as urban infrastructures. Although the manufacturing industry is not the one facing the higher risk associated to climate change, factories and infrastructures located near landslide-prone areas or near coastal areas are obviously also facing significant risks. These risks need to be considered.

Associated Baseline Projects

Current Efforts to Combat Chemicals Management Issues

There are various noteworthy efforts undertaken by the government and private sector actors to address chemical management issues:

Sustainable copper industry: On January 31, 2019, the Philippines Board of Investment announced the development of the Masterplan for the Leyte Ecological Industrial Zone (LEIZ). The main objective of the masterplan is to attract more investors and businesses to locate in Leyte, jumpstarting the revival of economic activities in the area and providing more employment opportunities. The development of the LEIZ Masterplan is one of the action items under the Copper Industry Roadmap whose objective is to develop a copper industry cluster, preferably in Leyte, which may be supported

through the establishment of an ecological industrial zone. Government stakeholders in Region VIII and Leyte expressed their support to this project. As part of Palafox Associates? work plan, there will be series of consultations with local stakeholders in the formulation of the Master Plan.

Sustainable chemical industry. The JG Summit Olefins Corporation (JGSOC) Naphtha Cracker Plant in the Philippines started its commercial operations on November 1, 2014 to produce polyethylene (PE) and polypropylene (PP) resins, for sale to both domestic and export markets. The JGSOC is capable of including monitoring for the presence of PBDE in their resins as part of Quality Assurance/Quality Control (QA/QC) and Safety Data Sheets (SDS). This can be verified through DENR and the Bureau of Philippines Standards (BPS), of the Department of Trade and Industry (DTI). This may control the influx of imported plastics with PBDEs and PFOS.

Greening the Industry Roadmaps. In the 2nd Scoping Mission for the Greening the Industry Roadmaps project implemented by GIZ from 2015 to 2016, an initiative promoted by the Philippine Board of Investment on Greening the Philippine Industry identified copper, plastics, paper, furniture and automotive as the five sectors for which a roadmap toward sustainability needed to be implemented. Roadmaps were developed by the Board of Investment (BOI) for these sectors. An update of the activities and the status for some of these sectors was provided by BOI in February 2018.

Waste Recycling. Some relevant recent initiatives in the Philippines are as follows:

? DOST-ITDI (2017) has developed a biodegradable substitute for synthetic plastics using nanoclay pellets ? a cornstarch-based raw material. This biodegradable polymer has its component validated in the laboratory and is being assessed for cost and investment prospects.

? Plastic Bank (2016) has set up a pilot recycling ecosystem in the Philippines. Residents collect plastic from their environment and bring it to a local Plastic Bank branch in exchange for money, fresh food, clean water, cellular service, cooking oil, or even school tuition for their children. Collectors are paid a Social Plastic premium in addition to the market plastic value, which ensures a stable, livable income. To expand the Plastic Bank Ecosystems in the Philippines, Plastic bank partnered with SC Johnson, Danone, ALDI, Greiner, and Eat Natural. To date, the Plastic Bank Ecosystem now has 43+ branches, engaged 1500+ collectors, with collection amount of 200,000 kg of plastic per month.

? The Philippines Alliance for Recycling and Materials Sustainability (PARMS) [[11][11]], in partnership with the local government, launched a Php 25-M residual plastic recycling facility in Para?aque. Collected plastic wastes were turned into eco-bricks or recycled building bricks.

In 2016, the Philippine Coconut Authority reported a growing number of 16 activated carbon manufacturers in the country. The raw materials used are mainly from coconut wastes. Activated carbon treatment is among the best available techniques (BATs) for removal of chemicals from secondary copper smelter off-gases. Activated carbon possesses a large surface area on which PCDD/PCDF can be adsorbed. Off-gases can be treated with activated carbon using fixed or moving bed reactors, or by injection of carbon particulate into the gas stream followed by removal as a filter

dust using high-efficiency dust removal systems such as fabric filters. Armonio *et al.* (2018) also produced activated carbon using corn cobs and mango kernels *via* H3PO4 activation and hydrothermal treatment [[12]]. Ocreto *et al.* (2019) developed a modified activated carbon using bamboo. Both studies focused on applications for Cu, Ni and Pb removal in aqueous solution[[13]].

PRTR. Senate Bill No. 1243 was approved during the 17th Congress in November 2017 to establish a Philippine Pollutant Release and Transfer Registry. Likewise, a House Bill No. 1243 seeking to institutionalize a national PRTR has been approved during the 18th Congress in July 2019. A PRTR would serve as a database, or an inventory of potentially harmful pollutants and substances released by industrial processes. Industries are mandated to report their releases and transfers. Despite having approvals from both houses, the formal enactment of the Act creating a Philippine PRTR is yet to happen.

Green Recovery. Jumpstarting a green recovery plan with Covid-19 on the backdrop is the subject of government actions. The updated NDC sets up a goal of 75 percent reduction of greenhouse gas emissions (GHGs), enabling investments in green technology and energy as well as green recovery strategies are essential. Fast-tracking the expansion of digital infrastructures is being implemented by the Department of Information and Communications Technology (DICT). The Bangko Sentral ng Pilipinas (BSP) has allocated US$200 million on green bonds in 2020. These are invested in green, sustainable and renewable investments - making the Philippines the 3rd largest green bond issuer in ASEAN with over US$ 2 billion.

Other government-backed loans and grants programs are now accessible for BOI-registered businesses as follows:

? Interim Rehabilitation Support to Cushion Unfavorably-affected Enterprises by Covid-19 (I-RESCUE)

? Micro, Small, Medium Enterprise (MSME) Credit Guarantee Program and COVID-19 Assistance to Restart Enterprises (CARES) are loan programs for MSMEs affected by the economic impact of Covid-19.

? Pagbabago at Pag-asenso (P3) is a financing program for micro-corporations with assets not exceeding three million pesos;

? Rehabilitation Support Program on Severe Events (RESPONSE) offers financing support to both public and private institutions affected by the COVID-19 pandemic

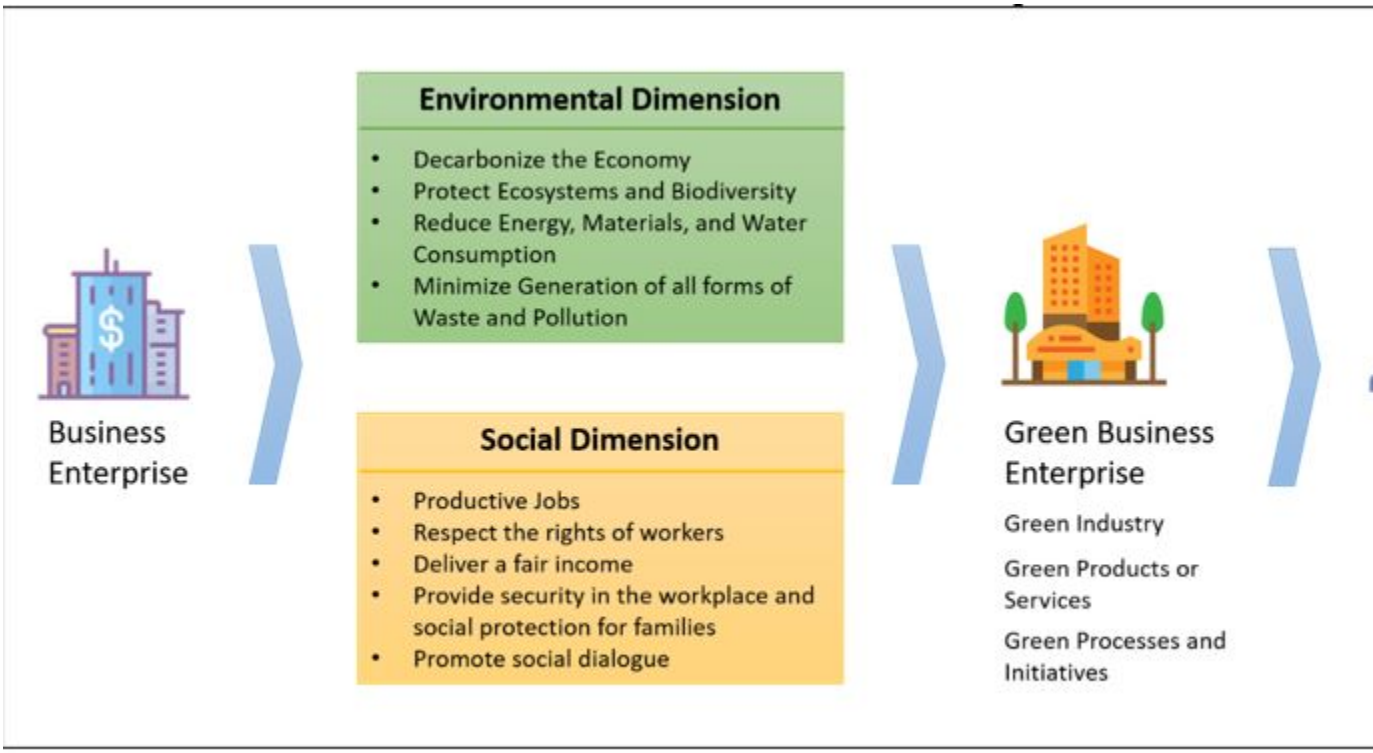
DTI has been conducting workshops on Business Continuity Planning for the micro, small, and medium-sized enterprises (MSMEs). As a backbone of the country?s economy, supporting the MSME employers and workers is critical towards faster recovery.

Existing Green-Financing Mechanisms

In the Philippines, there are already a number of green financing tools established either by the government or by private financing entities. During project preparation, consultations have been undertaken with EMB, BOI, Development Bank of the Philippine (DBP) and Rizal Commercial Banking Corporation (RCBC) on the existing financing mechanisms and tools which are already in place and how the project could establish synergies.

The Green Jobs financing mechanism. The Philippine Green Jobs Act of 2016 (RA 10771) [[14][14]] provides a policy framework that fosters low-carbon, resilient sustainable growth, and decent job creation by providing incentives to enterprises generating green jobs. The focus is the development of human capital as well as technology research to enable and support the transition to greener economy. The Green Job concept is depicted in the Chart below:

Chart 1: Green Job Concept



Source: https://www.philgreenjobs.dole.gov.ph/

The law has 9 salient features, with the fifth one targeting the provision for greening incentives for the business enterprises or labor demand side. The law also provides that the state shall provide incentives to recognize the participation of individuals and business enterprises in jobs creation. Business enterprises that generate and sustain green jobs as certified by the Climate Change Commission, are entitled to the following incentives:

? Special deduction from the taxable income equivalent to fifty percent (50%) of the total expenses for skills training and research development expenses which is over and above the allowable ordinary and necessary business deductions for said expenses; and,

? Tax and duty-free importation of capital equipment: Provided, that the capital equipment is actually, directly, and exclusively used in the promoting, generating, and sustaining green jobs of qualified business enterprise.

It is very clear that the Green Jobs policy may be synergic with the project. Given that the Green Job policy includes also a clause that allows incentives to be additional to other incentives provided under other laws, therefore the green financing to be developed under the project ? [Financing the Roadmap for the Environmental Enhancement of Manufacturing Enterprises (FREEME)] and the Green Jobs policy could be used together to support different aspects of industrial initiatives.

Philippine Environmental Partnership Program (PEPP). The PEPP seeks to provide a package of incentives and reward mechanisms to industries in effective voluntary self-regulation and improved environmental performance. The PEPP aims at encouraging enterprises to go beyond environmental compliance. It is based on two tracks: Track 1 is an award of environmental excellence for industries which are already fully compliant with environmental rules and want to go beyond the current regulation. Track 2 is technical assistance for enterprises to complete their environmental compliance with a schedule of 18-30 months. It requires commitment to disclose non-compliance and to install Air Pollution Control Device (APCD) or Wastewater Treatment Facility (WTF) as needed.

3) The proposed alternative scenario with a brief description of expected outcomes and components of the project;

Project Strategy and Theory of Change

The project will reduce the use and release of POPs, U-POPs and GHG through the implementation of Green Chemistry initiatives in micro, small and medium-sized enterprises in priority manufacturing sectors including Copper, Plastic, Paper, Paint, Furniture, and Automotive (steel plating technologies) to achieve the elimination of industrial POPs including PFOS, PFOA, SCCP, HBCDD, and PBDEs in production processes.

To achieve this general objective, the following sub-objectives will need to be achieved:

? NIP will be updated to identify priorities and actions for the phase out of new POPs listed after the previous NIP;

? The environmental regulations and technical guidelines relevant to the Stockholm Convention provisions will be updated to establish a clear regulatory framework;

? Green Chemistry with simultaneous replacement of POPs with non-POP chemicals is demonstrated in selected enterprises in priority manufacturing sectors;

? The capacity of the Bureau of Customs to control the import or export of POPs is enhanced;

? Technical and financial assistance is secured for enterprises that toned to comply with the environmental regulations to be updated in accordance with Stockholm Convention provisions related to new industrial POPs;

? Environmental and social impacts associated to the enforcement of regulation on POPs and the prohibition of the use and import of POPs are assessed and minimized.

? Proper awareness raising training and communication are carried out to strengthen project results and sustainability.

The project proposes to improve the current baseline to a point where the awareness of manufacturers, regulators and the general population is increased and that there is a common willingness to achieve the above-mentioned objectives:

The general logic of the project is to provide the relevant stakeholders and partners with the needed technical and financial support so that they can address the root causes and barriers which are currently hindering the improvement of the baseline, to achieve the desired results and Global Environmental Benefits. To do that, a number of assumptions have been adopted (as described in para. 57).

Stakeholders: The project intends to work with the stakeholder and partners listed in Annex 9 ?Stakeholder Engagement Plan?, which also describes in detail the approach followed by the project to ensure stakeholder participation. The same is summarized in the Section IV.5 ?Stakeholder engagement and south-south cooperation:? of this project document.

The baseline situation, and baseline projects have been reported above in details. To sum up, the manufacturing sector still does not have sufficient environmental awareness, and operates with a significant environmental impact that could be mitigated and better managed. Among enterprises in the sector, the awareness concerning POPs and Green Chemistry is low.

On the side of regulations and enforcement, there is no ban in place for new POPs listed after 2013; import control of new POPs is not effective. Despite having approvals from both houses, the formal enactment of the Act Creating a Philippine PRTR is yet to happen. A plan for the roadmap toward sustainability of manufacturing industry has been developed in 2015 by BOI, but it has not been fully implemented.

Some existing international cooperation projects (like the SWITCH program (EU) and the GIZ projects on sustainability roadmaps, as well example of existing Green Funds) have been implemented or are in the course of implementation. Some existing initiatives (like the ones on ?Sustainable copper industry?, ?Sustainable chemical industries?, ?Plastic Bank? which may integrate project activities, are in place.

Risk/Barriers: A list of the following barriers will be addressed through project implementation:

? *The issue of the ?end of pipe? approach.* The adoption of ?Green Chemistry? approach, as well as the ?Green Design? approach in manufacturing can help in proactively identifying non-chemical alternatives to POPs, which are therefore intrinsically safe and not exposed to the risk of ?re-classification? only after a chemical has been classified as hazardous (end of pipe).

? *The issue of POPs identification in chemical mixtures.* The project will provide knowledge and practical trainings to the BoC and manufacturing firms to identify which, among the substances they are using or checking, are POPs or hazardous chemicals.

? *The issue of POP quantification in waste materials*. A number of technical issues also affects the capacity to identify the presence of industrial POPs in products or waste materials. The project will provide trainings on methodologies (including rapid testing or tracing methods) that can allow the identification of PBDE, HBCDD or HBB in plastic materials or foam.

? *Barriers to the green manufacturing as an alternative approach to POP avoidance*. The project will implement activities allowing for the effective phasing out of POPs through prioritizing processes and source of materials which are intrinsically safe, rather than acting only when POPs are identified in the process / material through a certified analytical method.

? *Financial barriers.* MSMEs do not have the technical and financial capacity to implement the innovations leading to a reduced environmental footprint. Through the development of a financing mechanism, the project aims to sustain the shift toward a POP-free, greener manufacturing, avoiding industrial accidents and workplace exposure that had taken place previously and caused environmental impacts and a negative sentiment against the industry.

GEF and co-financing inputs: Project interventions include technical assistance, knowledge sharing, financial contribution (grants from the GEF and from Philippines? institutions, in kind co-financing), technology and equipment, legal assistance to update relevant regulations will be provided. These inputs will:

? Address the issue of limited knowledge of the use and release of new POPs in industrial sector, NIP update, gather information on the use and release of POPs and new POPs, and establish priorities, with specific reference to POPs in the industrial sector;

? Address the issue of limited willingness of specific manufacturing sector to invest in improving environmental footprint, and establishing a green financing mechanism. It will be supported by trainings on Green Chemistry, circular economy, and will be strengthened by proper eligibility criteria compliant with project objectives. Special green financing funds will be designed and implemented to

facilitate the access of MSMEs. Gender mainstreaming and inclusiveness aspects will be included as mandatory criteria for access to funds.

? Ensure that the sectors receiving support under the green financing mechanism will effectively implement Green Chemistry technologies and processes, provide technical assistance and training to their implementation, and promote environmentally friendly design where POPs or other chemicals of concerns are replaced; and,

? Improve sectors? environmental accountability, the public trust of the public on the manufacturing industry and pilot a PRTR system to facilitate the reporting of pollutant release and transfer by the industry and the access of environmental data to the public, including POPs.

The project will support industrial initiatives aimed at the production of POPs free products with a green chemistry approach (which, especially with regards to criteria 1 (prevent waste), 4 (Design safer chemicals and products), 6. (Increase energy efficiency), 7(Use renewable feedstocks) and 10 (Design chemicals and products to degrade after use) under the Green Chemistry principles.

Assumptions: The project has been designed based on the following assumptions:

? The general public seeks more transparency in environmental data and information.

? Manufacturers are interested in subscribing to financial incentives such as green loans to demonstrate the application of GC and PRTR

? DENR and DTI can work in coordination toward the goal of sustainability

? Bilateral donors willing to sustain their previous efforts

? Financial institutions are interested in supporting FREEME

? Bureau of Customs are interested in partnering and receiving technical support from the project

? Recyclers willing to participate in training and other project activities

Activities/Outputs: To achieve the desired results, the project will undertake the following activities:

? Updating of the NIP.

? Updating and enforcement of the POP downstream regulation.

? Design of a Green Chemistry/ and POPs replacement Roadmaps for selected manufacturing sectors in the Philippines.

? Design and implementation of a financial mechanism to be disbursed as a loan to support Green Chemistry and POPs replacement initiatives.

? PRTR designed and piloted

? Demonstration of GC with POPs, U-POPs and GHG reduction.

? Training and supporting schemes for recyclers.

? Technical guidance, training and roadmaps for Green Chemistry and POP replacement in specific sectors.

? Technical guidance for customs.

Desired results: As explained in the Global Environmental Benefit section, the implementation of the project will result in:

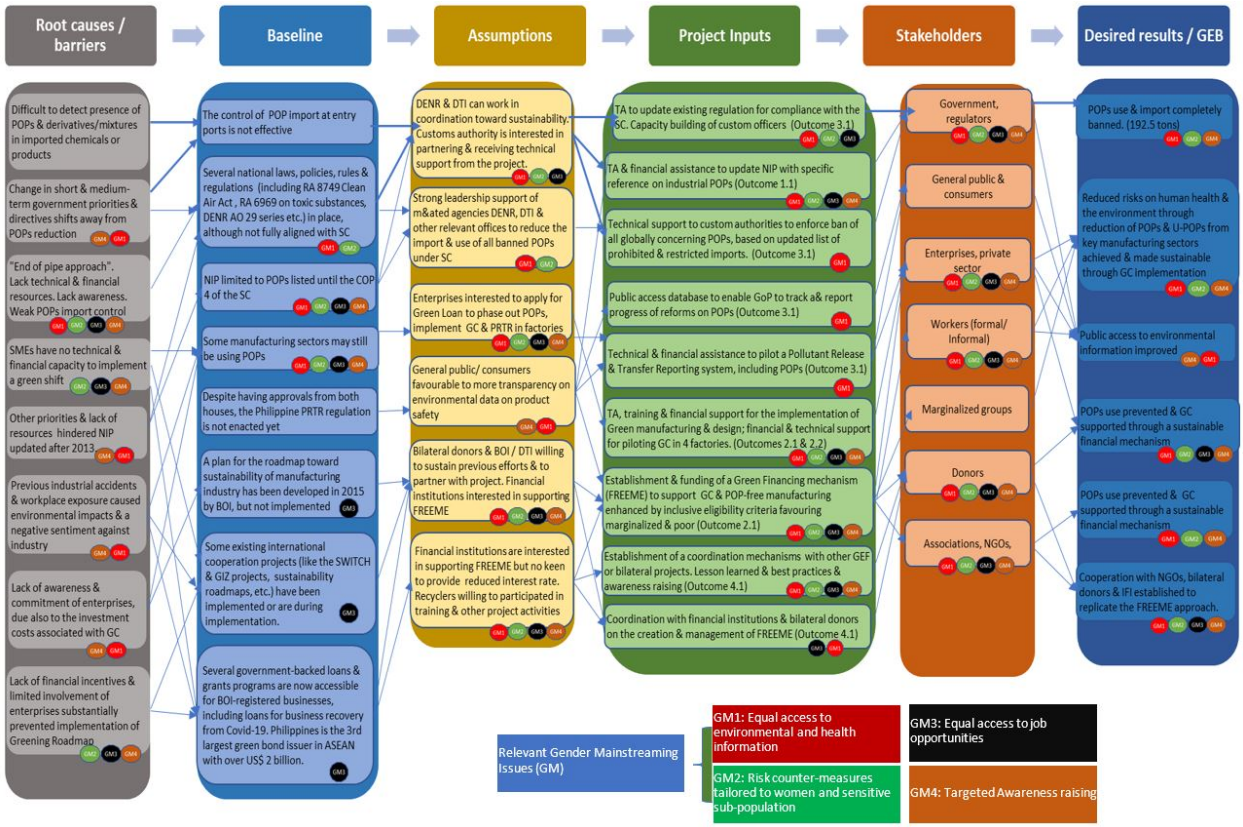
? Development and enforcement of a regulation leading to the phasing out, elimination or restriction of industrial POPs listed in annex A or B, and the demonstration of such phasing out or elimination in 4 selected pilot enterprises. This will result, for PFOS, in half the amount of PFOS estimated in the NIP for the chrome plating sector (345/2 =172.5 tons), plus at least 10 tons of direct avoidance of PFOS and 10 tons of direct avoidance of industrial POPs from the demonstration in the 4 selected manufacturing industry, for a total of 192.5 tons of POPs. Further reduction of POPs will be based on the outcome of the new inventory to be carried out under the NIP update.

? The implementation of the project will also ensure better communication and sharing of environmental information among industry, the GoP and the public, with greater transparency on the environmental impact of the manufacturing sector.

? The implementation of the FREEME green funds to support the shifting toward GC will result in greener, sustainable and more competitive manufacturing.

? Through the implementation of the project, further closure of gender gaps and enhancement of the worker rights will be also leveraged.

Figure 1. Diagram of the theory of change of the project, with relevant GM aspects highlighted



III.1. Alternative Scenario

A summary of project component, outcome and output is reported below. For each outcome and output, a list of activities has been identified to develop the initial project workplan by year and the GEF grant budget.

Component 1. Comprehensive roadmap for greening the manufacturing sector in the Philippines through better management of chemicals, including NIP update.

Outcome 1.1 NIP updated

This outcome will result in the update of the inventory and priority actions for the initial 12 POPs, the new POPs already addressed during the NIP update carried out in 2014 (namely Lindane, Chlordecone, Endosulfan, PFOS, PBDE) and the new POPs listed after the NIP update (SCCP, PFOAs, deca-BDE, HBCDD, and PCN). Based on the finding of the updated NIP, the downstream regulation will be amended to be fully consistent with the Stockholm Convention. The process of amendment of the regulation is also facilitated by the fact that EMB/DENR is the implementing partner of this project. (Output 3.1.1).

Output 1.1.1 The NIP updated to consider the POPs listed under the SC after 2013

The NIP update process will enable the Philippines to establish inventories of products and articles containing new POPs and to identify priorities for each POP. Strong emphasis will be placed on the participation of the private sector and civil society to ensure their active involvement in the undertaking of the NIP update.

An inception workshop will be held to raise awareness of the NIP updating activity among industry and industrial associations, NGOs, university, and etc. to get a full understanding of the steps needed for NIP endorsement and submission.

Working groups will be established to work on specific list of POPs, tentatively arranged by industrial POPs, agricultural POPs and U-POPs. Cooperation among working groups will be needed

taking into consideration their listing under the different SC Annexes and the fact that some chemicals (like PFOS, PeCB and HCB) may have multi-purpose use.

A legal working group will be also established. A meeting will be held to validate and discuss the outcomes of the updated POPs inventories. All working group members, government and relevant stakeholders will be invited to the meeting.

The following activities will be carried out to achieve Output 1.1.1:

? 1.1.1.1. Priorities related to the new POPs identified and agreed with stakeholders

? 1.1.1.2. Regulatory framework related to POPs reassessed and priorities to update the regulation identified and detailed in the NIP

? 1.1.1.3. Summary of available gender-specific chemical risk assessment

Output 1.1.2. Updated inventory of POPs and U-POPs

Under this output, updated inventories will be developed for all POPs listed under the Stockholm Convention, and new inventories for POPs listed after the last update of the NIP will be developed. The following activities will be undertaken to achieve Output 1.1.2:

? 1.1.2.1. Inventory of new POPs (after COP4) including undeclared importation data detected by trained customs personnel carried out.

? 1.1.2.2. Update of the inventory of POPs up to COP 4 including undeclared importation data detected by trained customs personnel carried out.

? 1.1.2.3. Develop risk management measures for women and sensitive population.

-

Outcome 1.2 Roadmaps for greening manufacturing sector through Green Chemistry principles and reduction of POPs, U-POPs and other substance of concern drafted and endorsed

The objective of this outcome is to support the country in the definition of roadmaps for selected manufacturing sectors that would facilitate the adoption of Green Chemistry practices. This

will entail sector analyses to identify Green Chemistry opportunities for demonstration/application; assessment and subsequent improvement of the existing policy and regulatory framework through taking up Green Chemistry aspects (through e.g. mainstreaming or adapting/developing policies and regulatory measures). This outcome is based on two outputs:

Output 1.2.1. A detailed assessment of the key manufacturing sector for which a roadmap toward sustainability was already envisaged by the government (Copper, Plastic, Paper, Paint, Furniture and Automotive, others) carried out.

The following activities will be undertaken to achieve output 1.2.1:

? 1.2.1.1. A survey and information exchanges with industries of the key manufacturing sector carried out.

? 1.2.1.2. Mapping of environmental issues and potential application of Green Chemistry in the manufacturing sectors.

? 1.2.1.3. Design and budgeting of Green Chemistry packages to be implemented in specific manufacturing sectors.

? 1.2.1.4. Undertake consultation with industry representatives.

? 1.2.1.5. Inclusion of gender analysis on the Roadmap for greening industries.

In close coordination with DTI, BOI, and the relevant association of enterprises, the achievement of this output will envisage undertaking surveys based on gathering of existing documentation (for instance, the documentation related to the roadmap toward sustainability already prepared by BOI), direct interviews, site visits and questionnaires to gather information on the factories and manufacturing processes. The survey will have the main purpose to understand the sectorial gaps toward the implementation of Green Chemistry principles and the use of hazardous chemicals ? including POPs ? in the surveyed enterprises. This survey will be conducted in at least 30 factories, covering the targeted industrial sectors. Concerning automotive, the surveys will be mainly focused on the sub-sector of metal plating.

With specific concern to the consumption, release and unintentional generation of POPs, the following manufacturing or chemical sectors are the ones that, based on international experience and available preliminary information gathered in the country, are identified as key sectors for green

chemistry implementation as these may need a significant improvement in their process to reduce their impact: Copper, Plastic, Paper, Paint, Furniture, and Automotive (steel plating technologies)

? Automotive (electro plating) industry due to the potential use of PFOS as etching agent and mist suppressant

? Plastics manufacturing due to the potential use of brominated flame retardants and short chain chlorinated paraffins;

? Paper (esp. food packaging paper), due the potential use of PFAS (which may include PFOS and PFOAs) for water and grease for repellency purposes and for the potential release of chlorinated compound to water during the bleaching process, which may result in the formation of PCDD/Fs;

? Solvents and paints, due to their widespread application, the possible generation of UPOPs at their end of life stage, and the use of short chain chlorinated paraffins and some paint formulations.

? Secondary copper and secondary metal, due to the potential generation of UPOPs in the melting process

? Furniture, for the use of chemicals in the treatment of wood and for the use of glues and resins for the finishing of wood articles.

? Building material, with specific reference to the the manufacturing of insulating XPS/EPS boards.

? Improvement of Energy efficiency in all the sectors will have the direct (pulp and paper) and indirect effect on the reduction of the release U-POPs associated with coal consumption.

For each plant visited, a survey report will be filled with the following information.

? Information on the proportion of job positions assigned to male and female staff, by category of job.

? Description of the production process for each industrial setting visited, with a tentative mass balance.

? Chemical profile of the company (type and amount of chemicals and raw material used in the production process, with CAS code) with specific reference to the use / release of POPs, and other POPs/PTSs.

? Waste inventory of the firm (amount by category of waste)

? Energy profile of the company: type and amount of fuel consumed in each subprocess, potential interventions to increase the efficiency and reduce fuel consumption.

? Data concerning the monitoring of pollutant in wastewater and exhaust gas and the existence of online monitoring of the industrial process and the release of pollutant.

? Data related to the water use in the process cycle.

? Data related to the environmental monitoring

? Comparison of the production process with the principles of Green Chemistry

? Brief intervention proposal to implement Green Chemistry in the visited plant

? Positioning, mapping and photographic documentation

Output 1.2.2. A Roadmaps for the implementation of Green Chemistry approach inclusive of the reduction of POPs and U-POPs and GHG emission agreed and endorsed by the government.

The following activities will be undertaken to achieve Output 1.2.2:

? 1.2.2.1. Roadmap for the building, furniture and paint manufacturing sector developed and endorsed

? 1.2.2.2. Roadmap for plastic and paper sector developed and endorsed

? 1.2.2.3. Roadmap for secondary metal, steel plating and automotive developed and endorsed

? 1.2.2.4 One large workshop to summarize and get feedback on the roadmaps carried out

? 1.2.2.5 Development of a Gender Mainstreaming strategy section in the roadmaps for the manufacturing and recycling sectors

Based on the survey above, an overall roadmap for the implementation of Green Chemistry principles inclusive of the reduction of POPs use and releases, will be drafted. The roadmap will include:

? An assessment section, which will present an overview of the regulatory and policy environment, and which will present recommendations for the establishment of a policy and regulatory framework pertaining to Green Chemistry in each of the priority manufacturing sectors targeted,

improvements of the policy and regulatory framework governing POPs management and recommendations for the introduction of regulatory incentives for Green Chemistry adoption;

? A section including technical standards and/or regulations on Green Chemistry in the identified priority manufacturing sectors.

A regulatory section where regulatory measures will be proposed to put in place incentives (financial, regulatory and non-financial incentives), promote market based and consumer driven policies to encourage readiness for the adoption of Green Chemistry technologies.

Component 2. Demonstration of Green Chemistry implementation including POPs and U-POPs reduction

Outcome 2.1 A sustainable financing mechanism designed and implemented in support of the Green Chemistry in key manufacturing industries.

Due to the current economic crisis associated with the COVID-19 pandemic, the capacity and willingness of industry to invest in environmental protection technologies is currently limited. For this reason, the core of the project will be the establishment of a self-sustaining green financing fund (FREEME ? Financing the Roadmap for the Environmental Enhancement of Manufacturing Enterprises) which will support firms with grants or loans to implement technologies or activities compliant with Green Chemistry principles.

Output 2.1.1 A self-sustaining financial mechanism (FREEME ? Financing the Roadmap for the Environmental Enhancement of Manufacturing Enterprises) in support of Green Chemistry in key manufacturing sectors established.

FREEME will be established with the initial technical and financial support of the project. The access to the FREEME will be subjected to the following eligibility criteria:

? ***POPs elimination.*** Enterprises applying for a grant or a loan under the FREEME scheme shall commit to eliminate POPs from the manufacturing process. The proposed investments should therefore detail the amount of POPs currently used in the manufacturing process, the technology which

will be used for the replacement of POPs with non-POPs substances, and the timeframe for the complete phasing out of such POPs from the manufacturing process. Enterprises will be prioritised based on the amount of POPs that they commit to phase out as well as those applying innovative approaches or non-chemical replacement.

? ***Green Chemistry implementation.*** At least 3 out of 12 principles of Green Chemistry should be implemented by enterprises to be eligible for FREEME grant or loan.

? ***Compliance with social and environmental due diligence. Enterprises*** should comply with the national environmental rules related to the management of hazardous waste, air and water emission, workplace environment. In case of non-compliance with specific environmental rules, if the non-compliance can be solved through the POPs phasing out or Green Chemistry investment proposed by the enterprises, the relevant part of the investment for compliance will be eligible under the FREEME. In case non-compliance cannot be solved under the POPs phasing out or Green Chemistry investment, if the enterprise commits to solve the non-compliance within the same time frame of the implementation of the POP-E or GC activities, the enterprise can be considered eligible. The technical assistance provided by the project will support both the activities for social and environmental compliance and the implementation of the POP elimination and GC activities.

? ***Compliance with the GEF Policy on Gender Equality.*** Enterprises will need to comply with the Gender Policy which states that GEF-financed activities should be conducted, designed and implemented in an inclusive manner so that women?s participation and voice, regardless of their background, age, race, ethnicity or religion, are reflected in decision-making, and that consultations with women?s organizations, including Indigenous women and local women?s groups are conducted. Gender mainstreaming and inclusiveness aspects will be included as mandatory criteria for access to funds.

? ***Prioritisation criteria.*** Some additional prioritisation criteria, to be further elaborated, will be considered during the selection stage, including the avaialability of enterprises? own cofinancing resources for project objectives, the hydrogeological risk in the proposed intervention area; aspects related to other hazardous chemicals, including safety protocol already in place for the management of chemicals and waste; reduced accident rate; presence of gender disaggregated statistics related to accidents.

The FREEME will support:

? the implementation of Green Chemistry upgrade of production lines, with less-chemically intensive products and materials, replacement of POPs with non-POPs / non-hazardous chemicals or POPs-containing processes with non-POPs processes (for instance mist suppressant in chrome plating; SCCP in paint, etc), management of obsolete POPS stocks if any in the selected industrial sectors;

? the private sector to get incentives policy (e.g. tax, fee, credit fund, investment equity) in production of eco-friendly products manufactured in compliance with Green Chemistry and POPs-free products;

? industries on environmentally sound design of article and materials which are intrinsically compliant with flame-retardant or water-repellence standards and therefore do not need chemical treatment.

To this end, enterprises will be assisted in identifying and submitting applications to access finance from the FREEME green financing schemes, but also from other similar financing scheme with similar objectives, particularly these provided by governmental entities, like the DTI/BOI, the Philippine Development Bank, the Philippine Land Bank, and by bilateral entities like international development banks and foreign donors.

The project will also assist the financial entity supporting the FREEME on training events for partners to raise the awareness of enterprises on possible green finance instruments, and to facilitate their access to competitive loan and grants, in order to support quality-controlled conversion of production lines, and to manage obsolete POPS stocks. A grant financial support with a high leverage factor (1/10) will be provided to support projects in the field listed above.

In practical terms, the FREEME mechanism to be developed under the project will work in this way.

? FREEME supporting entities and activities will be identified.

? Eligibility rules to access the FREEME will be developed and publicized.

? The project will assist enterprises to submit their projects to the FREEME entity, and will provide the co-financing entity with support intended to cover part of the operational expenses.

The following two financing options under FREEME are envisaged:

? A FREEME grant, supported by the GEF, dedicated to support enterprises? investments and technical assistance finalised at purchasing equipment needed to ensure the phase out of POPs in the manufacturing process and the implementation of no less than 3 out of the 12 Green Chemistry processes in a maximum of 4 enterprises.

? A FREEME privileged loan, with technical assistance provided by the GEF and a privileged loan ensured by the financial entities, also dedicated to the enterprises? investment needed to ensure POPs phaseout in the manufacturing process and the implementation of no less than 3 out of the 12 Green Chemistry principles.

The privileged loan will be supported by incentive mechanisms that will be analyzed in terms of market impact and legal aspects during the project implementation. Potential mechanisms could be based on tax deduction for specific environmental interventions (as already envisaged by existing the ?Green Job? incentive), through direct support from financial entities, of from support from other donors. Tax deduction could be integrated by a credit transfer option which could be purchased by financial entities, so that even loan support could eventually translate into grants.

The FREEME fund will be supported by training on Green Chemistry and its impact on circular economy, and technical assistance to enterprises to submit their applications through a dedicated project team. Special provisions will be included to ensure the access of micro/small enterprises. Four priority pilot plants will receive a grant for the implementation of GC activities if they can demonstrate that that will result in the avoidance of a significant amount of POPs. The training will include the development of business plan associated with the new Green Chemistry processes. The following activities will be undertaken to achieve Output 2.1.1:

? 2.1.1.1. Design of FREEME schemes for implementation of Green Chemistry and phase out of POPs in processes and products

? 2.1.1.2. Regulation and norms, including replenishment criteria, for the FREEME incentive mechanism established

? 2.1.1.3. Technical and financial eligibility criteria for the incentive mechanisms established for Green Chemistry and POPs-free products, as well as green recovery from COVID-19

? 2.1.1.4. A joint public - private committee (government, investment bank, GEF, bilateral donors) to manage the FREEME mechanism established and operational

? 2.1.1.5. International launching workshop for FREEME

? 2.1.1.6. Development of FREEME gender equality policy

Output 2.1.2 Criteria development and shortlisted sector to be identified for implementation

This additional output will have the purpose of establishing the rules for the identification of enterprises which will be demonstrated under the project. This will be achieved based on the following activities:

? 2.1.2.1. Kickoff event (an inclusive workshop) to introduce to enterprises financial mechanism on POPs free design and COVID-19 green recovery to enterprises.

? 2.1.2.2. Assist at least 60 enterprises to design intervention on alternative product design for application under FREEME

? 2.1.2.3. Selection and support of 4 out of at least 60 applications under the Green incentive mechanism for direct support under the project

? 2.1.2.4. Training the staff of the shortlisted sectors on the use of tools to advance gender equality

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Outcome 2.2 Implementation of Green Chemistry Initiatives in key manufacturing sectors.

Output 2.2.1 At least 4 (four) manufacturing facilities from the key manufacturing sectors implementing Green Chemistry approach under FREEME, with direct reduction of at least 20 tons of SCCP, PBDEs, PBBs, PFOS/ PFOAs, and HBCDD.

Although a final agreement with specific enterprises cannot be achieved at this stage, the project has already identified three (3) industrial zone from where the four (4) manufacturing facilities for piloting Green Chemistry and POPs reduction will be selected. These are among the largest industrial zones in the Philippines, and are respectively:

? The First Philippine Industrial Park, located in Barangays Ulango and Laurel, Tanauan City and Sta. Anastacia, Sto. Tomas, Batangas. The First Philippine Industrial Park, Inc. operates over an area of 331.85 hectares of land with more than 100 enterprises;

? The Cavite Economic Zone, located in Rosario, Cavite. Here the Philippine Economic Zone Authority has developed an industrial zone over an area of 278.51 with 412 establishment

? The Laguna Technopark, located in Bi?an City and Sta. Rosa City, Laguna. The Laguna Technopark Inc. Operates the industrial zone spanning 315 with 296 industrial establishment.

As field surveys to enterprise sites was not possible during the PPG stage due to COVID-19 restrictions, the selection of enterprises to be surveyed at implementation has been achieved through the identification of industrial zones where to conduct project activities. At implementation, the surveys will be carried out within the 3 industrial zone identified. At PPG the discussion was held with association of enterprises through online meetings, confirming the interest of enterprises to participate actively in project activities.

Tentatively, and based on the knowledge gathered until now, the following industries would be the most suitable to be improved through the implementation of Green Chemistry and POP reduction:

? ***Electro plating for automotive sector and other industries.*** In the electroplating sector, PFOS are still used in open processes to prevent mist containing CrVI to spread in the workplace. Paradoxically, PFOS is used to prevent exposure of workers to a carcinogenic agent. However, PFOS are also used in CrVI plating of plastic object as etching agents. Although the project team learned that the concentration of PFOS in the plating bath was in the order of 5mg/l from the Vietnam Green Chemistry Project supported by the GEF, the overall consumption and release of PFOS from open chrome plating process, may be very high without any recycling of the plating bath. Alternative to PFOS in chrome plating may indeed entail the replacement of the whole CrVI process with a less hazardous process based on trivalent chromium, spray and PVD coatings, zinc flake; use alternative non-PFOS mist suppressant or non-chemical mist-suppressants (like poly-propylene floating balls) or non PFOS mist suppressants. In addition to POPs replacement, additional green chemistry interventions may be possible to reduce wastewater contamination, reduce energy use, use less toxic catalysts, and monitor air and wastewater effluents.

? ***Plastic manufacturing / polymers.*** There are many options to reduce POPs use in the plastic sector, such as:

? ***Replacement of HBCDD in insulating foam.*** Tetrabromobisphenol A bis (2,3-dibromopropyl ether) and Tris (2,3- dibromopropyl) isocyanuric acid ester (TBC) are two substitutes for HBCD. However, the shortcoming of these two alternatives is the potential to form brominated dioxins if incinerated in non-BAT plants. Another, more common alternative to HBCDD is brominated styrene?butadiene styrene triblock copolymer (Br-SBS) CAS No 1195978?93?8) largely used in the US, European countries, Japan and some Asian countries. However, this chemical may present the risk of formation of toxic substances in case of fire. Whilst the chemical replacement may be challenging in the case of EPS/XPS beads manufacturing, the replacement of EPS/XPS beads treated with HBCDD alternatives to produce insulating boards is more straightforward and would not entail major change of the manufacturing process.

? ***Alternative to SCCP as plasticizer in the manufacturing of PVC.*** The Stockholm Convention website lists several of alternatives to SCCP in the manufacturing of PVC. Based on EuroChlor, SCCP is not anymore used or manufactured in the EU, however, as in other global regions chloroalkane substances may be by chlorination level instead by carbon chain length, imported consumer products could in fact contain SCCP. A non exhaustive list of alternative to SCCP includes: Acrylic polymers; Alumina trihydrate; Aluminum trihydroxide, used in conjunction with antimony trioxide (ATH); Aluminum trioxide; Antimony trioxide (or Antimony oxide); Long-Chain Chlorinated Paraffins (C18+) (LCCPs); Medium-Chain Chlorinated Paraffins (C14-17) (MCCPs); Other Organophosphorus flame retardants. The manufacturing of PVC not containing SCCP may entail a rearrangement of the manufacturing process; however, the simple replacement of PVC containing SCCP with POPs-free PVC is mostly a Green Procurement issue which may be addressed without significant changes in the manufacturing stage.

? ***POPs PBDE in plastic.*** As explained earlier, the issue of PBDE in plastic is mostly on the side of recycling of treated plastic, as PBDE manufacturing has been eliminated everywhere, and only for deca-BDE there was evidence of manufacturing until 2017.

? Other Green Chemistry interventions in the plastic manufacturing processes:

o Better control of waste effluent;

o Reuse/recycle plastic wasted during manufacturing;

o Improvement of the polymerization process;

o Reduce the quantity of additives through optimized processes;

o Replace brominated flame retardants with non-brominated non-POPs flame-retardants, including HBCDD in EPS/XPS insulating board manufacturing;

o Restrict / control the import of deca-BDE and HBCDD in the country;

o Improve design of articles so that Flame Retardants are not necessary (introduce alternative measures to reduce fire risk);

o Reduce heating through better process control and insulation of reactors. Introduce quality criteria for plastic manufacturing, including the use of recycled plastic;

o Production of bio-degradable/bio-plastics, which may prevent the release of U-POPs as a result of accidental combustion; And,

o Real time monitoring of air and wastewater effluents introduced. Improve the storage of hazardous chemicals, by optimizing and reducing the quantities stored, and by establishing surveillance.

? ***Pulp and Paper:*** PFAS in papermaking are mostly used in the surface treatment of special purpose papers, including paper and paper containers for food packaging. Beside these chemicals, the main POP-related concern from pulp and papers derives from the use of chlorine as bleaching agent, which may result in the generation of U-POPs when residue from paper making is burnt for energy recovery in substandard burners not equipped with suitable Air Pollution Control System (APCS). In the paper making process, other Green Chemistry processes not directly related to the prevention of POPs, may include the following:

o Improve recycling of lignin from the wastewater process.

o Improve wastewater treatment;

o Assess and implement water reuse in various processes;

o Build a database of chemicals used in the pulp and paper sector to increase awareness;

o Adopt Hydrogen Peroxide bleaching or ozone bleaching as a substitute to Sodium Hypochlorite bleaching. Reduce heating through better process control and insulation of vessels;

o Introduce quality criteria for natural fibers, including verification of residues of organic chemicals. Test the final product for the presence of chemical residues, including POPs;

o Using a solid metal catalyst and a hydrogen peroxide solution as an 'activator' to kill microorganisms by oxidation instead of pesticides;

o Develop a database of chemicals used in the pulp and paper industry. Real time monitoring of all process modules;

o Real time monitoring of air and wastewater effluents;

o Adopt automated control of process parameters (e.g. temperature, liquor level, chemicals feed) to reduce applied chemicals and auxiliaries; and,

o Improve the storage of hazardous chemicals, optimizing and reducing the quantities stored, and establishing surveillance.

? ***Solvent / Paint:*** The most commonly used POPs in the paint manufacturing process are SCCP. Due to their low viscosity compared to MCCP and LCCP, SCCP are preferred because they are more easily mixed and dissolved in the paint formulations. SCCP mixtures are used in paint used as road signs, anti-rust and anti-fouling paints, pool walls. The replacement of SCCP with MCCP may consist in a simple chemical replacement; however, due to the different physical-chemical properties of SCCP and MCCP, that could even entail the replacement of equipment to achieve the proper mixing and homogenization rate within an acceptable time [ ]. Green Chemistry principle in the paint and solvent sector are also addressed by:

o Promoting the development of industries in the bio-solvent sector;

o Design solvents, which can replace halogenated solvents or BTEX solvents commonly used in products. Production of solvents from the distillation of vegetable, renewable feedstock; and,

o Develop the production and promote the use of bio-degradable solvents to replace chlorinated, non-degradable solvents.

? ***Furniture industry:*** Potential used of POPs in the furniture industry is mostly related to the preservation and coating of furniture equipment made of wood or fabric, as well as the use of sealant or glues. Green Chemistry in the furniture industry may entail.

o Use wood from certified industries;

o Use of bio-based oil and varnish instead of chemical wood varnish;

o Reduce the use of glue containing hazardous chemicals including SCCP;

o Reduce the generation of cutting residues and increase their recycling / reuse;

o Develop a database of the chemicals used in the furniture industry; and,

o Realtime monitoring of process step, with specific reference to those involving the use of chemicals.

Under this output, at least 4 industries enterprises will be selected as pilot facilities for the implementation of Green Chemistry approach and phasing out of POPs.

The criteria for the selection of the 4 pilot enterprises to be demonstrated during the project will be the same already described for the output 2.1.1.

This output will envisage the following:

? Preparation of a Green Chemistry demonstration plan for the selected factories.

? Discussion of the demonstration plans in dedicated workshops.

? Drafting of a procurement plan for the needed interventions.

? Procurement and testing of the equipment.

? Demonstration and monitoring of the Green Chemistry and POPs reduction intervention.

In addition to the implementation of specific Green Chemistry interventions capable to reduce POPs, a number of general interventions for the pilot sectors will be selected for implementation, as following:

? Development of a database of substances and mixtures used in the demonstration sector for an easier identification of non-toxic, non-POPs alternative substances.

? Establish sector-specific environmental monitoring plans.

? Promote, whenever possible, the use of environmentally friendly biocides in industrial processes (for instance in the textile and pulp and paper sectors).

? Promote the use of substances alternative to POPs, with specific reference to PFOS and PFOAs, C-PBDE, SCCP.

? Promote, whenever possible, alternatives to chlorinated solvents in industrial processes.

? Minimize water discharge and establish automatic control of water quality

Technical assistance will be provided by the project team in close partnership with DTI and BOI, the management of industrial zones, research institutions and other partners. Prior to Green Chemistry introduction, each enterprise will undergo an in-depth plant assessment, after which a detailed Green Chemistry intervention plan will be drafted, including a financial investment and operation plan. After approval of the Green Chemistry intervention plan, the project will support the introduction of Green Chemistry approaches and technologies.

The following activities will be undertaken to achieve Output 2.2.1:

? 2.2.1.1 Technical support for the implementation of Green Chemistry, POP free design and manufacturing, inclusive of green recovery actions, in 4 factories

? 2.2.1.2 Technologies for Green Chemistry and Green Manufacturing procured and installed

Output 2.2.2 Technical guidance for the implementation of Green Chemistry developed for the sectors of Copper, Plastic/polymer, Paint/Solvents Paper, Furniture and Automotive.

To encourage replication of best practices and success stories and to provide a platform for continuous capturing and sharing of Green Chemistry experiences, the project will prepare technical tools and technical guidance for each of the sector relative to the four plants selected for the implementation of Green Chemistry.

Initially these tools and guidance documents will be applied and tested throughout the training and capacity building of entities that are participating in the demonstrations activities as part of Output 3.1.3. However, these documents will be considered as living documents into which experiences, lessons-learned and success stories will be integrated as they become available.

The following activities will be undertaken to achieve output 2.2.2

? 2.2.2.1 Development of technical guidance based on practical experience achieved during demonstration in the 4 facilities.

? 2.2.2.2 Coordination meetings with other ongoing and completed GEF projects on Green Chemistry

? 2.2.2.3 Mid-term technical review, by enterprise supported, of the result achieved under output 2.1.2 after one year of implementation

? 2.2.2.4 Final technical review of the result achieved under output 2.1.2, by enterprise supported, after two years of implementation

? 2.2.2.5 Review of technical guidance and roadmaps to identify entry points for mainstreaming gender in the target POP sectors

Component 3. Enhancing the chemical management and reporting of POPs countrywide through the implementation of PRTR system

Outcome 3.1 Environmental legislation improved and enforced and a reporting system for industrial emission implemented

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Output 3.1.1 The downstream regulation amended and enforced to include provisions related to all the new POPs listed under the SC after 2013

The project will help in integrating the provision on POPs in the regulations on Environmental Protection and on Chemicals management (with specific reference to the DENR Administrative Order 29 Series of 1992). It will be complemented with risk assessment criteria and guidance. Amendments to the existing legislation, and the new regulatory tools to be developed will be in coherence with the whole regulatory system to avoid inconsistencies or overlaps.

The amended regulations will include the complete ban of import and use of POPs, with specific reference to the industrial POPs (PFOS, PFOAS, HBCDD, PBDEs, and SCCP) whose phasing out in industrial processes is going to be demonstrated in Component 2. With such amendments, it is envisioned that at least half of the amount of industrial POPs will be prevented during project implementation stage, and more specifically 172.5 tons out of the 345 tons of PFOSs estimated by the NIP as import in the chrome plating sector will be avoided. Plus at least 10 tons of direct avoidance of PFOS and 10 tons of direct avoidance of industrial POPs from the demonstration in the 4 selected manufacturing industry, for a total of 192.5 tons of POPs.

The following activities will be conducted to achieve output 3.1.1:

? 3.1.1.1. Assessment and drafting of the revised environmental and technical regulation to ensure that POPs are banned from import and eliminated from industrial processes and products

? 3.1.1.2. Technical guidance and training material developed for the identification and elimination of POPs from industrial processes and products.

? 3.1.1.3. Technical guidance and training material developed for the identification of POPs as chemical or products and enforcement of the ban of their import.

? 3.1.1.4. Review of chemical sector laws and policies and programs to identify entry points for mainstreaming gender in the target POP sectors.

Output 3.1.2. A PRTR, inclusive of POPs, UPOPs, GHG and heavy metals, piloted in at least 20 factories in key manufacturing enterprises

The following activities will be carried out to achieve output 3.1.2

? 3.1.2.1. Development of PRTR rules (list of chemicals, threshold, priority industries)

? 3.1.2.2. Development and piloting of PRTR database, software and procedures

? 3.1.2.3. Development of replication plans and PRTR regulation

PRTR is intended to provide easily accessible key environmental data related to the generation of POPs and PTS from industrial sectors, as well as monitoring information. The register contributes to transparency and public participation in environmental decision-making.

The PRTR will be developed in compliance with the international standard on PRTR established by the UNECE. The implementation and enforcement of a PRTR regulation will allow to:

? Maintain a database of environmental monitoring, with specific reference to POPs and priority PTS;

? Prioritize industries to be included in the PRTR register;

? Identify the list of pollutants to be included in the register (including industrial POP, PTS, GHG) ;

? Define the responsibilities in enforcement of the regulation and the supervision methods;

? Define the modality to communicate with industries avoiding overlapping and conflicting with other norms requiring the submission of environmental information from the enterprises; and,

? Identify format of the PRTR such as this is compliant with format established under other international PRTRs database.

A pilot PRTR system will be developed and piloted in at least 20 plants. This will entail:

? Coordinate with the firm which has been surveyed under Output 1.2.1 to gather relevant information and seek their participation in piloting the PRTR.

? Agree with the DTI and DENR the list of industries which should be part of the PRTR piloting. These should be in a number of at least 20 plants to be selected from among the most representative industrial sectors in the country.

? Develop the list of substances to be included in the PRTR system, and establish the methodology for sampling and analysis of industrial effluents and the emission factor needed for the calculation of each pollutant from the relevant industrial sector;

? For each selected plant, provide direct instruction on the standardization of data and data input into the software for PRTR report.

? Collect the information to calculate the release and transfer for each PRTR substance for each pilot plant, enter these information in a database and pilot a PRTR software to manage this database.

? A PRTR software is developed and tested;

? POPs/PTS data entered and PRTR report generated.

Based on the experience gathered through the design and piloting of PRTR, a draft regulation on PRTR will be prepared, discussed in a dedicated workshop with stakeholders of industrial sectors and the government, and eventually endorsed. The PRTR draft regulation will include as a minimum:

? The list of industrial facilities subjected to PRTR, and procedures for list revision;

? The list of chemicals subjected to PRTR, and procedure for list revision;

? Threshold criteria by industrial sector and chemical;

? The format of data reporting and storage;

? The duties of competent authorities in the periodical updating, storing and communication of data;

? Quality assessment and Quality Control procedures;

? Methodologies for release estimation based on emission and release factors;

? Methodologies for sampling and analysis of pollutants from industrial sources, as well as in waste and wastewater; and,

? Criteria for data disclosure;

The following activities will therefore be carried out to achieve output 3.1.2

? 3.1.2.1. Development of PRTR rules (list of chemicals, threshold, priority industries)

? 3.1.2.2. Development and piloting of PRTR database, software and procedures

? 3.1.2.3 Development of replication plans and PRTR regulation

Output 3.1.3 Capacity of the customs officers to prevent illegal import of POPs chemicals, POPs containing mixtures and articles increased.

With respect to the prevention of illegal imports and marketing of banned pesticides and industrial chemicals, the project will undertake training of customs control officers at major international harbors to improve the efficiency of inspections of imported chemicals and the capacity to identify POPs and other banned pesticides.

The project will also develop and provide technical assistance and manuals with clear instruction to be followed during port inspections. The project expects to provide similar technical advice to inspectorates.

A manual will be developed and disseminated among agri-shops, storage facilities and crop inspection units to verify the presence of POPs and illegal pesticides. Considering that evidence of the use of Endosulfan has been found during the NIP update, as part of this outcome a lot of attention will be paid to agricultural practices and crops where Endosulfan has been used in the past.

The following activities will be carried out to achieve Output 3.1.3:

? 3.1.3.1 Custom laboratories equipped with equipment for screening analysis and rapid identification of POPs containing materials

? 3.1.3.2 Training of custom officers on the identification of chemicals and goods potentially containing POPs

? 3.1.3.3 Capacity development of Gender Focal Points in BoC

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Component 4: Knowledge Management & Awareness, Monitoring, Learning, Adaptive Feedback, and Evaluation.

Apart from supporting the expected project monitoring activities, this component will be important to capturing and sharing lessons and best practices in piloting innovative approaches to sustainably managing and/or eliminating use of the new POPs. This will be important not just at national level, but as a contribution to GEF learning, and potential for replication in other projects.

As such, related outcome for this component is articulated in one outcome and four outputs as following:

Outcome 4.1: Project lessons and results monitored, verified, captured, shared, sustained and replicated. This outcome can be supported by the following outputs:

Output 4.1.1. Development and application of adaptive overall management and risk management tools and plans for use throughout the project, and particularly in response to needs and Mid-term Evaluation (MTE) findings.

The risk management tool will be used along with the other monitoring systems (PIR, Project Work Plans, Project Report) to achieve a timely updated picture the project. The result of the MTE will be elaborated into management response and translated into adaptive measures to ensure that any difficulties found in the initial stage of the implementation is promptly addressed.

This will envisage undertaking the following activities:

? 4.1.1.1. Project inception carried out and project management institutions established

? 4.1.1.2. Project monitoring, including supervision visits, and yearly audit

? 4.1.1.3. Project mid term review

? 4.1.1.4. Collection of sex-disaggregated data on women and men in the chemical sector

Output 4.1.2. Collection and dissemination of lessons learned, best practices and experiences at national, regional and global level to support replication.

The project will generate the following information which will be very relevant and useful for any institution or private entity wanting to access the knowledge related to POPs and Green Chemistry:

? Information on Green Chemistry, POPs free or less chemically intensive products and material.

? Information on the eligibility to financing programs established under the program.

This output will envisage the following activities:

? 4.1.2.1 National and international workshop carried out to coordinate and disseminate project achievements and lesson learnt

? 4.1.2.2 Project terminal evaluation

? 4.1.2.3 Development of appropriate gender indicators with SDD to enable reporting of gender results

Output 4.1.3. Capacity and awareness building activities organized for decision makers, stakeholders, and practitioners, to enhance the sound management of chemicals and protect human and environmental health.

Awareness building activities regarding Green Chemistry implementation in manufacturing processes, and the reporting system established through the piloting of the PRTR will be conducted by making use of conventional media (TV broadcasting, newspaper), internet TV (Youtube and FB channels) and dedicated events (workshops, training events and site visits to the industries). The effectiveness of the awareness building activities will be measured through specific surveys to be conducted at project starting and at project end. A network of Green Chemistry experts and institutional expertise will also be established through capacity building and training.

This output therefore aims to build technical capacity among government entities and industry, increase capacity of existing institutions and partnerships for Green Chemistry, and establish a network of trained experts, consultants and firms who will work as a help desk to provide advice to industry in adopting Green Chemistry practices. In practical term this will be established through a blog platform or a Green Chemistry line which can be accessed by the industry to ask specific question on the implementation of Green Chemistry. It will envisage the following activity:

? 4.1.3.1. Awareness raising and communication workshop at national and international level

Output 4.1.4. Development of an integrated knowledge management system on POPs and their alternatives

This output will mainly concern the management of project documents and reports. Under the project a number of technical reports, progress reports, administration documents, evaluation reports training materials and scientific reports will be generated. Moreover, the project experts will have to have access to the same information generated by other projects. All the documentation generated by the project will be therefore categorized and uploaded in a website, with an access policy differentiated by users (administrators, project technical experts, project management units, general public, etc.). A blog under the website, or a project webpage on the suitable social media, maintained by a dedicated person, will have the main function to collect information and initiatives generated by similar project worldwide and to connect people from the various project for exchanging of information. This will envisage the following activities:

? 4.1.4.1. A knowledge management infrastructure (staff, website and rules) established

? 4.1.4.2 Project documentation (internet pages, movies, leaflets, technical documentation) continuous developed, collated and made available

III.2. Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, and co-financing:

4) Alignment with GEF focal area and/or Impact Program strategies;

The project is fully aligned with the GEF7 Chemical and Waste Focal Area Strategy, Program 1 ?Industrial Chemical Programs?, as it seeks to eliminate or significantly reduce POPs substances in the manufacturing sector. The project will address chemical waste at the end of life and , chemicals that are used or emitted from processes or products.

More specifically, the project envisages:

? The prevention of waste/products containing persistent organic pollutants from entering material recovery supply chains

? Elimination of the use of and persistent organic pollutants in products (Including brominated flame retardants, PFOS and short chained paraffins) through introduction of alternatives in the products with a preference to non-toxic chemicals;

? Introduction and use of best available techniques and best environmental practices to minimize and ultimately eliminate releases of unintentionally produced POPs from major source categories included in the Stockholm Convention including, but not limited to, cement manufacturing, coal fired power plants, various metallurgical processes, waste incineration; (project component 2)

The project will also strive to strengthening of national legislation and regulatory capacity for meeting the Stockholm convention obligations, with regard to persistent organic pollutant)

The project will also support sustainable material management initiatives, including sound material-cycle society, and sustainable materials management approaches, promoting the adoption of improved production, consumption and environmentally sound disposal patterns.

5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;

The incremental cost reasoning for the project is summarized in tabular format below.

BUSINESS AS USUAL SITUATION (WITHOUT GEF INTERVENTION)	ALTERNATIVE SCENARIO (WITH GEF INTERVENTION)
Component 1. Comprehensive roadmap for greening the manufacturing sector in the Philippines through a better management of chemicals, including NIP update	

The first NIP was submitted in May 2006. The first updated NIP was completed in 2014, and received by the SC Secretariat in August 2015. Since the first NIP release, the country has undertaken a number of steps to eliminate POPs from use and to eliminate stockpile of POPs, mostly through the implementation of projects supported by the GEF. These projects have had a significant impact on the capacity and on the regulatory framework of the country, although issues related to a number of new POPs still persist. After the listing of additional 6 chemicals under the Stockholm Convention, DENR had plans to develop a second update of the NIP, however technical difficulties and the absence of guidance for some new POPs has so far hindered this activity.	The project shall provide incremental support (technical and financial) to ensure that the NIP will be updated to consider the POPs listed under the SC after 2013, including the inventory of all POPs and the improvement of the regulation to include new POPs which have not been considered after their listing under the Stockholm Convention.
Similarly, some initiatives have been undertaken to develop roadmaps for improving the sustainability of the manufacturing sector. One of which was the ?Greening Industries Roadmap? implemented by GIZ in 2015 and promoted by the Philippine BOI. It has prepared a number of sectorial roadmap and strategies. Other relevant initiatives include: the ?Sustainable copper industry? (BOI, 2019); the work toward the development of biodegradable substitutes of plastic (DOST-ITDI (2017); the Plastic Bank (2016) for the recycling of household plastic waste; the establishment of the Philippine Alliance for Recycling and Materials Sustainability (PARMS); and the development of Activated Carbon from coconut waste.	Moreover, the project will update the inventory and identify priority actions for the initial 12 POPs, the new POPs already addressed during the NIP update carried out in 2014 (namely Lindane, Chlordecone, Endosulfan, PFOS, PBDE) and the new POPs listed after the last NIP update (SCCP, PFOAs, deca-BDE, HBCDD, and PCN). Downstream regulation will be amended to be fully consistent with the Stockholm Convention.
All these activities testify a significant effort toward the development of a sustainable manufacturing industry, however the lack of coordination, the lack of proper financial scheme, and the low awareness related to new POPs which may be still used in some products and manufacturing processes are currently hindering this effort. Associated financing from the baseline or co-financing: USD 4,299,804	The project will develop specific roadmaps for greening selected priority manufacturing sectors, which at this stage have been identified as Copper, Plastic, Paper, Paint, Furniture and Automotive (steel plating technologies). This will facilitate the adoption of Green Chemistry practices for each sector and at the same time the identification of technologies that allow for the replacement of POPs (HBCDD, PBDEs, PFOS/PFOAs, SCCP) with non-POPs, safer chemicals. Sector analyses will be done to identify Green Chemistry opportunities for demonstration/application. Assessment and subsequent improvement of the existing policy and regulatory framework through taking up Green Chemistry aspects (through e.g. mainstreaming or adapting/developing policies and regulatory measures) will be carried out.

Component 2. Demonstration of Green Chemistry implementation including POPs and U-POPs reduction

The NIP update in 2014 estimated that around 345 tons of POPs were contained in imported chrome metal-plating pigments and preparations; 147 tons in synthetic carpets and fire-resistant textiles; 33.6 tons in greaseproof and food paper. Concerning PBDE, the NIP estimated around 24 tons from the automotive sector, excluding deca-BDE. Based on the figures provided by SAFL, the amount of deca-BDE would be in the order of 10.6 to 45.2 tons for the vehicle disposed in 2012. Figures are missing for SCCP, however based on the experience from other projects, it may be expected that the amount of SCCP consumed only in the manufacturing of specialized paint is in the order of tenths of tons per year. There are currently no initiatives in place aimed at reducing the use of the new POPs listed after NIP update in the manufacturing sectors. In spite of the ?Greening Industries Roadmap? implemented by GIZ in 2015 and promoted by the Philippine Board of Investment, the initiatives aimed at promoting green chemistry or the replacement of POPs in the manufacturing industries are limited or absent. There are however a number of financial incentives aimed at promoting green jobs or environmental initiatives which could provide financing support to enterprises willing to implement GC and POPs replacement, provided that the eligibility criteria for the access to such funds is expanded to include these actions. The Bangko Sentral ng Pilipinas (BSP) has allocated US$200 million on green bonds in 2020. These are invested in green, sustainable and renewable investments - making the Philippines the 3rd largest green bond issuer in ASEAN with over US$ 2 billion. The *Philippine Green Jobs Act of 2016 (RA 10771)* provides a policy framework that fosters low-carbon, resilient sustainable growth, and decent job creation by providing incentives to enterprises generating green jobs. PEPP - Philippine Environmental Partnership Programme seeks to provide a package of incentives and reward mechanisms to industries in effective voluntary self-regulation and improved environmental performance. The PEPP aims at encouraging enterprises to go beyond environmental compliance. Associated financing from the baseline or co-financing: USD27,306,033	Under this component, (Outcome 2.1) the project intends to develop a financing mechanism to support the implementation of Green Chemistry and POPs replacement in manufacturing industry. This will at least partially leverage on the existing green financing mechanisms by proposing extension of eligibility criteria to include green chemistry and POPs replacement. FREEME will be therefore established with the initial technical and financial support of the project, through involvement of suitable financial institutions. This will also include financial mechanism for green recovery from COVID-19 including PPE for workers. Expanding the use of available financial resources is to include the outstanding environmental issues posed by POPs and other hazardous chemicals in manufacturing sectors, which are not currently addressed by existing financing mechanisms. Noticeably, PPG stage found that some existing green financing funds received a very limited number of applications. In the absence of this project component there is a serious risk that available financing resource will not be spent and that POPs issues in the manufacturing industries remain unaddressed. Under the same component (Outcome 2.2) the project intends to directly support a number of enterprises to implement Green Chemistry technologies at the same time replacing POPs in the manufacturing sectors. At least 4 enterprises will be selected for the implementation of green chemistry initiatives with POPs replacement under direct technical and financial support from the GEF. This will allow for the replacement of at least 20 tons of industrial POPs from the processes and products. The following options will be considered:

Component 3. Enhancing the chemical management and reporting of POPs countrywide through the implementation of PRTR system

The Philippine started the regulatory process leading to the implementation of PRTR: In 2017, *House Bill No. 6225- An Act Creating a Philippine Pollutant Release and Transfer Registry* was introduced during the 17th Congress. However, no approval has been seen to date. The Philippines is not in the OECD?s list of adherents to the establishment and implementation of a Pollutant Release and Transfer Register (PRTR). This effort, considered crucial in the sake of improving the transparency concerning the information on industrial emission of pollutants in the environment, is currently pending approval, due also to the difficulties found in implementing the system. As far as the enforcement of the Stockholm Convention provisions related to the import and export of POPs, the following has to be noted: Although for most POPs there are specific entries under the HS, for a number of new POPs HS codes are not established yet. These chemicals need to be placed under generic HS codes. For instance, there is no specific code for SCCP, and therefore short chain chlorinated paraffins as chemicals should be placed under other codes which contain both POPs and non-POPs chlorinated derivatives. The above codes do not allow for the identification of SCCP (a POP) versus MCCP or LCCP (non-POPs). The situation is even more complex for POPs containing products like paints, foam or fibres treated or added with POPs. The Customs has limited capacity (and mandate) concerning the identification of products containing POPs, like XPS/EPS foam or beads, chlorinated rubber paint or other paint formulations containing SCCP, plastic or textile polymers pre-treated with flame POP retardants. Currently, HS codes are missing for HBCDD, SCCP, Deca-BDE, and are also missing for products and mixtures based on these chemicals. There are currently no actions in place to solve the above issues, and therefore this project component has to be considered mostly incremental. Associated financing from the baseline or co-financing: USD 10,819,731	Under this component the project shall fill the remaining gaps in environmental regulation such as: ? Inclusion of provisions related to all the new POPs listed under the SC after 2013 ? Inclusion of provisions on POPs/PTS in the regulations on Environmental Protection and on Chemical management (with specific reference to the DENR Administrative Order 29 Series of 1992). It will be complemented with risk assessment criteria and guidance. The amended regulations will include the complete ban of import and use of POPs, with specific reference to the industrial POPs (PFOS, PFOAS, HBCDD, PBDEs, SCCP) whose phasing out in industrial processes is going to be demonstrated in Component 2. With such amendments, it is envisioned that at least half of the amount of industrial POPs will be prevented during project implementation stage, and more specifically 172.5 tons out of the 345 tons of PFOSs estimated by the NIP as import in the chrome plating sector will be avoided. The project also aims to achieve the following: ? Development and piloting of a PRTR (Pollutant Release and Transfer Register), inclusive of POPs, UPOPs, GHG and heavy metals. PRTR (Pollutant Release and Transfer Register) is intended to provide easily accessible key environmental data related to the generation of POPs and PTS from industrial sectors, as well as

6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF);

The project will lead to a complete stop of the import and use of industrial POPs in manufacturing processes in the Philippines (Hexabromobiphenyl; Hexabromocyclododecane; Hexachlorobenzene; Hexachlorobutadiene; Pentachlorobenzene; PFOS and PFOAs) Short Chain Chlorinated Paraffins and PFOS.

During implementation, It will directly achieve a 50% reduction on the use of PFOS and SCCP in the manufacturing industry, leading to a direct reduction of PFOS compared to the 2015 NIP estimation of at least 172.5 tons of PFOSs import prevented, a direct demonstration of 10 tons PFOS avoidance in the industry and a reduction of 10 tons of SCCP, PBDE and PBB, and will lead to the complete banning of the use of all POPs in the manufacturing process within the sustainability stage of the project.

This will be ensured through a push-pull mechanism: a rule forbidding the use of these chemicals in the manufacturing process will be immediately endorsed, and simultaneously, industry deciding to phase out POPs ? through the implementation of a Green Chemistry approaches within project deadline will be supported through a Green Financing mechanism (grant or loan as it applies).

Beneficiaries. Conservatively, it may be assumed that 1 kg of POPs prevented could impact directly at least 10 beneficiaries, through avoidance of contact with POPs in the manufacturing or use stage, or because of reduced release in the environment. This would not consider beneficiaries at global scale. Therefore, the project could positively impact at least 1,925,000 beneficiaries. The project will also generate benefits in terms of capacity building activities such as training, workshops participated by at least 890 people. Lastly, at least 50 people will benefit from job opportunities directly from the project implementation or from green financing.

7) innovativeness, sustainability and potential for scaling up

Innovativeness. The Green Chemistry approach is itself based on a mixture of consolidated technologies and innovative approaches. The innovativeness of Green Chemistry lies in the shift from the concept of ?substance replacement? to a wider approach which involve the design of products and processes to reduce the environmental footprint of the manufacturing of chemicals and of chemically intensive products. In the Philippine, although efforts toward the increase of sustainability of manufacturing processes have been undertaken at different levels (for instance the Road Map toward sustainability and inclusiveness promoted by the Board of Investment), the application of Green Chemistry approach is completely new. Green Chemistry approach formalized and consolidated into 12 principles constitutes already a clear guidance toward its implementation through the development of sector-specific checklists.

In addition to the Green Chemistry approach, the financing scheme envisaged under the project may be considered as a blend among classical financial scheme and innovation. The innovation here consists mainly in using eligibility criteria as the basis for accessing the competitive loan to comply with project objectives. Applicant industries will therefore receive a double benefit: from the financial side, the access to a competitive loan to implement their investments; from the technical side, the technical assistance needed to develop projects which are compliant with the eligibility criteria established under the FREEME mechanism. Additionally, as the environmental liability of the applicants would be reduced by the implementation of their eligible projects, it may be considered, together with the Financial Entities, whether this reduced liability may be used to compensate a lower level of financial guarantee compared to the one usually required to access loans.

Sustainability. The FREEME mechanism will be designed and implemented in a manner that assures its sustainability catalyzed by the project. This stems from the consideration that any incentive mechanism, to be successful and sustainable, needs to bring a net benefit to the donor, the beneficiary, and the community through three pillars:

Ensuring benefits for all the stakeholders. The financial entities may benefit from the interest rate of the loan, which will need to be a fair interest rate in comparison with the market rate. The government ? and therefore the community ? will benefit from the reduction of expenditures related to the reduced risk of chemical accidents. The reduced healthcare expenditure associated with the exposure of the public and workers to POPs. Furthermore, if a tax deduction mechanism is established to support FREEME for environmental investment, the government, although losing taxes from the side of the investor, could indeed achieve a bigger tax return from the side of providers of environmental protection equipment. Indeed, there are already a number of financial mechanisms in place (the Philippine Environmental Partnership Program (PEPP)), the tax reduction for green jobs, the BOI support for the Leyte Ecological Industrial Zone) testifying that the government sees the policy of environmental incentives as a promising one, key in promoting a more environmentally friendly manufacturing.

An incentive mechanism is not sustainable if the beneficiary does not achieve a direct benefit from it. Beneficiaries are the clients, and if they don?t apply for the incentive, the mechanism fails. For enterprises, there will be an obvious benefit in accessing loans for investment at a convenient interest rate. However, this could be not enough: the project will therefore ensure that enterprises applying to FREEME will achieve a significant facilitation in accessing to credit, and will benefit from a range of training technical assistance support to ensure that their benefit will also include how to reduce their operational cost (through, for instance, reduced generation of hazardous waste, reduced cost for the purchase of raw material, reduced illness rate of the workers, reduced energy consumption, reduced cost associated to insurance or liabilities). This support to enterprise is probably the most important tool to ensure the success of the FREEME.

The third pillar of the sustainability of FREEME as an incentive mechanism lies in its public acceptance, which depends on the presence of a net benefit (environmental, health, social) for the community and the way this benefit is communicated. The implementation of GC initiatives would have obvious environmental and health benefits, for both the general public (reduced releases of POPs and toxic chemicals in the environment), the consumers (reduced toxicity of products) and workers

(better workplace conditions). Greening manufacturing factories also mean greater stability for the enterprises which will achieve an improved relationship with local communities, with a positive social impact in terms of job opportunities and social inclusion. Public acceptance also implies a benefit for the government as a donor. These benefits will be communicated through a range of targeted awareness raising initiatives.

Therefore, although the sustainability of FREEME is not automatic, the project will look into deploying the steps and actions to ensure its long-term sustainability after project ends are clear and feasible.

In any case, once the project is completed, the financial support needed to ensure that eligible projects may access a financial benefit in term of reduced interest rate would be minimal and would be overcompensated by the reduced environmental footprint ensured. Even in case the government should intervene with direct financial support to sustain a reduced interest loan for sustaining Green Chemistry or similar initiatives, the cost would be easily compensated by the reduced risk of chemical accidents associated with the implementation of Green Chemistry.

Therefore, it is expected that the financial mechanism established by the project will be sustained also after project end. Beside the sustainability of the financial mechanism, it has to be noted however that the project is fully compliant with a number of actions and activities which were already undergoing ? although at a slow pace. The implementation of this project will act as a catalytic factor ? starting from the NIP update and further support by improvement of the regulation, implementation of a PRTR and awareness raising -that will ensure that the project actions will be sustained.

Potential for scaling up. There is huge potential for the scaling up of the PRTR, which will be piloted in a limited number of enterprises with the specific purpose of paving the way to a national regulation on PRTR and its implementation. The drafting of regulation and roadmap for the implementation of GC in the Philippines has been envisaged to facilitate its diffusion along all the Philippine manufacturing enterprises.

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[1] Prevent waste;2. Maximize atom economy; 3. Design less hazardous chemical syntheses; 4. Design safer chemicals and products; 5. Use safer solvents and reaction conditions; 6. Increase energy efficiency; 7. Use renewable feedstocks; 8. Avoid chemical derivatives; 9. Use catalysts, not stoichiometric reagents; 10. Design chemicals and products to degrade after use; 11. Analyze in real time to prevent pollution; 12. Minimize the potential for accidents. (Source: US EPA)

[2] These include copper, aluminum, lithium, silicon, neodymium, rare earth metals, cobalt, and manganese.

[3] Harmonized System (HS) is an international nomenclature using a six-digit code system used for the classification of products. It allows participating countries to classify traded goods on a common basis for customs purposes.

[4] 290319-Saturated chlorinated derivatives of acyclic hydrocarbons; n.e.s. in item no. 2903.1; or51136- Other saturated chlorinated derivatives of acyclic hydrocarbons.

[5] Philippines (2014). Second National Communication to the UNFCCC. URL: https://unfccc.int/sites/default/files/resource/phlnc2.pdf

[6] Carbon Brief (2018). Mapped: How every part of the world has warmed ? and could continue to. Infographics, Berkeley Dataset. 26 September 2018. URL: https://www.carbonbrief.org/mapped-how-every-part-of-the-world-has-warmed-and-could-continueto-warm

[7] Salvacion, A.R., Magcale-Macandog, D.B., Sta. Cruz, P.C. et al. (2018). Exploring spatial patterns of trends in monthly rainfall and temperature in the Philippines based on Climate Research Unit grid. Spat. Inf. Res. 26: 471. URL https://link.springer.com/article/ 10.1007%2Fs41324-018-0189-8

[8] Brecht, H., Dasgupta, S., Laplante, B., Murray, S. and Wheeler, D. 2012. Sea-level rise and storm surges: high stakes for a small number of developing countries. Journal of Environment and Development, 21, 120?138. URL: http://documents1.worldbank.org/curated/en/657521468157195342/pdf/WPS4901.pdf

[9] Morin, V. M., Warnitchai, P., & Weesakul, S. (2016). Storm surge hazard in Manila Bay: Typhoon Nesat (Pedring) and the SW monsoon. Natural Hazards, 81(3), 1569?1588. URL: https://doi.org/10.1007/s11069-016-2146-y

[10] Climate Risk Country Profile: Philippines (2021): The World Bank Group and the Asian Development Bank

[11] PARMS is an alliance of major corporations and business groups in the Philippines such as Mondelez Philippines, Coca-Cola Philippines, Pepsi-Cola Products Philippines, Unilever, Universal Robina Corp., Nestl? Philippines, Monde Nissin Corp., and Procter & Gamble Philippines, among others.

[12] https://doi.org/10.1051/matecconf/201926806020

[13] https://doi.org/10.1051/matecconf/201926806021

[14] The law declares as a policy for the State to identify needed skills, develop training programs, and train and certify workers for jobs in a range of industries that produce goods and render services for the benefit of the environment, conserve natural resources for the future generation, and ensure the sustainable development of the country and its transition into a green economy.

1b. Project Map and Coordinates

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

As explained in the text, the enterprises to be directly supported by the project should operate in an area which is already dedicated to industrial activities, which are well infrastructured, and which will allow to avoid any additional impact to natural or urban areas.

There are three Industrial Parks selected as project sites. The following sites are as follows:

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There are three Industrial Parks where project sites will be selected from. The following sites found within the CALABARZON Region are as follows, also marked in red dots in the map below:

Name of Economic Zone	**Location**	**Remarks**
First Philippine Industrial Park	Tanauan City and Sta. Anastacia, Sto. Tomas, Batangas N 14.1375; E 121.1350	Operates the 331.85 hectares of land with more than 100 establishment (113)
Cavite Economic Zone	Rosario, Cavite N 14.4022 ; E 120.8743	Operates 278.51 hectares of industrial zone with 412 establishment
Laguna Technopark	Bi?an City and Sta. Rosa City, Laguna N 14.2539; E 121.0598	Operates the 315 hectares of Laguna Technopark with 296 establishment

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

not applicable

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Annex 7. Stakeholder Engagement Plan

EXECUTIVE SUMMARY

The purpose of the Stakeholder Engagement Plan is to provide guidance to the lead implementing agency, the Department of Environment and Natural Resources- Environment and Management Bureau on conducting stakeholder consultations and engagement in implementing the Reduction of POPs and UPOPs through *Integrated Sound Management of Chemicals Project*.

The SEP is anchored on the GEF Policy of on Stakeholder Engagement (2017), the GEF Policy on Environmental and Social Safeguards (2019), UNDP guidance Notes on Stakeholder Engagement (2020), UNDP Gender Equality Strategy 2018-2021, and the Philippines? Safe Spaces Act (RA 11313).

The Stakeholder Engagement Plan (SEP) aims to ensure participation of the identified key stakeholders in project activities; build good partnership and collaboration to achieve the project objectives and outputs; and promote behavior change or practices among target stakeholders to reduce the use of POPs, such as the shift to alternative chemicals in the manufacturing sector.

As part of Project Preparation, bilateral consultations were conducted with key stakeholders in the national government, financing institutions, manufacturing firms, industry associations and a civil society organization. A total of 15 FGDs/KIIs consultations were conducted among these key stakeholders from May 25-September 1, 2021. Because of government restrictions during the COVID-19 pandemic, no factory visits were conducted and all interviews were conducted virtually.

The results of the stakeholder consultations and the Inception Workshop have been highly positive, and commitments/support and willingness to participate have been expressed by the core decision makers, and financial institutions including those which will be affected by the Project ? the manufacturing firms and industry associations.

Several issues were identified in the stakeholder analysis. In the manufacturing sector, expressed concerns with the potential economic impact of the proposed shift from the use of banned chemicals, replacement by alternatives to POPs and UPOPs, and their attendant costs and the phasing out timeline. The financing institution are open to participate in developing a commonly agreed green financing mechanism that is sustainable, inclusive and supported by Philippine government loan guarantees. Industry associations in the chemical sector expressed high support and interest in serving as a key partner in facilitating the activities of the Project, such as creating awareness on Green Chemistry and collaborating in the implementation of Green Chemistry principles, among others.

Addressing these issues necessitates a well-planned and continuing stakeholder engagement and consultations, in order to arrive at mutually acceptable solutions, agreements and actions. The Stakeholder Engagement Plan seeks to sustain active stakeholder engagement, and provide opportunities for long-term participation.

1.0 Introduction

1. The Reduction of Persistent Organic Pollutants (POPs) and Unintended Persistent Organic Pollutants (UPOPs) Through Integrated Sound Management of Chemicals Project is a project of the UN Development Programme, and funded by the Global Environment Facility (GEF). The project is under the preparation stage and will be implemented by Department of Environment and Natural Resources- Environment Management Bureau (DENR-EMB) as the GEF Executing Entity.

2. The project objective is to reduce the use and releases of POPs, UPOPs and GHG to protect human health and the environment, through the implementation of a Green Chemistry Approach in key manufacturing sectors in the Philippines. The core of the project will be the

establishment of a Green Financing Fund which will support firms to comply with Green Chemistry principles for preventing the use and release of POPs.

3. The project has four components:

Component?1 is the comprehensive roadmap for?greening the manufacturing sector in the?Philippines through better management of?chemicals, with two outcomes ? the update of the National Implementation Plan and the development of a roadmap for greening the manufacturing sector through?the adoption of Green Chemistry principles;

Component 2 is the demonstration of Green Chemistry?implementation including POPs and U-POPs?reduction, with two outcomes ? the establishment of a self-sustaining financial mechanism (FREEME ? Financing the Roadmap for the Environmental Enhancement of Manufacturing Enterprises), and the implementation of Green Chemistry Initiatives in key manufacturing sectors, including paint, plastic, paper and pulp, furniture manufacturing, chrome plating, and others;

Component 3 is enhancing the chemical?management and reporting of POPs?countrywide, through the improvement and enforcement of ?environmental legislation to include provisions related to all the new POPs listed under the Stockholm Convention after?2013; the use of the PRTR (Pollutant Release and Transfer Register) for reporting of POPs and UPOPs; and capacity building of the Bureau of Customs officers to prevent illegal import of POPs; and

Component 4 is knowledge management, awareness, monitoring, learning, adaptive feedback and evaluation of project lessons learned, best practices and sharing of results, including capacity and awareness building activities for decision makers, stakeholders, and practitioners, to enhance the sound management of chemicals and protect human and environmental health.

2.0 The Stakeholder Engagement Plan

2.1. Objectives of the Stakeholder Engagement Plan

4. The purpose of the Stakeholder Engagement Plan is to provide guidance to the lead implementing agency, the Department of Environment and Natural Resources- Environment and Management Bureau on conducting stakeholder consultations and engagement in implementing the Reduction of POPs and UPOPs through *Integrated Sound Management of Chemicals Project*.

5. The Stakeholder Engagement Plan (SEP) aims to ensure participation of the identified key stakeholders in project activities; build good partnership and collaboration to achieve the project

objectives and outputs; and promote behavior change or practices among target stakeholders to reduce the use of POPs, such as the shift to alternative chemicals in the manufacturing sector.

6. Effective stakeholder engagement enhances project acceptance and ownership and strengthens the social and environmental sustainability and benefits of supported interventions.[1] Ultimately, the SEP seeks to ensure long- term sustainability of the project achievements, based on transparency and the effective participation of the key stakeholders. The Plan is anchored on stakeholder analysis that identifies the key stakeholders, their roles and responsibilities related to the Project, interests and needs, level of influence, and vulnerabilities.

2.2. Scope of the Plan

7. A stakeholder is ?an individual or group with an interest in the project or the ability to influence the outcomes of a GEF-financed activity or is likely to be affected by it, such as local communities, indigenous Peoples, civil society organizations, private sector entities, women, men, girls and boys.? They can include, among others, relevant national government agencies, local governments, and locally affected people, national and local NGOs, community-based organizations (CBOs), Indigenous Peoples organizations, women?s groups, private sector companies, farmers, and research institutions, and all major groups of vulnerable and marginalized groups and providing them opportunities to participate.[2]

8. The key stakeholders are the lead implementing agency (DENR-EMB), its implementing partners, the financial institutions, manufacturing enterprises, the industry associations, who have strong interest and influence over the project design, implementation, and the monitoring and evaluation, and those who will be directly affected positively or negatively by the project, such as community groups, women and men who are exposed to hazardous and toxic chemicals in work places and those who may live close to factories that use these chemicals.

2.3. Methodology and methods

9. Two sets of stakeholder consultations were conducted under the project ? the first during the PIF stage where field and observation visits of manufacturing firms; the second stakeholder consultations during the PPG stage consisted of focus group discussions and key informant interviews with key stakeholders in the national government, financing institutions, manufacturing firms, industry

associations and a civil society organization. In addition to the primary data collection, an Inception Workshop was conducted by the PPG to validate findings and gather more information.

10. As the Stakeholder Engagement Plan (SEP) provides the strategy and involves a long-term engagement and sustained partnership with the stakeholders during project implementation, more stakeholders will be identified through-out the project cycle. The project also needs to reach out to more community-based groups, including local women?s organizations involved in environmental protection, and workers associations in the chemical industry sector.

2.4. Alignment with relevant policies

11. The SEP follows the Global Environment Facility (GEF) Policy on Stakeholder

Engagement (2017) which provides for broad mainstreaming of stakeholder engagement across GEF partnerships, operations, documentation, and reporting, and in project and program review criteria. GEF states that its operational policies ?shall provide for full disclosure of all non-confidential information, consultation with and participation, as appropriate, of major groups and local communities throughout the project cycle.?[3] In project development, preparation and implementation, the identification of key stakeholders, and how they will be engaged through the development of an inclusive and gender responsive stakeholder engagement plan are mandatory requirements.

12. The SEP is also aligned with the GEF Policy on Environmental and Social Safeguards (2019), the UNDP guidance Notes on Stakeholder Engagement (2020), and the Philippines? Safe Spaces Act (RA 11313), and other gender policy issuances that are relevant to this Project. The SEP supports GEF Policy on Gender Mainstreaming (2012) which requires inclusive stakeholder involvement , and the UNDP Gender Equality Strategy 2018-2021 which promotes gender mainstreaming in all programs and activities.

3.0. Stakeholder Analysis

13. Stakeholder Analysis[4] is the process of identifying a project's key stakeholders and assessing their interests in the project. It provides a map of the connections and relationships between the different stakeholders, their interest and needs, and is the first step before developing a SEP. The Plan is anchored on stakeholder analysis that identifies the roles and responsibilities of key stakeholders, their

interests, needs, level of influence, and vulnerabilities in relation to the Project, and informed by gender analysis to determine how and when women and men stakeholders (including persons with other sexual and gender identities) should be involved and to address potential existing gender gaps in participation and decision-making.

14. The Stakeholder Analysis has a three-step process:

1) Stakeholder identification of a broad category of stakeholders:

a) Core decision makers ? government entities directly responsible for project approval, management, and implementation, such as project implementers, implementing agency staff and consultants, financial institutions providing funding and support to the project, technical working groups.

b) Affected groups and individuals- targeted beneficiaries, including manufacturing firms, raw materials suppliers, adversely affected persons (women, men, children) and groups, such as recyclers, workers in factories that use POPs and other hazardous chemicals.

c) Other stakeholders with interest or influence - other agencies or organizations contributing to the project, local community-based organizations, civil society organizations, women?s organizations, organized interest groups (business associations, trade unions, others). consumers of goods or services produced by the project, among others.

2) Identification of stakeholder interests in the Project, which includes the perceptions of various groups of the problem, expectations of gaining or losing, risks, resources and needed capacities in participating in the Project.

3) Stakeholder Prioritization, which includes the level or degree of influence of each stakeholder groups, their importance to the success of the project, government mandates for stakeholder engagement, needs for risk counter measures, opposing stakeholders and ways to engage with them.

15. In line with the above three-step process, the table below identifies the stakeholder groups, their interests, perception of problems, issues and concerns. The stakeholders were identified in consultation with the DENR-EMB and with UNDP. During the FGDs/KIIs, data from the stakeholders were collected to identify their roles in the project, their interest and perception of problems and their level of support, and willingness to participate in the project. At the Inception Workshop, a brief survey was conducted among the participants to gauge their level of commitment/support, interest and perceived influence. Not all the participants, however completed the survey.

Table 1. Stakeholder Analysis

Stakeholder Groups	Mandates/Interest/Perception of the Problem	Role in the Project
A. Government		

1. **Department of Environment and Natural Resources (DENR)** 1). Environmental Management Bureau (EMB) -Mr. Geri Geronimo Sanez Chief, Hazardous Waste Management Section geri_sanez@emb.gov.ph -Engr. Jose Joel D. Maleon Senior Supervising Specialist, Chemical Management Section joel_maleon@emb.gov.ph 2). Foreign Assisted Special Projects Service (FASPS) - Mr. Conrado Bravante, Jr., Chief - Ms. Teara Constine Rabang, GEF Sec/ Focal for Chemicals teararabang@yahoo.com Visayas Ave. DENR, Quezon City	**EMB:** Formulates plans, programs, and appropriate environmental quality standards for the prevention and control of pollution and the protection of the environment and ensures their implementation. EMB is mandated to implement the following national environmental laws: RA 6969 (Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990), RA 8749 (Clean Air Act of 1999), RA 9275 (Clean Water Act of 2004) and RA 9003 (Ecological Solid Waste Management Act of 2000). The Chemical Management Section (CMS) has the following mandates under Title II of RA 6969:[5] ? Inventory of chemicals and chemical substances currently used in, manufactured in, and imported to the Philippines, and update the Philippine Inventory of Chemical and Chemical Substances (PICCS). ? Update the list of chemical substances that DENR-EMB determines to pose potentially unreasonable risk to public health, to workplace, and to the environment, then register importers, users, and manufacturers of these chemicals through the Priority Chemical List (PCL). ? Evaluate the safety of notified new chemicals and chemical substances by requiring prior notification of new chemical substances to be manufactured in or imported to the Philippines; developed a Pre-Manufacture Pre-Importation Notification (PMPIN) process and procedure. ? Regulate, limit, gradually phase out, or ban those chemical substances that are determined to pose unreasonable risks to public health and environment through issuance of Chemical Control Order (CCO). ? Educate and inform the public on the hazards and unreasonable risks in the manufacture, handling, storage, transport, processing, distribution, use and disposal of toxic chemicals. **FASPS:** Oversees, coordinates and facilitates the preparation, implementation and evaluation of the DENR's foreign assisted and special projects.	**EMB:** Lead implementing agency of the Project, and core decision-maker. Expressed high level commitment and interest. With high level of influence in achieving the objectives. Project is directly aligned with their mandate from RA 6969 (Toxic Chemicals Act)

2. **Department of Trade and Industry (DTI)** 1). Resource Generation and Management Service (RGMS) Ms. Lydia R. Guevarra Director IV, Resource Generation and Management Service RGMS@dti.gov.ph; lydiaguevarra@dti.gov.ph	**RGMS**: Business registration, business advisory, consumer protection, business standards, entrepreneurship training, webinars on consumer care, access to finance, technology and markets. DTI has a Consumer Protection Group comprised of: 1. Bureau of Philippine Standards (develops and provides safety and quality standards for consumer products, including performance or use-oriented standards, codes of practice and methods of tests, per RA 7394- Consumer Act of the Philippines). 2. Consumer Protection and Advocacy Bureau (educates consumers, enforces laws to protect their rights and interests, partners with consumer groups that help them make better choices, and ensures the quality and safety of the products they use. 3. Fair Trade Enforcement Bureau (oversees the overall implementation of trade and consumer protection laws).	Key implementing partner. DTI has developed a green chemistry roadmap. The Project can work collaboratively with DTI to further develop the roadmap and its implementation. The Project can also gain from DTI?s experience in implementing and completing two green projects - Green Economic Development and Greening the Industry Roadmap. Expressed high level of support and interest to be part of the project Technical Working Group. Provide guidance and roadmap for investments, including the chemical sector.
2). Board of Investment (BOI) Ms. Sandra Marie Recolizado Director, Investments Policy and Planning Service / Board of Investments SMSRecolizado@boi.gov.ph	**BOI** is the industry development and investment promotion agency that formulates the Investment Priorities Plan (IPP) annually which is a list of promoted areas of investments eligible for government incentives.	Project partner who can provide import and export data on POPs and UPOPs. Open to support and be part of the Project.
4). Philippine Export Zone Authority (PEZA) Engr. Vivian Toledo Department Manager, Environmental Safety Group Vivian.toledo@peza.gov.ph 10th Floor, DoubleDragon Center West Building, DD Meridian Park, Macapagal Avenue, Pasay City	PEZA is tasked to promote investments, extend assistance, register, grant incentives to and facilitate the business operations of investors in export-oriented manufacturing and service facilities inside selected areas throughout the Philippines. PEZA?s concerns relate to the difficulty	

3. Department of Science and Technology (DOST) 1) Industrial Technology Development Institute Engr. Reynaldo L. Esguerra Chief, Environment and Biotechnology Division rlesguerra@itdi.dost.gov.ph; keeper417@yahoo.com 2) Philippine Textile and Research Institute Ms. Celia B. Elumba Director cbelumba@ptri.dost.gov.ph	**ITDI:** R&D on industrial technology for food processing, additives, plastics, biodegradables, pharmaceuticals for the industrial manufacturing. MSMEs are main clients of industry technology research. ITDI works with the Industry Advisory Committee, including the packaging and pharmaceutical industry. **PTRI**: R&D support; provides training in dyes, handlooms, sericulture, basic textile manufacturing; provides chemical testing and open laboratories. PTRI does not have a research team to identify substitutes to hazardous materials They have yet to make an inventory list of chemicals used in the textile industry.	DOST is a member of the Project Technical Working Group (TWG). **ITDI:** Provide support on R&D and interface with the manufacturing enterprises on industrial technology and testing of chemicals. Open to support and be part of the Project. **PTRI:** Provide support on R&D and interface with the private textile manufacturing industry. Open to support and be part of the Project.
4. Bureau of Customs Environmental Protection Unit Deputy Commissioner Allan Geronimo, MIS and Technical Group	Specialized unit to monitor and control the entry of hazardous substances and other wastes into the country. Imposes the ban on imports of POPs, following a list of codes for toxic substances. Needs capacity building for BOC staff and examiners on POPs/UPOPs, and specialized technical training to upgrade knowledge on coding toxic chemicals with mixed chemical content.	Project partner who can provide import and export data on POPs and UPOPs. Open to support and be part of the Project.
B. Financial Institutions (Capital providers, financial intermediaries, and market facilitators)		

1. Landbank of the Philippines Mr Prudencio Calado III Vice President, Environmental Program and Management pcalado3@gmail.com LANDBANK Plaza, 1598 M.H del Pilar cor. Dr. J. Quintos Sts., 1004 Malate	Official depository of government funds. Lending for agricultural, industrial, homebuilding and home-financing projects and other productive enterprises, farmers' cooperatives, and associations to facilitate production and marketing of crops. The Landbank is supportive of the proposed project but cautious about participating as a lending institution due to its previous experience with two similar projects -CBRED (renewable energy) and ODS (Ozone Depleting Substances) loan programs, where the financing design was not sustainable having zero interest, no collateral, unsecured loans with high-risk clients and with only a handful of borrowers.	Potential financing partner. Open to support and be part of the Project. High influence in the success of FREEME (Financing the Roadmap for the Environmental Enhancement of Manufacturing Enterprises).

2. Development Bank of the Philippines (DBP) Mr. Rustico Noli dela Cruz Vice President, Program Management and Development rndcruz@dbp.ph Sen. Gil J. Puyat Avenue corner Makati Avenue, Makati City	Government financial institution dedicated to supporting the national government?s key development programs to spur progress in vital sectors of the economy in four major areas ? infrastructure and logistics; social services; micro, small and medium enterprises; and environment. DBP?s biggest development portfolio is the energy sector. Participation depends on the proposed financing mechanism. Prior to participation, DBP requests information on the following: a) Demand side - potential borrowers, willingness to borrow; b) number and amount of loans; c) type of loan and terms; d) size of warranty; e) complexity of the procedures; f) reason for lending; g) readiness of the market; h) kind of financial instrument if corporate financing; i) assessment of business viability; j) support on technical side (demonstration first, then replication); and k) pilot first (learn by doing), then assess assistance needed. Common concern is the design of a sustainable lending program and equipping them with technical skills for reviewing funding proposals for POPs reduction.	Potential financing partner. Open to green financing, and willing to co-design financing mechanisms that are appropriate to client needs. High influence in the success of FREEME.

3. Rizal Commercial Banking Corporation (RCBC) Mr. Lito Villanueva Executive Vice President and Chief Innovation and Inclusion Officer lvillanueva@rcbc.com Yuchengco Tower, RCBC Plaza, 6819 Ayala Avenue Makati City	Development bank established in 1960 for both commercial and investment banking; one of the largest and oldest private domestic banks in the Philippines with total consolidated resources of Php 771.3 billion as of end-2019 (Wikipedia). RCBC has successfully raised PHP15 billion in Peso Bonds, the Philippines? first green finance framework under the ASEAN Green Bond Standards. (RCBC web). Willing to participate but will not be able to provide the proposed (2.5%) concessionary loans for the manufacturing sector, as the rate is way below their operating costs. Proposes for the POPs Project to establish links with guarantee institutions such as PhilGuarantee for loans to be provided by the bank.	Potential financing partner. Open and willing to participate in a commonly agreed financing mechanism supported by Philippine government loan guarantees, using commercially sustainable loan rates. High influence in the success of FREEME.
4. Bangko Sentral ng Pilipinas	Central monetary authority that formulates and implements policies in the areas of money, banking and credit with the primary objective of preserving price stability. It performs functions such as liquidity management, currency issue, lender of last resort, financial supervision, management of foreign currency reserves, and determination of exchange rate policy. The Reduction of POPs Project is aligned and consistent with the BSP?s Sustainable Framework that is being implemented by their supervised banks and guided by BSP circulars.	Open and willing to participate in the Project, in line with their sustainable financing policies and programs. Expressed high support and interest.
C. Manufacturing Sector		

1. Paint/ Automotive - Nippon Paints Philippines Inc. Ms. Lyra Castillo Marketing Manager slcastillo@nipponpaint.com.ph; nppsales@nipponpaint.com.ph #4 Hologram St., Light Industry and Science Park 1, Cabuyao, Laguna, Philippines	Produces water-based paints for industrial users - automotive, marine sector, project sites of end users, and consumers. The company claims not to use any POPs or toxic chemicals.	Not participating in the Project since they claim to be free of POPs.
2. Plastic packaging -Integrated Packaging and Logistics Manufacturing, Inc. Henry Gaw President/CEO henry.gaw@iplmi.com.ph Carmelray Industrial Park Ii, Calamba, Laguna	The company claims not to use any POPs or toxic chemicals in plastic and Styrofoam manufacturing, hence there are no stated health issues among their workers. The expanded polystyrene (EPS) is injected and extruded using air and steam (using LPG) to mold their products. Their Industrial waste is recycled into the factory. Also complies with SMR submission to DENR. (Data from interview with PPCP below.)	Participation will be as a member of the Polystyrene Packaging Council of the Philippines ? (PPCP). Open to support and participate in the project.
D. Associations/Non-government Organizations		

1. Plastic - Polystyrene Packaging Council of the Philippines ? (PPCP) Henry Gaw President/CEO henry.gaw@iplmi.com.ph Carmelray Industrial Park Ii, Calamba, Laguna	Represents the plastic industry and leads the legislative advocacy against the banning of single-use plastic products and on plastic deregulation in Congressional hearings. Affirms that no POPs are used in plastic and styrofoam manufacturing by its members (5 manufacturers and one converter). About 60% women working in packaging companies, estimated at 200,000 industry workforce; women do the packing and trimming of styro, as picker packer. PPCP claims that the problem is not the single-use plastics but litter and pollution, and that hazardous chemicals were phased out in 1980 when they received a UNDP grant for the phase out of CFC and no more companies use CFC; advocates with LGUs on recovery awareness and recollects plastic waste through the Catholic church. Recovery rate before Covid was 2,000K-3,000K per week; now only 200k/week. Polystyrene production is 30 tons/month.	Open to support and participate in the project. High level of influence as plastic is one of the primary targets of the project, and the plastic sector is one of the affected industries.

2. Chemical (Samahan sa Pilipinas ng mga Industriyang Kimika -SPIK or the Chemical Industries Association of the Philippines) Mr. Jeffrey Mijares Executive Director jeff.mijares@gmail.com, spik.secretariat@gmail.com Unit 2201, 22nd Floor Cityland 10 Tower I, 6815 Ayala Avenue North, Makati City	SPIK provides capacity-building, customized training, prepares position papers on new, revised and upcoming policies that affect the chemical industry. With 81member companies in chemical industry- 34 in manufacturing, 25 warehousing and logistics, 22 traders and indentors. SPIK has a high-level of awareness of health issues from exposure to chemicals, hence they provide Responsible Care program for its members. They promotes the adoption of Health and Safety Code to provide a layer of protection (e.g., use of PPE if needed) from hazardous chemicals which are regular checked and monitored by SPIK. They also monitor environmental impacts. About 147,000 are employed in the chemical industry. Concerns raised include the following: 1. Assistance for switching from POPs to alternatives. How can companies be involved? 2. SPIK wants to have a list of POPs and UPOPs that will be phased-out so that they can inform members who are using them. 3. Encourage participation of raw material suppliers in the Project as this could impact production. 4. Companies are only able to provide the generic composition of products. 5. Involve other associations, e.g., Pollution Control Association of the Philippines	The Association could be a key partner in facilitating the activities of the Project, such as creating awareness on Green Chemistry and disseminating Project-related information, providing training and technical assistance to target manufacturing sectors, and collaborating in the implementation of Green Chemistry principles, among others. Expressed high level of support and interest. Has high level of influence in advocating for compliance to Stock Convention among its affected members.

3. Philippine Association of Paint Manufacturers (PAPM) Mr. Derrick Tan, President	PAPM members include 81 manufacturers, raw material suppliers and importers ? produce 90 percent of paints in the Philippines. The association is 60 years old. Services to members include serving as a channel between the government and private sector, providing seminars on green manufacturing. PAPM is concerned about the challenges in the phase out of SCCP used as paint additives, including the availability of alternatives and importation of supplies and raw materials from sources that are compliant with the Stockholm Convention.	Expressed high support and interest to support and participate in the project. Has high level of influence in advocating for compliance to Stock Convention among its affected members.
E. Civil Society		
1. EcoWaste Coalition Ms. Aileen Lucero, National Coordinator	Public interest network of more than 150 environmental and health groups unified by a joint mission of attaining a ?zero-waste and toxic-free society where communities enjoy a safe and healthy environment.? Pursues sustainable solutions to waste, climate change and chemical safety issues through research and evidence building; information dissemination; policy development and advocacy over the past 12 years. Advocates for people?s right to chemical safety and plastic waste contamination with POPs (dioxin); fights against toxic products that can be found in the market and call out to manufacturers to redesign and shift to safe products. Implements a Zero-Waste Program in selected cities, and Chemical Safety Program in line with their advocacy where products that are not safe cannot be recycled and contradicts the mission of the zero-waste campaign. Sits as NGO representative to the National Solid Waste Management Commission and MMDA Solid Waste Management Commission.	Potential project partner; expressed high support and interest as the project is aligned with their programs and advocacies. Current project partner of UNIDO and DENR in the ?Implementation of Safe Management of PCB and e-Waste Project,? for Component 3 -- knowledge management and information dissemination/awareness -raising among grassroot communities, LGUs, informal waste sector and academia. EcoWaste claimed that in the last evaluation of the project, Component 3 was the only one given a very satisfying rating.
F. Community Groups		

1. National Rural Women Coalition (Pambansang Kongreso ng Kababaihan sa Kanayunan or PKKK)	Coalition of 326 organizations representing the sectors of small farmers, fishers, rural workers, indigenous peoples, informal and formal workers in the rural areas. The environmental cluster of PKKK recognizes the role of rural and indigenous women as traditional keepers of the environment. Advocates for equal representation of women in environmental concerns and in increasing environmental awareness.	Potential project partner for knowledge management and advocacy for environmental awareness. Contacted, no response.
G. Other Potential international donors (below is a sample list)		
1. UN Industrial Development Organization (UNIDO	Mission is to promote and accelerate inclusive and sustainable industrial development (ISID). Its priorities in the Philippines include environment protection, sustainable energy/renewable energy, rural and agro-industrial development, MSME development, among others.[6]	Suggested contact

2. USAID	Supports pollution-related programs ? 1) Toxic Site Identification Program to mitigate health exposures by breaking pollution exposure pathways and preventing future toxic emissions. The program has three objectives: (a) improve existing knowledge and gather critical data about the scope of toxic pollution and its human health impacts; (b) mainstream the issue of toxic pollution, chemicals and wastes and associated impacts on human health and the environment into development agendas; and (c) assist decision- makers and communities to mitigate the impacts of toxic pollution, chemicals and wastes on human health and the environment. 2) Municipal Waste Recycling Program (MWRP) to reduce land-based sources of marine plastics pollution in Sri Lanka, the Philippines, Vietnam and Indonesia. The program provides grants and technical assistance for promising solid waste management and waste recycling efforts in urban and peri-urban areas. USAID has five ongoing grants to local organizations under the Clean Cities Blue Oceans Project that addresses plastic pollution and issues of waste pickers and recyclers.[7]	Suggested contact

4.0. Stakeholder Consultations

16. Stakeholder engagement during PIF and PPG stages included consultations to introduce the Project to the above mentioned stakeholder groups to gather primary data on stakeholders and gain their commitment and support for the project.

4.1. PIF Stage

17. Initial stakeholder consultations and analysis were conducted by the project in developing the UNDP Project Identification Form (PIF). Below are the stakeholders who were consulted by the PIF Team in December 2019, as part of the field visits to six manufacturing firms in Cebu and Cavite, Philippines.

Table 2: Stakeholder Engagement in the PIF Stage

Companies	Chemical Sector	Major Results
1.Polyfoam Chemical Corporation (Uratex), Cebu	Foam production[8]	1. No flame retardants, specifically PBDE, is added to the foam which is embedded in furniture and upholstery nor in other foam exports to the US. 2. Exporters are also required to certify that their exports do not have PBDE and submit a third party (Intertek Testing Services Hong Kong Ltd.) certification. 3. The companies use from 16-17 drums (200 liters each) of flame retardants annually in producing foam products. Intertek results showed that they do not contain PBDEs in significant concentrations. 4. Moreover, Foam Production has been declining since the late 80s when China increased its foam exports thus becoming the largest single exporter of consumer goods containing foam to the US. 5. Per Mandaue Foam, their production of industrial foam for local use does not contain flame retardants as this is not required by law.
2. Mandaue Foam Industries, Inc., Cebu	Foam production	
3. Dew Foam, Cebu	Foam production	

4. Cebu Quality Electroplating, Inc.	Electroplating	The company has been doing electroplating work for items such as cockfighting knives, motorcycle parts, jeepney fenders/bumpers, machine parts, to make them corrosion-resistant and shiny, and uses Nickel, Chrome, Black Zinc, Galvanized, and Zinc Chromate.
5. Island Premium Paints, Cebu	Paint	The company claimed that SCCP, PBDE and PFOS are not in their plasticizers to reduce or increase the flame resistance of the polymers in paint. The halogen concentration dictates the degree of flame resistance. The Manager mentioned that instead they use DOP Plasticizer (Dioctyl Phthalate) instead.
6. Pacific Paint (BOYSEN?) Philippines, Inc.	Paint	Same findings as Island Premium Paints

4.2. PPG Stage

18. As part of Project Preparation, bilateral consultations were conducted with key stakeholders in the national government, financing institutions, manufacturing firms, industry associations and a civil society organization. These were conducted by the PPG Team together with the UNDP and DENR-EMB staff. A total of 15 FGDs/KIIs were conducted ? five with national government agencies, four with financial institutions, two manufacturing firms, three industry associations/non-government organization and one civil society organization from May 25-September 1, 2021. Because of government restrictions during the COVID-19 pandemic, no factory visits were conducted and all interviews were conducted virtually.

19. In addition, an Inception Workshop was conducted virtually on July 13-14, 2021, with 56 registered participants (25 men and 31 women) to validate findings and gather more information.

There were 28 participants from national government agencies, 21 manufacturing companies and four industry associations (Table 2). The Workshop conducted the following activities:

1) Presented the Project and PPG process and provided an opportunity for the participants to share insights, comments and recommendations,

2) identified linkages and synergies of ongoing and planned green chemicals initiatives with partners and stakeholders at the national and local levels,

3) Identified additional and potential stakeholders/partners from national government agencies (NGAs), manufacturing industry that will be part of the stakeholder engagement process,

4) Validated project baselines, and other information gathered earlier from primary and secondary sources.

5) Enabled the participation of stakeholders in the PPG process, generated support/commitments for the project, and identified potential sources of co-financing.

Table 3. Participating Stakeholders in the Inception Workshop

Sector	Offices	Divisions/Industry
Government	Department of Environment and Natural Resources (DENR) Central Office	? GEF Office of the Focal Point (OFP) ? Office of the Undersecretary for Policy, Planning, and International Affairs ? Policy and Planning Services ? Foreign Assisted and Special Projects Services (FASPS)
	Department of Environment and Natural Resources ? Environmental Management Bureau (DENR ? EMB)	? Chemicals Division ? Hazardous Waste Division
	Department of Trade and Industry (DTI)	? Resource Generation and Management Service ? Investment Policy and Planning Service, Board of Investments

	Department of Science and Technology (DOST)	? Industrial Technical Development Institute ? Philippine Textile Research Institute
	Philippine Economic Zone Authority (PEZA)	? Environmental Safety Group ? Corporate Planning Department
	Bureau of Customs (BoC)	? Environmental Protection and Compliance Division
Associations/Non-government Organizations	Samahan sa Pilipinas ng mga Industriyang Kimika or the Chemical Industries Association of the Philippines (SPIK)	? Chemical association
	Philippine Association of Paint Manufacturers (PAPM)	? Paint association
	Polystyrene Packaging Council of the Philippines (PPCP)	? Plastic association
	Pollution Control Association of the Philippines, Inc. (PCAPI)	? Pollution association
Manufacturing Industry	Brenntag Ingredients Inc	? Chemical and ingredients distributor
	Charter Chemical & Coating Corporation	? Paint manufacturer
	Connell Bros Co. Pilipinas Inc.	? Chemical Products manufacturer, wholesaler
	International Chemical Industries Incorporated	? Chemical manufacturing of potassium sulfate, Hydrochloric acid, hypo, ferric chloride, coastic soda, and chlorine.
	Integrated Packaging Logistics Manufacturing Inc.	? Plastic manufacturer
	Nippon Paints (Coatings) Philippines Inc.	? Paint manufacturer

	Nachi Pilipinas Ind Inc.	? Industrial Services and Equipment
	OceanaGold (Philippines), Inc.	? Multinational gold producer
	Philippine Airlines	? Safety Department, Environment Affairs
	Philippine Manufacturing Co. of Murata, Inc.	? Manufacturer of ceramic passive electronic components, primarily capacitors.
	Texicon Agri Ventures Corp	? Importer and distributor of fertilizer and pesticide products
	Tradeton corporation	? Market/trade research on import/export
	Victorias Milling Company, Inc	? Sugar miller and refiner
Financial Institutions	Land Bank of the Philippines (LBP)	? Environmental Program and Management Department
	Rizal Commercial Banking Corporation (RCBC)	? Digital Enterprise and Innovations Group

20. During the Inception Workshop a brief survey was conducted among the participants with the following questions:

1). What is your level of commitment and support for this Project? (Low, Moderate, High)

2). What is your level of interest? (Low, Moderate, High)

3). What do you see as your level of influence for the completion of the objectives of this

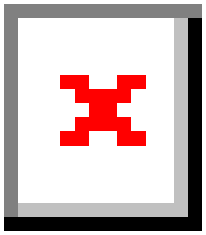
project (Low, Moderate, High)

4). What do you see as the role of your organization in this project?

5). Who are the other stakeholders who need to be involved in this project?

6). What are your perceived biggest constraints/problem that this project must address?

21. Among the 12 stakeholders who participated in a quick survey during the Inception Workshop to gauge the level of commitment and support, interest, and influence over the project, the results showed that 50 percent have high level of commitment/support, 67 percent have high level of interest, and 58 percent have moderate level of influence.



22. The results of the stakeholder consultations and the Inception Workshop have been highly positive, and commitments/support and willingness to participate have been expressed by the core decision makers, including those which will be affected by the Project ? the manufacturing firms and industry associations. Other national government agencies expressed their openness and interest to be part of the project technical working group (TWG), such as DTI, DOST, PEZA, Bureau of Customs, as well as the financing institutions (LBP and RCBC).

5.0 Summary of Stakeholder Engagement Findings During PPG

23. Several issues were identified in the consultations and in the Inception Workshop as summarized below. Addressing these issues necessitates a well-planned and continuing stakeholder engagement and consultations, in order to arrive at mutually acceptable recommendations, agreements and actions.

1) Government Partners

1. Among the regulators, such as the BOC and PEZA, the issue identified was the coding of toxic chemicals, with reference to the difficulty of tracking and recognizing POPs and UPOPs in mixed chemical substances not captured by the current coding system, and not declared in importation documents.

2. Need for capacity building for BOC staff and examiners on POPs/UPOPs, and specialized technical training to upgrade knowledge on coding toxic chemicals with mixed chemical content in all ports of entry in the country (this was already identified as one of the POPs Project components.) Webinars with examiners who are involved in the processing and release of cargoes with regulated chemicals will be useful.

3. In order to prevent the entry of POPs and UPOPs, DENR-EMB can serve as a single window to issue permits and licenses to import regulated goods, which will be required for processing.

4. Gathering data on POPs and UPOPs from the industries remains a challenge due to confidentiality and non-disclosure of chemical ingredients and importers not declaring accurately in order to reduce fees and expedite release of imports.

5. DTI?s Greening the Manufacturing roadmap has not been implemented, allowing for the opportunity to work with DTI to include Green Chemistry principles to reduce POPs and UPOPs in its update.

6. Need to make an inventory of POPs and UPOPs, their uses and alternatives in the industry sectors, including textiles, furniture, gifts and houseware, paper production, among others.

7. Co-financing by the government agencies and partners in this Project was expressed as an issue, as this will require buy-in from the top leadership of the agencies/organizations.

2) Financial Institutions

1. Among the development financing institutions, an issue was raised on the design of the financing mechanism (FREEME) where a low concessional loan interest rate of 2.5 percent was proposed by the Project. Commercial banks stated that such low rates will not cover their operational costs. To address this issue, the Project intends to design the financing scheme collaboratively with financial institutions in order to come up with common and more agreeable terms, including eligibility criteria for lending.

2. On the demand side, in order to make bank financing viable, there needs to be a sufficient number of actual borrowers from the manufacturing sector, below which the financing mechanism might not work. Per DBP, in order to be viable, the lending program would need about 100 clients. The Project needs to develop a communications strategy to create more awareness and participation in lending programs. Banks also need to be equipped with technical skills for reviewing funding proposals for POPs reduction.

3. Lessons learned from similar green projects of Landbank cited the need for consultations with target borrowers, the selection of sustainable companies who can be supported, requiring a collateral for low interest loans, assessment of the capacity to repay and consistent monitoring of loan payments.

4. With a proposed concessionary loan of 2.5 percent, in designing the financing mechanism, the POPs Project may need to factor in the use of guarantee institutions such as PhilGuarantee in order to secure the loan and minimize risk. The same recommendation was supported by the BSP.

5. As a policy regulatory agency, BSP?s role is to evaluate the business decision of the bank if they have enough capital to support the exposure and effectively manage the risks. Banks that participate in green projects can apply for re-discounting against the credit allocation ratio for green financing, in line with the BSP Sustainable Finance Circular.

3). Manufacturing Industry

1. Manufacturing firms are concerned with the potential economic impact of the proposed shift from the use of banned chemicals, replacement by alternatives to POPs and UPOPs which may not be available, and their attendant cost-related issues, such as the cost of retrofitting plants, new production equipment, disposal of inventories, financing for the shift, potential highest cost of compliant consumer products, and the phasing out timeline.

2. MSMEs may also be challenged in practicing green chemistry, not only because of the cost implications but also because most MSMEs are not aware of the environmental and health hazards in the use of toxic chemicals.

Manufacturing industries are concerned about finding out sources for the importation of alternative supplies and raw materials from countries that are compliant with the Stockholm Convention and assistance in switching from POPs to alternatives.

4) Non-Government Organizations/Civil Society

Industry associations are keen to know about the POPs and UPOs to be phased out and the development of a communication strategy to inform the members of the industry who are using these toxic chemicals.

On risk-countermeasures, big companies practice occupational safety and health (OSH) protocols, and give company safety training to employees, but most MSMEs (industrial paints) do not have OSH.

Per EcoWaste, the POPs project target of 10 tons is too low. EcoWaste targets 600 tons. They have been part of the NIP since it started implementation and the NIP also has set targets. Per PPG, the 10 tons reduction is the number of POPs targeted for direct demonstration; the Project?s estimated target is 195 tons which is half the amount estimated in the NIP for PFOS as used in the steel plating sector.

5). Gender Focal Point System

1. Need to include as a POPs Project activity the conduct of medical surveillance in workplaces, such as in ecozones with high-risk impacts as part of the recommended gender actions, as this is a weakness in the current system.

2. Should the coverage of the POPs Project be expanded beyond the manufacturing sector, consider the agriculture, small mining, and the waste sector to study the health impacts on women and men, e.g., exposure to the use of pesticides, mercury, and other toxic chemicals. with reference to the use of pesticides with POPs.

3. Consider conducting a survey among women and men who have been adversely impacted by exposure to toxic chemicals which can be a direct source of evidence and data about the specific chemicals that are causing adverse health impacts. The findings can be used by chemical regulators to create local policies and regulations.

4. The GFPS in the partner agencies (DENR, DTI, and DOST) recommend that inclusion of its members in the POPs Project Technical Working to ensure appropriate and continuing attention to gender ensure the gender responsiveness of programs and activities, recognizing the important of gender mainstreaming in the chemical sector.

5. No studies have been conducted on the impact on women and men of exposure to hazardous chemicals in the textile, furniture production, gifts and houseware, handmade paper, plastic, wearables, and other products, as well as on the awareness of risk countermeasures, such as the use of protective gears, gloves, boots, among others.

6.0 Stakeholder Engagement Plan

24. The Stakeholder Engagement Plan (SEP) defines the approach and actions to ensure the continuing support and involvement of the stakeholders throughout the project cycle in support of its major components of a) legislative and regulatory actions to integrate the Stockholm Convention into the Environmental regulation and standards, b) development and implementation of a Green financing mechanism to demonstrate Green Chemistry and reduction of POPs and U-POPs in manufacturing industry, and c) enhanced chemical management and reporting of POPs nationwide through the implementation of the Pollutant Release and Transfer Register (PRTR) system which has not been established in the Philippines.

25. The reduction of POPs and U-POPs in the manufacturing industry is also a behavior change goal, as manufacturers shift from the use of toxic chemicals, replacing them with non-toxic alternatives. As these will entail additional financial investment, engaging these target stakeholders will require a more robust intervention to influence change in knowledge, attitudes and practices, such as advocating on benefits from compliance with the Stockholm Convention (SC). The benefits may include increased marketability of safe products, elimination of adverse health and environmental impacts, and safe communities, among other environmental benefits.

26. Behavior change interventions can be introduced through a) well-designed communications strategy for awareness-raising on Green Chemistry targeted to the affected manufacturing sector and raw material suppliers; and b) development of knowledge products and IEC materials (e.g., on health impacts of exposure to toxic chemicals) for dissemination to affected and sensitive population groups. These knowledge products can also be used in education and training programs, and in conducting continuing dialogues with government, non-government and civil society sectors, local communities' sectors, and other beneficiary groups. Behavior change may be manifested in several ways, including the adoption of alternatives to POPs, increased number of manufacturing firms participating in the Project, increased number of clients in lending programs developed under the Project, as well as in-company training on Green Chemistry principles and actual applications, among other measures.

27. The stakeholders identified in the Stakeholders Analysis and in the Inception, Workshop need to be continuously engaged in implementing the Stakeholder Engagement Plan. Information about their roles, mandates, organizational objectives, potential roles, and willingness to participate and support the Project is critical to active and sustained stakeholder engagement.

6.1. Mapping of Activities to Implement the Stakeholder Engagement Plan

28. As the Project enters implementation, there is a need to map the activities to ensure continuing engagement, partnership building, meaningful consultation, dialogue and inclusive participation, open communication, outreach and information dissemination among the Project stakeholders. The activities with stakeholders need to take into consideration how their concerns could be addressed and informed about actions taken, including how stakeholder input (both women and men) will be built into project implementation.

Table 4. Map of Activities for Stakeholder Engagement and Estimated Timeline

Engagement Activities	Objectives	Key Stakeholders being engaged	Main responsible agencies	Timeline	Resources
Project Preparation for Reduction of POPs, U-POPs and GHG through the Integrated Sound Management of Chemicals					
1. Inception Workshop on the project concept	Introduce the project concept to key stakeholders and gather more information	Government, banks, manufacturing firms, industry associations, other stakeholders, (M/F participants)	PPG, UNDP, DENR-EMB	July 13-14, 2021	Project budget
2. National Vali dation Workshop on ProDoc	Finalize the project document		PPG, UNDP, DENR-EMB	November 2021	
3. Planning Workshop ? levelling of expectations, project outcomes, agreement on roles, collaboration mechanisms and action plans, targets and performance indicators; and development of an inclusive Work Plan.	Develop the work plan		DENR-EMB, UNDP	TBD	
Component 1: Comprehensive roadmap for?greening the manufacturing sector in the?Philippines through a better management of?chemicals, including NIP update					
Outcome 1.1 NIP updated					
Outcome 1.2 A roadmap for greening of manufacturing sector through Green Chemistry principles and reduction of POPs, U-POPs and other substance of concern drafted and endorsed.					

Engagement Activities	Objectives	Key Stakeholders being engaged	Main responsible agencies	Timeline	Resources
1. Consultations on the development of the roadmap for greening the manufacturing sector	Greening roadmap developed	Government, manufacturing firms, industry associations, other stakeholders, (M/F participants)	DENR-EMB	Year 1	Project budget
2. Workshops on the update of the National Implementation Plan.	NIP updated	Government, industry associations, other stakeholders (TBD), (M/F participants)	DENR-EMB	Year 1-2	
3. International Workshop on Stockholm Convention list of banned chemicals and alternatives used by other countries	Information and awareness-raising on banned chemicals	Government, industry associations, other stakeholders (TBD), (M/F participants)	DENR-EMB	Year 2	
Component 2: Demonstration of Green Chemistry?implementation including POPs and U-POPs?reduction					
Outcome 2.1. A sustainable financing mechanism designed and implemented in support of the Green Chemistry in key manufacturing industries (FREEME ? Financing the Roadmap for the Environmental Enhancement of Manufacturing Enterprises)					
Outcome 2.2. Implementation of Green Chemistry Initiatives in key manufacturing sectors, including electro-plating for automotive sector, plastic manufacturing/polymers, pulp and paper, solvent/paint and furniture industry.					
1. Survey of manufacturing firms to be affected by the SC ban of toxic chemicals.	Gather industry data on affected sectors	Manufacturing firms, (M/F respondents)	DENR-EMB	Year 1	

Engagement Activities	Objectives	Key Stakeholders being engaged	Main responsible agencies	Timeline	Resources
2. Training of manufacturing firms on alternatives to POPs and site visits to the four pilot manufacturing plants using Green Chemistry Principles.	Capacity development on alternatives to POPs	Manufacturing firms (M/F participants)	DENR-EMB	Year 2	
3. Training of associations (national and local), company workers, unions, waste recyclers, others on health impact of chemical exposure and counter risk measures, disaggregated by women and men.	Increase knowledge and awareness of health and environmental impacts	Industry associations, co mpany workers, unions, waste recyclers, other stakeholde rs (M/F participants)	DENR-EMB	Years 2-5	

Engagement Activities	Objectives	Key Stakeholders being engaged	Main responsible agencies	Timeline	Resources
4. Gender sensitive and targeted awareness raising on specific health impacts of exposure to POPs/toxic chemicals on women and sensitive populations, and environmental impacts, using the knowledge products and IEC materials developed for the Project.	Targeted knowledge-building and awareness-raising on health impacts for women and men in factories	Workers in chemical factories (M/F participants); Social marketing websi tes (general public).	DENR-EMB, participating enterprises	Year 2-5	Project budget, in-house training budgets
5. Workshop with Gender Focal Point System members on implementing the Gender Mainstreaming Action Plan of the Project, including the technicalities of the chemical sector	Trained GFPS in on GMAP	Government Gender Focal Points	DENR-EMB, DTI, DOST, PEZA, BoC	Year 1	Project budget, NGA?s gender budget (5% allocation)
6. Workshops with banking instituti ons designing and developing inclusive lending programs to MSMEs.	FREEME finalized	Financing institutions, (M/F participants)	DENR-EMB	Year 1, continuing as more banks join the project	Project budget

Engagement Activities	Objectives	Key Stakeholders being engaged	Main responsible agencies	Timeline	Resources
Component 3: Enhancing the chemical?management and reporting of POPs?countrywide, through the the implementation of PRTR system					
Outcome 3.1. Environmental legislation improved and enforced and a reporting system for industrial emission implemented					
Outcome 3.2. Capacity of the customs officers to prevent illegal import of POPs chemicals, POPs containing mixtures and articles increased.					
1. Workshop on policy alignment of local laws on hazardous chemicals/ environmental regulations and the Stockholm Convention provisions on toxic chemicals.	Policies related to the chemical sector reviewed for alignment and harmonization	Government, manufacturing firms, industry associations, other stakeholders (TBD), (M/F participants)	DENR-EMB, TWG and other NGA partners	Year 2-3	Project budget
2. Consultations on the drafting of new/proposed policies and regulations on POPs.	New policies and regulations on POPs drafted	Government, banks, manufacturing firms, industry associations, NGOs, other stakeholders (TBD), (M/F participants)	DENR-EMB, TWG	Year 2-5	
3. Training of the customs officers to prevent illegal import of POPs chemicals, POPs containing mixtures and articles.	Capacity development of BoC staff in ports	BoC customs officers, (M/F participants)	DENR-EMB, BoC	Year 2-5	
Component 4: Knowledge Management & Awareness, Project monitoring, learning, adaptive feedback and evaluation.					
Outcome 4.1. Project lessons and results monitored, verified, captured, shared, sustained and replicated.					

Engagement Activities	Objectives	Key Stakeholders being engaged	Main responsible agencies	Timeline	Resources
1. Consultation workshops to gather good and scalable practices and develop knowledge products for IEC campaigns	Documentation of innovations and practices	Project implementers, industry associations, CSOs, pilot enterprises involved in project implementation, communications specialists	DENR-EMB	Year 3-5	Project budget
2. Development of communication and dissemination strategy on the FREEME	FREEME dissemination strategies developed	Financing institutions, Social and behavior change specialists, communications specialists	DENR-EMB, UNDP, financing institutions, participating in the project	Year 2	Project budget
Mid-term review and terminal evaluation					
1.Consultation with relevant stakeholders	Evaluation of project results	Key project stakeholders: Government, banks, , manufacturing firms, industry associations, NGOs, other stakeholders (TBD), (M/F participants)	DENR-EMB, UNDP	Year 3 and 5	Project budget for
2. Dissemination workshop on the evaluation reports to project stakeholders	Information sharing of lessons learned for scaling-up or replication	Key project stakeholders	DENR-EMB, UNDP	One month after completion of evaluation report.	Project budget for
For all project activities: Grievance redress mechanism					

Engagement Activities	Objectives	Key Stakeholders being engaged	Main responsible agencies	Timeline	Resources
Step 1: affected people submit grievance if any to the contacts of demonstration enterprises or medical facilities	express grievance	People or organizations submitted grievance	Relevant demonstration agency	Any time during the project implementation	Project budget for M&E
Step 2: demonstration agencies address the grievance	Address grievance	People or organizations submitted grievance	PMO, relevant demonstration agency	Two weeks after received the complaint	Project budget for M&E
Step 3: if dissatisfied, the affected people submit his/her grievance to the project PMO	Address grievance	People submitted grievance	PMO	Two weeks after received the complaint	Project budget for M&E
Step 4: if still dissatisfied, the affected people can appeal to relevant administrative authorities	Address grievance	People submitted grievance	PMO, The administrative authorities	Appliance with policies of the authorities	Appliance with policies of the authorities

6.2. Monitoring and Evaluation: Performance Indicators

29. Below are some illustrative performance indicators for measuring results. Stakeholder engagement in M&E is critical to ensure the participation of all the key stakeholders and direct project beneficiaries.

1). Direct project beneficiaries disaggregated by gender (M/F, as appropriate):

1.1. Number of people (F/M) participating in training on Green Chemistry and awareness raising activities

1.2. Number of manufacturing firms benefitting from green financial incentives

1.3. Number of manufacturing firms participating in lending programs

1.4. Number of job opportunities resulting from project-related interventions.

2). Policies and regulations developed on sound management of chemicals in support of RA 6969 and the Stockholm Convention

3). Behavior change indicators:

3.1. Number of manufacturing firms adopting alternatives to POPs

3.2. Increased number of manufacturing firms participating in the Project,

3.3. increased number of clients in lending programs developed under the Project,

3.4. In-company training programs on Green Chemistry principles and actual applications conducted and funded in-house.

3.5. Number of manufacturing firms adopting Health and Safety Codes for its workers

3.6. Number of industry associations providing training for its members on Chemical Safety and Responsible Care programs.

6.3. Other Considerations

30. Long-Term Stakeholder Participation. In order to sustain active stakeholder engagement, opportunities for long-term participation need to be provided. This may involve the creation of working groups or some other project management structures with representatives of stakeholder groups ? government, non-government, industry associations, including women?s groups. Working groups may comprise of a policy working group; communication/education and training working group, monitoring and evaluation working group, financing working group (for the design of sustainable financing mechanisms), research and development working group (for alternatives to

POPs), safety and health working group (for mitigating adverse impacts on women, men, children and sensitive populations, and developing risk counter measures), and a project steering committee that will develop the scope of work of the working groups and monitor the implementation of the Stakeholder Engagement Plan, and ensure the involvement of stakeholder groups in workshops, consultations and meetings, as outlined in the Plan.

31. A Special Order that recognizes the created groups or management structure(s), their roles, functions and responsibilities of the members need to be developed and formalized to give them the appropriate mandate and stature in the Project.

32. Grievance Redress Mechanisms (GRMs). During project implementation, despite proactive stakeholder engagement, some stakeholders may have a concern (expressed as grievance, complaint or feedback) about the Project potential impacts on them. This may include stakeholders that are affected by the implementation of Green Chemistry, such as manufacturing firms in the MSME sector that are unable to shift production systems, face shortages of chemical supplies with the SC ban on toxic chemicals and have not found alternatives to POPs, or lack of access to information on the adverse health impacts on women, men, children of exposure to chemicals. In response, the Project will establish Grievance Redress Mechanisms to receive and address concerns about the impact of the Project on stakeholders, through dialogue, joint fact-finding, negotiation, and problem solving. UNDP provides guidance on the use of GRM, including the Stakeholder Response Mechanism (SRM) and the Social and Environmental Compliance Unit (SECU), its purpose, and of the procedure in raising complaints with SRM and/or SECU if they are not satisfied with the GRM?s response.[9]

33. The following the above UNDP guidance on the Grievance Redress Mechanisms, the steps in a grievance resolution consists of the following : 1) Receive and register grievance either by email, letter, phone call or meeting), 2) Acknowledge receipt and outline how grievance will be processed, assess eligibility, and assign organizational responsibility for proposing a response; 3) Propose a response which could any of the following: i) direct action to resolve the complaint; ii) assess and engage with the complainant and other stakeholders to determine the best way to resolve the complaint; or iii) determine if the complaint is eligible or not for the GRM following the eligibility criteria,[10] 4) seek agreement on the proposed response; and finally, 5) implement the response to resolve the grievance. DENR-EMB, as the lead implementing agency will be expected to establish the structure in implementing these steps, such as setting up a grievance committee.

34. Documentation of Lessons Learned and Good Practices. Capturing lessons learned and good practices can benefit from the participation of stakeholders in learning events that are organized to help document positive results from activities or systems that could be further replicated in the Project. The

Project needs to ensure the participation of women and sensitive population, such as marginalized groups (indigenous people, PWDs, LGBTI) in order to capture their voice and participate in decision-making. Knowledge management tools, such as After-Action Reviews (Pluses and Deltas), Communities of Practice and the ?Start-Stop-Continue? exercise could be conducted by the implementing agency internally with the core project team and with stakeholder groups. Findings and recommendations from mid-term assessments are important sources of information to guide mid-point course corrections and re-planning. Final evaluations also provide critical insights and lessons on negative and positive project impacts that can serve as the basis for follow-on programs and projects.

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[1] GEF Guidelines on the Implementation of the Policy on Stakeholder Engagement, 2018

[2] UNDP SES Stakeholder Engagement, 2020

[3] Ibid

[4] Ibid.

[5] Chemical.emb.gov.ph

[6] Source: UNIDO/Philippines website

[7] Source: USAID /Philippines website

[8] Polyfoam is one of the forms of polystyrene, and included a part of the plastic industry.

[9] UNDP SES Supplemental Guidance- Grievance Redress Mechanism.

[10] Ibid.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

The consultation with relevant stakeholders occurred already during the PIF stage, which started initially in 2015, and then continued in 2020 when the initial concept was modified into the final version which was eventually endorsed by the GEF.

During PPG stage, the relevant stakeholders and potential partners were again mapped, interviewed, and in most cases, involved in project preparation. The consultation with the key stakeholders occurred with a number of dedicated meetings (mostly online due to Covid-19 restrictions).

It should be mentioned that the project has already established proper coordination with UNDP Vietnam and the Vietnam MONRE (Ministry of Natural Resource and Environment) during PPG stage

to exchange views and experiences related to key topics, like the issue of POPs import, the implementation of Green Chemistry in relevant industrial sectors, the Green Financing Mechanism, and etc.

The results of the stakeholder analysis are reported in the table below (Table 2), whilst the detailed summary of the stakeholder consultation undertaken at the PPG stage is reported in Annex 9.

As the project enters implementation, there is a need to map the activities to ensure continuing engagement, partnership building, meaningful consultation, dialogue and inclusive participation, open communication, outreach and information dissemination among the project stakeholders. The activities with stakeholders need to take into consideration how their concerns could be addressed and informed about actions taken, including how stakeholder input (both women and men) will be built into project implementation.

The SEP provides the strategy to ensure the continuing support and involvement of the stakeholders throughout the project cycle. It defines the approach and actions to ensure that the stakeholder expectations are met while achieving the objectives of the Project. The SEP for this Project involves a long-term engagement and sustained partnership with the stakeholders in support of its major components of: a) legislative and regulatory actions to integrate the Stockholm Convention into the Environmental regulation and standards; b) development and implementation of a Green financing mechanism to demonstrate Green Chemistry and reduction of POPs and U-POPs in manufacturing industry; and c) enhanced chemical management and reporting of POPs nationwide through the implementation of the PRTR system which has not been established in the Philippines.

Table 2. Stakeholder Analysis

Stakeholder Group	Stakeholder Interest/Perception of the Problem	Category of Stakeholders and Level of Influence/ Vulnerability**[1]**
A. Government		

1. Department of Environment and Natural Resources (DENR)	Lead project implementer through its Environmental Management Bureau.	Core decision maker; Most influential; Project is directly aligned with their mandate from RA 6969 (Toxic Chemicals Act)
2. Department of Trade and Industry (DTI) - Resource Generation and Management Service; Board of Investment; Bureau of Philippine Standards	Green Chemistry roadmap to a non-toxic industry has been developed but not yet implemented. The Project has the same objective to develop a Green Chemistry roadmap.	Core decision-maker. Most influential; Part of the TWG
3. Department of Science and Technology (DOST) - Industrial Technology Development Institute and Philippine Textile and Research Institute	R&D for industrial technology and textile industry. POPs are used to treat textiles with flame retardants using chemicals such as SCCP.	Core decision maker. Part of the TWG; mainly provides support services to clients.
4. Bureau of Customs	Imposes the ban on imports of POPs, following a list of codes for toxic substances. Issues relate to recognizing mixed chemical substances not captured by the current coding system. May need specialized technical training to upgrade knowledge on coding toxic chemicals with mixed chemical content.	With interest and influence
5. Philippine Export Zone Authority	Promotes investments, extend assistance, register, grant incentives to and facilitate the business operations of investors in export-oriented manufacturing and service facilities inside selected areas throughout the Philippines. PEZA?s concerns relate to the difficulty of recognizing mixed chemical substances that are not captured by the current coding system and are not declared in importation documents.	With interest and influence.
B. Financial Institutions	Common concern is the design of a viable lending program, and equipping them with technical skills for reviewing funding proposals for POPs reduction.	Core decision-makers

1. Landbank of the Philippines	The Landbank is cautious about participating as a lending institution due to its failed experience with two similar projects - CBRED (renewable energy) and ODS (Ozone Depleting Substances) loan programs, where the financing design was not sustainable having zero interest, no collateral, unsecured loans with high-risk clients and with only a handful of borrowers.	Most influential. The FREEME financing mechanism is dependent on the bank?s participation in co-financing programs.
2. Development Bank of the Philippines (DBP)	Government financial institution dedicated to supporting the national government?s key development programs to spur progress in vital sectors of the economy in four major areas ? infrastructure and logistics; social services; micro, small and medium enterprises; and environment. DBP?s biggest development portfolio is the energy sector. Participation depends on the proposed financing mechanism. Prior to participation, DBP requests information on a list of ten questions details in Annex 7.	
3. Rizal Commercial Banking Corporation (RCBC)	Willing to participate provided the interest rate for loans is aligned with the market rate or enough to cover their operating costs.	
C. Manufacturing Sector	Primary target beneficiary as consumers of POPs/toxic/hazardous chemicals	Most affected; Most influential to the success of the Project
1. Automotive/steel plating 2. Plastic packaging 3. Copper/secondary metal 4. Paper mill 6. Furniture (use of chemicals on wood) 7. Paint /solvents	Alternatives to the POPs need to be identified, with the grants and technical assistance from the GEF and UNDP to help the sector make a shift in their operations and production, and still remain economically viable. Challenges relate to the cost of converting production systems and equipment following the Green Chemistry principles, and the availability or non-availability of alternatives to POPs.	Most affected would be the manufacturing firms which use these chemicals and their raw materials suppliers. With the ban on new POPs in the SC list, these sectors may face severe economic impacts with the foreseen withdrawal of the identified POPs in the chemical market.

D. Associations/ Civil Society	Main link to industry/manufacturing sector	
1. Plastic (Plastic Packaging Council of the Philippines ? PPCP)	Legislative advocacy against the banning of single-use plastic products. Claims the problem is not the single-use plastics but litter and pollution. States that hazardous chemicals were phased out in 1980 when they received a UNDP grant for the phase out of CFC; no more companies using CFC; advocates with LGUs on recovery awareness, and recollects plastic waste through the Catholic church. Recovery rate before Covid was 2,000K-3,000K per week; now only 200k/week. Polysterene production is 30 tons/month.	Affected group
2. Chemical (Samahan sa Pilipinas ng mga Industriyang Kimika or the Chemical Industries Association of the Philippines)	High-level of awareness of the health issues from exposure to chemicals - respiratory and reproductive health, hence SPIK conducts regular training on responsible care and verifies and surveys implementation. About 147,000 are employed in the chemical industry.	Affected group
3. Other (TBD)		
E. Non-government Organizations		
1.Ecological Waste Coalition of the Philippines (EcoWaste Coalition)	Advocates for people?s right to chemical safety and plastic waste contamination with POPs (dioxin); fights against toxic products that can be found in the market and call out to manufacturers to redesign and shift to safe products.	With interest or influence.
2. Solid Waste Management Association of the Philippines	Association of national government agencies, local government units, institutional organizations, professionals, students, and solid waste management practitioners who are committed to the proper management of solid waste.	With interest or influence.
F. Community Groups	To be finalized during implementation	Affected group
1. Recyclers (engaged in reusing and reprocessing materials for economic purposes)	Adverse effects of exposure to chemicals on health of women, men and children. Risk counter measures.	

2. National Rural Women Coalition (Pambansang Kongreso ng Kababaihan sa Kanayunan or PKKK)		
G. Other potential international donors	To be finalized during implementation	Potential partners
UNIDO	Mission is to promote and accelerate inclusive and sustainable industrial development (ISID). Its priorities in the Philippines include environment protection, sustainable energy/ renewable energy and agro-industrial development, MSME development, among others	
USAID	Supports pollution-related programs ? 1. Toxic Site Identification Program to mitigate health exposures by breaking pollution exposure pathways and preventing future toxic emissions. 2. Municipal Waste Recycling Program (MWRP) to reduce land-based sources of marine plastics pollution in Sri Lanka, the Philippines, Vietnam and Indonesia.	

[1] Level of Influence/Vulnerability is based on initial data gathered from desk review and primary data collection and will be validated during the Inception Workshop.

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor;

Co-financier;

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

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

A detailed gender analysis has been undertaken during PPG stage. The main findings from Gender Analysis and Gender Action Plan (Annex 11) are as following:

? **Legal framework:** The legal framework starting with the *1987 Constitution* has provided the enabling environment for gender equality and women?s empowerment, which states two prominent provisions [1]. The Government of the Philippines is committed to promoting gender equality and women empowerment through the *Magna Carta of Women (RA 9710)*, *Women in Nation-Building Act (RA 7192), Anti-Sexual Harassment Act (RA 7877)*, and other policy issuances that guide the development and implementation of gender analysis and Gender Action Plan.

? **Ranking:** UNDP?s Gender Development Index (GDI) and Gender Inequality Index (GII) under *2019 Human Development Report*[2] places the Philippines in the Group 1 (out of five groups) and 104th place (out of 162 countries) respectively. Group 1 comprises of five groups for GDI comprises countries with high equality in HDI achievements between women and men. GII reflects gender-based inequalities in three dimensions ? reproductive health, empowerment, and economic activity. A lower ranking indicates losses in human development due to inequality. For instance, the Philippines has a much higher female seats in Parliament and higher than (East Asia and Pacific) regional average secondary educational level (for women), yet a much lower labor participation ratio.

Another World Economic Forum led 2021 Global Gender Gap Report [3] ranks the Philippines 17th in the gender equality index, showcasing the country?s significant progress in closing gender gaps in education, economic participation, and health while ranked lower on female representation in the current government. Around 10.9 million jobs, of which women constitute 38%, are at medium or high risk of disruption due to the pandemic [4].

? **Work and economic participation.** With the phenomenon of overseas migration of men, there has been a growth of female-headed households, more women in decision-making positions, and more women participating in the labor force. Women?s literacy rate is slightly higher at 98.24 percent for all women aged 15 years and older, compared to 98.12 percent of men. Functional literacy of females is also higher at 92.9 percent compared to men (90.2 percent). In terms of work and economic participation, despite the higher literacy of women, only 47.6 percent of women compared to men (74.8 percent) are in the labor force. There are more women who are unpaid family workers (8.9 percent) compared to men (3.9 percent). In terms of work and economic participation, despite the higher literacy of women, only 47.6 percent of women compared to men (74.8 percent) are in the labor force. There are more women who are unpaid family workers (8.9 percent) compared to men (3.9 percent).

? **Gender-based Violence.** The proportion of women aged 15-49 who were subjected to physical or sexual violence in the last 12 months was 7.1% for the Philippines (2013 data) [[5]] In 2016, 17% of Philippine women were subject to physical or sexual violence by their intimate partner in their lifetime.

? **Gender and risk from exposure to toxic chemicals.** POPs are toxic chemicals that take a long time to break down, spread widely in the environment, and accumulate in the tissues of living things, causing health problems ranging from cancers to nervous system damage. Women and children are disproportionately affected by exposure to toxic chemicals. For instance, due to their differences in physiological parameters (higher inhalation volume / body weight ratio, higher proportion of body fat), women are exposed to higher doses to environmental pollutants, and are hence more vulnerable to the adverse impacts of chemicals through all the exposure pathways. Women?s exposure to some POPs can cause reproductive health problems such as birth defects, low birth weight, miscarriages or premature births, and a significant part of the chemical burden experienced by mothers can be passed on to their babies during gestation and breastfeeding [[6]]. Men also face distinct health risks associated with methyl bromide exposure which is particularly associated with a higher risk of prostate cancer [[7]].

There are safety limits that have been developed on toxicological criteria as a reference for the most sensitive population in term of the exposure route, physiological characteristics, target organs and the specific pathology. Toxicology is quite rigorous o the matter and the international guidance for risk assessment (ECHA or USEPA), as based on the precautionary principle, have to take the most sensitive population as reference for limit setting.

Aside from their distinct biological susceptibility and reaction to substances, social factors present a second key determinant explaining women?s and men?s distinct risks and vulnerabilities in the context exposure to POPs and ODS. Gender roles in societies attribute certain occupations to men or women which also determine the intensity and frequency of contacts with chemicals, including ODS and POPs. In many industries, it is generally accepted that men can be asked to do more dangerous jobs than women therefore increasing the likelihood of exposure to hazardous situations and chemicals (WHO 2004), whilst is well known that women are more exposed than men in the informal recycling of waste.

Based on the findings of gender analysis, a set of mainstreaming strategies are recommended to ensure that the gender issues and gaps faced by women and men in the toxic and hazardous chemical sector are addressed. These strategies will include gender-related activities that identify entry points for gender mainstreaming, indicators, proposed responsibility centers, timeline and estimated budgets

The complete GMAP (Gender Analysis and Gender Mainstreaming Action Plan) is provided as Annex 9 of the attached project document. In the table below, the Gender Action Plan and Budget is reported.

Table 3. Gender Action Plan and Budget

Project Objective:	Objective and Outcome Indicators	Activity related to Gender Mainstreaming	Indicators and targets	Budget items	Allocated budget (USD)

Project Objective: Reduction of the use and releases of POPs, U-POPs and GHG through the implementation of a Green Chemistry Approach in key manufacturing sectors in the Philippines	**Mandatory Indicator 1: # direct project beneficiaries disaggregated by gender (individual people)** Number of people (F/M) participating in training activities, benefitting from green financial incentives or from project-related job opportunities and benefitting from reduced exposure to POPs or UPOPs. Target: **1,925,940** **962,970M/ 962,970F**	1.1. Training of associations (national and local), company workers, unions, waste recyclers, others on health impact of chemical exposure and counter risk measures, disaggregated by women and men. 1.2. Provision of equal access of male and female-owned firms to grants/financing (green financial incentives) implementing Green Chemistry Approach. 1.3. Provision equal access to green jobs generated by the Project with the adoption of Green Chemistry 3.1. Gender sensitive and targeted awareness raising on specific health impacts of exposure to POPs/toxic chemicals 3.2. Communications strategy on health and environment benefits of POP reduction on women and sensitive populations	Refer to results framework of the ProDoc	See Below	See Below

Project component 1	**Comprehensive roadmap for greening the manufacturing sector in the Philippines through a better management of chemicals, including a NIP update.**				
	Objective and Outcome Indicators	**Activity related to Gender Mainstreaming**	**Indicators and targets**	**Budget items**	**Allocated budget (USD)**
Outcome 1.1 NIP Updated	Output 1.1.1 The NIP is updated to consider the POPs listed under the SC after 2013	Activity 1.1.1.3 Summary of available gender-specific chemical risk assessment associated with each POPs and PTS used and/or released by industrial activities and in consumer products (one gender related risk assessment section for each POP in the NIP).	Availability of gender-related risk assessment sections for each POP in the updated NIP	40 days of a national expert, 10 days of an international expert	$16,500
	Output 1.1.2. Updated inventory of POPs and UPOPs	Activity 1.1.2.3 Develop risk management measures (RMM) for women and sensitive population groups when relevant.	Availability of gender-specific RMMs for POPS	40 days of a national expert, 10 days of an international expert	$16,500

Outcome 1.2 Roadmaps for greening of manufacturing sector through Green Chemistry principles and reduction of POPs, U-POPs and other substance of concern drafted and endorsed	Output 1.2.1 . A detailed assessment of the key manufacturing sector for which a roadmap toward sustainability was already envisaged by the government (Copper, Plastic, Paper, Furniture and Automotive) plus other sectors emerged at PPG (paint, building) carried out.	Activity 1.2.1.5 Inclusion of gender analysis in vulnerability assessments for developing programs, plans and activities in the manufacturing sector to identify impacts on women, men and children and other vulnerable populations, including a stakeholder consultation on the Roadmap with women?s groups and organizations, marginalized and sensitive populations.	Availability of gender and sensitive population analysis for at least 4 manufacturing sectors; at least 4 consultations carried out	4 small workshops or consultation events; 40 days of a national expert	$18,000
	Output 1.2.2 Roadmaps for the implementation of Green Chemistry approach inclusive of the reduction of POPs and U-POPs and GHG emission agreed and endorsed by the government.	Activity 1.2.2.5 Development of a strategy section in the Road Map for Gender Mainstreaming in the manufacturing and recycling sectors. An international workshop carried out on the GM situation in the manufacturing industry and recycling sector in South East Asia.	Availability of a GM strategy in the GC roadmap. Minutes and materials for the international workshop.	One large international workshop involving at least 3 SEA countries where UNDP has in place C&W projects. 40 days of a national expert. 20 days of international experts. 3 international travels and 10 national travels	$57,500
Project component 2	**Demonstration of Green Chemistry implementation including POPs and U-POPs reduction**				

	Objective and Outcome Indicators	Activity related to Gender Mainstreaming	Indicators and targets	Budget items	Allocated budget (USD)
Outcome 2.1 A sustainable financing mechanism designed and implemented in support of the Green Chemistry in key manufacturing industries.	Output 2.1.1 A self-sustaining financial mechanism (FREEME ? Financing the Roadmap for the Environmental Enhancement of Manufacturing Enterprises) in support of Green Chemistry in key manufacturing sectors established.	Activity 2.1.1.6 Development of FREEME gender equality policy requiring equal access of funds, including GM mandatory criteria for eligibility, women-friendly financial instruments to open access to lending programs for MSMEs using chemicals.	Availability of policies, GM mandatory criteria and special lending programs in the FREEME.	National consultants for 40 days	$10,000
	Output 2.1.2 Criteria development and shortlisted sector to be identified for implementation.	Activity 2.1.2.4 Training staff the shortlisted sectors on the use of tools to advance gender equality, with the concept that GM represents an opportunity (WEPs, EDGE, EIGE, GES); data gathering on GM in at least 4 manufacturing sectors.	at least 100 staff trained. Training minutes / materials. Availability of Gender Analysis Report for 4 manufacturing sectors	One large workshop to introduce GM tools in enterprises. National consultants for 60 days. 10 national travels	$34,500
	Output 2.2.2 Technical guidance for the implementation of Green Chemistry developed for the sectors of Copper, Plastic, Paper, Furniture and Automotive.	Activity 2.2.2.5 Review of technical guidance and roadmaps to identify entry points for mainstreaming gender in the target POP sectors.	Presence of gender mainstreaming entry points and gender-related provisio ns in the GC roadmaps	One national consultant for 20 days	$5,000

Project Component 3	**Component 3: Enhancing the chemical management and reporting of POPs countrywide through the implementation of PRTR system**				
	Objective and Outcome Indicators	**Activity related to Gender Mainstreaming**	**Indicators and targets**	**Budget items**	**Allocated budget (USD)**
Outcome 3.1 Environmental legislation improved and enforced and a reporting system for industrial emission implemented	Output 3.1.1. The downstream regulation amended and enforced to include provisions related to all the new POPs listed under the SC after 2013	Activity 3.1.1.4 Review of chemical sector laws and policies and programs to identify entry points for mainstreaming gender in the target POP sectors.	Presence of gender mainstreaming entry points and gender-related provisions in the reviewed regulation	One national consultant for 20 days	$5,000
	3.1.3 Capacity of the customs officers to prevent illegal import of POPs chemicals, POPs containing mixtures and articles increased.	Activity 3.1.3.3 Capacity development of Gender Focal Points in customs offices agencies to equip them with knowledge on gender and development (GAD) and the nexus of gender and toxic chemicals	At least 100 staff trained on the relationship between GM and POPs.	One national expert for 50 days. 5 small awareness raising workshop carried out	$22,500
Project component 4	**Component 4. Knowledge Management & Awareness, Monitoring, Learning, Adaptive Feedback and Evaluation.**				
	Objective and Outcome Indicators	**Activity related to Gender Mainstreaming**	**Indicators and targets**	**Budget items**	**Allocated budget (USD)**

4.1. Project lessons and results monitored verified, captured, shared, sustained and replicated	4.1.1 Development and application of an adaptive overall management and risk management tools and plans for use throughout the project, and particularly in response to needs and Mid-term Evaluation (MTE) findings.	Activity 4.1.1.4 Collection of sex-disaggregated data (SDD) on women and men in the chemical sector ? workers, recyclers, and creation of a GAD database to enable the conduct of gender analysis and monitoring of gender results.	SDD data base	One national expert for 25 days.	$6,250
	4.1.2. Collection and dissemination of lessons-learned, best practices and experiences cat the national, regional and global level to support replication.	Activity 4.1.2.3 Development of appropriate gender indicators with SDD to enable reporting of gender results.	Quantitative and qualitative gender indicators to capture lessons learned and good practices in gender mainstreaming.	One national expert for 25 days.	$6,250
Total budget allocated to the Gender Mainstreaming plan					$198,000

[1] The first is the *Declaration of Principles Article II Section 14* which provided that "The State recognizes the role of women in nation-building and shall ensure the fundamental equality before the law of women and men." Additionally, the *Article XIII-Labor: Section 14* provided that "The state shall protect working women by providing safe and healthful working conditions taking into account their maternal functions, and such facilities and opportunities that will enhance their welfare and enable them to realize their full potential in the service of the nation".

[2] http://hdr.undp.org/sites/default/files/Country-Profiles/PHL.pdf

[3] http://www3.weforum.org/docs/WEF_GGGR_2021.pdf

[4]https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-manila/documents/publication/wcms_762209.pdf

[5] National Health and Demographic Survey, 2017.

[6] UNDP, Gender Mainstreaming: A Key Driver of Development in Environment and Energy, ?Chemicals Management?

[7] Budnik, Lygia T. et al, ?Prostate Cancer and Toxicity from Critical Use Exemptions of Methyl Promide: Environmental Protection Helps Against Human Health Risks?, in: Environmental Health (2012), Vol 11, Nr 5. (cited in UNIDO Gender Guide)

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

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

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women

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

Yes
4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

The main purpose of the project is to reduce the import and use of POPs through the promotion of green chemistry initiatives to be implemented in manufacturing enterprises. Therefore, the involvement of the private sector is clearly one of the key pillars for the success of the project.

The NIP update process will enable the Philippines to establish inventories of products and articles containing new POPs and to identify priorities for each POP. Strong emphasis will be placed therefore on the participation of the private sector and civil society to ensure their active involvement in the NIP update and inventory of POPs..

The development of FREEME, the green financing mechanism, will facilitate industries in the targeted sectors to join the green recovery process by internalizing best practices and techniques linked to green chemistry and POPs avoidance. The increased access to green and low-cost financial mechanism may be critical to maintain the economic activity of targeted industries while transitioning to greener processes and products. This action is expected to be linked and synergic with the national efforts of recovery after COVID-19 and is expected to support to maintain jobs in the targeted industries. This will be critical to position the industrial sectors of Philippines in the path of an environmentally responsive participation but also to alleviate some economic impacts on livelihoods of the people employed in these sectors, as well as the health impacts of the pandemic.

The private sector is also the main target for the implementation of the PRTR system in the Philippine. A successful implementation of the PRTR requires enterprises to be properly informed understand

what will be the benefit of PRTR and what will be their rule and duties in the PRTR implementation. In the course of project life, the enterprises where PRTR is demonstrated will be trained on the PRTR approach and will benefit from receiving services related to the environmental monitoring of their emissions.

Having said the above, the modality of engagement of the private sector is differentiated on the basis of the specific activity being conducted:

? In Component 1 (Comprehensive roadmap for greening the manufacturing sector in the Philippines through better management of chemicals, including NIP update), the involvement of enterprises is envisaged in the updated of the inventory of POPs (outcome 1.1) , and in a more structured way, in the participatory process to be ensured for the development of the roadmaps for the greening of the manufacturing sector (outcome 1.2) through survey, information exchanges, consultation of the relevant manufacturing sectors.

? Component 2 (Demonstration of Green Chemistry implementation including POPs and U-POPs reduction) is indeed mostly aimed at establishing a financing mechanism whose direct beneficiaries are enterprises from the manufacturing sector. A large number of enterprises will be supported in the development of applications to gain access to the said financial mechanisms. The selected enterprises ? especially the ones supported with grants to implement green chemistry and POP avoidance intervention in their plant ? will be supported with technical and financial assistance for the design, installation and testing of the upgraded processes.

? Component 3 (Enhancing the chemical management and reporting of POPs countrywide through the implementation of PRTR system) is about the improvement of environmental regulation to integrate new POPs into the regulation (Output 3.1.1), the development and demonstration of a PRTR system for the Philippines, (Output 3.1.2) and the support to Custom Authority to enhance capacity for the identification of chemicals and articles containing POPs (Output 3.1.3). Enterprises will be mostly engaged in the implementation of the PRTR system, although a participatory approach will be also adopted to ensure their participation in the drafting of laws related to new POPs, of which the private sector is a key stakeholder.

? All the project components have budgeted training, awareness raising and consultation activities (workshop, conferences) in which the private sector will be fully involved.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

#	Description	Risk Category	Impact & Likelihood	Risk Treatment / Management Measures

#	Description	Risk Category	Impact & Likelihood	Risk Treatment / Management Measures
1	Risk of release and emission of POPs chemicals and wastes from selected Green Chemistry demonstration sites to the environment due to routine or non-routine circumstances.	Social and Environmental	I = 4 L = 3	This risk is being managed by Project Design as reflected in component 1, 2 and 3, as well as in Environmental and Social Management Framework (ESMF), Environmental and Social Management Plan (ESMP), Environmental and Social Impact Assessments (ESIAs), and Strategic Environmental and Social Assessment (SESA).
2	Duty bearers and other relevant stakeholders may not have sufficient capacities to meet their obligations under the Project upon the development or revision of regulatory requirements.	Social and Environmental	I=3 L=3	This risk is managed by project design and reflected in Component 1, 3 and 4. These three components provide capacity building trainings related to the instruments guided by develop a targeted training plan and based on the results of training needs assessment. All training activities will be guided by the SES to ensure that the relevant officials receive adequate training to understand their new extended responsibilities arising from the revised regulatory frameworks under the project. In addition, upon project commencement, a grievance redress mechanism will be established for the project, and its details disseminated to relevant stakeholders to ensure that all concerns and complaints are documented and addressed.
3	Potential reinforcement of existing discrimination against women.	Social and Environmental	I = 3 L = 2	This risk is being managed by project design as reflected by Component 1, 2 and 4, as well as in Gender Action Plan (GAP), SESA, and ESMF.
4	Potential increase in frequency and severity of typhoons and floods in project areas.	Social and Environmental	I = 4 L = 3	This risk is managed by project design and reflected in Component 2 and 3, as well as through ESMF, ESMP, and ESIAs. ?

#	Description	Risk Category	Impact & Likelihood	Risk Treatment / Management Measures
5	Increased GHG emissions and energy and water consumption from alternative GC technologies and practices to reduce the releases of hazardous chemicals	Social and Environmental	I=2 L=2	This risk is being managed by Project Design as reflected in Components 2, as well as through ESMP, ESMF, and ESIAs.
6	Working conditions that do not meet national labor laws and international commitments and exposure to health and safety risk within the pilot enterprises.	Social and Environmental	I = 4 L = 2	This risk is being managed by Project Design as reflected in Component 2 and 3, as well as through Occupational Risk Assessment (if needed), Occupational Health and Safety Plan (if needed), Labour Management Procedures, Restructuring Plan (if needed) in ESMP, and ESMF.
7	Potential risk to workers? employment, particularly women, while transitioning to GC technologies and practices.	Social and Environmental	I = 3 L = 4	This risk is being managed by project design as reflected in component 2 and 3), as well as through ESMF, GAP, ESIAs, Labour Management Procedures, Grievance Mechanism, and ESMP
8	Regulatory updates concerning POPs may be unclear, confusing or incomplete, contradict laws, promote more or just as harmful chemicals and technologies.	Social and Environmental	I = 3 L = 3	This risk is being managed by project design as reflected in Component 1, 3, and 4, as well as through SESA, Stakeholders Engagement Plan, and Grievance Mechanism.

#	Description	Risk Category	Impact & Likelihood	Risk Treatment / Management Measures
9	Potential involvement of activities located on lands and territories claimed by indigenous peoples.	Social and Environmental	I = 5 L = 1	This risk is being managed by project design as reflected in Component 1, 3, and 4, as well as, SEP, Grievance Mechanism, Indigenous Peoples Plan (if applicable), ESMF, and ESIAs / ESMPs.
10	Inappropriate behavior by security personnel who may be recruited by the industries	Social and Environmental	I = 4 L = 2	Prior to hiring of any new security staff to guard selected demonstration industries, a Framework Code of Conduct for Security reflecting SES requirements will be prepared so that industry operators ensure their security staff abide by them. Training will be offered to participating individuals to ensure they are aware of their responsibilities. In addition, the Grievance Redress Mechanism for the project will allow the local community to share any concerns or grievances they may have or report any incidents related to this risk.
11	Policy not developed and implemented within project timeframe;	Organizational	I=3 L=3	Early start on policy work (even at PPG to understand the scope of the policy). Identification of proper regulatory measures which may be approved quickly (i.e. Circulars). Policy guidelines with validity limited to project activities in case the official policy cannot be developed in due timeframe. The project will strictly cooperate with DENR and EMB drafting technical guidance documents, or amendment of existing regulations, ensuring therefore that regulatory activities are carried out smoothly.

#	Description	Risk Category	Impact & Likelihood	Risk Treatment / Management Measures
12	Difficulties arising from the coordination among administrations of different levels (national and barangas levels) and private industry	Organizational	I=3 L=2	To minimize this risk, the project will undertake a substantial effort to involve the affected stakeholders at any stage of the development of new regulation and guidance. A Stakeholder Engagement plan has been prepared, assigned with a budget, and will be implemented and monitored (see Annex 9) Representatives from various levels will be involved in the steering committee; the tasks of the PMU will include to ensure communication with all the project partners; roles and composition of each project institution will be clarified and agreed since the inception of the project. UNDP CO will take a role in coordinating stakeholders in case of conflicts using its representative function where needed. EMB and DENR have already established sound cooperation with associations of private industries.
13.	There can be slow delivery by government, and the CO as well as coordination issues which may cause project cancellation if there are time overruns at certain critical milestones.	Organizational	I=2 L=2	Government and UNDP CO are already coordinating efforts for project development and implementation and already have established a project unit. The focal point of SC has experience in the implementation of GEF funded POPs project. A project steering committee will be established at PPG stage to ensure that all the operation modalities relevant to project implementation and execution are well understood by all the parties and fully in place.

#	Description	Risk Category	Impact & Likelihood	Risk Treatment / Management Measures
14.	Difficulties in evaluating GEB baseline and achievement	Operational	I=3 L=4	The main difficulties in assessing the GEB baseline will be addressed during the NIP update, with more detailed analysis of the previous use of POPs and POP-like substances in industrial processes. Criteria for the calculation of the reduced GEB consumption and release will be established in detail during the undertaking of the inventories of POPs in the course of NIP update. The POP TT and associated attachments already document the criteria adopted. A residual risk on the estimation of POPs cannot be completely eliminated, but adoption of conservative criteria for the estimation will ensure that the GEB at project design are more likely underestimated than overestimated
15.	Adverse publicity or controversy about the IP	Political	I=2 L=2	Government and the UNDP will sign the ProDoc which stipulates roles and responsibilities of both institutions. On top of this, timely conduct of assurance activities (e.g. audit, programme visits), and effective oversight of project implementation will also be observed.
16.	Issues in establishing an effective control of the flow of POPs through borders, limited knowledge on POPs containing chemicals and pesticides of the custom officers and end users.	Regulatory	I=3 L=4	To reduce this baseline risk, the project will collaborate with Philippines? Bureau of Customs to strengthen the capacity of its officers in all ports in the country to prevent illegal import of POPs substances, mixtures and articles (Output 3.1.3). Moreover, in the process of updating the National Implementation Plan to the Stockholm Convention (Output 1.1), the project will undertake a comprehensive POPs inventory (Output 1.1.2) to include the occurrence of health impacts and availability of banned/controlled toxic chemicals at the municipal level as well as formulate a new regulation to cover new POPs (Output 3.1.1).As additional mitigation measure, a supply chain analysis undertaken alongside the inventory to pin point source/s of POPs, which can be addressed in subsequent upstream development. Information regarding sources and inventories of POPs reported in the updated NIP (Output 1.1.1).

#	Description	Risk Category	Impact & Likelihood	Risk Treatment / Management Measures
17.	The financial mechanism inadequately designed and/or capitalized that may affect its long-term sustainability.	Financial	I=2 L=3	To close any gap, DENR leverage funding from current programs of partner government agencies[1] and financial institutions[2] to include partnership arrangements with several private and public institutions. EMB-DENR and UNDP CO through the PMU and Project Board to explore and tap opportunities from the recovery efforts of the national government under the CREATE Act, among others. The project will also extend technical assistance to financial institutions with existing green lending programs to ensure technical capacity to appraise loan proposals on Green Chemistry and reducing POPs.
18	New POPs regulations and guidance on POPs prevention perceived to hinder recovery and growth of MSME	Strategic	I=3 L=4	Early start on policy work (even at PPG to understand the scope of the policy). Identification of proper regulatory measures which may be approved quickly (i.e. Circulars). Policy guidelines with validity limited to project activities in case the official policy cannot be developed in due timeframe. The project will strictly cooperate with DENR and EMB drafting technical guidance documents, or amendment of existing regulations, ensuring therefore that regulatory activities are carried out smoothly. As required of activities pertaining to policy development or change, the Project shall conduct an appropriately designed SESA to evaluate potential social and environmental impacts of policy change and the concomitant plans and programs effecting such changes.
19.	Availability and cost of alternative chemicals, green technologies and cleaner industrial processes may deter Green Chemistry adoption	Strategic	I=3 L=2	The development of a financial incentive mechanism to last beyond project timeframe is the main countermeasure to mitigate this risk. It must be considered that, in any case, POPs must be eliminated from import and use in compliance with the commitment of the GoP as party of the Stockholm convention. The project intends to minimize the negative socio-economic impact which may arise from such enforcement, so that the beneficial impact associated to the elimination of POPs would be further enhanced.

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Roles and responsibilities of the project?s governance mechanism

The Project will be implemented following UNDP?s National Implementation Modality (NIM), according to the Standard Basic Assistance Agreement between UNDP and Government of the Philippines and the Country Programme.

Implementing Partner. The Implementing Partner for this Project is the Department of Environment and Natural Resources-Environment Management Bureau (DENR-EMB). As the Implementing Partner, DENR-EMB is the accountable agency for managing this Project, including the monitoring and evaluation of Project interventions, achieving Project outcomes, and for effective use of UNDP resources. DENR-EMB is the primary accountable Office that will ensure execution of the Project in accordance with government priorities, as well as with the Project Document and the UNDP Guidelines.

The Implementing Partner is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document.

The Implementing Partner is responsible for executing this project. Specific tasks include:

? Project planning, coordination, management, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.

? Risk management as outlined in this Project Document.

? Procurement of goods and services, including human resources.

? Financial management, including overseeing financial expenditures against project budgets.

? Approving and signing the multiyear workplan.

? Approving and signing the combined delivery report at the end of the year; and,

? Signing the financial report or the funding authorization and certificate of expenditures.

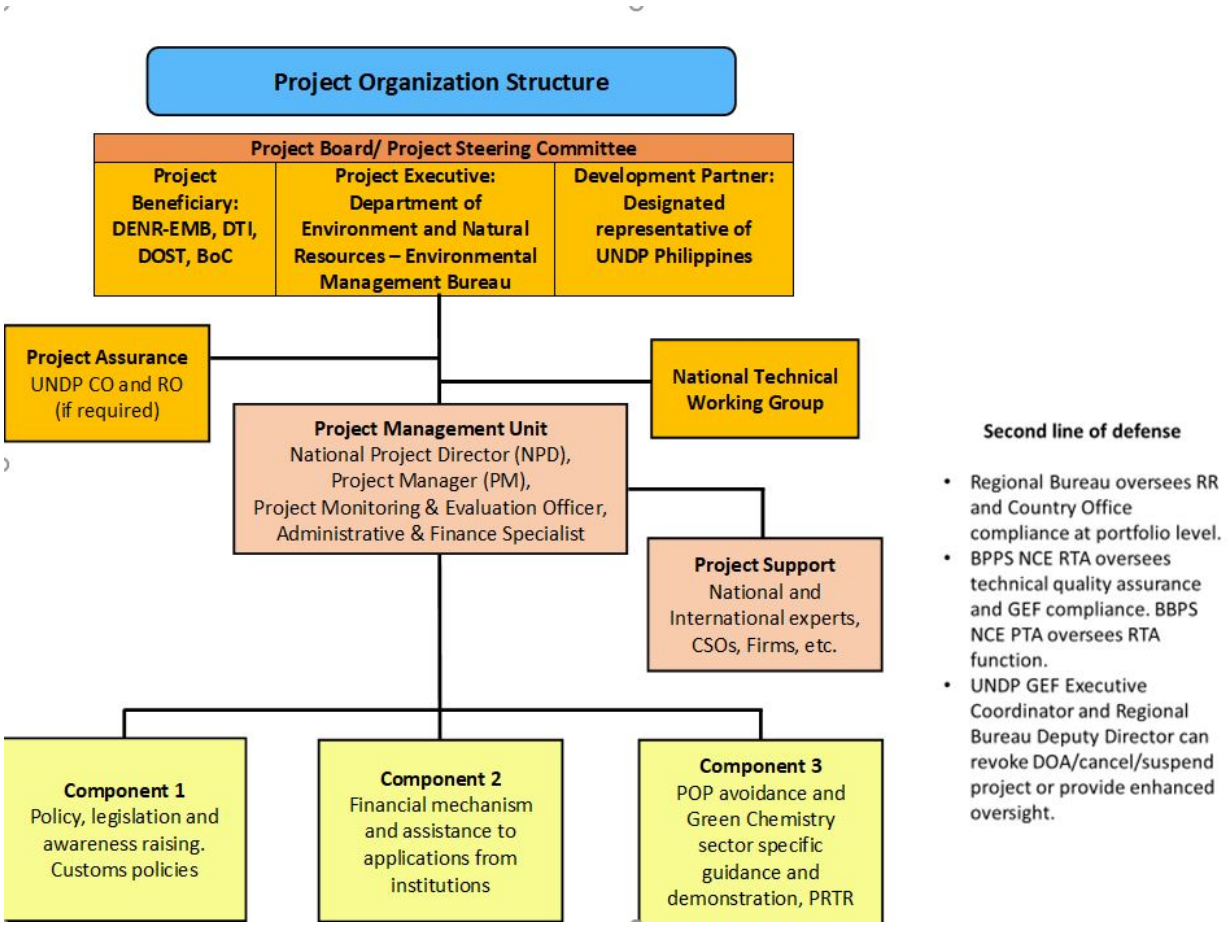
Project stakeholders and target groups: A whole of government approach will be facilitated during Project implementation. Below are key stakeholders and target groups of the Project:

National Government Authorities (NGAs). The DENR, DTI and BOC will be significantly involved in setting up the national coordinating mechanisms and corresponding guidelines, procedures and tools related to Chemicals Management. Being the catalytic agents of ensuring the country?s compliance with the Stockholm Convention, these agencies will provide appropriate policy support and enhance institutional arrangements and procedures.

Other National Government Agencies (NGAs). Compliance with Stockholm Convention entails collaboration from other key government agencies, including the DOST, TESDA and NEDA. These agencies are involved in scientific and technological efforts, technology transfer and economic projections.

UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP is responsible for delivering GEF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. UNDP is also responsible for the Project Assurance role of the Project Board/Steering Committee.

Chart 2: Project Organization Structure



Project Board: The Project Board (also called Project Steering Committee) is responsible for taking corrective action as needed to ensure the project achieves the desired results. In order to ensure UNDP?s ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. It will provide overall direction and oversight in the delivery of project outcomes. Through a consensus decision-making process, the Project Board will provide guidance to the National Project Manager on critical management decisions, including recommendations for UNDP/Implementing Partner approval of project plans and revisions, and addressing any project level grievances.

In case consensus cannot be reached within the Board, the UNDP Resident Representative (or their designate) will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

Specific responsibilities of the Project Board include:

? Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;

? Address project issues as raised by the Project Manager;

? Provide guidance on new project risks, and agree on possible mitigation and management actions to address specific risks;

? Agree on project manager?s tolerances as required, within the parameters set by UNDP-GEF, and provide direction and advice for exceptional situations when the project manager?s tolerances are exceeded;

? Advise on major and minor amendments to the project within the parameters set by UNDP-GEF;

? Ensure coordination between various donor and government-funded projects and programmes;

? Ensure coordination with various government agencies and their participation in project activities;

? Ensure risks for private sector partners? co-financing is properly scanned and due diligence is conducted prior to final selection of the participating enterprises. Track and monitor co-financing for this project;

? Review the project progress, assess performance, and appraise the Annual Work Plan for the following year;

? Appraise the annual project implementation report, including the quality assessment rating report;

? Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;

? Review combined delivery reports prior to certification by the implementing partner;

? Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;

? Address project-level grievances;

? Approve the project Inception Report, Mid-term Review and Terminal Evaluation reports and corresponding management responses; and

? Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

? Ensure highest levels of transparency and take all measures to avoid any real or perceived conflicts of interest.

The confirmed members of the Project Board will be representatives from the following agencies: DENR-EMB, DTI, DENR-FASPS, NEDA, and DOST based on the results of the stakeholder engagement consultations. Other members of the Project Board may be expanded based on the implementation arrangements. The DENR EMB Director as head of the Implementing Partner for this Project, will serve as the Chairperson of the Project Board.

Project Executive. The DENR-EMB Director will act as the Project Executive with EMB as the National Implementing Partner for the Project, representing the Government of the Philippines (GoP). The National Project Director will closely work with UNDP and the dedicated EMB Unit and the National Project Management Unit in all aspects of planning, implementation and management of the Project.

The following activities are responsibility of the National Project Director and cannot be delegated in any case: a) Signature of the Project Document and its respective revisions, b) Signature/Conformity of the Combined Statement of Expenses (CDR) and Financial Reports (FACE), c) Assurance of opening and management of the project?s bank account (if applicable).

Beneficiary Representatives. The Project has two types of Beneficiary Representatives ? the Direct Beneficiaries are the DENR, DTI, BOC and Industry sector (including their associations), and the Indirect Beneficiaries are the financial institutions.

The DENR, being a direct beneficiary and as part of the Project Board, will provide feedback on Project implementation effectiveness, timeliness and quality of Project outputs delivered. It will reflect other beneficiaries? opinions on Project Board decisions on whether to implement the recommendations on proposed changes; ensure specification of other beneficiaries? needs are accurate, complete and unambiguous; and provide a viewpoint on the impact of potential changes and risks to all beneficiaries.

Development Partner. Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the project. The UNDP Resident Representative will sit as the Development Partner in the Project Board.

Project Assurance. UNDP performs the quality assurance and supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. UNDP provides a three ? tier oversight services involving the UNDP Country Offices and UNDP at regional (UNDP NCE RTA) and headquarters (UNDP NCE PTA) levels. Project assurance is totally independent of the Project Execution.

National Technical Working Group. The PB and the NPD will be assisted by a **National Technical Working Group** (TWG). The TWG will be composed of senior technical experts representing the PB member institutions . Other agencies with critical roles for specific activities will be invited to selected sessions of the TWG or the PB. The NTWG may meet *en banc* or by thematic clusters as determined by the TWG membership. The PMU will assist the TWG through the provision of resource persons and facilitation of sessions. The tasks of the TWG would include the following:

? Identify assemble and review available updated institutional information for use by PB in its decision-making processes;

? Provide advice on the design for large work packages and TORs needed for implementation by responsible partners;

? Provide policy guidance to the design of proposed policy instruments and standards;

? Provide feedback to reports of responsible partners on progress towards outcome;

? Serve as venue for updating the project of updates from respective sectors on policies and good practices that can enhance implementation;

? Serve as venue for communicating project learnings and good practices to the respective sectoral agencies to enhance sustainability

Project Management Unit. The Project Management Unit (PMU) will be based in the Chemicals Management Section of EMB, reporting to the National Project Director, the EMB Director, and will be composed of a full-time Project Staff to ensure effective and efficient day to day project operations. Specifically, the PMU will be in-charge of the following: (i) preparation of agenda and documentation of Project Board meetings, including consolidation of the National Technical Working Group (TWG) recommendations on key concerns and issues; (ii) preparation and facilitation of approvals of Work and Financial Plans, Terms of References (TORs), facilitation of discussions of partnership agreements and contracts and deployment of consultants; and (iii) monitoring and facilitation of evaluation and learningTogether with the UNDP CO, the IP and the PMU shall conduct regular meetings to jointly review

the project progress and ensure the project activities are on track vis-a-vis the Annual Work Plan and the Project Document.

The PMU will be headed by a National Project Manager and will consist of full-time staff, including: i) Project Monitoring and Evaluation Officer; ii) Administrative and Finance Officer and iii) Project Assistant. The PMU will also engage short-term/ interim Consultants, CSOs, and firms, who will assist the PMU and National Project Director on key technical concerns which are beyond the Scope of Work (SOW) of the PMU staff. Additional staff and Consultants can also be engaged as deemed necessary and in consultation with UNDP and Project Board and subject to fund availability.

The National Project Manager will be responsible for overall management and administration of the Project under the guidance of the National Project Director. S/he will serve as the Project Board Secretary. His/her key responsibilities will include: (i) lead and manage dialogues among government agency partners on policies, institutional arrangements, national coordination mechanism and administrative and financial related systems and procedures; (ii) provide over-all guidance on Project approach, strategies and interventions at the site-level; (iii) ensure mainstreaming of capacity-building, lessons learned, good practices and knowledge management in key agency programs; (iv) setting-up and leading implementation of feedback mechanisms among IP divisions/units, Project Board and TWG members and Project partners; and (v) provide oversight for SESP risk management, gender mainstreaming, stakeholder engagement processes and, consolidation and monitoring of results indicators both at the national and site levels.

Specific responsibilities of the Project Manager will include:

? Manage the overall conduct of the project.

? Plan the activities of the project and monitor progress against the approved workplan.

? Execute activities by managing personnel, goods and services, trainings, including drafting terms of reference and work specifications, and overseeing all contractors? work.

? Monitor events as determined in the project monitoring plan, and update the plan as required.

? Provide support for completion of assessments required by UNDP, spot checks and audits.

? Manage requests for the provision of UNDP financial resources through funding advances, direct payments or reimbursement using the FACE form.

? Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports.

? Monitor progress, watch for plan deviations and make course corrections when needed within project board-agreed tolerances to achieve results.

? Ensure that changes are controlled, and problems addressed.

? Perform regular progress reporting to the project board as agreed with the board, including measures to address challenges and opportunities.

? Prepare and submit financial reports to UNDP on a quarterly basis.

? Manage and monitor the project risks ? including social and environmental risks - initially identified and submit new risks to the Project Board for consideration and decision on possible actions if required; update the status of these risks by maintaining the project risks log;

? Capture lessons learned during project implementation.

? Prepare revisions to the multi-year workplan, as needed, as well as annual and quarterly plans if required.

? Prepare the inception report no later than one month after the inception workshop.

? Ensure that the indicators included in the project results framework are monitored annually in advance of the GEF PIR submission deadline so that progress can be reported in the GEF PIR.

? Prepare the GEF PIR;

? Assess major and minor amendments to the project within the parameters set by UNDP-GEF;

? Monitor implementation plans including the gender action plan, stakeholder engagement plan, and any environmental and social management plans;

? Monitor and track progress against the GEF Core indicators.

? Support the Mid-term review and Terminal Evaluation process.

Project extensions. The UNDP Resident Representative and the UNDP-GEF Executive Coordinator must approve all project extension requests. Note that all extensions incur costs and the GEF project budget cannot be increased. A single extension may be granted on an exceptional basis and only if the following conditions are met: one extension only for a project for a maximum of six months; the project management costs during the extension period must remain within the originally approved amount, and any increase in PMC costs will be covered by non-GEF resources; the UNDP Country Office oversight costs during the extension period must be covered by non-GEF resources. The request for extension must be submitted by the Government with approval from the Project Board.

Coordination. The project will ensure coordination with the ongoing ?The UNIDO/GEF projects on PCB and WEEE [(*Implementation of PCB Management Programs for Electric Cooperatives and Safe e-wastes Management, (GEF 9078*)), especially on the side of inventory of PBDEs and screening analysis of brominated flame retardants

The project has already established proper coordination with the GEF project ?*Reduce the impact and release of mercury and POPs in Vietnam through lifecycle approach and Ecolabel* (GEF 10519)? through contacts with UNDP Vietnam and the Vietnam MONRE (Ministry of Natural Resource and Environment) during PPG stage to exchange views and experiences related to key topics, like the issue of POPs import, the implementation of Green Chemistry in relevant industrial sectors, the Green Financing Mechanism. The coordination among these two projects, as well as the use of any lesson and experience learnt from the implementation of the ?*Application of Green Chemistry in Vietnam to Support Green Growth and Reduction in the Use and Release of POPs/Harmful Chemicals* (GEF 9379)? will be sustained during project implementation.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

This project is consistent with the current environmental policy and regulations as follows:

? *DENR Administrative Order 29 Series of 1992* which requires the registration of chemicals that pose unreasonable risk to public health, workplace and the environment.

? *Philippine Clean Air Act of 1999* which includes explicit provisions on the reduction and measurement of dioxins and furans releases into the environment from various sources. It has also set the standard concentration limit in air for the emission of dioxins and furans at 0.1 nanogram per normal cubic meter (ng/Nm3) for treatment facilities using non-burn technologies

? *Republic Act 9003* or *The Ecological Solid Waste Management Act of the Philippines*, which through Section 48, prohibits open burning of solid wastes. Industries are encouraged to adopt pollution prevention/cleaner production measures, which should also assist to reduce or eliminate releases of unintentional POPs.

? *DENR Administrative Order 09 Series of 2015* which set the Global Harmonized System (GHS) classification criteria, and the basic requirements on GHS labelling and Safety Data Sheets (SDSs).

The project has been developed to ensure consistency and synergy with the priorities and action plans identified under the revised and updated Stockholm Convention National Implementation Plan (2014). This is in specific reference to the actions plans for the management of POPs pesticides, PFOS, PBDEs and related chemicals, PBBs, UPOPs and POPs contaminated sites.

The project is consistent with the overall goals of Green Public Procurement (GPP) that is described in the Philippine GPP Roadmap in 2017. GPP is in synergy with that of the enforced Republic Act 9384 or the Government Procurement Reform Act of 2003. It integrates green practices and green criteria in the procurement process of government common as well as non-common use supplies and materials. As such,

GPP supports policies for sustainable development such as in energy, water and material efficiency, waste reduction, pollution and emission prevention including climate change mitigation. As public purchasing power comprises 20% of the gross domestic product (GDP), GPP sends strong signals to producers, suppliers, vendors, and other players to go green in their processes, systems and activities.

The project is also in accordance with the National Green Jobs Human Resource Development Plan (NGJHRD Plan 2020-2030), which fulfills the Department of Labor and Employment?s (DOLE) mandate under the Republic Act 10771 or the Philippine Green Jobs Act of 2016. The NGJHRD plan aims for industries to transition into a green economy and to sustain the generation of green jobs toward more employment and equal opportunities as well as to promote social justice and workers? welfare.

The project will likely integrate the pronouncements in the recently submitted Philippines Nationally Determined Contribution (NDC) in accordance with Decision 1/CP.21 of the Conference of Parties of the United Nations Framework Convention on Climate Change (UNFCCC). The Philippines has committed to a projected GHG emissions reduction and avoidance of 75%. Of which 2.71% is unconditional (using nationally mobilized resources) and 72.29% is conditional (with support or means under the Paris Agreement). GHG mitigation for the period 2020 to 2030 shall come from the sectors of agriculture, wastes, industry, transport, and energy. GHG covered are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs).

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

The Knowledge Management will be established under project Component 4, (Knowledge Management & Awareness, Monitoring, Learning, Adaptive Feedback, and Evaluation), output 4.1.2 (Collection and dissemination of lessons learned, best practices and experiences at national, regional and global level to support replication), 4.1.3 ? (Capacity and awareness building activities organized for decision makers, stakeholders, and practitioners, to enhance the sound management of chemicals and protect human and environmental health) and 4.1.4 (Output 4.1.4 - Development of an integrated knowledge management system on POPs and their alternatives). For the description of the Knowledge Management approach kindly refer to section 3) of this request for endorsement (The proposed alternative scenario with a brief description of expected outcomes and components of the project).

9. Monitoring and Evaluation

Describe the budgeted M and E plan

The project results, corresponding indicators and mid-term and end-of-project targets in the project results framework will be monitored annually and evaluated periodically during project implementation. If baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation. The Monitoring Plan included in Annex details the roles, responsibilities, and frequency of monitoring project results.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements.

Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the GEF Monitoring Policy and the GEF Evaluation Policy and other relevant GEF policies [[1]]. The costed M&E plan included below, and the Monitoring plan in Annex, will guide the GEF-specific M&E activities to be undertaken by this project.

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report.

Additional GEF monitoring and reporting requirements:

Inception Workshop and Report: A project inception workshop will be held within 60 days of project CEO endorsement, with the aim to:

a. Familiarize key stakeholders with the detailed project strategy and discuss any changes that may have taken place in the overall context since the project idea was initially conceptualized that may influence its strategy and implementation.

b. Discuss the roles and responsibilities of the project team, including reporting lines, stakeholder engagement strategies and conflict resolution mechanisms.

c. Review the results framework and monitoring plan.

d. Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP and other stakeholders in project-level M&E.

e. Update and review responsibilities for monitoring project strategies, including the risk log; SESP report, Social and Environmental Management Framework and other safeguard requirements; project grievance mechanisms; gender strategy; knowledge management strategy, and other relevant management strategies.

f. Review financial reporting procedures and budget monitoring and other mandatory requirements and agree on the arrangements for the annual audit.

g. Plan and schedule Project Board meetings and finalize the first-year annual work plan.

h. Formally launch the Project.

GEF Project Implementation Report (PIR): The annual GEF PIR covering the reporting period July (previous year) to June (current year) will be completed for each year of project implementation. Any

environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR. The PIR submitted to the GEF will be shared with the Project Board. The quality rating of the previous year?s PIR will be used to inform the preparation of the subsequent PIR.

GEF and/or LDCF/SCCF Core Indicators: The GEF Core indicators included as Annex will be used to monitor global environmental benefits and will be updated for reporting to the GEF prior to MTR and TE. Note that the project team is responsible for updating the indicator status. The updated monitoring data should be shared with MTR/TE consultants prior to required evaluation missions, so these can be used for subsequent ground truthing. The methodologies to be used in data collection have been defined by the GEF and are available on the GEF website.

Independent Mid-term Review (MTR): The terms of reference, the review process and the final MTR report will follow the standard templates and guidance for GEF-financed projects available on the UNDP Evaluation Resource Center (ERC).

The evaluation will be ?independent, impartial and rigorous. The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project under review.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final MTR report and MTR TOR will be publicly available in English and will be posted on the UNDP ERC by December 10, 2024. A management response to MTR recommendations will be posted in the ERC within six weeks of the MTR report?s completion.

Terminal Evaluation (TE): An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance for GEF-financed projects available on the UNDP Evaluation Resource Center.

The evaluation will be ?independent, impartial and rigorous. The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project being evaluated.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final TE report and TE TOR will be publicly available in English and posted on the UNDP ERC by July 6, 2027. A management response to the TE recommendations will be posted to the ERC within six weeks of the TE report?s completion.

Final Report: The project?s terminal GEF PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lessons learned and opportunities for scaling up.

Agreement on intellectual property rights and use of logo on the project?s deliverables and disclosure of information**:** To accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies, notably the UNDP Disclosure Policy[2] and the GEF policy on public involvement[3].

This M&E plan and budget provides a breakdown of costs for M&E activities to be led by the Project Management Unit during project implementation. These costs are included in Component 4 of the Results Framework and TBWP. For ease of reporting M&E costs, please include all costs reported in the M&E plan under the one technical component. The oversight and participation of the UNDP Country Office/Regional technical advisors/HQ Units are not included as these are covered by the GEF Fee.

Table 3: Monitoring and Evaluation Plan and Budget

GEF M&E requirements	Indicative costs (US$)	Time frame
Inception Workshop and Report	15,000	Within 60 days of CEO endorsement of this project.
M&E of GEF core indicators and project results framework	37,600	Annually and at mid-point and closure
GEF Project Implementation Report (PIR), annual and quarterly project reports and workplan, project knowledge management infrastructure	None [[4]]	Annually typically between June-August
Monitoring of Gender Action Plan	12,500	Ongoing
Supervision missions	None [[5]]	Annually
Independent Mid-term Review (MTR)	47,350	June 2025
Independent Terminal Evaluation (TE)	47,350	April 2027

GEF M&E requirements	Indicative costs (US$)	Time frame
TOTAL indicative cost	159,800	

[1] See https://www.thegef.org/gef/policies_guidelines

[2] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/

[3] See https://www.thegef.org/gef/policies_guidelines

[4] To be decided at the time of implementation

[5] To be decided at the time of implementation

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The key objective of the project is the full implementation of the Stockholm convention on POPs, resulting in the effective prohibition of import and export of POPs, POPs containing chemicals and articles, and the phasing out or elimination of POPs and the reduction U-POPs, currently used in the manufacturing sectors or released as a result of industrial processes.

The achievement of the project objective will impact positively the environment and the human health, with a substantial social benefit for the population of the Philippines and for the environment at local and global level. This will also translate in a reduced impact associated to the health expenditures. The project is articulated in 3 components to achieve this objective:

? Component 1: 1. Comprehensive roadmap for greening the manufacturing sector in the Philippines through a better management of chemicals, including NIP update,

? Component 2: 2. Demonstration of Green Chemistry implementation including POPs and U-POPs reduction.

? Component 3: Enhancing the chemical management and reporting of POPs countrywide through the implementation of PRTR system.

It is evident that the implementation of green chemistry technologies and the elimination of industrial POPs from manufacturing processes, the establishment of systems and procedures to reduce the release of U-POPs, and the establishment (although in a limited number of enterprises) of a functional PRTR system

are processes requiring significant resources, capacity and investment. It is also clear that the GEF financing can only contribute to the initial, catalytic step of this process.

On another side, it is also clear that in any case, being the Philippines a party of the Stockholm Convention, the technical and financial support to enterprises committed to eliminated POPs from their manufacturing process, or to reduce U-POPs release, is a substantial financial benefit given that SC has to be enforced anyway, and in the absence of supporting project like the one proposed, the impact on the manufacturing sector will be harder and not mitigated.

For this reason, one of the pillar of this project is to consolidate and widen the already existing Green Financing Framework in the Philippines, to ensure that the investment needed for Green Chemistry implementation and POPs elimination are eligible under such financing scheme and that can be sustained beyond project life. With this perspective, the project has already mobilized a substantial co-financing support from key financial institutions in the Philippine which are already involved in large green financing initiatives in the country. The project will therefore facilitate the access to these funds of enterprises willing to establish green chemistry process and committing to eliminate POPs from their processes.

The main social and economic benefit for the project is therefore the enhancement of the financial sustainability of project activities related to green chemistry implementation and POPs elimination through the establishment of a proper financing scheme which will be in the first phase (during project life) sustained with GEF grant and in a longer phase sustained with the financing support ensured through the FREEME and its synergies with current financing initiatives.

There are however a number of additional social and economical benefit brought by the project:

? The technical and financial support, under the same green financing scheme, of investment aimed at supporting enterprises in recovering from the COVID-19 pandemic and ensuring protection of workers from the risk of infection;

? The implementation of a Gender Mainstreaming Plan, which is integrated in the project structure, and which will ensure that women and men will enjoy the same conditions concerning access to information, job opportunities, safety the workplace, and training in the course of project implementation;

? The development of a knowledge base for the technologies demonstrated in the course of the project, which will be a key source of information for the development of POPs free manufacturing technologies (Component 4, Outcome 4.1, Knowledge Management);

? The demonstration of a PRTR system, which will enhance the transparency of the environmental impact of industrial activities through a standardised reporting system, in compliance with the Aarhus Convention related to the access to environmental information;

? Increased capacity of the Custom to identify chemicals and goods containing POPs, with evident advantage for the community which would bot be exposed to such chemicals. It should be mentioned that a

number of articles containing POPs (like chlorinated rubber paint, and EPS/XPS insulating boards) are still quite common worldwide, and there is no sign that Philippine that the import of these goods is restricted.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate	High or Substantial		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

Project Information

Project Information	
1. Project Title	Reduction of Persistent Organic Pollutants (POPs) and Unintended Persistent Organic Pollutants (UPOPs) through Integrated Sound Management of Chemicals
2. Project Number (i.e. Atlas project ID, PIMS+)	PIMS 6102 / Atlas Project ID 00103439
3. Location (Global/Region/Country)	Philippines
4. Project stage (Design or Implementation)	Design (Project Document)

5. Date	January 10, 2022

Part A. Integrating Programming Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Programming Principles in Order to Strengthen Social and Environmental Sustainability?

Briefly describe in the space below how the project mainstreams the human rights-based approach

The project mainstreams the human rights-based approach by strictly adhering to the requirement of *UNDP?s Social and Environmental Standards* (policy update 2021)[1]. The Project does not provide any support to activities in violation of human rights and seeks to support the protection and fulfillment of human rights.

The objectives of the project are to support the implementation of Green Chemistry initiatives in micro, small-sized enterprises in priority manufacturing sectors including Copper, Plastic, Paper, Paint, Furniture, and Automotive (steel plating technologies) to achieve the elimination of industrial POPs including PFOS, PFOA, SCCP, HBCDD, and PBDEs in production processes. Considering that the project reduces adverse impacts on human health and the environment caused by the POPs and UPOPs releases from manufacturing activities, the project directly contributes to fulfilling this basic human right. In particular, the project will help to reduce environmental and health risks, thus creating a healthier working and living environment, which is a pre-condition for the full enjoyment of human rights. The project will also ensure that the right of being informed on environmental issues are fulfilled through the implementation of a Pollution Release and Transfer Registers (PRTR) and a wide awareness raising programme which will cover the general population, sensitive groups, women, the private sector, and the government.

Through a participatory approach, the Project will contribute to the following two SDGs that are most relevant to safeguarding human rights:

- SDG 3: Ensure healthy lives and promote well-being for all at all ages, through minimizing the release of hazardous chemicals into the environment.
- SDG 8: Decent work and economic growth through reducing the occupational health risks associated with the use of harmful agrochemicals.

At the national level, the Project supports the principles of the *Philippines Constitution*, its long to medium-term national frameworks *AmBisyon Nation 2040* and the *Philippine Development Plan 2017-2022*, all of which uphold human rights at the center of sustainable development. The project also designed activities to strengthen the capacity of the Environmental Management Bureau of the Department of Environment and Natural Resources (DENR-EMB).

The project contributes directly to Outcome 2: Accelerate structural transformations for sustainable development of UNDP Country Programme Document (CPD) 2019-2023 for the Philippines, which is aligned to the Philippine Government and UN System Partnership Framework for Sustainable Development 2019-2023 Outcome 2: Urbanization, economic growth, and climate change actions are converging for a resilient, equitable, and sustainable development path for communities.

Briefly describe in the space below how the project is likely to improve gender equality and women?s empowerment

The development of gender analysis and Gender Action Plan during PPG stage was guided by promoting gender equality and women empowerment through the Magna Carta of Women (RA 9710), Women in Nation-Building Act (RA 7192), Anti-Sexual Harassment Act (RA 7877), and other policy issuances.

UNDP?s Gender Development Index (GDI) and Gender Inequality Index (GII) under 2019 Human Development Report[2] places the Philippines in the Group 1 (out of five groups) and 104th place (out of 162 countries) respectively. Group 1 comprises of five groups for GDI comprises countries with high equality in HDI achievements between women and men. GII reflects gender-based inequalities in three dimensions ? reproductive health, empowerment, and economic activity. A lower ranking indicates losses in human development due to inequality. For instance, the Philippines has a much higher female seats in Parliament and higher than regional average secondary educational level (for women), yet a much lower labor participation ratio.

Another World Economic Forum led 2021 Global Gender Gap Report[3] ranks the Philippines 17th in the gender equality index, showcasing the country?s significant progress in closing gender gaps in education, economic participation, and health while ranked lower on female representation in the current government. Around 10.9 million jobs, of which women constitute 38%, are at medium or high risk of disruption due to the pandemic[4].

Considering the above, the project is rated as UNDP Gender Marker 2. The project developed specific measures as below that incorporate gender approaches in the project design to place equal importance on women's effective participation in the project. Gender specific activities by component are as follows:

Under Component 1:

Activity 1.1.1.3 Summary of available gender-specific chemical risk assessment associated with each POPs and Persistent and Toxic Substances used and/or released by industrial activities and in consumer products (one gender related risk assessment section for each POP in the National Implementation Plan [NIP]).

Activity 1.1.2.3 Develop risk management measures (RMM) for women and sensitive population groups when relevant.

Activity 1.2.1.5 Inclusion of gender analysis in vulnerability assessments for developing programs, plans and activities in the manufacturing sector to identify impacts on women, men and children and other vulnerable populations, including a stakeholder consultation on the Roadmap with women?s groups and organizations, marginalized and sensitive populations.

Activity 1.2.2.5 Development of a strategy section in the Road Map for Gender Mainstreaming in the manufacturing and recycling sectors. An international workshop carried out on the green manufacturing and recycling sector.

Under Component 2: Demonstration of Green Chemistry implementation including POPs and U-POPs reduction

Activity 2.1.1.6 Development of FREEME gender equality policy requiring equal access of funds, including mandatory criteria for eligibility, women-friendly financial instruments to open access to lending programs for micro, small, and medium enterprises (MSMEs) using chemicals.

Activity 2.1.2.4 Training staff the shortlisted sectors on the use of tools to advance gender equality; data

Briefly describe in the space below how the project mainstreams sustainability and resilience

The project mainstreams sustainability and resilience through:

? Conducting inventory and analysis for all new POPs listed under the Stockholm Convention after 2013, and incorporating the requirement of the Convention to national legal framework and regulations to limit human exposure to them and reduce vulnerability to environmental health. Based on lessons learned from similar POPs projects[5], market-based approaches to POPs reduction and control will be studied and adopted.

Promoting Green Chemistry approach by replacing a list of banned or controlled POPs with alternative chemicals and green technologies for each priority manufacturing industry. Through technical assistance, the project extends technical support to the selected industry on implementing Green Chemistry solutions while simultaneously eliminate POPs from the manufacturing processes, through adjustment in industrial processes, use of alternative chemicals, or installation of new equipment. This approach ensures that the positive impact of the project intervention on human health and the environment will sustain.

Establishing a financing mechanism known as FREEME is part of an incentive for applying Green Chemistry solutions by MSMEs. It will focus on promoting the use of less toxic or alternative chemicals, appropriate green technologies, more efficient industrial processes, and management of by-products to minimize UPOPs emission and release. Unlocking the sources of green capital in the country from the wake of the pandemic, GEF resources will be invested in this financing mechanism to leverage existing green loans and grants programs of the national government and financial institutions for businesses.

Designing and adopting the Pollutant Release and Transfer Register (PRTR), an open-source database that facilitates tracking and reporting on POPs and UPOPs with human and environmental health impacts. Key information and data available to the public yearly, for example, trend analysis on reducing toxic chemicals within a given period.

The project will build upon existing or recently closed projects and work in synergy with newly formulated projects such as GEF7 FAO POPs pesticides project to facilitate an integrated approach to reduce chemical, industrial and pesticide POPs in the country. This will strengthen multi-level governance on sound management practices on harmful chemicals under the leadership of DENR-EMB and improve collaboration between national government agencies, the private sector, and local stakeholders.

Briefly describe in the space below how the project strengthens accountability to stakeholders

The project will comply with the principles of accountability and transparency in both its activities and decision-making processes, which uphold all standards of UNDP policies on monitoring, evaluation, audits, and transparency in project implementation, and which are established in the CPD signed by the Government of the Philippines and UNDP.

The project?s Stakeholder Engagement Plan (SEP) (Annex 7 of ProDoc) has been designed to ensure inclusive, effective, and efficient engagement of key stakeholders throughout lifecycle. SEP details the stakeholder engagement process including disclosure of the project information, stakeholder consultations, and the stakeholders? participation in the project development, implementation, monitoring, evaluation, reporting, and learning. In line with the SEP, a grievance redress mechanism will be established for the project. In addition, UNDP?s Accountability Mechanism, which includes the Social and Environmental Compliance Review (SECU) and Stakeholder Response Mechanism (SRM) will also serve as an additional layer of grievance redress and empower stakeholders and increase accountability.

Key accountability measures reflected in the project design are:

ctive and long-term engagement with key stakeholders in providing all information for decision makings, such as the drafting of regulations on new POPs, and the practice of Green Chemistry applied in the demonstration sites;

egularly publish easily understood key information on POPs to the general public to include it in the preparation of the Philippine's first environmental performance review on harmful chemicals;

hare and learn from the results of assessments and evaluations to increase the project?s accountability to stakeholders through coordination mechanisms and uploading project results, reports, and other materials on a dedicated project webpage.

nstitutionalize forums and coordination mechanisms convened for work planning, performance reviews, and policy fora to encourage the participation of right holders openly;

epresentation of rights-holders in the Project Steering Committee to get involved in decision-making;

upport targeted training, awareness-raising, and advocacy on reducing POPs and UPOPs:

Training of manufacturing firms on alternatives to POPs;

Cross-site visits of the pilot manufacturing plants applying Green Chemistry approaches;

Training and workshops with financial institutions to facilitate screening and approval process of Green projects by MSMEs;

Gender-sensitive and targeted awareness-raising on specific health impacts of exposure to POPs/toxic chemicals on women and sensitive populations, and environmental effects, using the knowledge products and IEC materials developed for the Project;

Training of associations (national and local), company workers, unions, waste recyclers, others on the health impact of chemical exposure and counter risk measures;

Survey of manufacturing firms to be affected by the phase-out of toxic chemicals.

aise awareness on the grievance redress mechanisms which stakeholders can voice their grievances and receive an appropriate response.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Complete SESP Attachment 1 before responding to Question 2.*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5 below before proceeding to Question 6.*			**QUESTION 6: Describe the assessment and management measures for each risk rated Moderate, Substantial or High.**
Risk Description ***(broken down by event, cause, impact)***	***Impact and Likelihood (1-5)***	***Significance*** ***(Low, Moderate Substantial, High)***	***Comments (optional)***	***Description of assessment and management measures for risks rated as Moderate, Substantial or High***

Risk 1. Risk of release and emission of POPs chemicals and wastes from selected Green Chemistry demonstration sites to the environment due to routine or non-routine circumstances. Related to: ? Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management;1.7 ? Standard 3: Community Health, Safety and Security; 3.2, 3.4, and 3.5 ? Standard 7: Labor and Working Conditions; 7.6 ? Standard 8: Pollution Prevention and Resource Efficiency; 8.1, 8.2 and 8.3	I = 4 L = 3	Substantial	The GEF resources under the project will be used to establish a financial mechanism to be invested in (at least) four pilot enterprises which will reduce or eliminate POPs use in manufacturing sites through the introduction of green chemistry techniques and practices. The project does NOT envisage the transport, handling, and disposal of POPs waste.	This risk is being managed by Project Design as reflected in component 1, 2 and 3, as well as, Environmental and Social Management Framework (ESMF) Environmental and Social Management Plan (ESMP) Environmental and Social Impact Assessments (ESIAs) Strategic Environmental and Social Assessment (SESA) <u>For the pilot enterprises in the priority sectors that will participate in Green Chemistry activities:</u> the project will provide direct technical and financial support to at least 4 enterprises from priority sectors under Component 2. (a) The PPG phase has preliminarily selected five priority sectors and three industrial parks where the four pilot enterprises will be selected. As such, preliminary findings from SESP development during PPG stage show that these industrial parks are not located near natural habitats, cultural heritage sites and residential areas. ESIAs and ESMP during implementation will be developed and provide details. (b) During the first six months of implementation, pilot enterprises will be selected following a set of criteria as described under Output 2.1.1 in the ProDoc which has taken into account SES requirements. ESIAs will also be conducted upon the selection of pilot enterprises prior to the implementation of project activities to further assess all relevant risks, including the potential release and emissions of hazardous material. <u>For the project contractors and service providers:</u> the project will engage a number of service providers/ contractors to pilot of the implementation of Pollutant Release and Transfer Register (PRTR) system, following procurement processes against clear Terms of Reference.

Risk 2: Duty bearers and other relevant stakeholders may not have sufficient capacities to meet their obligations under the Project upon the development or revision of regulatory requirements implementing Green Chemistry and meeting the requirement of the Stockholm Convention. Related to: ? Human Rights; P.2 ? Accountability; P.14	I=3 L=3	Moderate	Component 1 and 3 will develop and/or revise regulatory instruments to meet the requirement of the (to be revised) NIP in accordance with the Stockholm Convention. Government Officials, responsible for enforcing legislations will need capacity building trainings to enforce the regulatory revisions promoted by the Project.	This risk is managed by project design and reflected in Component 1, 3 and 4. These three components provide capacity building trainings related to the instruments guided by develop a targeted training plan and based on the results of training needs assessment. All training activities will be guided by the SES to ensure that the relevant officials receive adequate training to understand their new extended responsibilities arising from the revised regulatory frameworks under the project. In addition, upon project commencement, a grievance redress mechanism will be established for the project, and its details disseminated to relevant stakeholders to ensure that all concerns and complaints are documented and addressed.

Risk 3: The project may potentially reinforce existing discrimination against women, especially regarding participation in project activities, or access to information, opportunities, and benefits. This will lead to inadequate participation of women in consultations, decision making meetings, and capacity building trainings for the implementation of Green Chemistry technologies and practices. Related to: ? Gender Equality and Women?s Empowerment; P.10	I = 3 L = 1	Low	The Philippines has a much higher female seats in Parliament and higher than regional average secondary educational level, yet a much lower labor participation ratio. A National Economic and Development Authority (NEDA) study found that the Participation rate of Filipino women in the labor force remained stagnant below 50% in the past two decades[JM1] , and in 2018 at 46%.	This risk is being managed by project design as reflected by Component 1, 2 and 4. Measures incorporated in project components have been described under item 2 of Part A above. In addition, ? Gender Action Plan (GAP) ? SESA ? ESMF *Gender Analysis and Gender Action Plan* (Annex 9), also includes measures: ? Keeping records of appropriate gender indicators with Sex-Disaggregated Data (SDD). ? Assisting pilot industries in developing and applying gender-sensitive guidelines including equal access to quality work, specific risk management measures for women when needed, equal access to environmental information and training. At the institutional level, DENR-EMB commits to developing and using customized gender-mainstreaming tools for toxic chemicals projects, such as: (a) *Harmonized Gender and Development Guidelines* for project development, implementation, monitoring, and evaluation; (b) *Annual Gender Plan and Budget*; (c) Capacity development of Gender Focal Points in all partner agencies to equip them with the knowledge to understand the requirements and nuances on the nexus of gender and harmful

Risk 4: Major natural and climate-induced disasters may potentially increase the frequency and severity of typhoons and floods in the project areas, risking flooding of demonstration sites and facilities. Related to: ? Standard 2: Climate Change Mitigation and Adaptation; 2.1, 2.2 ? Standard 3: Community Health, Safety and Security; 3.3	I = 4 L = 3	Substantial	In addition to climate change, the Philippines is susceptible to other natural disasters such as earthquakes, super typhoons, floods, and volcanoes. The Philippines is third most disaster-prone country in the world[6].	This risk is managed by project design and reflected in Component 2 and 3, as well as through: ? ESMF ? ESMP ? ESIAs ? Project design has incorporated activities and outputs that will provide awareness trainings to help project sites better prepare for these risks. Project will also result in improvements in MSME operations in the safe use, storage, and disposal of chemicals and handling of wastes. The selection of pilot enterprises eligible for FREEME is also guided by a set of criteria where climate resilience and disaster risk of project sites are considered. For instance, ? Another mitigating measure is the inclusion of emergency preparedness and response plan as one of the eligibility criteria for all FREEME grantees. The information will be disclosed to appropriate government agencies or units, surrounding communities, among others. Participating enterprises of FREEME will also be encouraged to generate GHG reduction cobenefits. ? The project will mainstream climate change and disaster risk reduction into the overall planning process of project interventions. For instance, the project will adopt a hazard approach in its comprehensive planning and design process in demonstration sites to cope with the potential impacts of climate change to demonstration sites.

Risk 5: Increased GHG emissions and energy and water consumption from alternative Green Chemistry technologies and practices to reduce the releases of hazardous chemicals Related to: ? Standard 2: Climate Change Mitigation and Adaptation; 2.4 ? Standard 8: Pollution Prevention and Resource Efficiency; 8.	I=2 L=2	Low	Given that the country relies mostly on fossil fuel for electricity generation, the industrial sector has high level of GHG emission. In this regard, the project supports green chemistry that can reduce the releases of hazardous chemicals, as well as bringing in climate co-benefit from improved energy efficiency in industrial processes.	This risk is being managed by Project Design as reflected in Components 2. When selecting the Green Chemistry technologies and practices for the demonstration activities, the energy and water consumption and GHG emissions level of the alternatives under consideration will be one of the criteria to be evaluated for best environmental practice. As well as ESMP, ESMF, and ESIAs. The ESMP will also incorporate the relative aspects of Standards 8 triggered and incorporate SES requirements where applicable. ESIAs will assess the climate impact of technology options and water consumption for the selected demonstration sites/enterprises.

Risk 6: Working conditions that do not meet national labor laws and international commitments and exposure to health and safety risk within the pilot enterprises. Related to: ? Standard 7: Labor and Working Conditions; 7.1, 7.2, 7.3, 7.4, 7.5, 7.6	I = 4 L = 2	Moderate	While 2.2 million workers in medium and large enterprises enjoy effective occupational safety and health (OSH) protection and services, there is still an estimated 38.8 million Filipinos who do not have acceptable working conditions[7].	This risk is being managed by Project Design as reflected in Component 2 and 3. In addition, ? Occupational Risk Assessment (if needed) ? Occupational Health and Safety Plan (if needed) ? Labour Management Procedures ? [JM2] Restructuring Plan (if needed)ESMP ? ESMF (a) The PPG phase has preliminarily selected five priority sectors and three industrial parks where the pilot enterprises will be selected as a priority. As such, the track records of candidate enterprises in terms of observation of labor laws will be looked into. (b) Pilot enterprises will be selected following a set of criteria as described under Output 2.1.1 in the ProDoc which has taken into account Standard 7. ESIAs will be conducted upon the selection of pilot enterprises prior to the implementation of project activities to further assess all relevant risks. ESIA will also incorporate the proper assessment on occupational health and safety measures are applied (through an Occupational Risk Assessment as needed). (c) A scoped ESMP will be developed for the demonstration pilots and will include an Occupational Health and Safety Plan that determines the measures to be adopted to further avoid or mitigate this risk (including safety trainings if needed). (d) Labour Management Procedures

Risk 7: Potential risk to workers? employment, particularly women, in the course of the transition to Green Chemistry technologies and practices. <u>Related to:</u> ? Gender Equality and Women ? Empowerment; P.9 ? Accountability; P.13, P.14 ? Standard 5: Displacement and Resettlement: 5.2 ? Standard 7: Labour and Working Conditions; 7.1, 7. 5	I = 3 L = 4	Moderate	In addition, around 10.9 million Filipino workers are likely facing job disruption due to the COVID-19 pandemic. According to 2020 ILO study, about 900,000 jobs are potential from the manufacturing sector. Workers' employment prospects in the short to medium terms may be negatively impacted if pilot activities encounter production disruptions due to technology or operational difficulties.	This risk is being managed by project design as reflected in component 2 and 3), in addition, ? ESMF ? GAP ? ESIAs ? Labour Management Procedures ? Grievance Mechanism ? ESMP ESIA(s) will include an analysis of this risk and propose measures to avoid or reduce redundancies, the method of selection and mitigating the effects, integrating outcomes into a restructuring plan (if needed). An ESMP will also be developed and is expected to include potential trainings for qualified existing staff on other roles or skills that may be needed at the industry (re-qualification). Where no viable alternatives are identified, a Restructuring Plan will be developed if needed when no viable alternatives are identified to reduce and mitigate adverse impacts of retrenchment on workers. In addition, Labour Management Procedures will be prepared for all enterprises to assess and align with national legislation and ensure compliance with SES Principle 7. The Gender Action Plan will also support to address potential risks related to the (lack of) inclusion of women employees in the project implementation.

Risk 8: Regulatory updates concerning POPs may be unclear, confusing or incomplete, contradict laws, promote more or just as harmful chemicals and technologies. <u>Related to:</u> P.2 P.14	I = 3 L = 3	Moderate		This risk is being managed by project design as reflected in Component 1, 3, and 4. SESA Stakeholders Engagement Plan Grievance Mechanism The project will develop SESA as a precondition to the policy development/updating process to evaluate potential social and environmental impacts of policy change and the concomitant plans and programs effecting such changes. This necessarily includes designing and implementing an appropriate participatory approach in stakeholder engagement that will help address any particular unintended consequences from updating the NIP, developing downstream regulation on POPs, identifying entry points and actionable recommendations on gender mainstreaming, and equally important to tap resources and opportunities from government-led recovery efforts. Under the leadership of DENR, the project will institute a coordination mechanism among POPs related ODA projects[8] to identify overlapping actions, gaps, and synergies related to environmental and social aspects.

Risk 9: The project may potentially involve activities located on lands and territories claimed by indigenous peoples.[JM3] Related to: Standard 6: Indigenous Peoples, 6.1, 6.2	I = 5 L = 2	Substantial	The four pilot enterprises will be located in three industrial zones, namely, the First Philippine Industrial Park in Sto. Tomas and Tanauan City, Batangas; the Cavite Industrial Park located in Rosario, Cavite; and, the Laguna Technopark, located in Bi?an and Sta. Rosa cities, Laguna. The establishment of these industrial parks predates project implementation.	This risk is being managed by project design as reflected in Component 1, 3, and 4. As well as: SEP Grievance Mechanism Indigenous Peoples Plan (if applicable) ESMF ESIAs / ESMPs The PPG phase has preliminarily selected five priority sectors and three industrial parks where the four pilot enterprises will be selected. As such, preliminary findings from SESP development during PPG stage show that these industrial parks are not located near natural habitats, cultural heritage sites and residential areas. ESIAs and ESMP during implementation will be developed and provide details. ESIAs will also be conducted upon the selection of pilot enterprises prior to the implementation of project activities to reassess and confirm all relevant risks. The need for FPIC and/or an IPP will be confirmed at that time. SEP will be implemented to ensure fair representation of stakeholders including IP (if applicable). A Grievance Redress Mechanism will be set up for the project (per SEP).

Risk 10: Inappropriate behavior by security personnel who may be recruited by the industries Related to: ? Standard 3: Community Health, Safety and Security; 3.8	I = 4 L = 2	Moderate	Security guards may be required to secure the industries during operation. These staff may not be properly trained on how to properly deal with the local community, which may lead to grievances by other workers or nearby residents. The maintenance of Security Officers is fully funded by demonstration companies (co-funding, not GEF resources).[JM4]	Prior to hiring of any new security staff to guard selected demonstration industries (Output 2.1.3 and Output 2.2.2), a Framework Code of Conduct for Security reflecting SES requirements will be prepared so that industry operators ensure their security staff abide by them. Training will be offered to participating individuals to ensure they are aware of their responsibilities. In addition, the Grievance Redress Mechanism for the project will allow the local community to share any concerns or grievances they may have or report any incidents related to this risk.

	Low Risk	**?**	
	Moderate Risk	**?**	

		Substantial Risk	?	The screening has identified 10 risks related to this project, out of which two (2) categorized as Substantial, and five (5) as Moderate, three (3) as Low risk. Conditions during the PPG were not conducive to conducting the selection and engagement with potential demonstration enterprises in the selected priority sectors. Due to the technical complexities of dealing with new POPs in varying sectors and engaging MSMEs during the pandemic, the Project includes activities with potential adverse social and environmental risks and impacts. Given that the project has an explicit focus on POPs reduction through the promotion of Green Chemistry solutions in pilot facilities, the risks and impacts remain limited in scale and are expected of having lesser magnitude than those typical of High Risk projects. Taking into account the above, the overall risk categorization is rated as ***Substantial*** on precautionary grounds. The project design has taken mitigation measures into account to ensure risks will be kept to a minimum. Therefore, an ESMF (ProDoc Annex 8) is under preparation for the project. SESA will be carried out for the upstream Policy/Regulatory related activities. Pilot enterprises will be selected based on a set of criteria described under Component 2 ensuring national regulations and UNDP SES requirements are met. ESIAs will be developed for them during implementation to mitigate and manage relevant risks. A scoped ESMP will be developed during the first year of project implementation. If retrenchment is found to be unavoidable for certain industries, a Restructuring Plan will

	High Risk	**?**			
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are triggered? (check all that apply)				
	Question only required for Moderate, Substantial and High Risk projects.				
	Is assessment required? (check if ?yes?)	**?**			***Status? (completed, planned)***
	if yes, indicate overall type and status		**?**	Targeted assessment(s) Gender analysis and Gender Action Plan Stakeholder Engagement Plan	Completed Completed
			?	ESIA (Environmental and Social Impact Assessment)	Planned
			?	SESA (Strategic Environmental and Social Assessment)	Planned
	Are management plans required? (check if ?yes)	**?**			

	If yes, indicate overall type		**?**	Targeted management plans Gender Action Plan Stakeholder Engagement Plan Labour Management Procedures Restructuring Plan Framework Code of Conduct for Security Occupational Risk Assessment Occupational Health and Safety Plan	Completed Completed If needed If needed If needed If needed If needed
			?	ESMP (Environmental and Social Management Plan)	Planned
			?	ESMF (Environmental and Social Management Framework)	Under development
	Based on identified <u>risks</u>, which Principles/Project-level Standards triggered?		**Comments (not required)**		
	Overarching Principle: Leave No One Behind	---			
	Human Rights	**?**			
	Gender Equality and Women?s Empowerment	**?**			

	Accountability	**?**	
	1. Biodiversity Conservation and Sustainable Natural Resource Management	**?**	
	2. Climate Change and Disaster Risks	**?**	
	3. Community Health, Safety and Security	**?**	
	4. Cultural Heritage	**?**	
	5. Displacement and Resettlement	**?**	
	6. Indigenous Peoples	**?**	
	7. Labour and Working Conditions	**?**	
	8. Pollution Prevention and Resource Efficiency	**?**	

Final Sign Off

Final Screening at the design-stage is not complete until the following signatures are included.

Signature	***Date***	***Description***
QA Assessor		UNDP staff member responsible for the project, typically a UNDP Programme Officer. Final signature confirms they have ?checked? to ensure that the SESP is adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD)**,** Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have ?cleared? the SESP prior to submittal to the PAC.
PAC Chair		UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks	
INSTRUCTIONS: The risk screening checklist will assist in answering Questions 2-6 of the Screening Template. Answers to the checklist questions help to (1) identify potential risks, (2) determine the overall risk categorization of the project, and (3) determine required level of assessment and management measures. Refer to the SES toolkit for further guidance on addressing screening questions.	
Overarching Principle: Leave No One Behind	**Answer (Yes/No)**
Human Rights	
P.1 Have local communities or individuals raised human rights concerns regarding the project (e.g. during the stakeholder engagement process, grievance processes, public statements)?	No
P.2 Is there a risk that duty-bearers (e.g. government agencies) do not have the capacity to meet their obligations in the project?	Yes
P.3 Is there a risk that rights-holders (e.g. project-affected persons) do not have the capacity to claim their rights?	Yes
Would the project potentially involve or lead to:	---
P.4 adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
P.5 inequitable or discriminatory impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups, including persons with disabilities? [9]	Yes
P.6 restrictions in availability, quality of and/or access to resources or basic services, in particular to marginalized individuals or groups, including persons with disabilities?	Yes
P.7 exacerbation of conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Gender Equality and Women?s Empowerment	
P.8 Have women?s groups/leaders raised gender equality concerns regarding the project (e.g. during the stakeholder engagement process, grievance processes, public statements)?	No
Would the project potentially involve or lead to:	---
P.9 adverse impacts on gender equality and/or the situation of women and girls?	No
P.10 reproducing discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	Yes

P.11 limitations on women?s ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? *For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being*	No
P.12 exacerbation of risks of gender-based violence? *For example, through the influx of workers to a community, changes in community and household power dynamics, increased exposure to unsafe public places and/or transport, etc*.	No
Sustainability and Resilience: Screening questions regarding risks associated with sustainability and resilience are encompassed by the Standard-specific questions below	
Accountability	
Would the project potentially involve or lead to:	---
P.13 exclusion of any potentially affected stakeholders, in particular marginalized groups and excluded individuals (including persons with disabilities), from fully participating in decisions that may affect them?	Yes
P.14 grievances or objections from potentially affected stakeholders?	Yes
P.15 risks of retaliation or reprisals against stakeholders who express concerns or grievances, or who seek to participate in or to obtain information on the project?	No
Project-Level Standards	
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	
Would the project potentially involve or lead to:	---
1.1 adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? *For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes*	No
1.2 activities within or adjacent to critical habitats and/or environmentally sensitive areas, including (but not limited to) legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	No
1.3 changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4 risks to endangered species (e.g. reduction, encroachment on habitat)?	No
1.5 exacerbation of illegal wildlife trade?	No
1.6 introduction of invasive alien species?	No

1.7 adverse impacts on soils?	Yes
1.8 harvesting of natural forests, plantation development, or reforestation[JM5] ?	No
1. 9 significant agricultural production?	No
1. 10 animal husbandry or harvesting of fish populations or other aquatic species?	No
1.11 significant extraction, diversion or containment of surface or ground water? *For example, construction of dams, reservoirs, river basin developments, groundwater extraction*	No
1.12 handling or utilization of genetically modified organisms/living modified organisms?[10]	No
1.13 utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)[11]	No
1.14 adverse transboundary or global environmental concerns?	Yes
Standard 2: Climate Change and Disaster Risks	
Would the potentially involve or lead to:	---[JM6]
2.1 areas subject to hazards such as earthquakes, floods, landslides, severe winds, storm surges, tsunami or volcanic eruptions?	Yes
2.2 outputs and outcomes sensitive or vulnerable to potential impacts of climate change? *For example, through increased precipitation, drought, temperature, salinity, extreme events*	Yes
2.3 direct or indirect increases in vulnerability to climate change impacts or disasters now or in the future (also known as maladaptive practices)? *For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population?s vulnerability to climate change, specifically flooding*	No
2.4 increases of greenhouse gas emissions, black carbon emissions or other drivers of climate change?	Yes
Standard 3: Community Health, Safety and Security	
Would the potentially involve or lead to:	---
3.1 construction and/or infrastructure development (e.g. roads, buildings, dams)? (Note: the GEF does not finance projects that would involve the construction or rehabilitation of large or complex dams)	No
3.2 air pollution, noise, vibration, traffic, injuries, physical hazards, poor surface water quality due to runoff, erosion, sanitation?	Yes
3.3 harm or losses due to failure of structural elements of the project (e.g. collapse of buildings or infrastructure)?	No

3.4 risks of water-borne or other vector-borne diseases (e.g. temporary breeding habitats), communicable and noncommunicable diseases, nutritional disorders, mental health?	Yes
3.5 transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No
3.6 adverse impacts on ecosystems and ecosystem services relevant to communities? health (e.g. food, surface water purification, natural buffers from flooding)?	Yes
3.7 influx of project workers to project areas?	No
3.8 engagement of security personnel to protect facilities and property, or to support project activities?	Yes
Standard 4: Cultural Heritage	
Would the project potentially involve or lead to:	---
4.1 activities adjacent to or within a Cultural Heritage site?	Yes
4.2 significant excavations, demolitions, movement of earth, flooding or other environmental changes?	No
4.3 adverse impacts to sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	Yes
4.4 alterations to landscapes and natural features with cultural significance?	No
4.5 utilization of tangible and/or intangible forms (e.g. practices, traditional knowledge) of Cultural Heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement	
Would the project potentially involve or lead to:	---
5.1 temporary or permanent and full or partial physical displacement (including people without legally recognizable claims to land)?	No
5.2 economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions ? even in the absence of physical relocation)?	No
5.3 risk of forced evictions?[12]	No
5.4 impacts on or changes to land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples	
Would the project potentially involve or lead to:	---
6.1 areas where indigenous peoples are present (including project area of influence)?	Yes
6.2 activities located on lands and territories claimed by indigenous peoples?	Yes

6.3 impacts (positive or negative) to the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? *If the answer to screening question 6.3 is ?yes?, then the potential risk impacts are considered significant and the project would be categorized as either Substantial Risk or High Risk*	No
6.4 the absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.5 the utilization or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6 forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources? *Consider, and where appropriate ensure, consistency with the answers under Standard 5 above.*	No
6.7 adverse impacts on the development priorities of indigenous peoples as defined by them?	No
6.8 risks to the physical and cultural survival of indigenous peoples?	No
6.9 impacts on the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices? *Consider, and where appropriate ensure, consistency with the answers under Standard 4 above.*	No
Standard 7: Labour and Working Conditions	
Would the project potentially involve or lead to: (note: applies to project and contractor workers)	---
7.1 working conditions that do not meet national labour laws and international commitments?	Yes
7.2 working conditions that may deny freedom of association and collective bargaining?	Yes
7.3 use of child labour?	Yes
7.4 use of forced labour?	Yes
7.5 discriminatory working conditions and/or lack of equal opportunity?	Yes
7.6 occupational health and safety risks due to physical, chemical, biological and psychosocial hazards (including violence and harassment) throughout the project life-cycle?	Yes
Standard 8: Pollution Prevention and Resource Efficiency	
Would the project potentially involve or lead to:	---

8.1 the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	Yes
8.2 the generation of waste (both hazardous and non-hazardous)?	Yes
8.3 the manufacture, trade, release, or use of hazardous materials or chemicals?	Yes
8.4 the use of chemicals or materials subject to international bans or phase-outs? *For example, DDT, PCBs and other chemicals listed in international conventions such as the Montreal Protocol, Minamata Convention, Basel Convention, Rotterdam Convention, Stockholm Convention*	Yes
8.5 the application of pesticides that may have a negative effect on the environment or human health?	No
8.6 significant consumption of raw materials, energy, or water?	No

[1] ?*UNDP refrains from providing support for activities that may contribute to violations of a State?s human rights obligations and the core international human rights treaties, and seeks to support the protection and fulfillment of human rights. UNDP programmes and projects are required to be informed by human rights analysis, including from the UN human rights mechanisms (the relevant human rights treaty bodies, the Universal Periodic Review process and Special Procedures).?*

[2] http://hdr.undp.org/sites/default/files/Country-Profiles/PHL.pdf

[3] http://www3.weforum.org/docs/WEF_GGGR_2021.pdf

[4] https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-manila/documents/publication/wcms_762209.pdf

[5] UNEP/Philippines Ozone Depleting Substances, UNIDO/Philippines Mercury Programme, UNIDO/Implementation of PCB Management Programmes for Electric Cooperatives and Safe e-waste Management, UNDP/Philippines: Capacity Building to Remove Barriers to Renewables Energy Development Project

[6] United Nations 2017 World Risk Report

[9] Prohibited grounds of discrimination include race, ethnicity, sex, age, language, disability, sexual orientation, gender identity, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to ?women and men? or similar is understood to include women and men, boys and girls,

and other groups discriminated against based on their gender identities, such as transgender and transsexual people.

[10] See the Convention on Biological Diversity and its Cartagena Protocol on Biosafety.

[11] See the Convention on Biological Diversity and its Nagoya Protocol on access and benefit sharing from use of genetic resources.

[12] Forced eviction is defined here as the permanent or temporary removal against their will of individuals, families or communities from the homes and/or land which they occupy, without the provision of, and access to, appropriate forms of legal or other protection. Forced evictions constitute gross violations of a range of internationally recognized human rights.

[JM1]This doesn?t support L=1 or Low rating overall. Strongly recommending a change to Moderate for this risk. Everything else for this risk is solid.

[JM2]This would only be triggered by risks of economic displacement as defined under Standard 5: ?*Economic displacement occurs when individuals or communities are fully or partially restricted in their access to land or resources that are important to their livelihoods*.? I gather that this is not a possible risk posed by this project, and instead we are thinking of job loss, which would fall under S7:

[?] While S7 does not directly address labour retrenchment, it is nevertheless critical to anticipate that such restructuring may lead to significant adverse social impacts (which could fall under the SES requirements to identify project-related social impacts) that would need to be carefully assessed before any actions that may lead to job losses are undertaken. The assessment should ensure that a number of good practices are adhered to and addressed in project design and/or management plans, including the following:

? analyze alternatives to avoid retrenchment. Where no viable alternatives are identified, develop a restructuring plan to reduce and mitigate adverse impacts of retrenchment on workers?

[JM3]Given this, we must also include the risk of impacts on IPs and/or their lands ? i.e. the intersection of this risk with all other risks.

e.g. There is the risk that releasing hazardous waste could take place on IP lands. Or perhaps the pilot enterprises employ IPs.

In other words, the S6 risk cannot be seen in a vacuum ? unless we have evidence to support that assumption.

This all means that:

(1) The checklist answers and the scope of this risk should be expanded. (Or S6 could be added to other risks.)

(2) The rating of this risk should be made Substantial.

OR

(3) Further details and evidence should be provided to support this very narrow scope/interpretation of S6. That is not advisable, given the need for further assessment already.

For now, I have made strategic edits to enable partial clearance. This can be fully revisited in the next round of revisions.

[JM4]New detailed guidance on safeguards and co-financing should be coming out this week. Please see that guidance when it comes out; it means that for this risk only SES *consistency* and not SES *adherence*) is required, and that UNDP has limited accountability for the risk (but not none). It also means that the ESMF will need to include a procedure for UNDP to do our due diligence, e.g. reviewing the draft Code of Conduct for consistency with the SES.

Those clarifications should be made here in the SESP.

And it seems unlikely that this is the only co-financing related risk; please revisit. Might be best (and easiest) to include a single broad co-financing risk (with some details) since the mgmt measures would be the same.

[JM5]YES because of the connection with the Paper industry. The track-changed version has this as YES and 1.7 as NO (though 1.7 is referenced in risk 1).

[JM6]Two edits below, for consistency with Risk 4.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted

Title	Module	Submitted
Annex 8 ESMF	CEO Endorsement ESS	
6102 Philippines POPs_SESP_01132022_Clean_JM	CEO Endorsement ESS	
6102 PHL PreSESP - Reduction of POPs - FINAL	Project PIF ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

-				
This project will contribute to the following country outcome (UNDAF/CPD, RPD, GPD): One Plan Focus Area 2.: ensuring climate resilience and environmental sustainability				
	Objective and Outcome Indicators **(no more than a total of 21 indicators)**	**Baseline**[1] Determined during PPG phase	**Mid-term Target**[2] Expected level of progress before MTR process starts	**End of Project Target** Expected level when terminal evaluation undertaken
Project Objective: Reduction of the use and releases of POPs, U-POPs and GHG through the implementation of a Green Chemistry Approach in key manufacturing sectors in the Philippines	**Mandatory** Indicator 1 (GEF Core Indicator 11): # direct project beneficiaries disaggregated by gender (individual people) *Number of people (F/M) participating in training activities, benefitting from green financial incentives or from project-related job opportunities and benefitting from reduced exposure to POPs and UPOPs. Target: 962,970 female /962,970 male*	0	100,000 female /100,000 male	962,970 female /962,970 male

	Mandatory Indicator 2: # indirect project beneficiaries disaggregated by gender (individual people) *Number of people (F/M) benefitting from awareness raising initiatives . Target: 50,000 female/ 50,000 male*	0	25,000 female/25,000 male	50,000 female/ 50,000 male
	Mandatory GEF Core Indicator 3 (GEF Core Indicator 9): Direct or indirect reduction of new POPs: Target 192.5 tons	New POPs reduced: 0	New POPs reduced: 30-50 tons	New POPs reduced: 192.5 tons
Project component 1	**1. Comprehensive roadmap for greening the manufacturing sector in the Philippines through a better management of chemicals, including a NIP update.**			
Project Outcome[3] **1.1** NIP Updated	*Indicator 4:* *Availability of an updated NIP with endorsement by government and submitted to the SC on POPs*	NIP Update published in 2014 with 2012 data for inventory of POPs. Inventory of new POPs listed by SC after 2013 are not available.	A NIP technical team is established, and a plan for the NIP update established and implemented. A first draft of the NIP is completed and submitted to the GoP for approval	NIP updated is endorsed by the GoP and submitted to the SC secretariat.

	Indicator 5: *Availability of updated inventories of POPs and new POPs*	Inventory of new POPs listed by SC after 2013 are not available. Inventories of POPs with 2012 data need to be updated.	An inventory team is established for each class of POPs: pesticides, industrial, U-POPs, PCBs. Preliminary inventories of all POPs are completed	Updated inventories of all listed POPs completed and endorsed by the GoP.
Outputs to achieve Outcome 1.1	*1.1.1 The NIP is updated to consider the POPs listed under the SC after 2013* *1.1.2. Updated inventory of POPs and UPOPs*			
Outcome 1.2 Roadmaps for greening of manufacturing sector through Green Chemistry principles and reduction of POPs, U-POPs and other substance of concern drafted and endorsed ***2 indicators maximum***	*Indicator 6: Number of manufacturing sectors and associated priorities identified and assessed for GC implementation*	A preliminary assessment of a number of manufacturing sectors was developed by BOI and DTI in 2015	Manufacturing sectors identified and confirmed, starting from the ones proposed at PIF and already assessed by BOI (at least 6). The survey on at least 30 factories completed.	This target will be achieved already at mid term
	Indicator 7: Availability of a roadmap for greening the selected manufacturing sectors.	A ?Greening industry roadmap? roadmap has been developed by BOI and DTI for a number of manufacturing sector in 2015 but it was not implemented and need to be updated.	A bilateral national team (DTI/BOI and EMB/DENR) will be established to develop the roadmap in the selected manufacturing sectors. Roadmaps for all the selected manufacturing sectors developed and endorsed by the GoP and the stakeholders.	This target will be achieved already at mid term.
Outputs to achieve Outcome 1.2	*1.2.1. A detailed assessment of the key manufacturing sector for which a roadmap toward sustainability was already envisaged by the government (Copper, Plastic, Paper, Paint, Furniture and Automotive, others) carried out.* *1.2.2. Roadmaps for the implementation of Green Chemistry approach inclusive of the reduction of POPs and U-POPs and GHG emission agreed and endorsed by the government.*			
Project component 2	**Demonstration of Green Chemistry implementation including POPs and U-POPs reduction**			

Outcome 2.1 A sustainable financing mechanism designed and implemented in support of the Green Chemistry in key manufacturing industries ***2 indicators maximum***	*Indicator 8:* Green financing mechanism is fully designed and established	Some incentive mechanisms supporting industries to implement ?green? process are in place (Tax incentives for green jobs; Philippine Environmental Partnership Programme.) Coordination with these incentives to be established	Green financing mechanism designed, and approved, including eligibility criteria, replenishment modality, and coordination with environmental incentives already in place.	Target to be achieved at mid term.
	Indicator 9: The green financing mechanism with a fund size of USD15,000,000.00 is established and operational .	A green financing mechanism to support Green Chemistry implementation and the reduction of POPs is currently missing.	A dedicated office to manage the FREEME financing mechanism is established. FREEME funded with a first budget of at least USD5,000,000.00. Applicants submit and receive approval for eligible projects for at least 50 % of the initial budget.	FREEME fully equipped with a budget of USD15,000.000.00. Applicants submit and receive approval for eligible projects for at least 75 % of the budget.
Outputs to achieve Outcome 2.1	*2.1.1 A self-sustaining financial mechanism (FREEME ? Financing the Roadmap for the Environmental Enhancement of Manufacturing Enterprises) in support of Green Chemistry in key manufacturing sectors established.* *2.1.2 Criteria development and shortlisted sector to be identified for implementation.*			
Outcome 2.2 2.2 Implementation of Green Chemistry Initiatives in key manufacturing	*Indicator 10:* Amount of POPs directly avoided or prevented through the implementation of Green Chemistry in pilot factories.	Limited knowledge and awareness about presence of POPs in the manufacturing sectors. Green chemistry approach mostly unknown in the Philippine.	4 industries from the key manufacturing sectors identified and supported in their application to the FREEME . Implementation of GC started in all the selected factories.	Green Chemistry projects implemented and demonstrated in all the 4 selected industries with the direct reduction of at least 20 tons of SCCP, PBDE, PBBs, HBCDD and PFOS/PFOAs

sectors ***2 indicators maximum***	*Indicator 11:* Number of technical guidance documents developed for the implementation of Green Chemistry	Technical guidance for the implementation of Green Chemistry in manufacturing industry are not localized for the Philippines.	Technical guidance developed for the implementation of Green Chemistry developed for at least 2 sectors based on the practical experience achieved in the pilot plants.	Technical guidance developed for the implementation of Green Chemistry developed for all sectors based on the practical experience achieved in the pilot plants.
Outputs to achieve Outcome 2.2	*2.2.1 At least 4 (four) manufacturing facilities from the key manufacturing sectors implementing Green Chemistry approach under FREEME, with direct reduction of at least* 20 tons of SCCP, PBDE, PBBs, HBCDD and PFOS/PFOAs *Output 2.2.2 Technical guidance for the implementation of Green Chemistry developed for the sectors of Copper, Plastic/polymer, Paint/Solvents Paper, Furniture and Automotive.*			
Project component 3	**Component 3. Enhancing the chemical management and reporting of POPs countrywide through the implementation of PRTR system**			
Outcome 3.1 Environmental legislation improved and enforced and a reporting system for industrial emission implemented	Indicator 12. Availability of new/amended regulations to ban import of the POPS listed by SC after 2013.	The current regulatory framework does not include yet rules on new POPS listed by SC after 2013.	Draft of the regulation to ban the import and use of new POPs in manufacturing industry, as well as limits for POPs in products, is prepared and submitted to the GoP for approval	The regulation to ban the import and use of new POPs in manufacturing industry, as well as limits for POPs in products, is approved by the GoP.

	Indicator 13. Number of factories where PRTR is demonstrated	In 2017 House Bill No. 6225 an Act Creating a Philippine Pollutant Release and Transfer Registry was introduced during the 17th Congress. However, the PRTR was not implemented	The PRTR system (including list of regulated pollutants and list of regulated activities) drafted and submitted for approval to the GoP. A PRTR software developed.	The PRTR system (including list of regulated pollutants and list of regulated activities) Approved by the GoP. PRTR demonstrated in at least 20 large enterprises.
	Indicator 14. Number of women and men custom officers trained on POPs Indicator 15. Availability of HS codes for new POPs developed and endorsed	In many situations where the customs authorities have not the knowledge or the capacity to identify POPs, products containing POPs may still be legally imported because POPs are not clearly specified in the HS code list	HS code list amended. Training of customs control officers at major international harbors (at least 10 officers trained) Technical manuals for the identification of POPs in imported articles, mixtures and pesticides developed.	Training of customs control officers at major international harbors (at least 20 officers trained)
Outputs to achieve Outcome 3.1	3.1.1. The downstream regulation amended and enforced to include provisions related to all the new POPs listed under the SC after 2013. 3.1.2. A PRTR (Pollutant Release and Transfer Register), inclusive of POPs, UPOPs, GHG and heavy metals, piloted in at least 20 factories in key manufacturing enterprises. 3.1.3 Capacity of the customs officers to prevent illegal import of POPs chemicals, POPs containing mixtures and articles increased.			
Project component 4	**4. Knowledge Management & Awareness, Monitoring, Learning, Adaptive Feedback and Evaluation.**			

Outcome 4.1 4.1. Project lessons and results monitored verified, captured, shared, sustained and replicated ***2 indicators maximum***	Indicator 16: Number of project staff appointed (F/M) Target: Project management institutions established with an equal F/M ratio.	Not applicable	All the project staff required for the PMU and the PSC is appointed within 3 months from project start, with a proportion F/M not smaller than 1 and with at least one female staff in apical position.	Additional project staff recruited if needed by the project, with a proportion F/M not smaller than 1.
	Indicator 17: number of lessons and best practices learn and shared by the project management team. Target: Both the Project Steering Committee and the Project Management Unit to report on the experience gathered for each of the 3 project technical components in international workshop including gender mainstreaming aspects.	Not applicable	Procedures for the acquisition and exchange of information and knowledge generated by the project established. At least one knowledge sharing workshop involving UN/GEF projects on ecolabeling, green chemistry and green financing held where lesson learnt for each project component are shared.	At least one further knowledge sharing workshop (for a project total of 2) involving UN/GEF projects on ecolabeling, green chemistry and green financing held where lesson learnt for each project component are shared and proposal for follow up activities discussed
Outputs to achieve Outcome 4.1	*4.1.1 Development and application of an adaptive overall management and risk management tools and plans for use throughout the project, and particularly in response to needs and Mid-term Evaluation (MTE) findings.* *4.1.2. Collection and dissemination of lessons-learned, best practices and experiences at the national, regional and global level to support replication.* *4.1.3. Capacity and awareness building activities organized for decision makers, stakeholders, and practitioners, to enhance the sound management of chemicals and protect human and environmental health.* *4.1.4. Development of an integrated knowledge management system on POPs and their alternatives*			

[1] Baseline, mid-term, and end of project target levels must be expressed in the same neutral unit of analysis as the corresponding indicator. Baseline is the current/original status or condition and need to be quantified. The baseline must be established before the project document is submitted to the GEF for final approval. The baseline values will be used to measure the success of the project through implementation monitoring and evaluation.

[2] Target is the change in the baseline value that will be achieved by the mid-term review and then again by the terminal evaluation.

[3] Outcomes are medium term results that the project makes a contribution towards, and that are designed to help achieve the longer-term objective. Achievement of outcomes will be influenced both by project outputs and additional factors that may be outside the direct control of the project.

ANNEX B: 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).

Part I: Project Information	**Response**		
GEF ID	10686		
Project Title	Reduction of POPs and UPOPs through integrated sound management of chemicals		
Date of Screening	13 November 2020		
STAP member screener	Jamidu Katima		
STAP secretariat screener	Sunday Leonard		
STAP Rating	*Minor issues to be considered during project design*	**Agency Response (PIF stage)**	**Way the issue has been addressed at project design**

STAP Overall Assessment of the project proposal	The project intends to minimize POPs, uPOPs, and greenhouse gas emissions by implementing green chemistry solutions in key manufacturing sectors in the Philippines. It is estimated that the project will reduce 182.5 MT of perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride and 10 MT short-chain chlorinated paraffin. The project is innovative because it will apply green chemistry principles to important manufacturing sectors. STAP has the following comments to be considered as the project is further developed:		
	1. The PIF is well-prepared and provides relevant background information on drivers, problems, and baseline situation.	Thank you for your appreciation.	Thanks!

	2. We would like to refer the project proponents to the following publications that can help in developing the project further, including providing a broadened definition of green chemistry that incorporates the concept of functionality, performance, and sustainability, and examples of green chemistry alternatives for POPs: o STAP, 2020. Delivering Multiple Benefits through the Sound Management of Chemicals and Waste. Background report (https://stapgef.org/publications) o Designing for a green chemistry future (https://science.sciencemag.org/content/367/6476/397) o STAP, 2020. Delivering Multiple Benefits through the Sound Management of Chemicals and Waste. STAP Advisory Report (https://stapgef.org/publications)	Thank you for the guidance provided. This will be referred during project preparation phase.	The 2 references cited have been considered in the drafting of the CEO Endorsement Request. In addition, direct experience and lessons learned gathered from the recently concluded Green Chemistry project in Viet Nam, has been widely discussed and considered. All the manufacturing sectors which are potential users of POPs in the Philippines have been studied and options for the synergic implementation of Green Chemistry actions and POPs phase-out these sectors are proposed.

	3. We encourage the project proponents to liaise and collaborate with the ongoing GEF project (ID: 10353 ? The Global Greenchem Innovation and Network Programme), the objective of which is to scale up green chemistry for POPs, mercury and microplastics replacement through capacity building and innovation, and the creation of a global unifying green chemistry network for implementation and uptake.	Thank you for this information. UNDP will consider the GEF Project 10353 linkages during PPG Phase and will incorporate proper collaboration for the relevant Components during implementation phase. Please also consider that we have already formally established a coordination between the UNDP project on Green Chemistry in Vietnam which is in the implementation stage, so that the experience achieved on that project will be reflected in the design of the project in the Philippine.	The answer provided at PIF is confirmed. UNDP is open to knowledge exchange with the GEF project 10353 and similar projects on Green Chemistry and POPs which could start during the implementation period of this project. The project has already benefitted of the experience gathered from the recently concluded Green Chemistry project in Viet Nam, which has successfully implemented Green Chemistry approaches and POPs elimination (SCCP and PFOS) from paint manufacturing and chrome plating sectors.

	4. STAP is encouraged to note that a well-articulated theory change showing the causal chain leading to desired outcomes was presented. A description or inclusion of alternative pathways (plan B) as an option if the proposed pathway is not feasible would further strengthen the current theory of change.	Thank you for appreciation. The comment is noted to be taken care at PPG stage. As the PPG stage will imply further consultation and analysis, and these will be reflected in the proposed creation of alternative pathways accordingly.	A revised and more detailed ToC, which included causal chain, stakeholders, baseline, input and outputs, as well the impact on Gender Mainstreaming aspects, has been developed and included as a figure in the CEO ER.

	5. It is encouraging to note that the project will develop a green financing framework (FREEME-Financing the Roadmap for the Environmental Enhancement of Manufacturing Enterprises). The proposed financing framework has several components. It is not clear what the risks are to the overall project design and implementation if one or more of the financing framework components is not realized. We suggest that a risk analysis and mitigation measures should be carried out on the green financing framework.	Noted. A risk analysis and mitigation measures will be carried out on the green financing framework during PPG. On this specific aspect we plan to have extended consultations with donors, especially financial institutions, which can contribute to identifying risks.	Project preparation process has involved financial institutions, including Land Bank of the Philippines, Development Bank of the Philippines and others, as well as with the DOI Board of Investments. The main risks identified were 1. The complexity of the procedure to apply to environmental-related financial loans which has substantially prevented enterprises to apply to similar financial schemes, and 2. the limited communication on the available green financing opportunities. Furthermore, on the side of the financial institution, the commitment to a fixed interest rate was obviously considered an outstanding risk by the banks. Therefore, as explained in the CEO ER, the FREEME was updated by 1). Ensuring coordination with existing

	6. Apart from chemicals and waste benefits, green chemistry can deliver other environmental gains, including climate change and resource use conservation, especially when coupled with renewable energy and clean production technology (see, for example, Steinfeld JI, 2009. Green chemistry, climate, and energy Green Chemistry Research Trends. 1-5 and Christol 2019. https://www.greenbiz.com/article/why-caring-about-climate-change-means-caring-about- chemicals-concern). We recommend that the project proponents should analyze, capture, and report on these other benefits.	This is noted. PPG will explore how project proponents can analyze, capture and report on these other benefits At PPG stage, plans for climate change risk assessment and mitigation measures will be described in detail, and a climate risk assessment carried out, as there will be the possibility that the replacement of hazardous chemical in the process would reflect in the energy consumption of the same. Component 4 is expected to also contribute to the STAP?s recommendation on the side benefits identification and reporting.	We confirm that the answer provided at PIF stage was applied. The 12 Green Chemistry criteria include not only the replacement of hazardous chemicals (including POPs) with other non-hazardous substances, but also the increased use of renewable sources and less energy intensive processes. However, how POPs avoidance at the manufacturing stage may or may not be synergic with other environmental goals depends on the process adopted and the physical and chemical properties of the alternative chemicals. A full assessment of the achievable co-benefits will be better understood and monitored during implementation. Climate risk assessment will be part of the environmental impact assessment .

	7. The IEO Terminal Evaluation of Chemicals and Waste projects[1] revealed that there is limited evidence that GEF's chemicals and waste projects successfully put in place sustainable strategies and financial mechanisms for scaling up. The section on the potential for scaling up in the PIF does not provide details on how this will be achieved. Hence, there is a danger that this project might fall into the same trap identified by the IEO. STAP recommends that more thought should be given to scaling up.	Thank you for raising this concern. IEO Assessment will be duly considered during PPG. UNDP will link this recommendation to the ones in questions 4 and 5 above	The identification of a sustainable strategy for scaling up the Green Chemistry and POPs avoidance intervention has been one of the pillars of the project design stage. A substantial contribution to the financial sustainability of project closure will come from the co-financing provided by the Development Bank of the Philippines, through a loan which is part of a much wider environmental program lasting until 2030. Moreover, the sustainability of POPs avoidance initiatives at manufacturing stage is linked to the effective integration of the Stockholm Convention requirements in the country regulation, including import and export banning, and its effective enforcement, which are core pillars of this project. These two key elements are designed to promote project

	8. Climate risk: The proposal presents a good preliminary analysis of the Philippines' climate change profile with information on the historical climate trends up to 2050. The environmental and social safeguards screening template, which is attached as an annex to the proposal, also recognized the potential impact of climate change on the planned interventions. Mitigation measures for identified climate risks will be prepared during the PPG stage. Given the Philippines' high climate vulnerability, including sea-level rise, increased frequency of extreme weather events, and rising temperatures[2], we encourage that the development of climate risk mitigation measures should be prioritized.	Thank you again for recommendation. We inform that, following UNDP SES Policy, pre-screening of the PIF identified the Standard 2: Climate Change Mitigation and Adaptation as ?moderate? risk. In this regard the PPG Phase will analyze and identify the industrial complexes that will take part of the demonstration projects Comprehensive assessment of likelihood of natural disasters and the vulnerability of industries and supply chain will be carried out, and the potential impacts will be categorized. Safeguards and resiliency strategies will be crafted for the target sectors. The selection of demonstration plant will include an eligibility criteria based on the reduced impact of climate change on the manufacturing facilities.	At PPG, after reassessment, the SESP has categorized the Standard 2: Climate Change Mitigation and Adaptation as ?substantial? risk. Based on such reassessment, the following mitigation measures have been provided: ? Project activities and outputs will provide awareness trainings to help project sites better prepare for these risks. These will be done through the identification of potential risks while developing assessing environmental and social risks. Climate resilience and disaster risk management measures will be incorporated to make it less prone to adverse impacts of extreme events as necessary. ? Another mitigating measure is the inclusion of emergency preparedness and response plan as one of the eligibility criteria for all FREEME grantees. The information will

	9. It is noted that a good initial consultation with relevant stakeholders has taken place. We recommend continuous engagement with project stakeholders throughout project design, implementation, monitoring, and evaluation.		Noted with appreciation. We agree. Continuous engagement with project stakeholder will continue throughout project design, implementation, monitoring and evaluation.	As answered at PIF stage, engagement with project stakeholders continued during project development stage. Beside the numerous meetings held with governmental and private stakeholders, a validation workshop has been held on Jan 7/2022 to gather feedback from the stakeholders to be incorporated in the project document.
Part I: Project Information **B. Indicative Project Description** **Summary**	**What STAP looks for**	**Response**	**Agency Response**	
Project Objective	Is the objective clearly defined, and consistently related to the problem diagnosis?	Yes	n/a	n/a
Project components	A brief description of the planned activities. Do these support the project's objectives?	Yes	n/a	n/a

Outcomes	A description of the expected short-term and medium-term effects of an intervention. Do the planned outcomes encompass important global environmental benefits?	Application a Green Chemistry Approach in key manufacturing sectors in the Philippines which will lead into of reduction of 182.5 MT of Perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride ; 10 MT Short-chain chlorinated parafins (SCCPs).	n/a	n/a
	Are the global environmental benefits/adaptation benefits likely to be generated?	The PIF states that the core indicators will be assessed during PPG.	n/a	n/a
Outputs	A description of the products and services which are expected to result from the project. Is the sum of the outputs likely to contribute to the outcomes?	Yes	n/a	n/a
Part II: Project justification	A simple narrative explaining the project's logic, i.e. a theory of change.	The narrative project's logic is provided	n/a	n/a
1. Project description. Briefly describe: **1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)**	Is the problem statement well-defined?	Yes	n/a	n/a

	Are the barriers and threats well described, and substantiated by data and references?	Yes, however no data provided	n/a	n/a
	For multiple focal area projects: does the problem statement and analysis identify the drivers of environmental degradation which need to be addressed through multiple focal areas; and is the objective well-defined, and can it only be supported by integrating two, or more focal areas objectives or programs?	N/A	n/a	n/a
2) the baseline scenario or any associated baseline projects	Is the baseline identified clearly?	Yes	n/a	n/a
	Does it provide a feasible basis for quantifying the project's benefits?	Yes	n/a	n/a
	Is the baseline sufficiently robust to support the incremental (additional cost) reasoning for the project?	Yes	n/a	n/a
	For multiple focal area projects:	N/A	n/a	n/a
	are the multiple baseline analyses presented (supported by data and references), and the multiple benefits specified, including the proposed indicators;	N/A	n/a	n/a

	are the lessons learned from similar or related past GEF and non-GEF interventions described; and	Yes	Yes. The project design is informed by lessons learned from the Vietnam Green Chemistry project.	Yes. The project design is informed by lessons learned from the Vietnam Green Chemistry project.

	how did these lessons inform the design of this project?	Not shown	As reported in the PIF, the design of the financial mechanism FREEME has been inspired to the one proposed for the UNDP / GEF project 10519 ?Reduce the impact and release of mercury and POPs in Vietnam through lifecycle approach and Ecolabel?. The design of the Green Chemistry approach has benefitted from the lesson learnt from the UNDP / GEF project 9379 ? Application of Green Chemistry in Vietnam to Support Green Growth and Reduction in the Use and Release of POPs/Harmful Chemicals?. Coordination and knowledge sharing among the two above projects and the project being proposed for the Philippines has been already established through the UNDP Country offices.	Project design of the financial mechanism FREEME continued to benefit from the GEF/ UNDP in Vietnam 10519 ?Reduce the impact and release of mercury and POPs in Vietnam through lifecycle approach and Ecolabel?. The design of the Green Chemistry approach has benefitted from the lesson learnt from the UNDP / GEF project 9379 ?Application of Green Chemistry in Vietnam to Support Green Growth and Reduction in the Use and Release of POPs/Harmful Chemicals?. Coordination and knowledge sharing among the two above projects and the project being proposed for the Philippines has been already established through the UNDP Country offices.

3) the proposed alternative scenario with a brief description of expected outcomes and components of the project	What is the theory of change?	Application of Green Economy Approach	n/a	n/a
	What is the sequence of events (required or expected) that will lead to the desired outcomes?	Developing a roadmap for greening the manufacturing sector. Implementation of demonstration of Green Chemistry Enhancing the chemical management and reporting of POPs countrywide	n/a	n/a

	What is the set of linked activities, outputs, and outcomes to address the project's objectives?	Updated NIP Updated inventory of POPs and UPOPs. Information of the key manufacturing sector for greening Roadmaps for the implementation of Green Chemistry approach A self-sustaining financial mechanism At least 4 (four) industries from the key manufacturing sectors implementing Green Chemistry approach. Technical guidance and roadmaps for the implementation of Green Chemistry Amended downstream regulation amended A PRTR (Pollutant Release and Transfer Register) Capacitated customs officers to prevent illegal import of POPs chemicals, POPs containing mixtures and articles increased.		

	Are the mechanisms of change plausible, and is there a well-informed identification of the underlying assumptions?	Yes	n/a	n/a
	Is there a recognition of what adaptations may be required during project implementation to respond to changing conditions in pursuit of the targeted outcomes?	None	n/a	n/a
5) incremental/additional cost reasoning and expected contributions from the baseline, the GEF trust fund, LDCF, SCCF, and co-financing	GEF trust fund: will the proposed incremental activities lead to the delivery of global environmental benefits?	Yes	n/a	n/a
	LDCF/SCCF: will the proposed incremental activities lead to adaptation which reduces vulnerability, builds adaptive capacity, and increases resilience to climate change?		n/a	n/a

6) global environmental benefits (GEF trust fund) and/or adaptation benefits (LDCF/SCCF)	Are the benefits truly global environmental benefits/adaptation benefits, and are they measurable?	Yes	n/a	n/a
	Is the scale of projected benefits both plausible and compelling in relation to the proposed investment?	Yes	n/a	n/a

	Are the global environmental benefits/adaptation Benefits explicitly defined?	No	UNDP would like to clarify that GEBs information are included in the following sections of the PIF INCREMENTAL/ADDITIONAL COST REASONING AND EXPECTED CONTRIBUTIONS FROM THE BASELINE, THE GEFTF, LDCF, SCCF, AND CO-FINANCING ? GLOBAL ENVIRONMENTAL BENEFITS (GEFTF) In summary, the project is expected to directly reduce at least 50% the use of PFOS and SCCP in the manufacturing industry, leading to a direct reduction of PFOS compared to the 2015 NIP estimation of at least 172.5 tons of PFOSs import prevented, a direct demonstration of 10 tons PFOS avoidance in the industry and a reduction of SCCP, PBDE and PCBPCB, and will lead to the complete banning of the use of all POPs in the manufacturing process within the sustainability stage of the project (within 5 years after project conclusion).	Confirmed at PPG stage
	Are indicators, or methodologies, provided to demonstrate how the global environmental benefits/adaptation benefits will be measured and monitored during project implementation?	Yes	n/a	n/a

	What activities will be implemented to increase the project's resilience to climate change?	None	n/a	n/a
7) innovative, sustainability and potential for scaling-up	Is the project innovative, for example, in its design, method of financing, technology, business model, policy, monitoring and evaluation, or learning?	Yes ? green chemistry approach	n/a	n/a
	Is there a clearly-articulated vision of how the innovation will be scaled-up, for example, over time, across geographies, among institutional actors?	This section requires more thoughts. Piloting of project does not automatically lead to scaling-up	Noted. UNDP fully recognizes that scaling up is an important aspect and this will be further strengthened in the project document. This will be addressed during PPG stage.	A more detailed vision concerning innovation, sustainability and scaling up has been provided in section 7 of the CEO ER. The sustainability and scaling up are ensured through i). proper integration and enforcement of SC requirements on POPs in the regulation and ii). integration and coordination with existing green loan programmes.
	Will incremental adaptation be required, or more fundamental transformational change to achieve long term sustainability?	No		

1b. Project Map and Coordinates. Please provide geo-referenced information and map where the project interventions will take place.		Not provided	Considering that the selection criteria for the demonstration/pilot activities in the Industrial Sectors targeted will be developed during PPG Phase, and that the project will be implemented nationally, detailed Maps of demonstration sites will be developed during project PPG phase and further refined during implementation once the Industries selection are confirmed. .	The project map and coordinates of the 3 industrial zones where demonstration / pilot activities will be implemented has been included in the project document.
2. Stakeholders. Select the stakeholders that have participated in consultations during the project identification phase: Indigenous people and local communities; Civil society organizations; Private sector entities. If none of the above, please explain why. In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.	Have all the key relevant stakeholders been identified to cover the complexity of the problem, and project implementation barriers?	Yes	n/a	n/a

	What are the stakeholders' roles, and how will their combined roles contribute to robust project design, to achieving global environmental outcomes, and to lessons learned and knowledge?	Yes	n/a	n/a
3. Gender Equality and Women's **Empowerment.** Please briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis). Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes/no/ tbd. If possible, indicate in which results area(s) the project is expected to contribute to gender equality: access to and control over resources; participation and decision-making; and/or economic benefits or services**.** Will the project's results framework or logical framework include gender-sensitive indicators? yes/no /tbd	Have gender differentiated risks and opportunities been identified, and were preliminary response measures described that would address these differences?	Yes ? however gender mainstreaming will be developed during PPG	n/a	n/a

	Do gender considerations hinder full participation of an important stakeholder group (or groups)? If so, how will these obstacles be addressed?	No	n/a	n/a

5. Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design	Are the identified risks valid and comprehensive? Are the risks specifically for things outside the project's control? Are there social and environmental risks which could affect the project? For climate risk, and climate resilience measures: How will the project's objectives or outputs be affected by climate risks over the period 2020 to 2050, and have the impact of these risks been addressed adequately? Has the sensitivity to climate change, and its impacts, been assessed? Have resilience practices and measures to address projected climate risks and impacts been considered? How will these be dealt with? What technical and institutional capacity, and information, will be needed to address climate risks and resilience enhancement measures?	Yes Climate risk is not discussed	Kindly refer to our answers to your questions 6 and 8 above.	Confirmed at PPG stage

6. Coordination. Outline the coordination with other relevant GEF-financed and other related initiatives	Are the project proponents tapping into relevant knowledge and learning generated by other projects, including GEF projects?	Yes	n/a	n/a
	Is there adequate recognition of previous projects and the learning derived from them?	Yes	n/a	n/a
	Have specific lessons learned from previous projects been cited?	Yes	n/a	n/a
	How have these lessons informed the project's formulation?	Yes	n/a	n/a
	Is there an adequate mechanism to feed the lessons learned from earlier projects into this project, and to share lessons learned from it into future projects?	Yes	n/a	n/a
8. Knowledge management. Outline the "Knowledge Management Approach" for the project, and how it will contribute to the project's overall impact, including plans to learn from relevant projects, initiatives and evaluations.	What overall approach will be taken, and what knowledge management indicators and metrics will be used?	Yes	n/a	n/a

	What plans are proposed for sharing, disseminating and scaling-up results, lessons and experience?	The project will develop an integrated knowledge management system on POPs and their alternatives	n/a	n/a

Asnwer to Germany:

Please refer explicitly to how this project can be aligned with the Strategic Approach to International Chemicals Management (SAICM) and its priorities. What potential does it hold to be upscaled/expanded to also meet general targets of SAICM and its post-2020 objectives?

The project intends to update the NIP of the Stockholm Convention. The project targets therefore concern mainly POPs chemicals rather than the whole management of chemicals and hazardous waste as envisaged by SAICM. This is compliant with the SAICM objectives as the project intends not only to ensure that POPs are not anymore imported or used in manufacturing, but also that chemicals are used in an environmental sound way, through the implementation and demonstration of Green Chemistry in selected manufacturing sectors. As reported in the Stockholm Convention website, ?*in line with the synergies omnibus decisions taken in 2013, the (Stockholm Convention) Secretariat is taking steps to enhance cooperation and coordination with SAICM to contribute to meeting the 2020 goal on the sound management of chemicals throughout their lifecycle; and of hazardous wastes.*?

In addition, the project also intends to revamp the PRTR (which was already proposed under House Bill No. 6225- An Act Creating a Philippine Pollutant Release and Transfer Registry in 2017, but not implemented) through demonstration in a significant number of large enterprises, following the experience UNDP has successfully achieved in Viet Nam with the project ?Vietnam POPS and Sound Harmful Chemicals Management Project (GEF 5067)? recently concluded. This is also compliant with SAICM objectives.

Please describe what potential FREEME holds to be upscaled. Either to other sectors or as a general financing instrument of sustainable chemistry in developing countries, e.g. under the future implementation of SAICM.

In term of upscaling, the financing mechanism FREEME will be launched and implemented within project life in selected sectors. The FREEME has the potential to be scaled up in more sectors for resources efficiency and pollution management in general in the Philippines, which is a funding window by national banks co-financing the project. It will continue after project ends to ensure the scaling up of the application of Green Chemistry and POPs elimination.

Future up-scaling of the financing mechanism will be studied during implementation to explore more explicitly compliance to SAICM objectives, which are however perfectly aligned with the Green Chemistry and POPs elimination objectives of the current FREEME.

Please describe what experiences have been made with financing mechanisms similar to FREEME

As far as previous experience on FREEME-like financial mechanisms, the following has been considered:

1) In the Philippine, as explained in detail in the baseline section of the CEO ER, there are already a number of green financing tools established either by the government or by private financing entities. During project preparation, consultations have been undertaken with DENR-EMB, BOI, Development Bank of the Philippine (DBP), Land Bank of the Philippines, and Rizal Commercial Banking Corporation (RCBC) on the existing financing mechanisms and tools which are already in place and how the project could establish synergies. Significant synergies have been found with the environmental loan programmes established by DBP, with which the project has established coordination through a significant co-financing support from DBP.

2) The consultation with the above financial and governmental entities has revealed that there were a number of shortcomings in the application existing ?green financing? programmes, which are mostly on the side of complexity of applications and poor communication to the potential beneficiaries, resulted in a limited number of applications. The project will therefore endeavor to solve the above issues, by assisting applicants in the preparation of the technical and financial documentation required to submit their green chemistry proposals to the FREEME, and to ensure that the communication of this initiative is boosted through a number of communication tools, meetings and workshops.

3) Based on the experience of UNDP in other countries, the implementation of green financing mechanisms like FREEME are very specific to country and beneficiary needs. This experience has been made available during project design. Lesson learnt from similar projects recently concluded will be valorized (for instance the already cited Vietnam POPS and Sound Harmful Chemicals Management Project (GEF 5067), but also the Green Chemistry project in Viet Nam (GEF 9379) under which a cost-benefit analysis of green financing schemes was conducted, and coordination with the ?Mercury and POP Ecolabel project (GEF 10519) just submitted for approval, under which a similar financing mechanism has been established, will be ensured.

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[1] http://www.gefieo.org/sites/default/files/ieo/evaluations/files/cw-study-2017_0.pdf

[2] https://www.climatelinks.org/resources/climate-change-risk-profile-philippines

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: **150,000.00**

Project Preparation Activities Implemented	*GETF/LDCF/SCCF Amount ($)*		
	Budgeted Amount	*Amount Spent To Date*	*Amount Committed*
Project preparation grant to finalize the UNDP-GEF project document for project Reduction of POPs and UPOPs through integrated sound management of chemicals	150,000.00	74,583.11	75,416.89
Total	**150,000.00**	**74,583.11**	**75,416.89**

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.

As explained in the text, the enterprises to be directly supported by the project should operate in an area which is already dedicated to industrial activities, which are well infrastructured, and which will allow to avoid any additional impact to natural or urban areas.

There are three Industrial Parks selected as project sites. The following sites are as follows:

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There are three Industrial Parks where project sites will be selected from. The following sites found within the CALABARZON Region are as follows, also marked in red dots in the map below:

Name of Economic Zone	**Location**	**Remarks**
First Philippine Industrial Park	Tanauan City and Sta. Anastacia, Sto. Tomas, Batangas N 14.1375; E 121.1350	Operates the 331.85 hectares of land with more than 100 establishment (113)
Cavite Economic Zone	Rosario, Cavite N 14.4022 ; E 120.8743	Operates 278.51 hectares of industrial zone with 412 establishment
Laguna Technopark	Bi?an City and Sta. Rosa City, Laguna N 14.2539; E 121.0598	Operates the 315 hectares of Laguna Technopark with 296 establishment

ANNEX E: Project Budget Table

Please attach a project budget table.

Expenditure Category	Detailed Description	Component (USDeq.)	Total (USD eq.)	Responsible Entity

		Component 1	*Component 2*	*Component 3*	*Component 4*	*Sub-Total*	*M&E*	*PMC*		**(Executing Entity receiving funds from the GEF Agency)[1]**
Furniture/Equipment	Information Technology Equipment consisting of 4 computer stations for the implementation of PRTR software of for an overall amount of 20000 USD.			20,000		20,000			20,000	EMB/DENR
Furniture/Equipment	Information Technology Equipment consisting of 8 sets of office equipment for an overall amount of 20000 USD							20,000	20,000	EMB/DENR

Furniture/Equipment	Budget allocated for industrial equipment and furniture related to technologies and consumables for implementing process changes in manufacturing enterprises required for phasing out POPs and implement GC processes in 4 selected enterprises for an overall amount of 1753000 USD.		1,753,000			1,753,000			1,753,000	EMB/ DENR
Furniture/Equipment	Equipment and furniture: 2 laboratories operated by the Custom Authority equipped with screening technology for the rapid identification of POPs in substance and products for an overall amount of 200000 USD			200,000		200,000			200,000	EMB/ DENR

Contractual Services ? Individual	Contractual services for implementation partner (257,400). ? Salary cost (2000 USD/month) for project Management staff in 5 years*12 months = 60 months); ? Project Finance Officer and Project Assistant/procurement for 5 years (1,145 USD a month for 60 months for 2 staff).					-		257,400	257,400	EMB/ DENR

Contractual Services ? Company	Contractual services (total of 209,150 USD) related to ? Surveys, site visits and data gathering related to POPs inventory for NIP update; ? Surveys, interviews and awareness raising on gender related risk assessment and RMM, POPs in key manufacturing sector , and the development of a strategy section for Gender Mainstreaming in the Road Maps in the manufacturing and recycling sectors ? Surveys, site visits, interviews and data gathering processes and products of key sectors in the Philippine ? to develop and design, under supervision of national and international experts, Green chemistry packages and roadmaps for the replacement of POPs and implementation of Green Chemistry in selected manufacturing sectors; ? to prepare materials and organizing	209,150				209,150			209,150	EMB/ DENR

Contractual Services ? Company	Contractual Services to companies (1,432,900 USD) for consultancy, direct assistance to enterprises and supply of industrial equipment, as following: ? Consultancies and support to the day-to-day management related to the design and implementation of the FREEME: USD 119,500. ? Training and awareness raising on the use of tools to advance gender equality: 12,500 USD; ? Surveys and consultancies related to the development of guidelines on Green Chemistry and POPs replacement/avoidance: 38400 USD. Provide direct assistance to enterprises and supply technology equipment as follow: ? Assistance to enterprise to design submit Green Chemistry / POPs reduction proposal 96,000 USD. ? Assistance to 4 shortlisted enterprises in the		1,432,900			1,432,900			1,432,900	EMB/ DENR	

Contractual Services ? Company	Contracts (945,300 USD) for contracts and PRTR software development as follows: ? technical guidance and carrying out training the identification and elimination of POPs from industrial processes and products for an overall amount of 27800 USD; ? carry out sampling and analysis of POPs of industrial effluents (air, wastewater, ashes, waste) for an overall amount of 200000; ? develop and pilot a PRTR database, software and procedures with at least 20 enterprises of medium - large size for an overall amount of 200000 USD; ? upgrade the software and the procedure to implement integration emerged from the pilot and to interface with existing environmental databases for an overall amount of 100000; ? provide training on screening equipment for			945,300		945,300			945,300		EMB/ DENR

Contractual Services ? Company	Contract to a service company for ? implementation and maintenance of the Knowledge Sharing Platform for an overall amount of 7750 USD ? establish and maintain to a project website, project database, publication and broadcasting of project materials on POPs, green chemistry, green financing and PRTR related topics for an overall amount of 37750 USD.				45,500	45,500			45,500	EMB/ DENR
Contractual Services ? Company	Contract for collecting and analyzing sex-disaggregated related to workers in the manufacturing and recycling sector as part of the mid term and final evaluation (6250 USD)					-	6,250		6,250	EMB/ DENR

International Consultants	International consultants providing technical assistance and expertise on the following topics (approximately 125 days at 650 USD/day, 81.250 USD) Activities related to the development of NIP and inventories of POPs; gender specific Risk Management Measures (RMM) and risk assessment for POPs; activities related to the development of roadmaps for green chemistry implementations and collation, analysis and know-how for the replacement of POPs in selected manufacturing sectors.	81,250				81,250			81,250	EMB/ DENR

International Consultants	International consultants providing technical assistance and expertise on the following topics (approximately 369 days at 650 USD/day,239.850 USD): Design, implementation, regulation and norms, eligibility criteria, management, international examples related to green financing for green chemistry and POPs replacement/avoidance, including participation in workshops and trainings; Supervision of design, coaching, startup and implementation of projects in selected enterprises, including technical assistance on installation and operations of equipment and processes for Green Chemistry and POPs; Providing international experience on the development of guidelines on Green Chemistry implementation and baseline and final		239,850			239,850			239,850	EMB/ DENR	

International Consultants	International consultants providing technical assistance and expertise on the following topics (approximately 202 days at 650 USD/day, 131.300 USD) ? Review of the environmental and technical regulation on POPs; ? Technical assistance raining on laboratory and screening analytical methods for the identification POPs in industrial processes and products, for enterprise and Custom staff. ? Assistance to the development, piloting and scaling up of the PRTR database, software and procedures development, including regulatory aspects			131,300		131,300			131,300	EMB/ DENR

International Consultants	International consultants providing technical assistance and expertise on the following topics (approximately 75 days at 650 USD/day, 48,750 USD) ? Project indicator development and project detailed Work Plans; ? Carrying out the mid term review; ? Sharing international knowledge on lesson learnt and best practices on Green Chemistry and PRTR ? Carrying out terminal evaluation (30 days)						48,750		48,750	UNDP

Local Consultants	Local consultants providing technical assistance and expertise on the following topics (approximately 580 days at 250 USD/day, 145,000 USD) Activities related to the development of NIP and inventories of POPs, including priorities and inventories of POPs; gender specific section in the NIP, and gender analysis in the manufacturing sector; surveys, site visits and interviews on POPs in key manufacturing sectors; activities related to the development and drafting of roadmaps for POPs replacement and green chemistry implementation in selected manufacturing sectors.	145,000				145,000			145,000	EMB/ DENR

Local Consultants	Local consultants providing technical assistance and expertise on the following topics (approximately 930 days at 250 USD/day,232.500 USD): Coordinate and liaise with financial institutions, facilitate the setting up of the FREEME committee for the management of FREEME, develop the FREEME gender equality policy, draft regulation, norms and eligibility criteria for the FREEME, participate in workshop and trainings. to coordinate and facilitate assistance and coaching deployed to enterprises on the design of their GC and POP reduction project; provide training and awareness raising in GM in selected manufacturing sectors; supervise, in coordination with contracted firms and international consultants the design, coaching		232,500			232,500			232,500	EMB/ DENR	

Local Consultants	Local consultants providing technical assistance and expertise on the following topics (approximately 590 days at 250 USD/day,147.500 USD) ? Review of the environmental and technical regulation on POPs and technical guidance and training on the identification and elimination of POPs from industrial processes, mixtures and products (20 days); ? Training, guidance development, and technical assistance to Custom Authority to o ensure the enforcement of the banning of POPs import/export. ? Review of chemical sector laws and policies and programs to identify entry points for mainstreaming gender in the target POP sectors, and training on gender and development (GAD) and the nexus of gender and toxic chemicals			147,500		147,500			147,500		EMB/ DENR

Local Consultants	Local consultants providing technical assistance and expertise on the following topics (approximately 225 days at 250 USD/day,56.250 USD) ? Establishment of indicators to facilitate successful project implementation and sound impact assessment, detailed project workplan and Result Framework ; ? Carrying out and facilitating the mid term review; ? Drafting reports and holding presentation on project achievements and lesson learnt; ? Carrying out and facilitating the terminal evaluation; ? Developing appropriate gender indicators with SDD to enable reporting of gender results.					-	56,250		56,250	UNDP

Trainings, Workshops, Meetings	Workshops and conferences as follow: ? One small workshop on the draft law on new POPs (2000 USD); Four consultation workshops on the Roadmap with women?s groups and organizations, marginalized and sensitive populations for an overall amount of (8000 USD); One international workshop on the achievements related to regulation and roadmaps on new POPs (15000USD); One international workshop involving at least 3 SEA countries on GM situation in the manufacturing industry and recycling (15000 USD)	40,000				40,000			40,000	EMB/ DENR

Trainings, Workshops, Meetings	Workshops, awareness raising, training and conferences as follow: ? An international kick-off event on the launching of the FREEME financial mechanism on Green Chemistry and POPs free design for enterprises: 15000 USD ? 8 training events on the modality of access to the FREEME and the design of Green Chemistry and POPs phase out projects:16000 USD ? An international event on the selection of 4 firms awarded under the GF or their project on POPs avoidance or release reduction 15000 USD ? One large training event on the use of tools to advance gender equality: 15000 USD.		61,000			61,000			61,000	EMB/ DENR

Trainings, Workshops, Meetings	Conference and workshop as follow: ? A national workshop on POPs regulation for an overall amount of 2000 USD; ? Two national workshops on development of guidance materials on new POPs for an overall amount of 4000 USD; ? A training for trainers on related to the import banning of new POPs for an overall amount of 2000 USD; Two ? national workshops on the development of PRTR and international experience for an overall amount of 4000 USD; ? Four training events on PRTR for an overall amount of 8000 USD; ? One international workshop on pilot results of PRTR in the Philippine and exchange of international experience for an overall amount of 15000 USD; ? Four training events on the identification of POPs for custom officers for an overall amount			68,000		68,000			68,000	EMB/ DENR	

Trainings, Workshops, Meetings	Inception workshop on the project with participation of representatives of other countries involved in Green Chemistry for an overall amount of 15000 USD					-	15,000		15,000	EMB/ DENR
Trainings, Workshops, Meetings	Meeting expenses for an overall amount of 10100 USD							10,100	10,100	EMB/ DENR
Travel	National (116) and international (16) travel and accommodation, estimated as following: one round flight at 200 USD plus one day accommodation at 250 USD/day for each national travel; one round flight at 2500 USD plus 10 days accommodation with a DSA of 250 USD/day for international travel.	132,200				132, 200			132,200	EMB/ DENR

Travel	National (87) and international (27) travel and accommodation, estimated as following: ? one round flight at 200 USD plus one day accommodation at 250 USD/day for each national travel;		174,150			174,150			174,150	EMB/ DENR
Travel	National (32) and international (2) travel and accommodation, estimated as following: ? one round flight at 200 USD plus one day accommodation at 250 USD/day for each national travel; ? one round flight at 2500 USD plus 10 days accommodation with a DSA of 250 USD/day for international travel.			24,400		24,400			24,400	EMB/ DENR
Travel	National (16) travels and accommodation, estimated as one round flight at 200 USD plus one day accommodation at 250 USD/day				7,200	7,200			7,200	EMB/ DENR

Travel	National (19) and international (5) travel and accommodation, estimated as following: ? one round flight at 200 USD plus one day accommodation at 250 USD/day for each national travel. ? one round flight at 2500 USD plus 10 days accommodation with a DSA of 250 USD/day for international travel.					-	33,550		33,550	EMB/ DENR
Office Supplies	Supplies for an overall amount of 12500 USD							12,500	12,500	EMB/ DENR
Other Operating Costs	Professional services (including audit) to carry out yearly financial audit for an overall amount of 12500 USD							12,500	12,500	UNDP
Grand Total		607,600	893,400	1,536,500	52,700	6,090,200	159,800	312,500	6,562,500	

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).