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

Reduce the impact and release of mercury and POPs in Vietnam through lifecycle approach and Ecolabel

Part I: Project Information

GEF ID
10519

Project Type
FSP

Type of Trust Fund
GET

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

Project Title
Reduce the impact and release of mercury and POPs in Vietnam through lifecycle approach and Ecolabel

Countries
Viet Nam

Agency(ies)
UNDP

Other Executing Partner(s)
Ministry of Natural Resources and Environment (MONRE)

Executing Partner Type
Government

GEF Focal Area
Chemicals and Waste

Taxonomy

Focal Areas, Chemicals and Waste, Eco-Efficiency, Persistent Organic Pollutants, New Persistent Organic Pollutants, Uninentional Persistent Organic Pollutants, Sound Management of chemicals and waste, Emissions, Mercury, Coal Fired Power Plants, Non Ferrous Metals Production, Cement, Coal Fired Industrial Boilers, Plastics, Green Chemistry, Best Available Technology / Best Environmental Practices, Industrial Emissions, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Transform policy and regulatory environments, Deploy innovative financial instruments, Stakeholders, Type of Engagement, Partnership, Information Dissemination, Communications, Awareness Raising, Education, Civil Society, Non-Governmental Organization, Beneficiaries, Private Sector, SMEs, Capital providers, Gender Equality, Gender Mainstreaming, Gender-sensitive indicators, Sex-disaggregated indicators, Gender results areas, Capacity Development, Access to benefits and services, Knowledge Generation and Exchange, Participation and leadership, Capacity, Knowledge and Research, Innovation, Learning, Indicators to measure change, Theory of change, Adaptive management, Knowledge Exchange, South-South, Field Visit, Peer-to-Peer, Knowledge Generation, Workshop, Training, Seminar

Sector

Rio Markers
Climate Change Mitigation
Climate Change Mitigation 0

Climate Change Adaptation
Climate Change Adaptation 0

Submission Date
3/20/2020

Expected Implementation Start
7/8/2022

Expected Completion Date
7/8/2026

Duration
48In Months

Agency Fee($)
437,005.00

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	4,600,050.00	28,550,000.00
		Total Project Cost($)	**4,600,050.00**	**28,550,000.00**

B. Project description summary

Project Objective

Protect human health, environment and promote sustainable production and consumption through the reduction of the use of POPs, new POPs and mercury and the release of POPs, U-POPs and mercury throughout the entire lifecycle in key industrial sectors supported by Eco-label system, Green Financing, and Procurement mechanisms.

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($)	Confirmed Co-Financing($)
Component 1: Promote sustainable production - consumption in key sectors through Eco-labeling, Green Financing, and Procurement, and other elements to support a long-term Innovation Ecosystem for greening the value and supply chain across sectors.	Technical Assistance	*Project Outcome 1.1* Environmental regulation upgraded to include new POPs; Eco-label and related policies on POPs and mercury lifecycle management developed and implemented.	*Output 1.1.1* Review, amendment of the existing or creation of new legislation related to POPs and new POPs in key sectors (e.g., plastic and polymers, metal plating, paint/solvents, etc.), to ensure inclusion of provisions to support, *inter alia*, exemption register of import for new POPs; concentration limits for POP (BFR, HBCDD, SCCP, etc.) and other POPs/PTS in products and waste; Eco-labeling schemes developed; and new EPR schemes supported. *Output 1.1.2* Roadmap and sectorial plans developed for	GET	745,230.00	4,000,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2: Lifecycle management of POP s and PTS containing products:	Technical Assistance	*Outcome 2.1* Sustainable manufacture and design of plastic, polymers, paint, metal finishing, and other products improved to prevent the use of POPs and the release of POPs in the environment. *Outcome 2.2* Closure of the gap between recyclers and industry to sustain circular economy and to prevent the contaminati	*Output 2.1.1*. Analysis of the manufacturing sectors for which the use of new POPs has been recently confirmed but not yet included in the NIP is carried out in order to strengthen baseline and select optimum sectors and enterprises for pilot activity to improve POPs management in the value chain. *Output 2.1.2* Alternative product and production process are designed to prevent the use of hazardous chemicals additives in general and consequently the use of POPs (e.g., BFR/PBDEs, HBCDD, PFOS, PFOAs, SCCP) in key sectors demonstrated.	GET	2,069,070.00	12,000,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 3: Mercury: lifecycle management of mercury containing products	Technical Assistance	*Outcome 3.1* Replacement of mercury products with non-mercury products promoted and sustained by EPR schemes and EOL management.	*Output 3.1.1.* Risk management, technical guidance, and training materials developed for the sound management of mercury stockpiles, mercury waste and obsolete mercury-containing equipment, with specific reference to lamps and medical devices containing mercury. *Output 3.1.2.* Capacities of institutions are strengthened to eliminate the use of mercury-containing products (e.g., mercury lamps, thermometers, and cosmetics); road map and plan for using of mercury-free devices developed and implemented.	GET	1,318,680.00	10,322,500.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 4: Knowledge management and Monitoring & Evaluation (M&E)	Technical Assistance	*Outcome 4.1* Project management team established, lesson learnt, and knowledge generated by the project properly shared and communicated. *Outcome 4.2* Project monitoring, evaluation and audit carried out in compliance with GEF, UNDP and GoV standards	*Output 4.1.1* Project inception and inception report carried out *Output 4.1.2* Project steering committee and project management unit established *Output 4.1.3* Knowledge management system including project website established *Output 4.2.1.* Project and its activities monitored and evaluated on a periodic basis in line with GEF, UNDP and government requirements. *Output 4.2.2* Indicators established to facilitate successful project implementati	GET	248,040.00	800,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
				Sub Total ($)	**4,381,020.00**	**27,122,500.00**
Project Management Cost (PMC)						
				GET	219,030.00	1,427,500.00
				Sub Total($)	**219,030.00**	**1,427,500.00**
				Total Project Cost($)	**4,600,050.00**	**28,550,000.00**

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($)
Private Sector	Vietnam Plastics Association (VPA)	Grant	Investment mobilized	3,200,000.00
Private Sector	Vietnam Plastics Association (VPA)	In-kind	Recurrent expenditures	300,000.00
Private Sector	Vietnam Corrosion Association (Vicorra)	Grant	Investment mobilized	2,800,000.00
Private Sector	Vietnam Corrosion Association (Vicorra)	In-kind	Recurrent expenditures	200,000.00
Private Sector	Vinafoam Vietnam Co.Ltd	Grant	Investment mobilized	1,900,000.00
Private Sector	Vinafoam Vietnam Co.Ltd	In-kind	Recurrent expenditures	100,000.00
Recipient Country Government	Viet Environment Protection fund	Loans	Investment mobilized	5,000,000.00
Recipient Country Government	Vietnam Environment Administration (VEA) ? MONRE	Public Investment	Investment mobilized	11,750,000.00
Recipient Country Government	Vietnam Environment Administration (VEA) ? MONRE	In-kind	Recurrent expenditures	200,000.00
Recipient Country Government	Vinachemia ? Ministry of Industries and Trade (MOIT)	Public Investment	Investment mobilized	1,800,000.00
Recipient Country Government	Vinachemia ? Ministry of Industries and Trade (MOIT)	In-kind	Recurrent expenditures	200,000.00
Recipient Country Government	Vihema ? Ministry of Heath (MOH)	Public Investment	Investment mobilized	450,000.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Vihema ? Ministry of Heath (MOH)	In-kind	Recurrent expenditures	50,000.00
GEF Agency	UNDP	In-kind	Recurrent expenditures	600,000.00
			Total Co-Financing($)	**28,550,000.00**

Describe how any "Investment Mobilized" was identified

Private Sector Co-finance: The project will mobilize co-financing from private sector through demonstration activities. Investment will be made by participated companies to invest on manufacturing facilities (e.g., mercury-free products, air pollution control system, alternative materials etc.) to adjust the production lines and processes in order to be able to reduce the use and realease of POP and Mercury in production and products. Meanwhile, funds for the alternative products and manufacturing process will also be mobilized by the enterprises with loans obtained including through the potential Green Financing Mechanism, all these will be the necessary investments mobilized to phase out the use and realease of POP and Mercury in production and products. Such investments will facilitate the enterprises to update to alternative technologies to secure the market and ensure the enterprises' sustainable development. Public Sector Co-finance: Vietnam Environment Protection Fund under the Ministry of Natural Resources and Environment has committed to provide a loan of 5 milions USD with a low interest rate comparing to commercial banks. In addition, local governments will mobilize funds to invest on monitoring equipments for POP and Mercury samping and analysis as well as policy formulation and enforcement. There are three minsitries committed to provide co-financing for this projects including Ministry of Natural Resources and Environment, Ministry of Industry and Trade and Ministry of Health.

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($)
UNDP	GET	Viet Nam	Chemicals and Waste	POPs	3,059,500	290,653	3,350,153.00
UNDP	GET	Viet Nam	Chemicals and Waste	Mercury	1,540,550	146,352	1,686,902.00
				Total Grant Resources($)	**4,600,050.00**	**437,005.00**	**5,037,055.00**

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($)
UNDP	GET	Viet Nam	Chemicals and Waste	POPs	100,000	9,500	**109,500.00**
UNDP	GET	Viet Nam	Chemicals and Waste	Mercury	50,000	4,750	**54,750.00**
				Total Project Costs($)	**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)
35.01	35.65	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)
SelectShort-chain chlorinated paraffins (SCCPs)	8.00	10.00		
SelectHexachlorobutadiene (HCBD)	10.00	10.00		
SelectPerfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride	7.00	7.00		
SelectHexabromodiphenyl ether and heptabromodiphenyl ether	10.00	8.00		

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)
0.01	0.65		

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)
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)
30,000.00	30,000.00		

Indicator 10 Reduction, avoidance of emissions of POP to air from point and non-point sources (grams of toxic equivalent gTEQ)

Grams of toxic equivalent gTEQ (Expected at PIF)	Grams of toxic equivalent gTEQ (Expected at CEO Endorsement)	Grams of toxic equivalent gTEQ (Achieved at MTR)	Grams of toxic equivalent gTEQ (Achieved at TE)
	2.00		

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

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

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

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
5	5		

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	800,000	1,500		
Male	800,000	2,000		
Total	1600000	3500	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

? 35 tons of POPs (from direct or indirect avoidance of the use of POPs in processes and products and the safe disposal of POP contaminated materials); ? Up to 648 kg of mercury releases/emissions avoided; ? 10.2 kg of mercury recovered from disposed thermometers and lamps ? Up to 2gTeq/year avoided emissions of POPs to air ? Total 1,603,500 beneficiaries of the project: (Direct) Female 1,500 (Direct) Male 2,000 (Indirect) Female 800,000 (Indirect) Male 800,000

Part II. Project Justification

1a. Project Description

The table below outlines the changes in the project design from the original PIF to the CEO Endorsement.

Component/Activity/ Section	Original PIF	Adjusted in CEO Endorsement	Justification
Component 1	*Outcome 1.1* - Environmental regulation upgraded to include new POPs; Ecolabel and related policies developed and implemented. *Outcome 1.2* - Environmental policy on mercury developed and implemented to replace mercury products and to enhance the management of products containing mercury at their End of Life with segregation of mercury and recycling of non-mercury components	*Outcome 1.1* - Environmental regulation upgraded to include new POPs; Eco-label and related policies on POPs and mercury lifecycle management developed and implemented.	PIF?s Outcomes 1.1 and 1.2 were merged under Outcome 1.1 to better align activities at CEO Endorsement.

Component 1	*Outcome 1.3*. - Development of a Green financing mechanism to sustain the shifting of enterprises toward a non-POPs and a non-Mercury manufacturing,	*Outcome 1.2*. - Development of a Green financing mechanism to sustain the shifting of enterprises towards a non-POPs and a non-mercury manufacturing:	Due to the change above, PIF Outcome 1.3 was reclassified as Outcome 1.2.
GEF Co-financing (in US $)	Component 1 - 900,000 Component 2 - 1,840,000 Component 3 - 1,450,000 Component 4 - 200,000 PMC - 210,050 TOTAL - 4,600,050	Component 1 ? 745,230 Component 2 - 2,069,070 Component 3 - 1,318,680 Component 4 - 248,040 PMC ? 219,030 TOTAL - 4,600,050	Redistribution of the budget aamong the 4 project components to better align with the scope of Outputs and Activities as well as with confirmed co-finance.

1a. *Project Description*.

Elaborate on: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description); 2) the baseline scenario and any associated baseline projects; 3) the proposed alternative scenario with a brief description of expected outcomes and components of the project; 4) alignment with GEF focal area and/or Impact Program strategies; 5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing; 6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 7) innovativeness, sustainability and potential for scaling up. ?

1.1. THE GLOBAL ENVIRONMENTAL AND/OR ADAPTATION PROBLEMS

The Stockholm Convention risk profile has estimated that around 18,000 tons of HBCDD was produced in 2010, while around 1 million tons of chlorinated paraffin (inclusive of SCCP species not entirely classified as POPs) was produced in 2009. Research carried out by Oeko Institute for the European Association of Car Manufacturers (ACEA) identified that deca-BDEs were used in the

manufacturing of specific car components (including cabling), in the 10%?21% concentration range, up to 2017.

At the national level, the fast development of the manufacturing sector in Vietnam that has been occurring the past 15 years is not being properly supported by regulatory tools which could ensure product quality, reduction of hazardous chemicals in the manufacturing and protection of the consumers, workers and environment. The structure of the manufacturing industry in Vietnam, although slowly shifting towards large-scale organizations, is still based in small and medium sized enterprises (SMES) (around 120,000 SMEs estimated in 2015). The presence of SMEs imposes challenges to the enforcement of environmental regulation. Several small enterprises ? especially in the field of waste recycling ? operate in the informal sector[1][1], which means they are not registered and may not fulfill environmental or quality standards.

Despite some progress achieved in developing the Regulatory Framework, there are still significant gaps in the current legislation concerning the threshold limits for hazardous chemicals used in consumer products and in the manufacturing processes. Limits for POPs have been established for the flue gas released by incinerators, steel industry and cement industry. However, there are no rules related to the limit of relevant POPs in consumer products. Indeed, the use of POPs in the manufacturing industry has not been phased-out and, at the same time, not completely understood by the manufacturers.

Although, in Vietnam, industrial POP chemicals (PBDEs, PFOS, HBCDD, SCCP, PFOAs) were never produced locally, some of these substances have been imported until 2016 (deca-BDE and HBCDD), while others (SCCP, PFOS) are still imported for use as additive in manufacturing processes and are still present in materials and articles in use or encountered at the products? end-of-life. It is estimated that around 3,000 tons/month of EPS/XPS is manufactured in Vietnam, with an amount of added HBCDD/year in the order of 250?400 tons. Additionally, the Stockholm Convention ?allows the use? the use of perfluorooctane sulfonates and derivatives (PFOS) as mist suppressant in a ?closed-loop? process. However, in Vietnam, all the hard-plating or chrome-plating processes are carried out as open processes and PFOS are used not only as mist suppressant but also as etching chemicals in plastic plating.

PFOAs have been recently added to the Annex A of the Stockholm Convention and no information is available in Vietnam on the presence of this class of chemicals in articles or wastes. Although information does exist in relation its contamination found in surface water, groundwater, soil, sediment, sludge, wastewater and even fish, in-depth data on the weight of each group of articles and chemicals containing PFOS - as well as data on concentrations of PFOS - are needed. There are no consolidated and reliable estimates related to the presence of SCCP, HBCDD, and HCBD in Vietnam, and although listed in Annex A from 2013 to 2017, these substances were not assessed in the 2017 (updated) National Implementation Plan (NIP) of the Stockholm Convention for Vietnam.

In addition to the safety aspects for consumers, workers, and the environment, the contamination by mercury and POPs is also currently hindering a full development of circular economy in Vietnam as the materials potentially contaminated by POPs and mercury are unsafe for reuse or recycling. As recycled

materials (particularly plastic, as the amount of recycled yarn is minimal[2][2]) are not checked for the presence of POPs, these substances may re-enter the cycle using low-quality recycled material in the manufacturing sector. Certain types of plastics, with low or none recycling value, are also often dumped in the environment, openly and uncontrolledly burnt, or used as secondary fuel, resulting in unintended release of POPs (U-POPs): chlorinated and brominated dioxins and furans (PCDD/F).

The baselines risk of exposure to mercury at households or in hospitals due to the breaking out of thermometers is also high. A survey commissioned by UNDP in 2007 looked at 18 health facilities in Vietnam and found the average rate of thermometers broken was 18.8%, while the average amount of mercury released by broken thermometers is 1.7 g/bed/year. Considering Vietnam had 196,311 (2007) hospital beds nationwide, the total number of broken thermometers in 2007 was 447,588 units and the total amount of mercury released from broken thermometers was 334 kg. In this basis, with 285,821 beds hospital beds estimated in 2018, considering the same ratio of thermometer loss and mercury releases, up to 485 kg of mercury could be released into the environment per year.

Finally, the Air Quality has been also affected by anthropogenic emissions of pollutants and extreme weather conditions. The main sources of the increase in airborne particulate matter ($PM_{2.5}$) emissions in Vietnam are transportation, construction, industry, and other domestic activities in urban and rural areas. The transboundary air pollution has also affected the air quality in Vietnam. From 2015 to 2020, the air pollution has been an issue of great concern in Vietnam and other ASEAN countries. More specifically, high levels of PM_{10} and $PM_{2.5}$ in the metropolitan areas of Hanoi and Ho Chi Minh City are being recorded frequently. The level of air pollution consistently increased from 2017 reaching its highest in 2019. In 2020, dust and PM pollution levels were lower probably due to the impacts of COVID-19 that led to nationwide lockdowns, reduction of economic activity and movement of people, but other pollutants (NO_2, O_3, CO, and SO_2) were also close to the limits established by the national technical regulation (QCVN 05:2013/BTNMT). The Air Quality is also directly influenced by u-POPs and mercury emission identified in the sources above.

1.2. ROOT CAUSES

PFOS in steel plating and SCCP in the paint industry. The use of PFOS and SCCP have been recently confirmed in Vietnam by industries consulted in GEF Project ID 9379 ?*Application of Green Chemistry in Vietnam to support green growth and reduction in the use and release of POPs/harmful chemicals?*. Although the data is still preliminary, evidence collected in the Mid Term Review (MTR) showed that the consumption of PFOS in a medium-sized hard-plating factory may be in the order of 0.6 tons/year, whilst the consumption of SCCP in the formulation of chlorinated paint reached 3.5 tons/year in a medium-sized paint manufacturing industry. Information on the number of industries operating in these two sectors is, however, not available, and there is a large heterogeneity of processes.

SCCP import in Vietnam. Based on information gathered through the PPG phase, in consultation with the Vinachemia and the General Department of Vietnam Customs, out of 5,687 Import Licenses sent to Vinachemia for registration, 242 items are classified as ?chlorinated paraffine? with different names, but with same HS code (3824.9999) and the same Chemical Abstract (CAS) number (85535-

84-8), which corresponds to chloro alkanes with C10-C13. The total imported volume of this chemical into Vietnam in 2019 has been relatively high, in the order of few thousand tons. Reviews and validation activities have been conducted to assess the SCCP usage by different sectors in the country.

HBCDD. It is likely that a significant amount of POPs is also used in the building sector, and more precisely in the manufacturing /import of EPS and XPS used as insulation panels. Based on a report from the Basel Convention Regional Center in Asia (BCRC Asia), in 2018, there were around 110 companies manufacturing XPS and EPS panels/sheets in Vietnam. The average production capacities of the companies were around 100?200 tons/year, while all XPS and EPS materials are imported from Taiwan. Currently, there are no alternatives to HBCDD in the manufacturing of EPS, therefore, it is likely that a large part of this material uses HBCDD as flame retardant. For example, the Vietnam Polystyrene Company has a capacity of 40,000.00 TPA of Expanded Polystyrene, and 50% of is sold at the Local Market while the rest is produced for exports. Considering the content of HBCDD in XPS at 1% (on average), the total use of HCBDD by this company would be estimated in 400 tons.

PFOS/PFOAs. The rate of use and import of PFOS and PFOAs in Vietnam is still unclear. Based on the estimates provided in the 2017 NIP, PFOS stockpiles are identified mostly in textile and upholstery (0.15?3.45 tons), paper and paperboard (0.2?4.8 tons), specific chemicals (e.g.: as varnish remover, 0.062 tons) and firefighting foam (10?15 tons). However, these estimates are uncertain, and it is not possible to track PFOS stockpile for their disposal, therefore, the only option is to monitor the presence of these chemicals near potential sources and prevent their import and use.

According to the 2017 NIP, there were nearly 150 establishments working in metal plating, of which about 30% were involved in chrome plating. In addition, there were many metal plating facilities at household scale, which have not been registered. These establishments are potential sources of PFOS emission, and a survey conducted in 2015 by Hanh Thi Duong *et al*[3][3] has found the existence of PFOS in water bodies near industrial sites. The greatest concentrations of PFOA (53.5 ppt) and PFOS (40.2 ppt) were found in surface water sample collected from a channel that receives wastewater treatment plant discharges. PFOS and PFHxS were found as the predominant PFAS substances in sediments.[4][4]

POP flame retardants in recycled plastic. The NIP estimated that around 100,000 tons of PBDE-contaminated plastics is present in Vietnam in the sector of electric and electronic equipment (EEE) and their wastes (WEEE), with a similar amount in the automotive and End-of-Life Vehicle (ELV) sector. Therefore, it should be assumed that recycling of materials coming from these sectors could represent health and environmental risks in the absence of procedures for the verification of POP contamination. The 2017 NIP has not included the presence of deca-BDE, which was listed under Annex A of the Stockholm Convention only recently .

The Vietnamese **plastics industry** is still a relatively new sector compared to the other more traditional sectors; however, based on figures from the sector associations[5][5], it is estimated having an annual growth rate of 16%?18%, with around 2,200 plastics companies delivering plastic components for

sectors such as power, electronics, telecommunication, communication and transportation, aquatic products, and agriculture. Currently, the Vietnam plastic industry has significant manufacturing capacity for primary plastic such as PVC, PET, PP, and PS. Other primary plastic materials, including PE, the most important material for packaging plastic, are imported.

In 2018, 8.3 million tons of plastic products were produced from 6.9 million tons of resins and around 1.4 million tons of imported recycled plastic scrap. PE is the most imported material in value and weight (1.9 billion US$ and 1.5 million metric tons). Domestically sourced plastic materials for industrial use (including primary and recycled) meet only 20% of the demand. By 2025, it is estimated that Vietnam can manufacture up to 4 million metric tons of virgin resin if all investment projects considered by the Association come into operation, as planned. However, the demand in 2018 was already 5.9 million metric tons.

The large majority of the recycled plastic in Vietnam comes from informal recycling. Some well-known recycling villages are processing large amounts of plastic, and in many cases, it is unlikely that this amount is entirely coming from the collection activities. Basically, there is no quality control in the processing of plastic from these informal centers. Due to lack of quality control, PBDEs and other pollutants contained in plastic remain in the plastics value chain cycle ended up being improperly disposed in the environment.

In relation to the **Mercury Emissions**, based on the sampling and analysis work carried out under the GEF ID 5067 Project ?*POPs and Sound Harmful Chemicals Management Project (PHCM)*?, it has been estimated that power plants release around 5,077 kg Hg/year, waste incineration activities release 10,613.3 kg Hg/year, non-ferrous metal production 2691 kg Hg/year, and cement production 9402 kg Hg/year. In terms of emission intensity, recent sampling and analysis carried out under the same project on chemical management[6][6] at industrial facilities (power plants, incinerators, cement kiln, and non-ferrous metal plants) has shown that the mercury concentration at the stack exceeds international (EU) reference standards in incineration facilities, power plants, and non-ferrous metal plants. These data are of concern, and the implementation of better Air Pollution Control Systems (APCSs) and control of fuel and raw material could have a significant impact in the reduction of mercury release in the environment. However, industry is not motivated to invest in such equipment until a proper regulation is in place and properly enforced.

Concerning **U-POPs**, based on the 2017 NIP inventory, which used statistical data of industrial sectors applying the UNEP?s toolkit emission factors, the waste incineration sector still accounts for the largest amount of release of PCDD/F in the environment (288 g/Teq in the air and 178 g/Teq in the waste). The metal industry contributes an overall amount of 48 g/Teq, and cement production with 18 g/Teq. Recent sampling and analysis carried at the stack of waste incinerators and industrial plants in the Binh Duong province under the aforementioned GEF ID 5067 Project revealed that 8 out of 9 incineration plants have PCDD/F flue gas concentrations in the range of 1.23?40 times the regulatory limit of 0.6 ngTeq/m^3 set by QCVN 30:2012/BTNMT; and metal production facilities have the PCDD/F level of 2.18?2.57 times higher than the regulatory limit of 0.6 ngTeq/Nm^3 set by QCVN 51:2017/BTNMT. Considering that the regulatory limit is already 6 times higher than the recommended Stockholm Convention BAT value, these data are worrisome.

2.1 THE BASELINE SCENARIO

Regulatory Framework

Table 1 provides a commented summary of some recent regulations on chemicals in Vietnam, including their relevance to POPs. The Table 2 indicates some regulations on mercury in Vietnam.

Table 1: Regulations and technical guidelines on POPs

No.	Name of regulations and technical guidelines	Main content
Field of environmental protection		
1	Law on Environmental Protection 2020 (will be enforced by January 1, 2022)	This defines terms of POPs and PTS (Persistent Toxic Substances) at Article 3. Also, this Law regulates requirements of environmental protection on POPs and articles, products, goods, and equipment containing POPs (Article 69), as well as limits of POPs in articles, products, goods, and equipment (Article 97, 98).
2	Decision No. 184/2006/QD-TTg dated August 10, 2006 of the Prime Minister and its update, Decision No. 1598/2017/QD-TTg dated October 17, 2017 of the Prime Minister	Promulgates the National Implementation Plan (NIP) on POPs, of which implementation of activities aimed at addressing the key priorities on POPs.
3	Decision No. 16/2015/QD-TTg dated May 22, 2015 of the Prime Minister regulates withdrawal and treatment of disposed products	This makes provision to regulate the EOL collection of products like vehicles, tires, electronic devices, oil, batteries, for a more efficient recycling of materials. This regulation may constitute a valuable resource for setting up an environmentally sound recycling scheme, with benefits also on the reduced release of POPs. The enforcement of this decision is, however, still low.

4	Circular No. 10/2021/TT-BTNMT dated June 30, 2021 of MONRE stipulates environmental monitoring techniques and management of information and data on environmental quality monitoring	This is a new circular combining and updating several previous circulars on environmental monitoring activities covering POPs also. It sets official environmental monitoring techniques and methods, including POPs in environmental components and materials, articles, products, goods, and equipment. It also contains provisions for monitoring techniques of new POPs such as PBDEs, PFOS, and HBCDD.
5	QCVN 15:2008/BTNMT - National technical regulation on the pesticide residues in the soils	Includes maximum allowable concentration of HCB, Aldrin, Endrin, DDT, Endosulfan, Dieldrin, Lindane (all were banned for use) in soil.
6	QCVN 07:2009/BTNMT - National technical regulation on hazardous waste thresholds	Regulates threshold of several organic hazardous parameters such as Aldrin, Endrin, PCB, and Chlordane.
7	QCVN 40:2011/BTNMT - National technical regulation on industrial wastewater	Regulates threshold of PCB on industrial wastewater.
8	QCVN 41:2011/BTNMT - National technical regulation on co-processing of hazardous waste in cement kiln	Regulates maximum allowable concentration of PCDD/F in emission and PCB in hazardous waste.
9	QCVN 02:2012/BTNMT - National technical regulation on solid health care waste incinerator	Regulates maximum allowable limits of PCDD/F in emission of solid health care waste incinerator.

10	QCVN 30:2012/BTNMT - National technical regulation on industrial waste incinerator	Regulates maximum allowable limits of total PCDD/F in emission of industrial waste incinerator.
11	QCVN 45:2012/BTNMT - National technique regulation on allowed limits of dioxin in soils	Regulates allowable values of PCDD/F in various types of soils.
12	QCVN 50:2013/BTNMT - National technical regulation on hazardous thresholds for sludges from water treatment process	Regulate threshold of Lindan, Endrin, etc. in sludges from water treatment process.
13	QCVN 54:2013/BTNMT - National technical regulation on remediation target values of persistent organic pesticides per land use	This is a milestone in establishing standard rules for the remediation of sites contaminated by POP pesticides in Vietnam
14	QCVN 56:2013/BTNMT - National technical regulation on waste oil recycling	Regulates allowable values of PCB and Pentachlorobenzene in waste oil recycling process.
15	QCVN 43:2017/BTNMT - National technical regulation on sediment quality	Regulates threshold of PCB, DDT, Dieldrin, Endrin, Lindan, PCDD/F, etc. in sediment quality.
16	QCVN 51:2017/BTNMT - National technical regulation on emission for steel industry	Regulates allowable limits of total PCDD/F in air emission for steel industry.

17	Several relevant technical guidelines for POPs substances management	- Technical guidance on emission inventory and environmental protection for industrial production activities using POPs; - Technical guidance on monitoring and assessing pollution and environmental risks due to the residues of some POPs used in agriculture; - Guiding techniques for inventorying and assessing risks to the environment caused by unintentional emissions of POPs generating from industrial production activities; - Technical guidance on inventory and safety management and risk control for Perfluorooctane sulfonic acid and salts and Perfluorooctane sulfonyl fluoride (PFOS).
II	**Field of chemicals management**	
18	Law on Chemicals 2007	This focuses on 3 groups of chemicals: conditional chemicals, restricted chemicals, and banned chemicals. POPs are not always classified in the right place, as POPs are sometimes put under the restricted list. The Law does not stipulate safety requirements for any specific chemical group that are of global concerns such as POPs, mercury, persistent toxic substances (PTS), etc.
19	Decree No. 113/2017/ND-CP dated October 9, 2017 of the GoV regulates details and guides some articles implementation of Law on Chemicals 2007	List of chemicals restricted from production and trading in the industrial sector (Annex II); List of chemicals declaration (Annex V). Most of the POPs that belong to Annex A of the Stockholm Convention are listed under Annex II. In some cases, POPS are put in as POPs should be banned and not restricted.
20	Circular No. 30/2011/TT-BCT dated August 10, 2011 of Ministry of Industry and Trade regulates temporary allowable concentrations of some toxic chemicals in electric, electronic products	Provides temporary allowable concentrations of some toxic chemicals such as Polybrominated biphenyl (PBB) and Polybrominated diphenyl ethers (PBDE) in electric, electronic products. However, this is temporary so as to meet the international requirement of import/export. The Circular needs to be updated and supplemented with further substances following a scientific-based approach.
III	**Field of agriculture**	

21	Circular No. 10/2020/TT-BNNPTNT dated September 9, 2020 of Ministry of Agriculture and Rural Development promulgates list of pesticides used and prohibited for use in Vietnam	This regulates a list of pesticides prohibited for use in Vietnam (Annex II), including several POPs such as Aldrin, Lindane, Chlordane, DDT, Dieldrin, Endosulfan, Endrin, Heptachlor, Pentachlorophenol, and Hexachlorobenzene.
IV	**Field of health**	
22	Circular No. 11/2020/TT-BYT dated June 19, 2020 of Ministry of Health stipulates list of substances prohibited in insecticides and disinfectant chemicals in household and medical field	It regulates some POPs in the list of substances prohibited in insecticides and disinfectant chemicals in household and medical field (Annex 1) such as Aldrin, Chlordance, Chlordecone, DDT, Dieldrin, Mirex, Perflurooctan sulfonic acid and its salt, PCB, Toxaphene.

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Table 2: Regulations on mercury

No.	Name of regulations	Main content
1	Resolution No. 52/NQ-CP dated June 21, 2017 of the GoV on approving the Minamata Convention on mercury	Approving the Minamata Convention on mercury
2	QCVN 02:2020/BCT - National technical regulation on mercury content in fluorescent lamp	This regulates mercury content in various types of fluorescent lamps.
3	QCVN 06:2009/BTNMT - National technical regulation on hazardous substances in ambient air	This regulates maximum allowable concentration of hazardous substances in ambient air, including mercury (metal and compound)

4	QCVN 07:2009/BTNMT - National technical regulation on hazardous waste thresholds	Regulates threshold of mercury parameter in hazardous waste as an inorganic substance
5	QCVN 40:2011/BTNMT - National technical regulation on industrial wastewater	Regulates threshold of mercury on industrial wastewater
6	QCVN 41:2011/BTNMT - National technical regulation on co-processing of hazardous waste in cement kiln	Regulates maximum allowable concentration of mercury in emission
7	QCVN 02:2012/BTNMT - National technical regulation on solid health-care waste incinerator	Regulates maximum allowable limits of mercury in emission of solid health-care waste incinerator
8	QCVN 30:2012/BTNMT - National technical regulation on industrial waste incinerator	Regulates maximum allowable limits of mercury in emission of industrial waste incinerator
9	QCVN 44:2012/BTNMT - National technical regulation on off-shore water quality	Regulates limits of mercury in off-shore water quality
10	QCVN 50:2013/BTNMT - National technical regulation on hazardous thresholds for sludges from water treatment process	Regulate threshold of mercury in sludges from water treatment process
11	QCVN 08-MT:2015/BTNMT - National technical regulation on surface water quality	Regulates limits of mercury in surface water quality

12	QCVN 09-MT:2015/BTNMT - National technical regulation on ground water quality	Regulates limits of mercury in ground water quality
13	QCVN 10-MT:2015/BTNMT - National technical regulation on marine water quality	Regulates limits of mercury in off-shore marine water quality
14	QCVN 61-MT:2016/BTNMT - National technical regulation on domestic solid waste incinerator	Regulates limits of mercury in emission of domestic solid waste incinerator

Green Financing Mechanism

On September 25, 2012, the Prime Minister signed the Decision No. 1393/QD-TTg approving the National Strategy on Green Growth for the period 2011?2020 and a vision to 2050, which also include concepts relevant to **environmental incentives**. Recently, the Law on Environmental Protection 2020 also strengthened the use of economic instruments for environmental protection As the most important capital channel for the economy, the Vietnam banking system plays a key role in the process of transforming the national economy into a development model towards green growth and carbon emission reduction. Accordingly, credit institutions actively participate in building a green financial system including:

(1) green credit;
(2) green bonds;
(3) green stock;
(4) green financial fund; and
(5) green insurance.

The Ministry of Finance has developed orientation for development of green financing market following the Decision 2183/QD-BTC for the implementation of the Decision 1393/QD-TTg on National Strategy on Green Growth. The Decision 2183/QD-BTC is one of important basis for financing

The financial products listed above are being helpful in mobilizing and encouraging social resources to invest in green manufacturing industries while reducing investments polluting the environment. Based on the survey reported in Annex 16, it has been found that by the end of June 2019, the credit balance for green projects was about VND 317,600 billion, in which:

(a) medium- and long-term loans accounted for 76% of green credit balance;

(b) short-term green loan interest rate is 5%?8%/year,

(c) medium- and long-term is 9%?12%/year.

The proportion of green credit also increased strongly in the period from September 2016 to June 2020, from 1.5% to 4.1% of the total outstanding loans of the whole economy. Compared with the need of $30.6 billion for green financing to 2020, the proportion is already a significant source of domestic capital for green growth. Banks such as VPBank, Sacombank, and BIDV in Vietnam have developed **Green Loan Schemes** to support several activities for project, production, trading, and consumption to prevent climate change, reduce carbon emissions, and promote the transition to sustainable, environmentally friendly economy or to support activities capable of protecting natural resources and environment.

The VEPF is a state-owned financial organization established by the government. The VEPF holds total chartered capital of VND 1 trillion, including VND 727 billion allocated by the state budget. One of the main activities of the VEPF is to provide financial support for environmental protection, biodiversity, projects and activities at national, inter-sectoral and inter-regional levels on environmental pollution prevention and recovery or severe local environmental issues. The mechanism for project grants is used for (i) the development and implementation of a project that mobilizes funding resources in order to perform tasks and activities related to environmental pollution, environmental disaster response and remediation; (ii) programs, plans and projects as decided by the Prime Minister; (iii) the administration of environmental awards and other commendations to honour organizations and individuals acting as role models of environmental protection in accordance with the decision of the Minister of Natural Resources and Environment; and (iv) environmental protection projects as specified in VEPF?s organization and operation charter.

It can be said that green financing market in Vietnam is at an earlier stage. Green bonds are at the piloting stage, while regulation and guidelines on implementation are still lacking. VEPF is one of the most potential financial institution for environmental activities, but needs further improvement in terms of grant condition, institution upgrade for POP and Mercury reduction projects.

Eco/Green Products

In one hand, regulations on incentives and supports for **environmentally friendly products** are also considered under the Law on Environmental Protection (LEP) 2014. But, in the other hand, the Decree No. 19/2015/ND-CP refers to secondary legal documents, which, in turn, only include general statements, or delegate to state agencies the power to specifically regulate or decide on incentive and support rate. This legal arrangement is discouraging enterprises to apply for incentives and supports related to Eco-Labeling. Most of the Vietnamese enterprises lack the knowledge needed to invest in environmental-friendly manufacturing, including the manufacturing of products meeting the requirements of Vietnamese Green Label Scheme. Although the green procurement and green public procurement policies are being pushed through regulations, the market for environmentally friendly products is still limited and not responding to these legal incentives.

Vietnam Green Label Criteria and the Circular No. 41/2013/TT-BTNMT are the legal basis for enterprises and state agencies to consider, assess, and evaluate whether a product is environmentally friendly. Since 2008, the MONRE has issued only 17 Green Label criterion for certain types of products: (1) Powder laundry detergent; (2) Fluorescent lamps; (3) Biodegradable plastic shopping bag; (4) Synthetic paper food packaging; (5) Ceramic building materials; (6) Accumulators; (7) Paper office; (8) Haircare products; (9) Solid soap; (10) Hand dishwashing detergent; (11) Architectural coating products; (12) Laptop; (13) Toner cartridge; (14) Printer; (15) Batteries; (16) Photocopier; and (17) LED lights.

Further, the MONRE Circular No. 41/2013/TT-BTNMT, dated from December 2nd, 2013 regulated the order, procedures and certification of **eco-labels for eco- friendly products**. Total of 53 products have achieved the Green Label certification by MONRE, however these certifications are not renewable. If the criteria of Vietnam Green Label for a certain product or product group have not been issued, then this product or group will not have a chance to be labeled as Vietnam Green Label and to be recognized as environmentally friendly product.

In 2020, the LEP was renewed, and the ?eco-label criteria? was replaced by the ?green label criteria?: environmentally friendly products certification was built up, as well as incentives mechanisms and green procurement promotion. In 2021, the MONRE planned to submit the drafts of the secondary legal system on processing, documents, and responsibility to certify eco-label products. Only after that, they would fulfill the gaps between eco-label regulations and reality, creating opportunities for developing the green procurement, and achieving the Green Growth Strategy implementation.

Replacement of light bulbs and impacts in Mercury-containing waste generation

The Government of Vietnam has been supporting the use of LED lighting through two major projects ? Vietnam Energy Efficient Public Lighting Project (VEEPL) and Vietnam National Energy Efficiency in Vietnam. Light-Emitting Diodes (LED) technology was first introduced in traffic lights and the advertisement industry. Across Vietnam, incandescent bulbs, especially in streetlighting, are being replaced with LED bulbs. The LED market in Vietnam is expected to grow at a compound annual growth rate (CAGR) of 18.2% from 2016 to 2022, reaching $729 million by 2022[7][7]. The lighting segment is expected to make a large contribution to economic growth due to the entry of large multi-national companies, decreasing LED prices, and industrial development of the Vietnamese market. Based on the above, it is evident that Vietnam is preparing the shift from CFL to LED, which will be further driven by the need to comply with the requirement of the Minamata Convention on the disposal of CFL wastes.

Healthcare Mercury-containing Devices

Although mercury-containing devices in many hospitals have been gradually replaced by electronic devices, the use of mercury thermometers is still very common. Mercury thermometers are available in pharmacies all around the country and are perceived as being more accurate compared to electronic thermometers. The awareness on the danger associated with mercury thermometers in case they break is low; several hospital and clinics are not equipped with mercury spill kits, and in case of replacement of mercury devices, a strategy for the collection and safe disposal of these devices is inexistent.

Air Quality Control

The baseline LEP 2014 and revised LEP 2020 regulate management of air quality at national and local levels. In 2021, the Government released a draft of the Decree that guides LEP 2020 with detailed regulations of targets, tasks, measures, and responsibility for air environmental protection at authority and stakeholder levels. In addition, the Prime Minister approved the National Action Plan on Air quality management up to 2020, vision 2025 under Decision No. 985a/QD-TTg dated from June 1st, 2016.

The Directive No. 03/CT-TTg, dated January 18th, 2021, continued to strengthen the control of air pollution. Further, the MONRE promulgated the Technical Guidance on building up the air quality management plan at the provincial level per the LEP 2020. These are useful regulatory tools for increasing the air pollution control and improvement air quality management in Vietnam.

2.2 ASSOCIATED BASELINE PROJECTS

Private initiatives on Eco-Labeling. In Vietnam, per QCVN 01:2017/BCT on contents of formaldehyde and certain aromatic amines derived from azo colorants in textile products (MOIT issued under Circular No. 21/2017/TT-BCT dated October 23, 2017), several eco-labels (according to the list in Appendix III of this QCVN) are being applied[8][8]

Existing Green Funds initiative from state or private banks in Vietnam. A direct consultation with the key financial institutions has been carried out during the project preparation (Annex 16), and has provided evidence that a not only VEPF, but several banks (BIDV, Sacombank, VPBank) have already in place green credit projects, although these do not envisage privileged loans. VEPF is currently revising the ?List of environmental protection activities eligible for preferential support? under Annex III of Decree No. 19/2015/ND-CP dated 14/02/2015, so that more initiatives can be considered eligible for Green Loans.

Action Plan on sustainable production and consumption. The Prime Minister recently ratified the 2021?2030 National Action Plan on Sustainable Production and Consumption (under Decision 889/QD-TTg dated from 24 June 2020), which is being implemented. The Prime Minister has assigned MONRE and MOIT to be the focal points to implement activities related of promotion of Eco-labeling and sustainable production, consumption, and exportation in the Plan. Therefore, activities in this project will directly provide support to MONRE and MOIT in meeting the requirements of the Plan.

Voluntary projects on the reduction of U-POP release in the air. Despite air pollution is one of the main environmental concerns in Vietnam, there are no information related to the compliance of industries with the obligations or preventing release of pollutants in the air. Some initiatives have, however, an indirect effect on the prevention of air pollution:

(a) In 2015, Vietnam Environment Administration (VEA) and Clean Air Asia finalized a cooperation plan which outlined priority activities to strengthen AQM in the country, the development of emission inventory guideline document.

(b) In 2015?2017, the co-benefit cooperation project between VEA and the Japan Ministry of Environment (MOEJ), researched for the methodology regarding the air emission inventory, pilot for thermal plants.

(c) In 2016, VEA and Clean Air Asia cooperated in the project Pollution Management and Environmental Health Partnership, which developed regional plans aimed at reaching national air quality standards and objectives, focusing initially on the larger Hanoi metropolitan area (Hanoi and its two satellite cities).

(d) Nestl?, through its Plastic Neutrality Roadmap initiative, has committed to remove from the environment an overall amount up to 25,000 tons of plastic waste by 2025. This includes the removal of non-recyclable plastic waste from plastic recycling village and their use as secondary material and fuel in cement kilns, with an estimate saving of CO_2 and PCDD/F.

(e) At the sub-national government level, Can Tho has been ?the first city in the country to join the continuously growing Breathe Life Network. This is a network of cities, regions, and countries demonstrating their commitment to bring air quality to safe levels by 2030 and collaborating on the clean air solutions that will help achieve the 2030 target. Can Tho, the fourth largest city in Vietnam and the largest city in the Mekong Delta, has a comprehensive Clean Air Action Plan (CAAP) in place, which prioritizes the monitoring of air quality and reduction of its major sources of emission, particularly transportation and industry.?***[9]***[9]

3.1. THE PROPOSED ALTERNATIVE SCENARIO: Theory of Change (TOC)

The project intends to address the intentional or secondary contamination of POPs (PBDEs, PFOS, PFOA, HBCDD, SCCP) in plastic, foam, paint, chrome plating, incineration, leather, and other related sectors, with the general objective to protect human health and the environment. More specifically, through training, technical assistance, awareness raising, and the implementation of a high-leverage financing mechanism, the project intends to:

? Promote sustainable production and consumption through the expansion and application of Green financing mechanism and the use of eco-labeling on products by aggregating additional mechanisms for POPs and Mercury-free products and processes.

? Implement Eco-labeling programs (including EPR schemes) aimed at ensuring that the environmental costs associated so the manufacturing of plastic and polymers (and potentially other goods) are fully internalized, with specific reference to the use and release of POPs and other chemical of concerns, and waste management.

? Promote environmentally friendly design where the technical properties of POPs or other chemical of concerns are not anymore needed as they are replaced by intrinsic properties of the products or the materials.

? Speed up the replacement of specific mercury-containing products.

? Support industrial initiatives aimed at the production of POPs and mercury-free products with a circular economy approach taking care of the consumption of chemicals and resources throughout the full production chain.

? Support the installation of modern Air Pollution Control Systems (APCSs) for the reduction of mercury and U-POP emissions.

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. Furthermore, the project should ensure the compliance with gender mainstreaming criteria at any stage.

Stakeholders: The project intends to work with the following stakeholders and partners[10].

? The general public and consumers

? Entrepreneurs and workers in the manufacturing sector

? The government, and more specifically, MONRE (VEA, VEPF), MOIT, MOH and relevant agencies (General Department of Vietnam Customs - MOF, Police Department of Fire Prevention, Fighting and Rescue - MOPS)

? International donors and agencies, financial institutions, commercial banks

? NGOs

? Associations

? Recyclers

Baseline situation: The baseline situation and the baseline projects ? as already reported in detail in the chapter ?Description of the baseline situation and baseline associated projects.? of this project document ? can be summarized as follows:

? There is evidence that industrial POPs are still imported and used in Vietnam at a significant scale, although the awareness of enterprises and their willingness to disclose information about use of POPs in their processes is low.

? Medical devices using mercury (thermometers and sphygmomanometers) are still being used in hospitals and households; mercury-containing lamps are widespread and not disposed of properly when reaching their EOL.

? At the same time, most POPs are being regulated by the Government and their import and use will be restricted, although not completely. This could entail a significant risk for enterprises when the POPs and mercury regulation will be effectively enforced, as they are not ready to shift towards alternative processes or chemicals and could be forced to stop their production.

? Several industrial plants still release of mercury and PCDD/F in the atmosphere at a concentration higher than the internationally accepted BAT and BEP limits, while air pollution in Vietnam cities is severe.

? There are a number of Green Label criteria in Vietnam that assess and evaluate whether a product is environmentally friendly, but Eco-label regulations and Eco-labeled products are still limited.

? Green financing initiatives have been established by public (VEPF) and private financing institutions, however, none of them has explicitly supported the phasing out of POPs or mercury.

Risk/Barriers: The main barriers hindering the reduction of the use and release of POPs and mercury in the manufacturing and recycling sector in Vietnam are as listed below.

On the manufacturing side:

? Several micro and small enterprises do not have the technical and financial resources to implement environmentally safe measures in their manufacturing processes, including the selection of safe chemicals or the replacement of hazardous with less hazardous chemicals.

? Lack of adequate knowledge at both authority and industry levels on the content the industrial products that may contain POPs.

? Several mixtures used in industrial processes are often provided without the relevant documentation on chemical content.

At the regulatory level:

? The regulation concerning the threshold limits for new POPs in articles and products is still missing.

? Although significant gaps concerning the regulation of new POPs and mercury exist, the relevant legislation on chemical and waste is not properly enforced yet. There is a lack of technical guidelines and capacity for the implementation. E.g. Decision 16/2015/ND-CP of the Government stipulates list of discarded products to be collected, but no guiding system to show how to do that, such as collection points, collection mechanism and responsibilities of related stakeholders. Eventually, a large number of people were not aware of the existence of such regulation, i.e. awareness raising activities is not effective.

? There are no incentive or disincentive mechanisms in place to prevent the use and placing on the market of mercury containing articles like mercury thermometers or fluorescent lamps, which may be still easily purchased in shops.

? There are no quality standards (either voluntary or mandatory) or certification processes to promote the manufacturing of POP-free products (BFR-free plastic, HBCDD-free foams, SCCP-free paints, PFOS/CrVI-free plating, PFOS/PFOAS-free food containers or pans, etc.) with the result that some POP substances may still be contained in products.

On the side of the recycling of materials:

? The recycling procedures are mostly carried out through elementary processes in recycling villages, without any procedure to segregate contaminated plastic, resulting in the release of U-POPs in the environment and in the cross-contamination of plastic.

? There is a gap of communication between recyclers and manufacturers due to their different organizational features and due to lack of technical knowledge.

? There are no procedures or technologies in place to ensure that mercury containing waste materials are segregated and processed in an environmentally sound way.

? There is low awareness of the potential presence of POPs in some plastic, foam, paint, chrome plating, and polymer articles and the associated risk for the health and the environment.

GEF and co-financing inputs: Through the implementation of the project, inputs consisting in technical assistance, knowledge sharing, financial contribution (grants from the GEF and from Vietnamese institutions, in-kind co-financing), technology and equipment, legal assistance to update relevant regulations will be provided.

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

? As the project entails initiatives that will impact manufacturing enterprises, it is assumed that both MOIT and MONRE and their associated provincial departments can coordinate and work together so that the objectives related to the safeguarding of enterprises? business and protection of the environment and human health are simultaneously achieved.

? MONRE has already proved its significant and continuous commitment towards the implementation of the Stockholm Convention and MOIT has undertaken a significant effort towards the implementation of the Minamata Convention. There is no doubt that these efforts will be continued during and beyond project implementation.

? It is assumed that the Green Financing Mechanism will be designed and implemented in such a way that enterprises find the conditions attractive enough to dismiss ? through conventional or innovative approaches ? the use of POPs in their manufacturing process or install APCS to reduce their mercury or U-POP emissions.

? The APCS technology for reducing U-POPs and mercury from industrial emission is readily available. Therefore, it is assumed that there would be no technical difficulties in achieving this target.

? Vietnam is already familiar with eco-label schemes; therefore, it is assumed that lessons learnt from existing schemes could facilitate the creation of a new scheme, which includes POPs.

Activities/Outputs: The project intends to address the existing barriers and to integrate the existing baseline projects through the implementation of an alternative scenario, which is based on a number of activities as summarized below:

? Technical assistance to include new POP limits for articles and products, Eco-Label and related policies for selected sectors in the regulation; and to develop roadmap and regulation to phase out mercury containing products and ensure the safe disposal of mercury waste.

? Technical and financial assistance to carry out a survey of manufacturing sectors potentially using SCCP, HBCDD, PFOS, PFOAs, and PBDEs.

? Technical and financial assistance to develop of a Green Financing Mechanism, to sustain the shifting of enterprises towards a non-POP and non-mercury manufacturing.

? Technical and financial assistance for enterprises to facilitate their applications under the Green Financing Mechanism and to support the implementation of their POP and mercury phase-out initiatives, as well as installing more efficient APCS devices, bringing experience and lessons learnt from similar projects in Vietnam for Green Chemistry implementation and POP and mercury management.

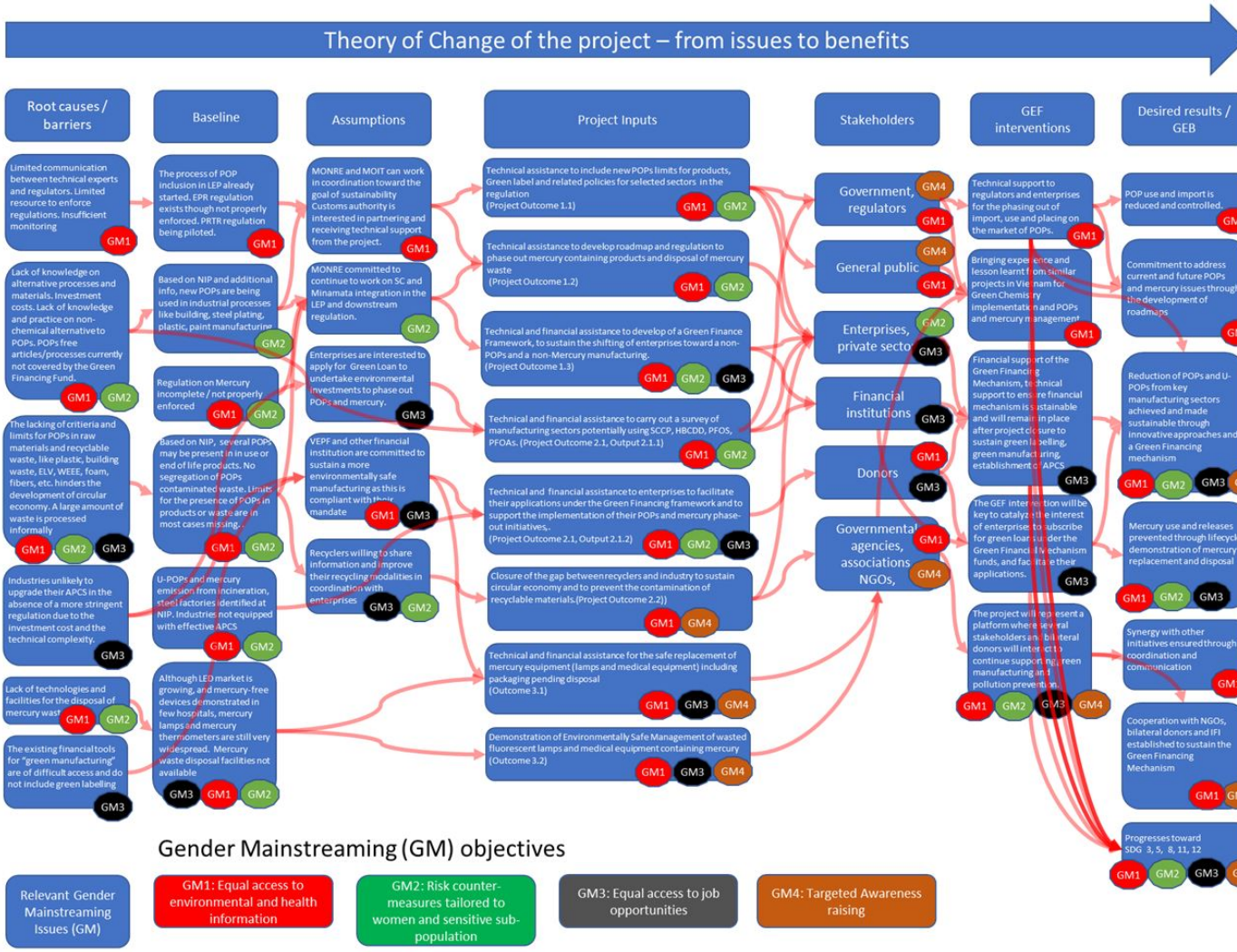
? Closure of the gap between recyclers and industry to sustain circular economy and to prevent the contamination of recyclable materials.

? Technical and financial assistance for the safe replacement of mercury equipment (lamps and medical equipment) including packaging pending disposal.

? Demonstration of environmentally safe management of defunct fluorescent lamps and medical equipment containing mercury.

? The project will represent a platform where several stakeholders and bilateral donors will interact to continue supporting green manufacturing and pollution prevention.

Figure 1: Theory of Change of the project



3.2. THE PROPOSED ALTERNATIVE SCENARIO: BRIEF DESCRIPTION OF EXPECTED OUTCOMES AND COMPONENTS OF THE PROJECT

Project Objective: *Protect human health, environment and promote sustainable production and consumption through the reduction of the use of POPs, new POPs and mercury and the release of POPs, U-POPs and mercury throughout the entire lifecycle in key industrial sectors supported by Eco-label system, Green Financing, and Procurement mechanisms*

The project is structured in three technical components and one management component, which includes project monitoring and evaluation and knowledge management.

Component 1: Promote sustainable production - consumption in key sectors through Eco-labeling, Green Financing, and Procurement, and other elements to support a long-term Innovation Ecosystem for greening the value and supply chain across sectors.

The component intends to:

(a) Support the development of secondary regulations to the Decree guiding the LEP 2020 with the intent to identify criteria for supporting POPs and mercury-free production processes and products, and to enhance the support for the establishment of APCSs.

(b) Expand the Eco-labeling criteria for alternatives to mercury products (lights, thermometers, sphygmomanometers) and POP-free alternative products for plastic, paint, foam, polymers, chrome plating, leather, incineration, and other sectors that will be developed and proposed for inclusion under the list of eligible projects to be funded with the Green Financing Mechanism.

(c) Simultaneously, develop and/or revise the regulations/procedures for loan mechanism, according to LEP 2020 and Decree guiding LEP 2020, included in Green Financing Mechanism.

Therefore, activities in Component 1 will provide support to MONRE and MOIT, MOH to strengthen the Plans and Operational Documents, as well as ensure compliance with gender mainstreaming criteria, to reduce POPs and Mercury releases/emissions and accelerate the phase-out of mercury and POPs in processes, products, and recycled materials.

Outcome 1.1. Environmental regulation upgraded to include new POPs; Eco-label and related policies on POPs and mercury lifecycle management developed and implemented[11][11] :

Under this outcome, the baseline Regulations relevant to new POPs will be updated to cover aspects related to restrictions i the use and imports of POPs not yet regulated (PFOAs and HBCDD); quality standards on concentration limits for additives and harmful chemicals; Eco-labeling criteria and certification systems for manufacturers, products, and recyclers. In addition, quality standards and Eco-labeling criteria, including concentration of POPs brominated flame retardants and plasticizers, POPs precursors and other substances of concern in products and processes, will be developed. This outcome will be achieved through the following outputs:

Output 1.1.1. Review, amendment of the existing or creation of new legislation related to POPs and new POPs in key sectors (e.g., plastic and polymers, metal plating, paint/solvents, etc.), including ensuring inclusion of provisions to support, inter alia exemption register of import for new POPs; concentration limits for POP (BFR, HBCDD, SCCP, etc.) and other POPs/PTS in products and waste; Eco-labeling schemes developed and new EPR schemes supported.

The target sectors will be selected during the first year of project implementation and the following criterion will be applied:

(a) Sector that has confirmed use of POPs in the process (either based on data provided by the NIP, from surveys from ongoing projects, or from official sources of information); and
(b) Sector that has recognizable economic relevance (i.e., GDP share) in Vietnam.

Based on the above, the tentative sectors to be considered are: (i) plastic (including building foam); (ii) polymers, (iii) metal plating; (iv) paint/solvents; and (v) fire-fighting foam. Additional sectors may be considered at project implementation.

The existing legislation related to the intentional or unintentional use of POP chemicals manufacturing processes (plastic, polymers, hard-plating, paint) will be assessed. When necessary, specific restrictions will be proposed to limit the presence of specific chemicals in articles and products (PBDEs, SCCP, HBCDD, PFOS and PFOAs) considering also that restrictions to the use of PBDEs and PFOS are already established under the REACH regulation and the ROHS directive in Europe, which potentially affect Vietnamese exporters of plastic and polymers articles and products.

Under this output, the national technical regulation on thresholds for the presence of SCCP, PBDEs, HCBD, PFOS, PFOAs in articles and products will be developed and proposed. The current Eco-labelling criteria in place in Vietnam will be updated to include thresholds for POPs in the certification schemes, in line with existing international Ecolabelling schemes (like Oeko-tex 100).

Finally, new EPR schemes will be supported, and a better enforcement of the Decision No. 16/2015/QD-TTg (which regulates the collection after use of products such as vehicles, tires, electronic devices, oil, and batteries) will be also supported. The following activities will be undertaken to achieve this output:

- Activity 1.1.1.1. Develop and implement the secondary law/regulations related to POPs and Eco-labeling scheme; review and develop the national technical regulation on thresholds for POPs and Eco-labeling criteria for articles and products.
- Activity 1.1.1.2. Develop and implement provision for exemption register of POPs as substance or mixtures to be revised to ensure elimination or restriction of POPs once exemption period expires.
- Activity 1.1.1.3. Develop technical guidance for assessment of Eco-labeling criteria including POP limits and EPR following the Article 55 and 56 of the new Law on Environment Protection.
- Activity 1.1.1.4. Support and consult the manufacturers in terms of technology improvement to achieve the POPs limits and Eco-labeling criteria including EPR principles.
- Activity 1.1.1.5. Development of gender-specific sections related to risk management of POPs and mercury to be included in the relevant legal documents.

Output 1.1.2. Roadmap and sectorial plans developed for replacement of mercury thermometers and mercury containing lamps established.

This output intends to remove the barriers currently hindering the replacement of certain mercury products, and to enhance the legislation dealing with mercury in products, in waste, and release of mercury from industrial sources. The Activities under the Output will assess and upgrade existing legislation, develop of a roadmap for the phasing-out of mercury in products, and develop of regulation concerning the modality for mercury waste handling and disposal.

a) A roadmap towards the complete replacement of fluorescent lamp import and manufacture will be drafted, including the following aspects:

i. Deadlines for the progressive replacement of the manufacturing of fluorescent lamps.

ii. Obligations for the manufacturers and intensive users.

iii. Investment plans for clean-up of mercury contaminated area and disposal of mercury stockpiles.

iv. Investment plans for the deployment of safe technologies for collection and recycling of fluorescent lamps.

b) The Minamata Convention has also banned the production, import, and export of blood pressure monitors and clinical thermometers. The use of mercury thermometers is common in Vietnam. The roadmap for the replacement of mercury devices will include the following steps.

i. Plan for nationwide awareness raising on the use of non-mercury clinical devices, the risk posed by mercury, emergency response, and disposal.

ii. Develop an inventory of production/storage of mercury thermometers.

iii. Set deadlines for the progressive replacement of the mercury thermometers (manufacture, import, and use).

iv. Monitor the plan to verify mercury contamination and presence of stockpile of phased-out mercury devices in hospitals, and investment plans for mercury clean-up and disposal.

v. Investment plan for the deployment of technologies for collection and recycling of mercury containing devices, with safe segregation and storage of mercury.

The following activities will be carried out under this output:

- Activity 1.1.2.1. Development of the sectorial plan for the replacement health-care mercury devices.
- Activity 1.1.2.2. Development of the sectorial plan for the replacement of mercury containing lamps.
- Activity 1.1.2.3. Development of the roadmap for the establishing of mercury disposal infrastructures.

•Activity 1.1.2.4. Develop a plan for cleaning mercury contaminated areas and unused mercury or mercury-containing equipment storages.

•Activity 1.1.2.5. Development of the gender mainstreaming section in the mercury roadmap, through consultation of female workers and gender experts.

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Output 1.1.3. Review of the existing legislation related to mercury in products and mercury emission carried out, to help develop and/or strengthen, and ultimately enforce regulations concerning technical standards for mercury waste management.

Under this output, emission limits for the mercury emission from key industrial sources such as cement kilns, municipal waste incinerators, power plants, non-ferrous metal, iron and steel works will be reassessed, developed, and proposed. Draft regulation for the complete phasing out of mercury thermometers and sphygmomanometers will be also developed and proposed. The existing regulations on waste will be amended to include the following:

a) classification of mercury containing waste;

b) accepted collection and recycling methods for mercury containing waste, with safe segregation of mercury during collection / recycling operation;

c) accepted disposal and long-term storage methods for mercury stockpiles; and

d) licensing aspect for waste disposal service providers.

The following activities will be undertaken under this output:

•Activity 1.1.3.1. Drafting of secondary law/regulations related to mercury concentration limits in articles and products.

•Activity 1.1.3.2. Update national technical regulations related to mercury concentration limits in environment and waste.

Activity 1.1.3.3. Update secondary law related to the treatment and disposal of waste to include provisions on mercury.

•Activity 1.1.3.4. Development of specific personal protective measures against mercury identified for women at workplace in the relevant legal documents, through consultation with women workers.

Outcome 1.2. Development of a Green financing mechanism to sustain the Green Finance Mechanism shifting enterprises towards a non-POPs and a non-mercury manufacturing:

This outcome will focus on the development of the fund's internal regulations on green credit aligned to the profile of non-POPs and mercury-free projects that will become entitled to preferential loans with the lowest interest rate and longer loan period. Under this outcome, the policy proposal on green credit for commercial banks, and the financial support mechanisms for several selected typical enterprises, in accordance with the project's objectives, will be developed. Two outputs will , establish a green financing environment based on a Green Financing mechanism and on Green Procurement initiatives:

Output 1.2.1. Green Financing mechanism *designed, funded, and implemented to support private sector on getting incentives policy (e.g., tax, fee, credit fund, investment equity). Eco-label improved, funded, and properly communicated, building on national and other finance institutions (e.g., VEPF*).

A Green Financing mechanism will be developed to:

(a) Support the quality-controlled conversion of production lines, towards less chemical-intensive products and materials, replacement of POPs with non-POPs/non-hazardous chemicals, management of obsolete POPs and mercury stocks.

(b) Support the private sector to get policy incentives (e.g., tax, fee, credit fund, investment equity) in the production of eco-friendly products carrying Eco-label.

(c) Speed up the process of replacing mercury products with non-mercury products.

(d) Establish synergies with EPR schemes.

(e) Support industries on investments related to the design and instalment of APCSs, to prevent release of mercury and U-POPs.

(f) Support industries on environmentally sound design of articles and materials that are less chemical-intensive and POP-free.

The project will assist national financial institutions, including the most prominent one, the VEPF, to expand their loan programs (e.g.: the scope of loan; what kinds of project can be eligible to access to the loan). For instance, currently, VEPF does not accept projects from industrial sectors that use POPs and Mercury, and the Mechanism is not capable of identifying and measuring how the incremental benefits of eliminating the use of these substances can be part of the investment decision.

These fundamental actions will update the loan programs? scope by adding aspects concerning the managing /obsolete POPs and mercury stocks in their eligibility criteria when analyzing loan/financial requests.

Secondly, project will support the capacity building of these financial mechanism(s) and awareness raising program to inform the potential target beneficiaries, i.e. enterprises using POP and Mercury.

Project will also facilitate the Industries? access to such financing schemes by supporting the private sector in preparing necessary documents, drafting required supporting Documents, Dossiers or Assessment required by financial institutions, as well as ?de-codify? financial application procedures in order to inform companies on how to access them.

It is envisaged that one of the key modalities for the implementation of the Green Financing mechanism will be through the establishment of a Green Loan at a privileged interest rate, supported by VEPF and/or other financial entities. The role of the GEF project will be to provide technical support in the design and initial implementation of the projects submitted by enterprises under the Green Loan. In summary, GEF incremental support to the Project will support:

- The Financial Mechanism(s) to broader their loaning programming by expanding the target industrial/economic sectors to be assisted;

- Provide technical guidance, hold meetings/workshops to develop financing eligibility criteria, technical guidance, review and appraisal of applications that can effectively incorporate the environmental benefits of reducing/eliminating the use of harmful chemicals (POPs and Hg).

- Providing guidance and support raising awareness of enterprises on how to access to the fund, reach out to potential companies (dealing with POP/Mercury) and helping them to formulate loan applications as well as administer the investment when the loan is granted.

The following activities will be undertaken to achieve this output:

- Activity 1.2.1.1. Develop regulations on Green Financing mechanism to promote POP-free, mercury-free, and emission reduction projects and environmentally friendly production.
- Activity 1.2.1.2. Develop the eligibility criteria for POP-free, mercury-free, and emission reduction projects and environmentally friendly production.
- Activity 1.2.1.3. Develop the technical guidance for evaluation of POP-free, mercury-free, and emission reduction projects and environmentally friendly production.
- Activity 1.2.1.4. Technical support to the VEPF or other financial institution to process applications.
- Activity 1.2.1.5. Development of a specific section of the Green Financing dedicated to the facilitation of women entrepreneurship. Gender experts are consulted during the design, financing, and implementation of the Green Financial mechanism .

Output 1.2.2. Green Procurement scheme designed and implemented at central and local levels.

Under this output, the following will be achieved:

(a) A procurement subsidization scheme will be created to support green procurement, application of mercury-free lighting, medical thermometers and sphygmomanometers, sound management of obsolete mercury containing devices and related capacity building and awareness activities in healthcare facilities.

(b) Rules for green procurement to be applied by MONRE and DONRE, and healthcare facilities (MOH, will be established to ensure that only POPs-free, mercury-free and sustainable products are procured. This could be connected to the Green Financing mechanism to ensure a first channel of market access to local enterprises who decided to operate under the specific sustainability rules required for GFF. The Green procurement scheme may contain requirements related to the taking back of EOL equipment, as relevant, under EPR mechanism already existing or to be developed.

(c) The green procurement scheme for healthcare facilities will be developed in coordination with the piloted scheme under the GEF-funded project ?Strengthening Sustainability in the Health Sector in Developing Countries?.

The following activities will be undertaken to achieve this output:

- Activity 1.2.2.1. Design and pilot the Green procurement scheme for POP-free products in at least one selected sector.

•Activity 1.2.2.2. Design and pilot the Green procurement guidelines for mercury-free products in health-care facilities.

•Activity 1.2.2.3. Develop the draft Green procurement guidelines for MOH and health-care facilities.

•Activity 1.2.2.4. Develop the draft Green procurement guidelines for MONRE and DONRE.

•Activity 1.2.2.5. Development of Green procurement criteria, which include facilitation for women entrepreneurs.

Component 2: Lifecycle management of POPs and PTS containing products

Under this component, a better management of specific products and materials in all the stages of their lifecycle will be planned and demonstrated; gender sensitive approaches will be mainstreamed throughout the outputs in accordance to the Gender Action Plan (including by consultation with female workers and gender experts). With the purpose to reduce the amount of POPs and other chemicals of concern in materials and articles in use, the project will ensure that recycled materials (plastic, fibers) are POPs-free by improving and promoting horizontal recycling to prevent contamination of EOL material, as well as to segregate and safely dispose of POP-contaminated waste. A *scoped Environmental and Social Management Plans (ESMP)* will be prepared (during the first year of project implementation) to avoid and monitor any potential risk related to the demonstration activities co-financed by the Companies (and the Green Financing Mechanism) and that will be subject of oversight by the Project.

Outcome 2.1 Sustainable manufacture and design of plastic, polymers, paint, metal finishing, and other products improved to prevent the use of POPs and the release of POPs in the environment.

Output 2.1.1. Analysis of the manufacturing sectors for which the use of new POPs has been recently confirmed but not yet included in the NIP is carried out in order to strengthen baseline and select optimum sectors and enterprises for pilot activity to improve POPs management in the value chain.

In coordination with the relevant industrial sector associations (plastic, polymer, paint, metal plating, etc.) and with the support of MONRE and relevant Ministries, a survey will be carried out along the full value chain manufacturing sectors to identify processes and materials which may be affected by the presence or release of POPs and other substances of concern, with specific focus on PBDEs, PFOS, PFOAs, HCBDD, SCCP.

The purpose of this survey will be to achieve consensus on the list of POPs and other substances of concern that may present particular risk for the environment and the human health and reach an agreement on initiatives and certification schemes aimed at reducing these substances in all the steps of the manufacturing process. This Output will also build up on the results achieved in the course of implementation of the GEF ID 9379 ?Green Chemistry Project?, with the more specific objective to develop a list of restricted substances, either in the processes or the final products, to be implemented through voluntary mechanisms (Eco-labeling) or as part of an amended regulation. As previous experiences demonstrated, questionnaire tools are not the most effective methods for carrying out these surveys, thus comprehensive approach will be adopted for data and information gathering:

(a) *Top-down design of the survey.* The survey target will be initially designed with the assistance of MONRE and relevant agencies. Sharing of information related to the processes and size of the industries, consumption of resources, condition of the surrounding environment will be achieved at this stage.

(b) *Interviews and site-visits with manufacturers operating in the international market.* International suppliers already adhering to voluntary eco-labeling or certification schemes will be contacted.

Interviews with suppliers exporting to Japan, USA or Europe will be carried out to understand the mechanisms for compliance and verification in all the manufacturing stage, and the list of restricted substances or chemical products included in the certification scheme.

(c) *Interviews and site visits to SMEs and manufacturers.* Interviews and site visits to SMEs and manufacturers operating at the national level (not operating directly at the international level) to verify the substances used in their manufacturing processes along the value chain, and to assess the mass balance of chemicals.

The basic objective of the survey will be to identify key products and sections of the value chain where:

(a) the replacement of POPs and other substance of concerns is more effective and easy to be implemented;

(b) industrial processes that can be optimized through a more efficient use of resources and waste streams, including prevention of the contamination of waste with POPs residues, which may render those waste non-recyclable

(c) careful selection of POPs substitutes to avoid chemicals which may have POP-like hazard profiles or which are already being proposed for listing as new POPs under the Stockholm Convention.

The Annex 18 lists a number of industries or associations that can be potential partners of the project and which will be submitted through formal selection process during the first year of the project implementation. In addition, according to the Stakeholders Engagement Plan, a number of institutions with potential information on the use of POPs in the manufacturing processes will be again contacted during project implementation. These include Vinachemia, the Departments of Industry and Trade, the Departments of Construction Management Materials of MOC, the Leather and Shoes Research Institute, the Vietnam Fire and Rescue Police Department. The following activities will be carried out to achieve this output:

- Activity 2.1.1.1. Analysis of sectors using HBCD (XPS/EPS foam?).
- Activity 2.1.1.2. Analysis of sectors using SCCP (paint, plastic, leather products?).
- Activity 2.1.1.3. Analysis of sectors using brominated flame retardants/PBDEs (plastic?).
- Activity 2.1.1.4. Analysis of sectors using PFOS and PFOAs (metal plating, fire-fighting activities?).
- Activity 2.1.1.5. Review of the existing literature on new POPs to identify gender-specific issues related to risk-management in the enterprises and specific risk for female resulting from the exposure of POPs. Sex-disaggregated data on accident at workplace in the manufacturing industry with focus to exposure to chemicals.

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Output 2.1.2. Alternative product and production process are designed to prevent the use of hazardous chemicals additives in general and consequently the use of POPs (e.g., BFR/PBDEs, HBCDD, PFOS, PFOAs, SCCP) in key sectors demonstrated.

To obtain the desired fire-retardant behavior in articles and products, the use of hazardous chemicals can be prevented through chemical replacement (POPs with non-POPs, or hazardous with non-hazardous chemicals), through material replacement (flammable materials with non-flammable materials, i.e., organic fibers instead of poly-urethane foam), function re-design (thermal efficiency with less heat release etc.).

Similarly, non-hazardous nanoscale materials, C_4 back-bone molecules instead of C_8, fluorine-free substances are now available options to prevent the use of traditional water-repellent chemicals like

PFOS, PFAs or PFOAs. Complete replacement of PFOS or PFOAs is, however, difficult as no substance reaches its water repellence effectiveness.

In the case of chrome plating, the replacement of PFOS as mist suppressant has been extensively studied and is now technically possible except in a few cases where the specific requirements of the products still require the hard-chrome plating process; however, in most of the cases, the hard-chrome plating has been successfully replaced by other safer processes like zinc-flake plating or zinc-alloy plating with Cr^{3+} passivation, which do not require the use of PFOS. Thus, under this output, the project will establish a network of knowledge in Vietnam to actively identify solutions aimed at:

(a) Identifying non-POP processes or non-chemical alternatives, which do not require the use of hazardous additives due to the intrinsic characteristic of the process.

(b) Using less-flammable materials that do not need to be mixed or wrapped with flame retardants. Examples: mattresses made with organic cotton fabric and cotton batting instead of memory foam or PUF, which are intrinsically compliant with safety standard.

(c) Replacing POP substances or POP precursors with harmless substances in the specific field of flame-retardant and water repellence; non-POP plasticizers.

(d) Reducing the amount of flame-retardants or water repellence chemicals through optimization of the coating and mixing processes so that the required standards are achieved with reduced use of substance.

(e) Identifying circular design or engineering solutions aimed at reducing the need for water repellence or heat resistance, by displacement of components in the product, better heat dispersion, better energy efficiency, micro- and nano-scale design of materials, etc.: for instance, the use of LED instead of fluorescent lamps or incandescent lamps generates less heat and requires less flame-retardant protection, etc.

A specific category of ?Eco-labeled products? will be identified so that their design, manufacturing, and marketing are possible under the green-financing mechanism developed with VEPF (complementing Output 1.2.3). Based on the experience achieved on similar projects (GEF ID 9379 ?Green Chemistry? project in Vietnam), the following tasks will be undertaken to help those enterprises from undergoing loss of income or from missing market opportunities due to the replacement of POPs:

(a) The project will engage all stakeholders to identify win-win design or engineering solutions aimed at reducing the need for POPs whose uses will be restricted and finding affordable and effective alternatives to POPs that will be restricted or banned;

(b) The Project will also engage with the Government to see if additional support or conversion financing can be made available to such companies.

A roadmap for restriction of imports or restricting the use of certain POPs will be introduced through a clearly identified timeline, which is agreed by stakeholders. The following activities will be undertaken to achieve this output:

•Activity 2.1.2.1. Assist enterprises to design intervention on alternative product design for application under the Green incentive mechanism.

•Activity 2.1.2.2. Select companies that will participate in the demonstration activities, conduct appropriate Environmental and Social Impact Assessments (ESIA) in accordance to UNDP SES Policy, and support selected enterprises under the Green incentive mechanism.

•Activity 2.1.2.3. Assess the results achieved by the piloted enterprises, evaluate results and support the replication potential.

•Activity 2.1.2.4. Consult with female workers and gender experts from consumer associations in the design of substitute products, in line with the Gender Action Plan.

Pre-screening of Demonstration Sites:

During the PPG process, Industries and Enterprises location that can receive the demonstration (sub) projects were pre-screened (short listed) based on the criterion set below:

? All eligible companies are located in industrial (legal) areas (listed in Annex E);

? Locations were confirmed to host companies that use or release POP/Mercury in their process;

? Locations were confirmed to host companies which showed interest to provide co-finance/investment and be willing to carry on the proper technological changes for green and sustainable production.

? Locations were confirmed to host companies that in principle agree to subject to Environmental and Social Impact Assessment (ESIA) for so to assess the potential social and environmental impacts in their area of influence.

? Locations were confirmed to host companies that agree on follow the scoped Environmental and Social Management Plans (ESMP) and Targeted Spill Prevention and Management Plan at demonstration sites.

The Final selection and engagement will be carried out during the first six (6) months of the implementation phase, and the detailed cut-off/selection criteria will be defined before this process take place, however it is anticipated that the main guiding principles for the selection will be based on:

? Operate under the targeted industrial sectors aimed by the Project;

? Size of company and production output;

? Analysis of baseline emissions (larger GEB expected);

? Compliance with national Environmental and Entrepreneurial (tax, labor codes, etc.) Legislation;

•Financial health and baseline capacities to access the Green Finance Mechanism

Output 2.1.3 Design and implementation of modern Air Pollution Control Systems to prevent the release of mercury and U-POPs, suitable also for small enterprises, carried out.

The project will support industries willing to upgrade their APCSs by:

(a) Designing better APCS aimed at the reduction of the release of particulate matter, U-POPs, and mercury;

(b) Supporting companies in the preparation of Applications/Loan Request for the submission of the projects under the Green Financing mechanism ;

(c) Undertaking sampling and analysis of the concentration of U-POPs and mercury in flue gas before and after the implementation of the upgraded APCSs.

The APCSs will be included as ?eligible? for the Green Financing Mechanism developed under Output 1.2.1. Hence, The Output 2.1.3 will achieve a reduction of emission of mercury and U-POPs in the environment through the establishment of APCS capable to reduce the concentration from an average 100 ?g/Nm3 for mercury and 6.93 ngTeq/Nm3 for PCDD/F to 10 ?g/Nm3 for mercury and 0.1 ngTeq/Nm3 for PCDD/F, for a number of plants representing a flue gas flow rate of up to 1,000,000 Nm3/h. The above corresponds to avoided/reduced emissions of 648 kg of mercury/year and 2 gTeq/year for PCDD/F.

Based on the preliminary cost analysis carried out in the PPG phase (Annex 17), the technology to reduce PCDD/F emission through a treatment chain based on bag filter, cooling and scrubber columns, activated carbon filter may cost in the range of 6.6?7.8 USD/Nm3/h. It is noted these equipment could not be fully funded through the GEF grant, therefore their procurement will be pipelined through application under the Green Incentive Mechanism. The following activities are envisaged.

? 2.1.3.1. Assist enterprises to design APCSs installation/retrofit to prevent release of mercury and U-POPs.

? 2.1.3.2. Select demonstration companies, conduct appropriate ESIA, and support the selected enterprises to apply for Loans under the Green incentive mechanism to install the emission control technologies/practices.

? 2.1.3.3. Assess, in comparison with the baseline, the application and results achieved under Output 2.1.3, by project-supported enterprises, after implementation and in view of replication.

Outcome 2.2 Closure of the gap between recyclers and industry to sustain circular economy and to prevent the contamination of recyclable materials.

Under this outcome, efforts will be undertaken to improve circular economy model by involving selected recycling and manufacturing firms. That will envisage the following outputs:

Output 2.2.1 Interaction, technical exchange, and commercial agreement between formal recyclers and industry promoted to identify and implement solutions for the horizontal and safe recycling of materials and the segregation and safe disposal of POP-contaminated materials.

Under this output, opportunities for formal recyclers and manufacturers to exchange their needs and requirements will be created. As the project cannot deal directly with informal recyclers ? due to their lack of legal status that prohibit these to engage in hazardous waste management system added by that their operation is often carried out in an environmentally unsound way ? the project will establish a communication network with the informal recycling stakeholders to promote their shifting toward formalization of their operation in order to adopt better quality and safety standards.

In one hand formal recyclers will be able access a higher quality market, by taking part in take-back or collection schemes aimed at ensuring that the quality of the recycled material fulfils the needs of the industry, as well as become eligible for Loans; and in the other hand, manufacturers could have access to recyclable resources to replace virgin materials with greater assurance of quality materials.

In terms of POPs prevention, promoting up-cycling or horizontal recycling has the benefit of reducing the cross-contamination of recycled material; for instance, plastic treated with flame retardant will be used for the same purpose without the need to add additional flame retardants in the mixture. Up-cycling or horizontal recycling may also be achieved through the establishment of take-back schemes for specific products.

Take-back schemes would require cooperation among different manufacturing industries and should be integrated as part of their EPR obligation as described in output 2.1.3. The advantages of the take-back scheme are multiple: (a) they increase the life of specific products; (b) separate good quality material (non-contaminated plastic for instance) from contaminated materials; and (c) ensure that EOL material is not abandoned or improperly disposed of, leading to potential release of U-POPs.

Compliance with the relevant rules related to environmental protection and worker rights (International Standards, National Laws and UNDP SES Policy) will be a requirement for the companies/cooperatives engaging in the activities under this output so to prevent the creation or consolidation of situations of inequality, discrimination or unlawfulness from the opportunities generated by the project. A Grievance/redress mechanism will also be created and will serve to address any issue that could be raised by the target stakeholders.

A scoped Environmental and Social Management Plans (ESMP) will be prepared to avoid and monitor any potential risk related to perception of (external) individual or cooperated stakeholders that work in the Municipal Solid Waste Management (MSWM) (not subject or in the area of influence the Project activities) so to avoid the perception of ?loss of income? due to the work in the Hazardous Waste Management area.

This output will also include awareness-raising initiatives and training specifically tailored to inform and equip both formal and informal workers with risk management measures to be adopted when dealing with waste potentially contaminated by POPs, including the identification of waste material potentially contaminated by POPs, the proper use of PPE, norms related to the management of non-recyclable material to prevent open burning of waste that may generate U-POPs (dioxins).

Under this output, the following targets will be achieved:

(a) Ensuring effective technical exchange between recyclers and manufacturers, through the establishment of dedicated workshops where industry meet recyclers.

(b) Identification of most sustainable disposal options for the non-recyclable fraction of waste, including the definition of commercial agreements between industries and recyclers.

(c) Demonstration of material up-cycling through collection and reuse of excess material released by manufacturing enterprises, before this material enters the waste cycle.

(d) Design and piloting of a take-back scheme for specific products or product components (including plastic or polymers treated with flame retardants), which would entail: (i) characterization of the composition of the article component to be recycled; (ii) dismantling instruction; (iii) traceability of the product from the manufacturing stage to the consumer; (iv) incentivized collection of the article/product at their end of life, by the manufacturer or an authorized recycler; (v) dismantling on the basis of the dismantling instruction and re-introduction of the recyclable material with horizontal recycling or up-cycling.

The following activities will be undertaken to achieve this output:

- Activity 2.2.1.1. Analyze the recycling sector and EOL materials which may be affected by POPs contamination, or which may generate U-POPs during the recycling stage, including at least building materials, packaging, plastic, steel.
- Activity 2.2.1.2. Identify and assess the materials potentially containing POPs in the recycling sector and the current recycling modality.
- Activity 2.2.1.3. Carry the analytical determination of POPs in secondary material and in the environment of recycling facilities.
- Activity 2.2.1.4. Enhance information exchange among recyclers and manufacturers to identify the measures for POP contamination reduction and environmentally safe secondary materials.
- Activity 2.2.1.5. Implement the provisions of the Gender Action Plan (i.e., consult with female workers and gender experts in the development of interactions, technical exchanges, and commercial agreements between recyclers and industry).

Component 3: Mercury: lifecycle management of mercury-containing products:

This component will support the phase-out of mercury-containing products by providing training, raising awareness, supporting the replacement of equipment that contain mercury, and establishing technologies and facilities for the safe disposal of mercury-containing equipment. The Gender Action

Plan will also be thoroughly implemented through the consultations with female workers and gender experts or female trainees and trainers in training events. A *scoped Environmental and Social Management Plans (ESMP)* will be prepared (during the first year of project implementation) to avoid and monitor any potential risk related to the demonstration activities co-financed by the Companies (and the Green Financing Mechanism) and that will be subject of oversight by the Project.

Outcome 3.1 Replacement of mercury products with non-mercury products promoted and sustained by EPR schemes and EOL management.

It is noted that some mercury-containing products are already being replaced by non-mercury products such as: fluorescent lamps by LED lights; dental mercury amalgams by composite amalgams; and mercury-containing thermometers by electronic thermometers.

However, mercury-containing products, particularly thermometers and sphygmomanometers are still greatly used in Vietnam as their replacement implies not only the finding of the most suitable alternatives, but also depend on sound and progressive replacement plan, sources of finance and a proper waste management plan. Therefore, this Component will promote and speed up the replacement of mercury products by non-mercury products and deploy BAT/BEP for the safe disposal and storage of mercury waste demonstrated.

Output 3.1.1. Risk management, technical guidance, and training materials developed for the sound management of mercury stockpiles, mercury waste and obsolete mercury-containing equipment, with specific reference to lamps and medical devices containing mercury.

Replacement of mercury products will be enhanced through awareness raising campaigns aimed at illustrating the risk associated with mercury exposure, the benefits characteristics of mercury alternatives, and the need for proper management of mercury waste with segregation of mercury.

The project will coordinate with the GEF ID 5555 project ?*Local Development and promotion of LED technologies for advanced general lighting*? in which the collection and storage infrastructures for phased-out fluorescent lamps could be aligned. The project will also support the collection and safe storage of waste mercury and mercury amalgam stockpile found in fluorescent lamp manufacturing plants after their retrofit to LED lights production.

The following activities will be undertaken:

- Activity 3.1.1.1. Review of the management status of mercury equipment, products, and waste in hospitals, clinics, and fluorescent lamp producing companies.
- Activity 3.1.1.2. Develop technical guidance and training materials for the use and calibration of non-mercury medical devices to sustain the replacement of mercury thermometers.
- Activity 3.1.1.3. Develop technical guidance and training material for the replacement of fluorescent lamps in offices.
- Activity 3.1.1.4. Develop specific materials of the risk management, technical guidance on personal protective measures for nurses and doctors at hospital facilities and the safe management of replaced mercury devices, including emergency response.

Output 3.1.2. Capacity and institutions are strengthened to eliminate the use of mercury-containing products (e.g., mercury lamps, thermometers, and cosmetics); road map and plan for using of mercury-free devices developed and implemented.

The pilot replacement of mercury with non-mercury thermometers has been demonstrated with the support from the Global Project on Healthcare Waste (GEF ID Project 1802 ?*Demonstrating and Promoting Best Techniques and Practices for Reducing Health-care Waste to Avoid Environmental Releases of Dioxins and Mercury*?) though limited to two piloted hospitals (with limitations due to fact that the mercury related budget was only a minor part of the overall project budget) the project could still demonstrate positive experiences in terms of replacement methods and application of mercury-free devices in the healthcare sector.

However, many hospitals and clinics still use mercury-contained thermometers. Mercury thermometers are also commonly sold in pharmacies. Therefore, in compliance with the WHO guidelines on the replacement of mercury-containing devices[12][12], the project will promote the replacement of mercury thermometers with non-mercury thermometers through awareness-raising campaigns specific for hospitals and small clinics aiming to:

(a) explain the reliability of non-mercury thermometers;

(b) explain the procedures for using and calibrating non-mercury thermometers;

(c) provide guidance for handling emergency situations when a mercury thermometer (manometer) is broken during using; and

(d) explain the modalities to dispose of used mercury thermometers and the use of mercury spill kits, following the guidelines jointly developed by UNDP and WHO in other relevant projects.

In addition, a Risk Management Strategy on the sound management of mercury stockpiles and obsolete mercury-containing equipment/products will be developed making specific reference to mercury medical devices. These will be implemented with support from trainings for the use, calibration, and maintenance of different categories of non-mercury thermometers. Mercury Spill Prevention Plan will be developed, and Spill Kits will be distributed, and technical guidelines for safe collection and disposal of mercury-containing waste will be developed.

The project will, during the first year of implementation, select hospitals (from a pre-screened list contained in Annex 19) or other healthcare facilities to engage in the phasing out activities of mercury thermometers. The project?s immediate replication activities will cover, at least, 50 hospital facilities across Vietnam replacing at least 10,000 mercury thermometers and other products (e.g., cosmetics), and demonstrate the safe (interim) storage facility and disposal of the mercury waste in conjunction with the phased-out of use of mercury thermometers.

The project will strictly coordinate with the UNDP-HCWH ongoing project ?*Strengthening Sustainability in the Health Sector in Developing Countries*? in collaborating for the identification of risk management, technical guidance, and training materials for the sound management of mercury

stockpiles and obsolete mercury-containing equipment, with specific reference to mercury-containing lamps.

The project will also demonstrate the replacement by LED lamps is in the cultivation of dragon fruit. One of the measures to increase the productivity and economic efficiency of dragon fruit trees is to extend the lighting time, shorten the growth cycle, and stimulate the off-season flowering of dragon fruit trees. Dragon fruit is a long-day plant and through the day/night cycle it is necessary to accumulate a large enough amount of Pfr to flower, so artificial lightening with wavelengths of 660 nm and 730 nm is used to help dragon fruit trees to accumulate enough Pfr during the night for early flowering. The project will, therefore, propose the replacement of at least 5,000 compact light bulbs with 5,000 LED bulbs. This will include the activities for strengthening the capacities of stakeholders in the collection and transportation of damaged light bulbs as well as improve waste disposal practices. As LED light are more efficient than fluorescent lamp, this activity will also bring additional side benefits in terms of energy savings and, hence, GHG emissions reduction that will be assessed during the project implementation.

The following activities will be carried out under this output:

- Activity 3.1.2.1. Train at least 100 health-care and clinic facilities through the implementation of at least 4 Training for Trainers event and supervision of the overall training.
- Activity 3.1.2.2. Train at least 200 offices and 50 building management boards and through the implementation of at least 4 Training for Trainers event and supervision of the overall training.
- Activity 3.1.2.3. Deliver technical assistance for the replacement with non-mercury lights and ensure environmentally sound collection of at least 20,000 fluorescent lamps in offices, high-rise apartment buildings and other intensive user of lamps in different areas (industrial facilities, urban area, agriculture, etc.).
- Activity 3.1.2.4. Deliver technical assistance for the replacement of mercury medical devices with non-mercury devices and their use and ensure environmentally sound collection at least 10,000 mercury medical devices (thermometers and sphygmomanometers) in health-care facilities.
- Activity 3.1.2.5. Promote the participation of female trainers and trainees in training events related to the elimination of mercury-containing products.

Output 3.1.3. Technologies for the recycling of mercury-containing equipment with segregation and storage of mercury established

Procedures and technologies for the proper recycling of mercury-containing equipment, along with the safe segregation of mercury from the recyclable components, will be demonstrated. These will include using vacuum shredders for the segregation of mercury along with the recycling of glass and metals; safe storage for mercury waste before treatment and for segregated waste (including mercury) after treatment. A pilot equipment for the treatment of mercury-containing products will be established at one of the URENCO waste treatment facility (where no new land will be availed for this project (existing baseline structured will be used). The entire process (removal of mercury from containing products, packaging, transportation, temporary storage, treatment with mercury segregation, and final disposal / recycling of the recyclable materials) will be demonstrated.

The Terms of Reference (TOR) and Technical Specifications for the selection of the Interim Storage Facility for Mercury wastes will stress the pre-conditions and monitoring activities during technology

implementation. Requirements for the storage facility will also be identified to minimize the risks in handling Mercury and its wastes. A Spill Prevention and Management Plan will be developed and implemented at demonstration sites for safe handling and disposal of chemicals and mercury-containing obsolete devices, as well as to cope with safely clean-up of accidental mercury releases. The release of mercury from on?site and off?site operations will be adequately managed and controlled by applying relevant Best Available Techniques (BATs) and Best Environmental Practices (BEPs), as well as observing the Environmental, Health, and Safety (EHS) guidelines.

An Environmental and Social Impact Assessment (ESIA) for the selected Industry/Company will be developed as to assess the potential social and environmental impacts in their area of influence. A scoped Environmental and Social Management Plans (ESMP) will be prepared to avoid and monitor any potential risks related to the interim storage location supported by the Project. It is envisaged that the pre-conditions for selecting the Mercury Interim Storage Facility will be:

(a) Formally established enterprises in cities, or with state-owned waste managers who are licensed and have many years of experience in the handling of hazardous waste, including mercury.

(b) Only companies with strong track records of success will be eligible.

(c) The project?s financial and technical support will be subject to fulfilling the specific eligibility criteria that meet international and national standards on waste handling and destruction to ensure practice of highest performance standards.

(d) Evaluation of flood risks when locating and designing the mercury treatment and storage facilities to minimise the risk of inundation, and ensure that mercury treatment and storage facilities are designed for more intense/ violent storms, heavier flooding, etc., and develop rigorous guidance for climate-related risk management for such facilities.

(e) The facilities will have to organise practice runs to deal with extreme flooding and storm accidents.

(f) Identification of requirements for the treatment and storage facilities; fulfilment of the guidelines of Stockholm Convention and Minamata Convention with respect to risk management in case of flooding and storage will be a mandatory requirement.

(g) Training program on the operational and safeguards exercise for the staff involved in the work on the treatment and storage area will be delivered in advance of starting the actual site work and updated throughout the period of work on the site as required. The scope of the training would cover overall hazardous waste and contaminated site management with specific emphasis on the packaging, physical handling procedures, inventory control and record keeping, site monitoring, emergency response and overall safeguards related to EHS practices and procedures. The curriculum for the training will use all available international guidance materials.

The following activities will be carried out to achieve this output:

Activity 3.1.3.1 Existing technology / services for the safe recycling of mercury, glass, metals, and plastic from fluorescent lamps and mercury thermometers improved and demonstrated, after ESIA is carried out, with the environmentally safe disposal of at least 20,000 fluorescent lamps and 10,000 mercury thermometers, including the trial tests.

Component 4: Knowledge management and Monitoring & Evaluation (M&E)

Component 4 of the project includes project monitoring and evaluation, and knowledge management. Under this component, the following outcomes will be carried out.

Outcome 4.1. Project management team established, lesson learnt, and knowledge generated by the project properly shared and communicated.

Output 4.1.1 Project inception and inception report carried out

The activities to be carried out under this output are part of the Monitoring and Evaluation plan include:

Activity 4.1.1.1 Project inception workshop carried out

Activity 4.1.1.2 Project inception report drafted and endorsed

Activity 4.1.1.3 Detailed project workplan established

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Output 4.1.2 Project steering committee and project management unit established

Under this output, the project management structure will be established, including the Gender Mainstreaming dedicated staff. The following activities will be carried out:

Activity 4.1.2.1 Recruit and manage PMU staff

Activity 4.1.2.2 Carry on Gender Mainstreaming coordination and supervision

Output 4.1.3 Knowledge management system including project website established

The prompt circulation of information generated by the project will ensure that project beneficiaries will achieve the maximum benefits from the project activities so that the project impact can be maximized. The project is expected generate the following information materials and tools:

a. Information on POPs-free or less chemically intensive products and material. Will be shared through training workshops and awareness-raising events, within a network of project partners (industries, certification bodies) and consumers through websites and apps with differentiated access.

b. Information on the eligibility to financing programs established under the program: Will be shared during training events to be organized at VEPF, within the project website and the VEPF website, with differentiated access.

c. Information on mercury-free fluorescent lamps: Will be shared during workshops and awareness-raising events on mercury, and within manufacturer product websites, the project website, mobile apps, and leaflets of retailer shops.

d. Information and guideline on mercury thermometers, and disposal procedures for mercury thermometers: Will be shared during training for trainers events, and to be summarized on panels and posters to be placed at health-care facilities, and in health-care facility websites where available. To be communicated with patients when admitted to the hospitals.

e. Management of project documents and reports. Under the project, a number of technical reports, 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 Facebook page, maintained by a dedicated person, will have the main function to collect information and initiatives generated by similar projects worldwide and to connect people from various projects, which will facilitate exchange of information.

f. Findings, lessons Learnt, and strategies: Will be shared among the stakeholders and will also collaborate with the GEF ID 10523. These two projects have quite different objectives ? the 10523 project would be exclusively dealing with the textile sector, while this Project will cover a number of industrial sectors except textile. However, as both the projects will be implemented by the MONRE and MOIT, the exchange of information between the two projects, with specific reference to the development of new regulations and standards, and the assistance to enterprises concerning the access to environmental funds, will be greatly facilitated. This also include their KM components, sharing of best practices and knowledge gained in the country to ensure a wider dissemination than any of the individual agencies would achieve.

Under this Output, the Project will

? develop a Knowledge Management Strategy, including project website established, management of project knowledge products, findings, lessons learnt and strategies. These will be designed having in mind its wide applicability to other industrial sectors.
? Awareness and knowledge exchange/dissemination activities will be maximized to invite stakeholders from other industrial sectors.
? The Green Financing Mechanism can be further expanded to cover other industrial sectors: the IP will work with the stakeholders so further consideration can be given in terms of risk analysis and support to financial institutions for this gradual expansion.
The following activities will be carried out under output 4.1.3:

Activity 4.1.3.1 Establish a Knowledge Management Unit

Activity 4.1.3.2. Create the Project website, social media pages and maintain these.

Activity 4.1.3.3. Project documentation (internet pages, movies, leaflets, technical documentation) developed, collated, and made available

Activity 4.1.3.4. Develop and implement awareness raising and communication strategies

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Outcome 4.2 Project monitoring, evaluation and audit carried out in compliance with GEF, UNDP and GoV standards

The project will be monitored and evaluated following GEF Guidelines, as well as applicable UNDP Rules and Regulations for monitoring and oversight. The monitoring will include the development of the GEF Tracking Tools at different stages of project implementation; the analysis of project achievements against the objectively verifiable indicators through the preparation of Project implementation Reports (PIRs), Project annual workplans, Project reports, and technical reports.

There will be two evaluation exercises: mid-term review (MTR) and terminal evaluation (TE), which will be carried out by a team of independent evaluators assigned by the Implementing Agency. The project audit will be carried out regularly, as per UNDP Rules and Regulations. A project knowledge management system, where all the project documentation will be stored, will be implemented in a website with personalized access levels for the project partners. The detailed description of the activities to be carried out under this Component are reported in Section XI ? Monitoring and Evaluation Plan.

Output 4.2.1. Project and its activities monitored and evaluated on a periodic basis in line with GEF, UNDP, and government requirements.

Activity 4.2.1.1 Project audit as part of the project management activities

Activity 4.2.1.2 Project mid-term and final review

Activity 4.2.1.3 Periodic project reports (PIR, QPR, AWP, QWP drafted)

Output 4.2.2 Indicators established to facilitate successful project implementation and sound impact assessment.

a. Indicators will be categorized and uploaded in a website and accessible by users (administrators, project technical experts, project management units, public, etc.).

b. A blog under the website, or a project Facebook page, will be maintained by a dedicated person, to function as repository of information and initiatives generated by similar projects worldwide and to connect people from the various projects for exchange of information.

c. Findings, lessons, and strategies will be shared among the stakeholders of this project and the UNEP project on the development of a sustainable textile industry (GEF ID 10523) to share execution, monitoring and outreach share best practices and knowledge gained in the country to ensure a wider dissemination than any of the individual agencies would achieve.

The following activities will be carried out under Output 4.2.2:

? Activity 4.2.2.1. Establish project indicators as part of the project inception activities

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 or mercury. The project will address chemical waste at the end of life, chemicals that are used or emitted from processes or products, and waste management. The main focus of the project is to avoid the use of POPs and mercury in products through eco-labeling and green financing mechanism that will help green the supply chain and avoid the buildup of the hazardous chemicals in the environment. More specifically, the project envisages:

- Elimination of the use of mercury and persistent organic pollutants in the manufacturing value chain (from import, to manufacturing, to place on the market, to export) through eco-labelling and green financing mechanism. This will include brominated flame retardants, PFOS, short chained chlorinated paraffins, HBCDD) as well as the use of mercury in products through introduction of alternatives in the products with a preference to non-toxic chemicals (project components 2 and 3)
- The prevention of waste/products containing persistent organic pollutants from entering material recovery supply chains (project component 2)
- The Environmentally sound waste management/disposal of mercury/mercury containing waste (Project component 3)
- Introduction and use of best available techniques and best environmental practices to minimize and ultimately eliminate releases of unintentionally produced POPs and mercury from major source categories included in both the Stockholm and Minamata Conventions 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 Minamata and Stockholm convention obligations, with regard to persistent organic pollutants and mercury (project component 1)

The project will also support sustainable material management initiatives, including circular economy, sound material-cycle society, and sustainable materials management approaches, promoting the adoption of improved production, consumption and environmentally sound disposal patterns (project component 2 and 3).

In doing so, when feasible, the project will establish and promote public-private partnership on all the sides of waste collection and minimization, waste recycling, manufacturing, and will promote the adoption of voluntary certification in both the recycling and manufacturing sides (project component 1, 2 and 3).

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:

Table 3: Incremental/additional cost reasoning and expected contributions from the baseline and the GEFTF

Component 1 (Alternative products are incentivized through Ecolabeling programs, regulation and guidance)	
Baseline / Baseline projects and associated co-financing budget	**GEF alternative scenario and budget**

a) The government is already undertaking significant efforts in the area of green financing with initiatives aimed at expanding the target reached by these policies by proper dissemination of technical and financial information. Moreover, VEPF is currently revising the ?List of environmental protection activities eligible for preferential support? under Annex III of Decree No. 19/2015/ND-CP dated 14/02/2015, so that more initiatives can be considered eligible for Green Loans.	(a) The project will support the government in the establishment additional eligible categories for green loan for the targeted chemical industries so to foster POPs and Mercury-free products manufacturing (which currently are not differentiated in the financial products available) and facilitating the industries access to high leverage green financial products.
b) Eco-labelling and Green Procurement baseline efforts were initially regulated, however POPs and mercury free products (except LED bulbs) are still not among the ones that can be considered as green-label products and that can therefore be eligible for financial supports from VEPF or other financial institutions.	(b) Eco-labelling criterion will be expanded to incorporate POPs and Mercury-free products as to reduce POPs direct (manufacturing of new) and secondary use (recycling of contaminated materials). This action will ensure that the Policies to reduce U-POP releases and to enhance circular economy are strengthened, and that the policy on mercury is developed and implemented to replace mercury products and to enhance the management of waste containing mercury.
c) MONRE is currently working on the regulation related to the establishing limits for the use of new POPs in the manufacturing industry and is also considering the option to apply for an extension on the use of specific POPs and Mercury products to allow enterprises better mechanisms and incentives to adapt to the SC and MC provisions.	(c) Without GEF support, the current trend toward the voluntary adoption of green-labelling scheme will be largely driven by market forces, not properly supported and monitored, and the replacement of mercury-devices with non-mercury devices, especially on the side of healthcare facilities, will proceed at the current pace, falling short from the SC and MC provisions and deadlines.
Associated Co-financing: **Vietnam Environment Administration:** 6,950,000 USD	**GEF grant requested for component 1:** USD 745,230

Component 2: Life cycle management of POPs and PTS containing products	
Baseline / Baseline projects and associated co-financing budget	**GEF alternative scenario and budget**

(a) The capacities of Vinachemia and of the Custom authority to identify POPs in the recent years depended on the establishment of dedicated databases and of specific codes for some POPs in the Harmonized Standard for import/Export. Currently these capacities are uneven as, for example, SCCP imported in the last years could be monitored, However, the import of POPs containing materials and mixtures is still not properly traced nor surveyed.	(a) The project will conduct surveys along the full value chain manufacturing sectors, to identify processes and materials, and will fill the knowledge and data gap concerning the substances (POPs and other chemical of concern, including POP precursors or candidate POPs) used in the manufacturing industry. This Component 2 will be completed by Component 1 (Review, amendment of existing, or creation of new legislation related to POPs and new POPs) and will provide support to ensure inclusion of provisions related to chemicals controlling mechanisms.
(b) The NIP has estimated relevant amounts PBDE-contaminated plastics is present in Vietnam (EEE/WEEE), and in the automotive and End-of-Life Vehicle (ELV) sector. And around 400 tons of HBCDD are still used in the manufacturing sector of new products (through the import of HBCDD beads). Currently only few enterprises are explicitly adopting actions aimed at reducing the use of POPs. It is also important to note are based on estimates rather than on surveys.	(b) The project will promote the shifting to a more responsible product design which will be mostly aimed at the manufacturing of articles and materials which, because of their intrinsic design, will have reduced or no need of chemicals to ensure specialized functions (like flame-retardancy or water repellence). This will result in a reduced environmental impact throughout the whole life cycle of these products and materials. Identification of green-label design criteria for material and products, as well as less chemically-intensive process will also be facilitated, and these new products will then have access loans from VEPF (Component 1).
(c) The large majority of the recycled plastic in Vietnam comes from informal recycling. Some recycling villages are processing large amounts of plastic, and in many cases, it is unlikely that this amount is entirely coming from the collection activities. Basically, there is no quality control in the processing of plastic from these informal centers. Due to lack of quality control, PBDEs and other pollutants contained in plastic remain in the plastics value chain cycle ended up being improperly disposed in the environment.	(c) Opportunities for recyclers and manufacturers to exchange their needs and requirements will be created and informal recyclers will be supported to shift towards a formal way of operation and to adopt better quality and safety standards. This will ensure that recyclers can access a higher quality market by taking part in take-back or collection schemes aimed at ensuring that the quality of the recycled material fulfils the needs of the industry. In terms of POP prevention, promoting up-cycling or horizontal recycling has the benefit of reducing the cross-contamination of recycled material. Up-cycling or horizontal recycling may also be achieved through the establishment of take-back schemes for specific products
	GEF grant requested for component 2: USD 2,069,070
Associated Co-financing : Vietnam Plastics Association (VPA): USD 3,500,000 Vietnam Corrosion Association (VICORRA):	

Component 3: Mercury lifecycle management of mercury containing products	
Baseline / Baseline projects and associated co-financing budget	**GEF alternative scenario and budget**

(a) The use and commercial availability of mercury thermometers is still high, although ? even due to the measures adopted to fight the Covid-19 pandemic with contactless devices. It is acknowledged that the use of non-mercury thermometers is being more accepted and slowly widespread, however, without the GEF support, the rate of substitution of mercury with non-mercury lamps would be mostly driven by market forces, whilst there would be no push toward the replacement of mercury thermometers in hospital and clinics;	(a) The project will fill the gaps in the disperse activities related reduction of mercury and U-POPs release in the environment by facilitating the replacement of mercury containing products (fluorescent lamps and thermometers) with non-mercury products using incentive programs; The phase-out of mercury-containing products will be coordinated and accelerated with provision of training, raising awareness, supporting the replacement of equipment containing mercury, and establishing Guidelines and Standards for alternative technologies and facilities for the safe disposal of mercury-containing equipment, these interventions will be sustained by EPR schemes and EOL management strategies and by training and awareness raising for healthcare facilities to accelerate the replacement of mercury thermometers;.
(b) Baseline regulation only establishes the maximum allowable amount of mercury in fluorescent lamps. The only mercury containing waste currently regulated are the HCW. The disposal of hazardous wastes, in general, and HCW containing mercury is carried out according to current provisions that defines clearly the responsibility of waste source owners for the collection, transport, and disposal of hazardous wastes. However, in practice, the classification, collection, storage, and treatment of medical waste containing mercury in health facilities is still inadequate due to lack of equipment and awareness by waste source owners. Moreover, the fact that there are no general regulations for the management of mercury containing waste has resulted in the persistence of improper segregation and disposal of such waste, with mercury entering the general environment and food chain. Without GEF support, is likely that end of life mercury-containing products will mostly be dumped/ dismantled in municipal waste, and no technology for the segregation of mercury from end-of-life equipment (lamps and thermometers) will be demonstrated.	(b) The project will provide technical assistance and unlock financial support for the development of plants for the environmentally safe disposal of mercury containing devices and for the design, financial support and instalment of air pollution control equipment. In addition, procedures and technologies for the proper recycling of mercury-containing equipment, along with the safe segregation of mercury from the recyclable components, will be demonstrated. A pilot equipment for the treatment of mercury waste will be established at one of the URENCO waste treatment facility. Requirements for the storage facilities will also be identified to minimize the risk. The release of mercury from on?site and off?site operations will be adequately managed and controlled by application of relevant Best Available Techniques (BATs) and Best Environmental Practices (BEPs), as well as observance of Environmental, Health, and Safety (EHS) guidelines.
Associated Co-financing: MONRE: USD 5,000,000 Vietnam Chemicals Agency ? MOIT: USD 2,000,000 BMU-EU: USD 600,000 Vietnam Health Management Agency ? MOH: USD 500,000	**GEF grant requested for component 3:** USD 1,318,680

6) GLOBAL ENVIRONMENTAL BENEFITS (GEFTF) AND/OR ADAPTATION BENEFITS (LDCF/SCCF);

The project will prevent the use of POPs in manufacturing sectors (plastics, polymers, paint, etc.), through establishing a green-labeling mechanism to be supported with under VEPF and other financial mechanism. Activities aimed at promoting less-chemically intensive design for plastic and product will also ensure that not only the use of current POPs is limited, but also the future use of POPs precursors and POPs-like compounds in general. The prevention of the use and release of POPs will therefore go beyond the direct impact of the project. On the side of mercury, the project will speed-up the substitution from mercury toward non-mercury products (fluorescent lamps and mercury thermometers) and will also prevent the release of mercury and U-POPs in the environment, by supporting the design and installation of air pollution control system in industrial facilities and the demonstration of ESM of mercury waste.

The following targets for project direct impact can be anticipated:

- Reduction of the release of mercury in the environment through shifting from mercury products vs. non-mercury products: At least 20,000 fluorescent lamps and 10,000 thermometers will be collected and processed to segregate mercury;

- Direct or indirect reduction of new POPs, through the replacement of the use of SCCP and PFOS (either through safe chemicals or POPs-free processes and products), for an estimated amount of 10 tons of SCCP and 2 tons of PFOs;

- Safe segregation and disposal of plastic and polymer articles containing potentially contaminated by POPs (c-PBDE, HBCD, PFOAs), or through the indirect reduction obtained through chemical substitution or product and material design: at least 500 tons of material with a concentration of BFR or PFOAs in the order of 5%; (25 tons of new POPs totally);

- Avoided emission of mercury and U-POPs in the environment through the establishment of APCS capable to reduce the concentration of mercury from an average 100?g/Nm for mercury and 6.93 ngTeq/Nm for PCDD/F (based on the average analytical result for incinerators based on the surveys carried out under the Viet Nam POPS and Sound Harmful Chemicals Management Project) to 10?g/Nm for mercury and 0.1 ngTeq/Nm for PCDD/F for a number of plant representing a flue gas flow rate of up to 1,000,000 Nm /hr . (648 kg of mercury/year and 2 gTeq/year for PCDD/F.

- GHG emissions reduction to be assessed during the project implementation as direct result of the replacement of 20,000 fluorescent lamps with 20,000 LED lamps.

7) INNOVATIVENESS, SUSTAINABILITY AND POTENTIAL FOR SCALING UP. ?

Innovativeness. The project intends to pursue an innovative approach for the replacement of POPs in the relevant manufacturing industrial sector, based not only on just chemical replacement, but also considering alternative designs and processes. An example of innovativeness has been already demonstrated in the GEF ID 9379 Project ?*Application of Green Chemistry in Vietnam to Support Green Growth and Reduction in the Use and Release of POPs/Harmful Chemicals*?, where two plants have changed their process to replace POPs with non-POPs. In the paint sector, whilst in one case the replacement of POPs (SCCP) with non-POPs (MCCP) followed quite a classical chemical replacement

modality, in another case a completely new paint product, which is POP- and solvent-free, has been developed, so the project will:

(a) For the steel-plating industry, two completely new lines free of POPs (PFOS) and Cr^{6+} will replace the old process based on PFOS, out of which one is (Zinc flake coating) is a zero-wastewater process. This approach will promote a mindset shifting from conventional, chemical-based solutions to achieve desired properties of materials, to a more holistic approach based on a smarter selection of materials and design, to reduce the need for special properties and hence special chemicals.

(b) The project will demonstrate additional technologies for the replacement of HBCDD in the XPS/EPS foam, the replacement of PFOS/PFOAs and SCCP in other industrial sectors, as well as the implementation of APCSs for medium-scale plants, which, although consolidated technologies, may be considered quite innovative technologies in Vietnam.

(c) The project intends to demonstrate small-scale, low-cost mercury waste vacuum shredders to be used for extracting mercury from specific waste (lamps, thermometers) and ensure the recycling of material like glass, plastic, and metal after segregation.

(d) In relation to PBDE-contaminated plastics, to ensure that recycled plastic will be free of POP BFRs, a mix of procedures, ranging from the early identification of the origin of the plastic waste, preliminary classification based on the density, XRF testing will be developed for ensuring that plastic waste contaminated by BFR are segregated without affecting the recycling cost too much. All the above processes are highly innovative, although already available commercially, and have a high potential to be scaled up because they can either generate value (through a better quality of the recycled material) or minimize the cost for environmental treatment.

(e) Finally, on technological aspects, the project intends to pursue innovative strategies in at least additional two sectors: the Eco-labeling scheme and the financial incentive mechanism.

In regard to *Eco-labeling*, the project will foster the approach of the green-labeling of products and materials (Oeko-Tex, brand-specific, Vietnam Ecolabeling) in Vietnam. Although Eco-labeling concept is not new, it is still an innovative approach in Viet Nam. To this end, and with the aim to prevent the use of POPs in plastic, foam, and polymer articles, the project will conduct a survey to verify the list of chemicals used by plastics and polymers industry (in addition to POPs) on which there may be agreement for restriction or limitation in accordance with existing green-labeling schemes.

The *financing scheme*, although already existing ? though incipient ? in the baseline project, will be re-assessed and proposed as a blend that merges the classic financial schemes. The innovation here consists mainly in the fact that the eligibility criteria to access the competitive loan include compliance with the Stockholm Convention and the project objectives. The challenge will be to identify criterion, which at the same time could represent a reduced solvability risk (through the reduced liability achieved through the elimination of hazardous chemicals from the process) and a benefit for the enterprises ? through reduced interest rates, facilitated applications, or reduce warranty requirements.

Sustainability. The Eco-labeling scheme and the green financing mechanism will be designed and implemented will assure the long-term sustainability of the project after its completion. To be more specific, while a limited demonstration of POPs replacement will be undertaken within project

timeframe, the Eco-labeling, green procurement, and green financing mechanism are all initiatives that will be launched within project duration, will be internalized by Governmental and Financial Institutions, and will be continued as routine environmental tools after the project.

Hence, Eco-labeling, green procurement, and green financing should not be intended as project-limited intervention, but rather as systemic change with long term reach.

Potential for scaling up. The project is designed in a manner where all Components are integrated and interlinked so to assure that demonstration of POPs elimination from the manufacturing process, the extension of Eco-labeling to more products, the instalment of APCS for the abatement of U-POPs and mercury are linked to the new criterion for the launch of the Green Financial Mechanism directed to chemical and healthcare industries/sectors.

The establishment of a financing mechanism supported by VEPF and possibly other institutions that will join during the project implementation has exactly the purpose to ensure the scaling up of project initiatives, which cannot be ensured only with the limited grant provided by the project.

The knowledge management interventions of the project will be designed to ensure the future scaling up of project initiatives, as it will envisage shared network of knowledge among manufacturers, industries, and designers on the design and manufacturing criteria, which may be intrinsically less chemical-intensive, for specific categories of products, product components, and materials.

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[1] See for instance ?Sustainability Evaluation of Municipal Solid Waste Management System for Hanoi (Vietnam)?Why to Choose the ?Waste-to-Energy? Concept (Sustainability **2020**, 12, 1085; doi:10.3390/su12031085); Mapping Informal Waste Sector in Da Nang Understanding the informal waste sector, its workers & dynamic during COVID - Da Nang Case Study August 2020, UNDP accelerator labs; Solid and industrial hazardous waste management assessment: options and action area to implement the national strategy (World Bank, 2018); Plastic waste management in Vietnam - MSc. Nguyen Thanh Yen, Deputy director of Waste Management Department, Vietnam Environment Administration, 2019 -conference presentation and many others.

[2] Some craft villages near Hanoi and HCM city collect fabric scraps and make pillows, quilted blankets, clothes for children.

[3] Hanh Thi Duong, Kiwao Kadokami, Hanako Shirasaka, Rento Hidaka, Hong Thi Cam Chau, Lingxiao Kong, Trung Quang Nguyen, Thao Thanh Nguyen, (2015). Occurrence of perfluoroalkyl acids in environmental waters in Vietnam. Chemosphere 122 (2015) 115?124.

[4] IPEN - Information about PFAS in Vietnam from 2014 - 2018. Online at ?http://www.nature.org.vn/en/wp-ontent/uploads/2019/05/Pan_pfas_vietnam_15March2019.pdf?

[5]http://plasticsvietnam.com/news-media/press-releases/plastics-rubber-vietnam-2018-boasts-significant-business-opportunities-for-vietnams-thriving-markets.html

[6] Vietnam POPs and Sound Harmful Chemicals Management Project, GEF 5067

[7] According to the report ?Vietnam LEDs market - drivers, opportunities, trends & forecasts: 2015?2022?

[8] 1.Korean Eco-label, 2.Thai Green Label, 3.ECO-Safe of India, 4.OEKO-Tex 100, 5.EU-Label of Europe, 6.Green Mark of Taiwan, 7.Chinese Eco-label, 8.NORDIC Eco-Label, 9.Global Organic Textile Standard (GOST, 10.Dutch Eco-label, 11.Ecoliving of Australia, 12.Der Blaue Engel, Oeko-Tex? of Germany

[9] https://www.who.int/vietnam/news/detail/12-12-2019-who-commends-can-tho-s-commitment-to-tackle-air-pollution

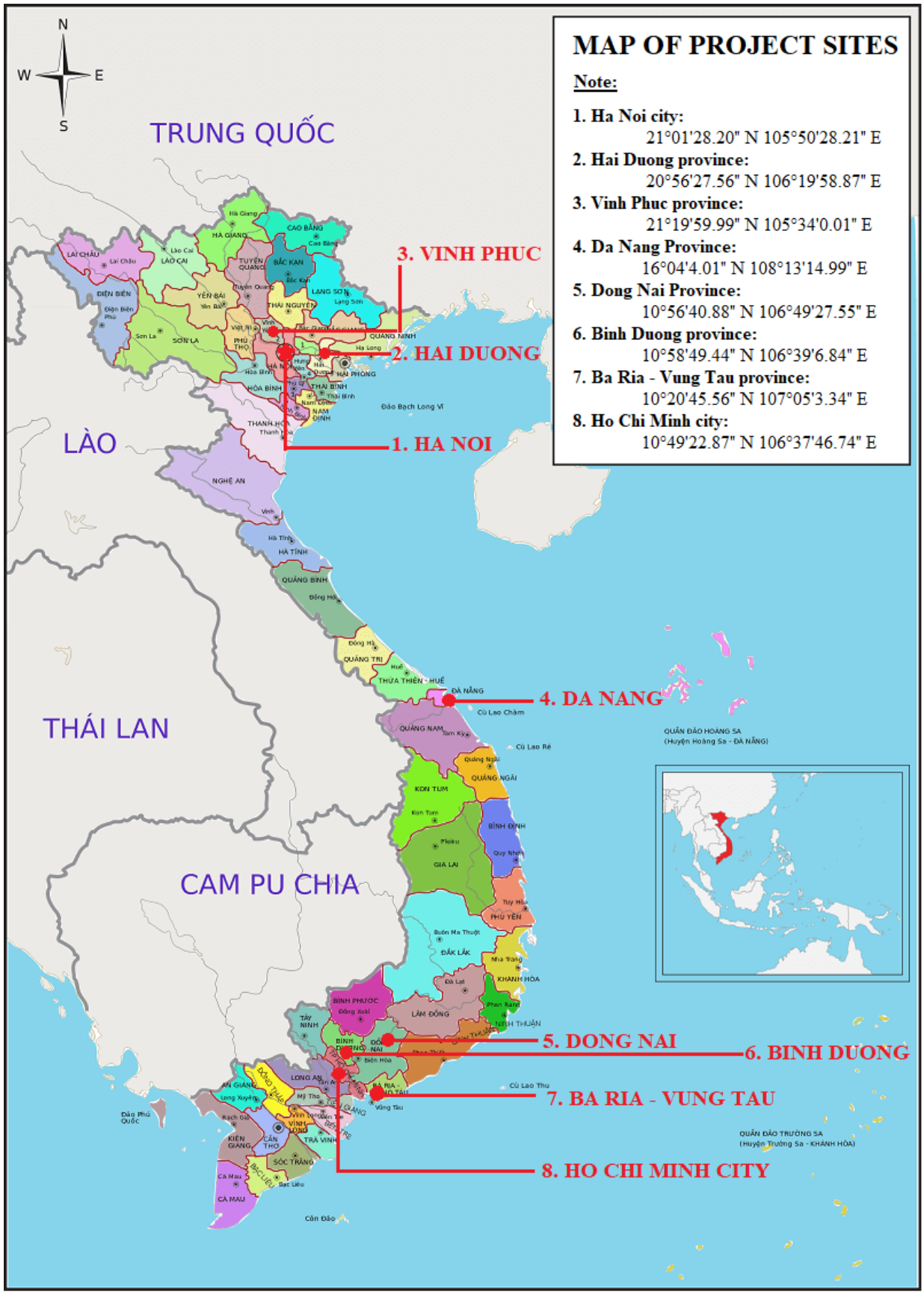
[10] These stakeholders and partners are listed in detail in Annex 8 and in chapter IV on Results and Partnership.

[11] PIF?s Outcome 1.1 and 1.2 were merged under Outcome 1.1 to align activities

[12] WHO, 2015: Developing national strategies for phasing out mercury-containing thermometers and sphygmomanometers in health care, including in the context of the Minamata Convention on Mercury: key considerations and step-by-step guidance. https://www.who.int/ipcs/assessment/public_health/WHOGuidanceReportonMercury2015.pdf

1b. Project Map and Coordinates

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


MAP OF PROJECT SITES
Note:
1. Ha Noi city:
21°01'28.20" N 105°50'28.21" E
2. Hai Duong province:
20°56'27.56" N 106°19'58.87" E
3. Vinh Phuc province:
21°19'59.99" N 105°34'0.01" E
4. Da Nang Province:
16°04'4.01" N 108°13'14.99" E
5. Dong Nai Province:
10°56'40.88" N 106°49'27.55" E
6. Binh Duong province:
10°58'49.44" N 106°39'6.84" E
7. Ba Ria - Vung Tau province:
10°20'45.56" N 107°05'3.34" E
8. Ho Chi Minh city:
10°49'22.87" N 106°37'46.74" E
N
W
E
S
TRUNG QUỐC
LÀO
THÁI LAN
CAM PU CHIA
3. VINH PHUC
2. HAI DUONG
1. HA NOI
4. DA NANG
5. DONG NAI
6. BINH DUONG
7. BA RIA - VUNG TAU
8. HO CHI MINH CITY
QUẦN ĐẢO HOÀNG SA
(Huyện Hoàng Sa - ĐÀ NẴNG)
QUẦN ĐẢO TRƯỜNG SA
(Huyện Trường Sa - KHÁNH HÒA)

1c. Child Project?

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

N/A

2. Stakeholders

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

Civil Society Organizations

Indigenous Peoples and Local Communities

Private Sector Entities

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Annex 8: Stakeholder Engagement Plan

Project Information

Project Information	
1. Project Title	Reduce the impact and release of mercury and POPs in Vietnam through lifecycle approach and Ecolabel
2. Project Number (i.e. Atlas project ID, PIMS+)	UNDP to add PIMS ID Number / GEFID 6491
3. Location (Global/Region/Country)	Vietnam
4. Project stage (Design or Implementation)	Design (PPG)
5. Date	May 2021

Table of Conent

I. STAKEHOLDER ANALYSIS

1.1. Stakeholder engagement and south-south cooperation

The project will work with the following stakeholders:

1) Governmental stakeholders. These will include the MONRE in charge of project execution as well as other ministries/administrations which role will be crucial for the implementation of specific project components and establishment of regulation and norms relevant to the restriction of the use and import of POPs in manufacturing processes, the reduction the release of mercury and U-POPs from industrial sources, and the elimination the manufacturing and use of mercury containing devices.

2) Public and private financial institutions involved in supporting the Green Finance Framework;

3) Private entities with interest in the environmental certifications.

4) Enterprises and association of enterprises which may be affected by the restriction on the use and import of industrial POPs;

5) Recyclers including enterprises, communities, and individuals

6) NGOs operating in the multiple dimensions of environment, communication, people mobilization, gender mainstreaming.

The project will engage the relevant stakeholders in different ways:

- The stakeholders who are eligible to take active part in the project (like enterprises and NGO) will be kept informed through direct contacts in workshops, awareness raising events and publication of information in the project website.
- The stakeholders who may have interest in project activity and which need to be informed because of potential positive or negative impact that the project will exert on them, will be mainly kept informed through communication tool aimed at reaching large audience, including TV broadcasting and newspapers.
- The stakeholders who have direct interest in understanding the project achievement and results, including regulatory, technological, scientific and methodological aspects, will be kept informed through regular publication of technical document and project report on the project website.

A mapping of the project engagement methodologies by target audience are reported in Table below:

Table 1: Mapping of stakeholders? engagement methodology by objective and target audience

	Project engagement methodologies, including communication					
Objectives and targeted audiences	Project website	Training AR events, Workshops, online meetings	UNDP Website	Government websites	News papers	TV broad casting
Project management office and consultants (upload/download of project documents; project monitoring and management)	Dedicated access based on user role	Dedicated training and workshop on project management				Movies on project implementation at factories and on issues related to POPs and Hg use and emissions
Communication with governmental institution (Meeting - minutes, milestones, relevant regulations, position papers etc.)	Dedicated section for project document upload/down load, with access policies	Training for decision makers, customs, regulators, researchers	Project summary. Key project reports, news and events.	Project summary. National news and events, relevant regulations Links to project website	Interviews with gov Officials, UNDP experts, national experts, industry leaders, NGOs	Interviews with gov Officials, UNDP experts, national experts, industry leaders, NGOs
Communication with interested bidders (links to national and international bidding events)	Links to the tender section and jobs		Links to the Tender section and jobs	Links to the tender section and jobs		
The general public	Public section in the Project website, communication on environment, production process, use and emissions of POPs, Hg		The UNDP website is open to the public	Project summary. National news and events, relevant regulations Links to project website	Selected news on CE, POPs, Hg Industrials sectors and project event	
Industrial partners	Training materials	Dedicated training and workshops	News related to industry and POPs, Hg			
NGOs	All the above except project management section	Dedicated training and workshops	The UNDP website is open to the public			

International expert and gov. from other projects, and other countries	All the above except Project management section	Dedicate online and in presence events for experience sharing and lesson learn	The UNDP website is open to the public	Access to the section of the gov. Website translated in English		

It should be mentioned that the project has established already at PPG stage proper coordination with UNDP Philippines and the VEA/DENR (Vietnam Environment Administration and Department of Environment and Natural Resources) 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, etc.

1.2 Time frame and budget of the Stakeholder engagement plan throughout the project cycle

The budget for stakeholder engagement throughout the project cycle and, where applicable, for related capacity-building to support this engagement is reported in the Table below. The project has allocated an amount of 204,450 USD for such activities, plus the cost associated at the work to be undertaken by the national and international consultant for the development of technical material, which is not counted below as it has been counted under the project implementation activities. It may be however estimated that around 10% of the activity of the national and international consultant is dedicated to the preparation of training and awareness raising materials.

Table 2: Timeframe and budget for activities related to stakeholders? engagement.

Component / outcome (SE budget updated on 30/06/2021)	**22**	**23**	**24**	**25**	Budget (USD)	Description
Component 1: Promote sustainable production - consumption in key sectors through Ecolabeling, Green Financing and Procurement, and other elements to support a long-term Innovation Ecosystem for greening the value and supply chain across sectors.						
Outcome 1.1 Environmental regulation upgraded to include new POPs; Green label and related policies for selected sectors (e.g. plastic, polymers, others) developed and implemented to reduce POP direct and secondary use, to reduce U-POP releases and to enhance circular economy.					$1,800.00	One small workshop on the draft law on new POPs for an overall amount of 1800
					$14,950.00	One international workshop on the achievements related to regulation on new POPs and EPR for an overall amount of 14950
Outcome 1.2 Environmental policy on mercury developed and implemented to					$14,950.00	One international workshop on the achievements related to regulation and roadmaps on new POPs and mercury for an overall amount of 14950

replace mercury products and to enhance the management of products containing mercury at their End of Life with segregation of mercury and recycling of non-mercury components						Two consultation workshops on gender specific personal protection and risk management measures against exposure to mercury for an overall amount of 3600 USD (*)
Outcome 1.3. Development of a Green Finance Framework, to sustain the shifting of enterprises toward a non-POPs and a non-Mercury manufacturing					$14,950.00	One international workshop on the launching of the Green Financing mechanism in Vietnam for an overall amount of 14950
					$14,950.00	One national level workshop on to introduce the achievement of the piloting related to Green procurement for an overall amount of 14950 USD
						One consultation workshop on green procurement and women entrepreneurships for an overall amount of 1800 USD (*)
Component 2: Lifecycle management of POP s and PTS containing products:						
Outcome 2.1 Sustainable manufacture and design of plastic, polymers, paint, metal finishing and other products improved to prevent the use of POP and the release of POP in the environment.					$14,950.00	An international kick-off event on the launching of financial mechanism on POPs and mercury free design to enterprises, including Desing and implementation of APCS (output 2.1.3) for an overall amount of 14950 USD
					$14,950.00	An international event on the selection of 5 industries awarded under the GF or their project on POPs avoidance or release reduction for an overall amount of 14950 USD
						Two consultation workshops on gender specific aspects related to POPs in manufacturing processes and products for an overall amount of 3600 USD (*)
						One consultation workshops among female workers and gender experts in the gap closure between recyclers and manufacturing industry for an overall amount of 1800 USD (*)
Component 3: Mercury: lifecycle management of mercury containing products						
Outcome 3.1 Replacement of mercury products with non-mercury products promoted						Two training events on gender specific aspects related to risk prevention in waste management enterprises for an overall amount of 1800 USD (*)

and sustained by EPR schemes and EOL management.						Two consultation workshops on gender specific aspects related to the elimination of POPs equipment and products in healthcare facilities and offices. for an overall amount of 3600 USD (*)
					$14,950.00	An international workshop on to summarize work, achievement and lesson learnt on the mercury component of the project for an overall amount of 14950 USD
					$40,000.00	1 Services-companies to arrange and carry out 4 training events for trainers for representatives of 100 healthcare facilities for an overall amount of 40000 USD
					$40,000.00	1 Services-companies to arrange and carry out 4 training for trainers for representatives of 200 offices for an overall amount of 40000 USD
Component 4: Knowledge management and M&E (this budget already accounted for in the KM Budget)						
Outcome 4.1 Project management team established, lesson learnt and knowledge generated by the project properly shared and communicated.						Inception workshop on the project with participation of other countries representatives involved in Green Chemistry for an overall amount of 14950 USD (*)
Outcome 4.1 Project management team established, lesson learnt and knowledge generated by the project properly shared and communicated.						1 Services-companies a project website, project database, publication and broadcasting of project materialsto establish and maintain for an overall amount of 25000 USD(*)
Total budget allocated to communication and stakeholder engagement					$186,450.00	

(*) these activities have been already budgeted under the Knowledge Management or Gender Mainstreaming budget, therefore the budget is not counted here..

Component / outcome	**22**	**23**	**24**	**25**	Budget (USD)	Description	Expected audience
Component 1: Promote sustainable production - consumption in key sectors through Ecolabeling, Green Financing and Procurement, and other elements to support a long-term Innovation Ecosystem for greening the value and supply chain across sectors.							

Outcome 1.1 Environmental regulation upgraded to include new POPs; Green label and related policies for selected sectors (e.g. plastic, polymers, others) developed and implemented to reduce POP direct and secondary use, to reduce U-POP releases and to enhance circular economy.					$1,800	One small workshop on the draft law on new POPs	10
					$14,950	One international workshop on the achievements related to regulation on new POPs and EPR	50
Outcome 1.2 Environmental policy on mercury developed and implemented to replace mercury products and to enhance the management of products containing mercury at their End of Life with segregation of mercury and recycling of non-mercury components					$14,950	One international workshop on the achievements related to regulation and roadmaps on new POPs and mercury	50
					$3,600	Two consultation workshops on gender specific personal protection and risk management measures against exposure to mercury	20
Outcome 1.3. Development of a Green Finance Framework, to sustain the shifting of enterprises toward a non-POPs and a non-Mercury manufacturing					$14,950	One international workshop on the launching of the Green Financing mechanism in Vietnam	50
					$14,950	One national level workshop on to introduce the achievement of the piloting related to Green procurement	30
					$1,800	One consultation workshop on green procurement and women entrepreneurships	10
Component 2: Lifecycle management of POP s and PTS containing products:							-

Outcome 2.1 Sustainable manufacture and design of plastic, polymers, paint, metal finishing and other products improved to prevent the use of POP and the release of POP in the environment.		[redacted]			$14,950	An international kick-off event on the launching of financial mechanism on POPs and mercury free design to enterprises, including Desing and implementation of APCS (output 2.1.3)	50
			[redacted]		$14,950	An international event on the selection of 5 industries awarded under the GF or their project on POPs avoidance or release reduction	100
	[redacted]				$3,600	Two consultation workshops on gender specific aspects related to POPs in manufacturing processes and products	50
		[redacted]			$1,800	One consultation workshops among female workers and gender experts in the gap closure between recyclers and manufacturing industry	20
Component 3: Mercury: lifecycle management of mercury containing products							
Outcome 3.1 Replacement of mercury products with non-mercury products promoted and sustained by EPR schemes and EOL management.	[redacted]				$3,600	Two training events on gender specific aspects related to risk prevention in waste management enterprises	50

	[redacted]			$3,600	Two consultation workshops on gender specific aspects related to the elimination of POPs equipment and products in healthcare facilities and offices.	50
	[redacted]			$14,950	An international workshop on to summarize work, achievement and lesson learnt on the mercury component of the project	100
	[redacted]			$40,000	1 Services-companies to arrange and carry out 4 training events for trainers for representatives of 100 healthcare facilities	200
	[redacted]			$40,000	1 Services-companies to arrange and carry out 4 training for trainers for representatives of 200 offices	400
Component 4: Knowledge management and M&E						
Outcome 4.1 Project management team established, lesson learnt and knowledge generated by the project properly shared and communicated.	[redacted]			$14,950	Inception workshop on the project with participation of other countries representatives involved in Green Chemistry	50
Outcome 4.1 Project management team established, lesson learnt and knowledge generated by the project properly shared and communicated.	[redacted]			$25,000	1 Services-companies a project website, project database, publication and broadcasting of project materials to establish and maintain	100,000
Total budget allocated to communication and stakeholder engagement				$204,450		

(*) these activities have been already budgeted under the Knowledge Management or Gender Mainstreaming budget, therefore the budget is not counted here.

2.2. Stakeholders

Stakeholders include ministries, businesses, NGOs, and waste disposal parties. As follows:

2.2.1. Governmental stakeholders

1. Ministry of Industry and Trade (MOIT)

The Ministry of Industry and Trade is responsible for promulgating documents on management of chemicals directly related to mercury in the following fields:

- General management of chemicals
- Management and control of mercury in mining activities, including gold mining;
- Manage and control import and export activities of mercury and mercury-containing products for industry,
- Manage and control the production of mercury-containing products in the following industries: batteries, lighting equipment, electrical/electronic equipment, paints, cosmetics...;
- Management of industries that use materials containing mercury/mercury compounds (thermal power using coal/petroleum/biogas; refining oil/natural gas; producing steel, cement) ...);
- Management of trade in mercury and industrial products containing mercury; - Control the generation of hazardous waste, wastewater and exhaust gas. Legal documents related to mercury management and control are drafted and promulgated by the Ministry of Industry and Trade, specifically:
- Regulations on chemical registration
- Regulations on import and export of industrial chemicals
- Regulations on classification and labeling of chemicals, registration of chemical use,
- Lists of banned chemicals, chemicals restricted from production, chemicals subject to conditional production and business, chemicals that must be declared, and chemicals subject to a plan. In order to prevent and respond to incidents and hazardous chemicals, it is necessary to build a control sheet for the purchase and sale of...
- Regulations on conditions for production and trading of conditional chemicals, restricted chemicals, banned chemicals... - Controlling the trading of toxic chemicals, chemical safety
- Administrative sanctions for violations of regulations on chemical management.

2. Ministry of Natural Resources and Environment (MONRE)

The Ministry of Natural Resources and Environment has conducted statistical surveys and assessment of status of storage points of chemicals in POP Pesticide list in the whole territory of Vietnam. Develop a national plan for the treatment of POP Pesticide-related persistent pollution sites based on a risk assessment

Improving mechanisms, policies and laws on management of persistent POPs organic pollutants, in which:

- Develop a circular on safe management and minimization of persistent organic pollutants in industrial production
- Develop technical guidance on emission inventory and environmental protection for industrial production activities using persistent organic pollutants.
- Develop technical guidance on monitoring and assessment of pollution, environmental risks and residues of some persistent organic pollutants used in agriculture
- Develop technical guidance on inventory and assessment of risks to the environment due to the release of some persistent organic pollutants that arise unintentionally from industrial production activities.

MONRE issues legal documents on management and control of mercury-related pollution in the following areas:

- Environmental quality of air, water resources, soil and sediment.
- Hazardous solid waste, wastewater, exhaust gas discharge/emission into the environment. - Import and export of scrap and recycled waste;
- Contaminated lands;
- Residual chemicals?

Regulations on environmental protection and pollution control related to mercury are issued by MONRE by including the following legal instruments:

- General regulations on environmental protection:
- Regulations on chemical pollution control:

o Maximum allowable limits of pollutants (including mercury) in the environment: air, soil, water, sediment,

o Requirements on environmental monitoring of water, air? according to QCVN 30:2012/BTNMT;

o Hazardous waste management

- Administrative sanctions for violations of waste management, wastewater, emission of pollutants into the air, water and soil environment...

3. Ministry of Health (MOH)

Areas under the management of the Ministry of Health related to mercury:

- Insecticidal and germicidal preparations in household and medical fields;
- Chemicals used for the purpose of protecting human health: dental amalgam...;
- Medical equipment containing mercury: mercury thermometer, mercury sphygmomanometer...,
- Food additives and food safety
- Cosmetics, disinfectants,
- Medical waste management within medical facilities;
- Occupational safety and health?

Legal documents related to mercury issued by the Ministry of Health are summarized as follows:

- For insecticidal and germicidal preparations in household and medical fields:

o Regulations on import and export and registration of circulation (including testing and testing);

o List of preparations permitted to be registered for use, permitted to be registered for circulation but restricted from use and banned from use in Vietnam;

o Regulations on transportation of dangerous goods that are chemicals and insecticidal and germicidal preparations used in household and medical fields;

- Regulations on medical waste management
- Regulations on food safety
- Regulations on measurement and inspection of the working environment and the making of occupational hygiene records to manage harmful factors in the working environment;
- Regulations on a number of occupational diseases and treatment regimes for state employees suffering from occupational diseases, including mercury poisoning and mercury compounds.

4. Ministry of Agriculture and Rural Development (MARD)

The Ministry of Agriculture and Rural Development (MARD) has issued legal documents related to mercury, specifically:

(1) Fertilizers, plant protection drugs (plant protection)

- Regulations on import and export, conditions for production and trading of fertilizers and pesticides;
- Regulations on registration of pesticides including the testing process;
- Requirements for recall, destruction, and handling of pesticide packaging after use

(2) Animal feed

- Regulations on import and export, conditions for production and trading of animal feed; - List of animal feed permitted for circulation in Vietnam,
- Regulations on animal feed allowed to be circulated in Vietnam;
- Quality management of animal feed in Vietnam

(3) Veterinary medicine

- Regulations on import and export, conditions for production and trading of veterinary drugs;
- Promulgate the List of veterinary drugs permitted for circulation in Vietnam.

5. Ministry of Science and technology (MOST)

The Ministry of Science and Technology has issued a number of TCVNs on chemical management, in which some are directly related to mercury, specifically:

- TCVN 10172:2013 (IEC 62554:2011) Preparation of samples for measuring mercury levels in Fluorescent lamps;
- TCVN 5816:2009 Dentistry - Dental hygiene products in which the maximum heavy metal content is specified, specifically, mercury is ? 1 mg/kg;
- TCVN 3804:2009 (ISO 5993:1979) Sodium hydroxide for industrial use ? determination of mercury content ? Flameless Atomic Absorption Spectroscopy method;
- TCVN 7724:2007 Water quality. Determination of mercury
- Atomic fluorescence spectroscopy method

6. Ministry of Labor, Invalids and Social Affairs (MOLISA)

The Ministry of Labor, Invalids and Social Affairs (LOLISA) has issued legal documents related to regulations on occupational safety and health as follows:

- Making plans to ensure occupational safety and health;
- Control of dangerous and harmful factors, which are likely to cause occupational accidents, occupational diseases, and
- Regulations on occupational safety and health at the workplace.

7. Ministry of Transportation (MOT)

The Ministry of Transport and Communications is the state management agency related to transportation, specifically:

- List of dangerous goods (including mercury compounds) and the transport of dangerous goods by road motor vehicles,
- the list of dangerous goods (including mercury compounds) and the carriage of dangerous goods by rail, and
- List of dangerous goods (including mercury compounds) and the transport of dangerous goods on inland waterways.

2.2.2. Enterprises

The project will work with a number of private institutions and firms, as well as with informal recyclers (trying to promote their shifting to formal business).

? Representatives of private industries and industrial associations will be involved in the process of development of Ecolabeling and certification of POPs-free plastic, to ensure that the proposed certification schemes are feasible and to promote their adoption.

? Plastic, foam and polymer industry (automotive and electronic, building materials, upholstery)

? Furthermore, on the mercury side, it will be necessary to establish partnerships with manufacturers of fluorescent lights and LED lights, and mercury device thermometers, to better finalize the roadmap for mercury phasing out and verify whether any assistance would be needed for the management of mercury stockpile which could remain unused due to the reduction of market for mercury containing devices.

? Private clinics and hospitals will be also contacted to promote the shifting toward mercury alternatives

a) Sectors that use and emit mercury, POP

- Production and use of mercury high pressure lamps and fluorescent lamps (straight tube and compact form)
- Use in hospitals (mercury manometer and mercury thermometer, dental fillings)
- Production and use for comestics
- Gold mining using mercury (amalgamation)??
- Use old variant oil containing PCB
- Old pesticide warehouse
- Residual pollution area

b) Sectors that emit mercury, U-POP

- Coal-fired power plants
- Metallurgy
- Cement production
- Waste incinerators
- Pulp production industry
- Steel smelting plants using sintering from ore and cooking steel by arc furnaces

The project was designed drawing from the lessons learned and experiences of the GEF ID 9379 Project ?Green Chemistry project in Viet Nam?. One of the key critical success factor of this project was that it demonstrated how engage into cooperation with enterprises by providing several incentives ? not only financial assistance ? which allowed the two pilot enterprises replace POPs with non-POPs processes and products, doubling the intended GEBs. For this reason, this project intends to:

? Strengthen the Policy and Regulatory Frameworks, particularly on the restrictions/bans on imports of POPs.
? Devise clear awareness and communication on the bans of import of POPs chemicals, balancing incentives with regulatory actions to be enforced by MONRE and MOIT, and that businesses need to ensure their production is not disrupted by upcoming Policies and Regulations
? Leverage on the technological (technical assistance) and financial support to be deployed;
? Promote the ecolabeling scheme and support the ?green and sustainable marketing? of products as means to gain and expand markets;
? Engage with Industrial Associations so to strengthen collaboration and work at institutional level to gain trust and assure the private sector?s ?buy in? and ownership of the project.

2.2.3. Financial institutions,

1) Vietnam Environmental protection fund (VEPF)
2) Commercial banks

2.2.4. NGO

There are several quasi NGOs, and NGOs that are interested in minimizing environmental pollution
1. Quasi NGO

1) VESDEC
http://vesdec.com.vn/index.php?language=vi&nv=about&op=Gioi-thieu
2) INEST: School of Environmental Science and Technology.
Address: House C10, Hanoi University of Technology, No. 1 Dai Co Viet Str., Hanoi.
https://inest.hust.edu.vn/trang-chu
2. NGO

1) CGFED (Center for Gender, Family and Environment).
http://cgfed.org.vn/son-chi-hiem-hoa-khon-luong-cho-suc-khoe/
2) NCDs (Non-Communicable Diseases Alliance)
https://doisongvietnam.vn/lien-minh-phong-chong-benh-khong-lay-nhiem-viet-nam-tong-ket-2-nam-hoat-dong-37150-9.html
3) CECR (Center for Environment and Community Research) carried out project on plastic waste management
http://cecr.vn/page/7
4) Trung t?m nghi?n c?u B?o t?n Sinh v?t bi?n v? Ph?t tri?n c?ng ??ng (MCD), Centre for Marinelife Conservation and Community Development (MCD)
Address: Room 3104, Floor 31, Building 34T, Hoang ?ao Thuy Str., Cau Giay District Hanoi
5) Live and Learn Vietnam
Address: B??i, T?y H?, H? N?i
6) PanNature Vietnam
Address: 24H2 Khu ?? th? m?i Y?n H?a, Ph??ng Y?n H?a, Qu?n C?u Gi?y, Y?n Ho?, C?u Gi?y, H? N?i
7) GreenID Vi?t Nam
Address: Nh? C1X3, Ng? 6 Ph? Tr?n H?u D?c, M? ??nh, Nam T? Li?m, H? N?i
2.2.5. Recyclers

This includes waste collectors and recyclers, and people working in formal recycling industries, Recycling industry, and direct exposure community including women.

II. THE STAKEHOLDER ENGAGEMENT PLAN

The stakeholder engagement plan Built on UNDP guidance. The Stakeholder Engagement Plan include the following minimum elements and must be publicly available in a form and language appropriate to the relevant stakeholders and disseminated proactively to them:

1. Public engagement undertaken during project development

Transparency and access to information:

To ensure the active participation of stakeholders, information about the project should be publicly available and easily accessible to interested stakeholders.

Identification of roles:

The roles of different stakeholders need to be clearly defined in each phase of the project, including project beneficiaries, NGOs, local communities

Dialogue, outreach and consultation.

The project should include awareness raising activities to encourage stakeholders to participate in the project, and appropriate forms of participation.

Stakeholders should be consulted at the very beginning of the project about their wishes and needs in order to create active stakeholder participation in the project process, including design, implementation and monitoring.

Monitoring, Evaluation and Reporting

Encourage the participation of staleholders in the monitoring, and evaluation process if possible, in order to improve the independence and accuracy of monitoring information.

2. The steps and actions to achieve meaningful consultation and inclusive participation, including information dissemination

Project component	**Step & Action to consultation and inclusive participation**	**Roles and responsibilities**
Project component 1	Promote sustainable production - consumption in key sectors through Ecolabeling, Green Financing and Procurement, and other elements to support a long-term Innovation Ecosystem for greening the value and supply chain across sectors.	
1.1. Environmental regulation upgraded to include new POPs; Green label and related policies for selected sectors (e.g. plastic, polymers, others) developed and implemented to reduce POP direct and secondary use, to reduce U-POP releases and to enhance circular economy.	1.1.1 Review, amendment of existing, or creation of new legislation related to POPs and new POPs in key sectors	Key persons: MONRE MOIT, MOH, MOST, SBV, MOF, VEPF, Participants: MARD,MOLISA, MOT, MOC. Customs Administration, MOIC, VDB, NATIF, NGOs, direct exposure community including women

Project component	Step & Action to consultation and inclusive participation	Roles and responsibilities
1.2 Environmental policy on mercury developed and implemented to replace mercury products and to enhance the management of products containing mercury at their End of Life with segregation of mercury and recycling of non-mercury components	1.2.1 Roadmap and sectorial plans developed for replacement of mercury thermometers and mercury containing lamps established	Key persons: MONRE MOIT, MOH, MOST, SBV, MOF, VEPF, Participants: MARD,MOLISA, MOT, MOC. Customs Administration, MOIC, VDB, NATIF, NGOs, Enterprises
	1.2.2. Review of the existing legislation related to mercury in products and mercury emission carried out, to help develop and/or strengthen, and ultimately enforce regulations concerning technical standards for mercury waste management.	Key persons: MONRE MOIT, MOH, MOST, SBV, MOF, VEPF, Participants: MARD,MOLISA, MOT, MOC. Customs Administration, MOIC, VDB, NATIF, NGOs, Enterprises, direct exposure community including women
1.3. Development of a Green Finance Framework, to sustain the shifting of enterprises toward a non-POPs and a non-Mercury manufacturing	1.3.1 Green Finance framework designed, funded and implemented to support private sector on getting incentives policy	Key persons: MONRE MOIT, MOH, MOST, SBV, MOF, VEPF, Participants: MARD,MOLISA, MOT, MOC. Customs Administration, MOIC, VDB, NATIF, NGOs, Enterprises
	1.3.2 Green Procurement scheme designed and implemented for MONRE, some DONREs and healthcare facilities (MOH)	Key persons: MONRE MOIT, MOH, MOST, SBV, MOF, VEPF, Participants: MARD,MOLISA, MOT, Customs Administration, MOIC, VDB, NATIF, NGOs, Enterprises
Project component 2	Lifecycle management of POP s and PTS containing products	

Project component	Step & Action to consultation and inclusive participation	Roles and responsibilities
2.1. Sustainable manufacture and design of plastic, polymers, paint, metal finishing and other products improved to prevent the use of POP and the release of POP in the environment.	2.1.1. Analysis of the manufacturing sectors for which the use of new POPs has been recently confirmed but not yet included in the NIP carried out, in order to strengthen baseline and select optimum sectors and enterprises for pilot activity to improve POPs management in the value chain.	Key prsons: MONRE, MOIT, MOF, and CA, selected Enterprises Participants: MOST, SBV, NATIF, MOIC, MOLISA, MOT, professional associations, direct exposure community including women
	2.1.2 Alternative product design to prevent the use of hazardous chemicals additives in general and consequently the use of POPs (e.g. BFR, HBCD, PFOS/PFOAs, SCCP) in key sectors demonstrated.	Key prsons: MONRE, MOIT, MOST, MOF, and CA, selected Enterprises Participants: MOST, SBV, NATIF, MOIC, MOLISA, MOT, professional associations, direct exposure community including women
	2.1.3 Design and implementation of modern Air Pollution Control Systems to prevent the release of mercury and U-POPs suitable also for small enterprises carried out.	Key prsons: MONRE, MOIT, MOST, MOF, and CA, selected Enterprises Participants: MOST, SBV, NATIF, MOIC, MOLISA, MOT, professional associations, direct exposure community including women

Project component	Step & Action to consultation and inclusive participation	Roles and responsibilities
2.2. Closure of the gap between recyclers and industry to sustain circular economy and to prevent the contamination of recyclable materials.	2.2.1 Interaction, technical exchange and commercial agreement between recyclers and industry promoted to identify and implement solutions for the horizontal and safe recycling and of materials and the segregation and safe disposal of POPs contaminated materials.	Key prsons: MONRE, MOIT, MOST, MOF, and CA, selected Enterprises Participants: MOST, SBV, NATIF, MOIC, MOLISA, MOT, professional associations, recycling industry, direct exposure community including women
Project Component 3	Mercury: lifecycle management of mercury containing products	
3.1 Replacement of mercury products with non-mercury products promoted and sustained by EPR schemes and EOL management.	Output 3.1.1. Risk management, technical guidance and training materials developed for the sound management of mercury stockpiles and obsolete mercury-containing equipment, with specific reference to mercury lamps and medical devices	Key persons: MONRE, MOC, MOH, MOF, PCs & URENCOs, Participants: MOIT, MOH MOST, MOLISA, CA, SBV, MOIC, professional associations, recycling industry, direct exposure community including women
	3.1.2. . Capacity and institutions are strengthened to eliminate use of mercury containing products (eg. Mercury lamps, thermometers and cosmetics); road map and plan for using of mercury-free devices developed and implemented.	Key persons: MONRE, MOC, MOH, MOF, PCs & URENCOs, Participants: MOIT, MOH MOST, MOLISA, CA, SBV, MOIC, professional associations, recycling industry, direct exposure community including women

Project component	Step & Action to consultation and inclusive participation	Roles and responsibilities
Project component 4	**Monitoring, learning, adaptive feedback, outreach and evaluation.**	MONRE, MOST, MONRE, MOST, Project Stakeholder Engagement Officer

3. Key indicators of stakeholder engagement during project implementation, and steps that will be taken to monitor and report on progress and issues that arise

Project component	Step & Action to consultation and inclusive participation	Key indicators and targets
Project component 1	Promote sustainable production - consumption in key sectors through Ecolabeling, Green Financing and Procurement, and other elements to support a long-term Innovation Ecosystem for greening the value and supply chain across sectors.	
1.1. Environmental regulation upgraded to include new POPs; Green label and related policies for selected sectors (e.g. plastic, polymers, others) developed and implemented to reduce POP direct and secondary use, to reduce U-POP releases and to enhance circular economy.	1.1.1 Review, amendment of existing, or creation of new legislation related to POPs and new POPs in key sectors	Key persons: involve in all cooperation activities as seminars, workshops, take part into all activities of review, amendment, creation of new legislation related to POPs and new POPs in key sectors. Participants be consulted during process of review, amendment, creation of new legislation related to POPs and new POPs in key sectors.

Project component	Step & Action to consultation and inclusive participation	Key indicators and targets
1.2 Environmental policy on mercury developed and implemented to replace mercury products and to enhance the management of products containing mercury at their End of Life with segregation of mercury and recycling of non-mercury components	1.2.1 Roadmap and sectorial plans developed for replacement of mercury thermometers and mercury containing lamps established	Key persons: involve in all cooperation activities as seminars, workshops, take part into all activities of roadmap and sectorial plans developed for replacement of mercury thermometers and mercury containing lamps established Participants be consulted during process of Roadmap and sectorial plans developed for replacement of mercury thermometers and mercury containing lamps established
	1.2.2. Review of the existing legislation related to mercury in products and mercury emission carried out, to help develop and/or strengthen, and ultimately enforce regulations concerning technical standards for mercury waste management.	Key persons: involve in all cooperation activities as seminars, workshops, take part into all activities of review of the existing legislation related to mercury in products and mercury emission carried out Participants be consulted during process of review of the existing legislation related to mercury in products and mercury emission carried out
1.3. Development of a Green Finance Framework, to sustain the shifting of enterprises toward a non-POPs and a non-Mercury manufacturing	1.3.1 Green Finance framework designed, funded and implemented to support private sector on getting incentives policy	Key persons: involve in all cooperation activities as seminars, workshops, take part into all activities of Green Finance framework designed, funded and implemented to support private sector on getting incentives policy. Participants consult during process of Green Finance framework designed, funded and implemented to support private sector on getting incentives policy. At least one communication and training activity about Green Finance be held in which parrticipants consult and support to, NGOs and Enterprises participate in.

Project component	Step & Action to consultation and inclusive participation	Key indicators and targets
	1.3.2 Green Procurement scheme designed and implemented for MONRE, some DONREs and healthcare facilities (MOH)	Key persons: involve in all cooperation activities as seminars, workshops, take part into all activities of Green Procurement scheme designed and implemented. Participants be consulted during process of Green Procurement scheme design. At least one communication and training activity about Green Procurement scheme be held in which parrticipants consult and support to, NGOs and Enterprises participate in.
Project component 2	Lifecycle management of POP s and PTS containing products	
2.1. Sustainable manufacture and design of plastic, polymers, paint, metal finishing and other products improved to prevent the use of POP and the release of POP in the environment.	2.1.1. Analysis of the manufacturing sectors for which the use of new POPs has been recently confirmed but not yet included in the NIP carried out, in order to strengthen baseline and select optimum sectors and enterprises for pilot activity to improve POPs management in the value chain.	Key persons: involve in all cooperation activities as seminars, workshops, take part into all activities of Analysis of the manufacturing sectors for which the use of new POPs has been recently confirmed but not yet included in the NIP carried out, in order to strengthen baseline and select optimum sectors and enterprises for pilot activity to improve POPs management in the value chain. Participants be consulted during process of analysis and select sectors.

Project component	Step & Action to consultation and inclusive participation	Key indicators and targets
	2.1.2 Alternative product design to prevent the use of hazardous chemicals additives in general and consequently the use of POPs (e.g. BFR, HBCD, PFOS/PFOAs, SCCP) in key sectors demonstrated.	Key persons: involve in all cooperation activities as seminars, workshops, take part into all activities of Alternative product design in key sectors demonstrated Participants be consulted during process of analysis and select sectors. Participants be consulted during process of Alternative product design. At least one communication and training activity about Alternative product design be held in which parrticipants consult and support to, NGOs and Enterprises, direct exposure community including women participate in.
	2.1.3 Design and implementation of modern Air Pollution Control Systems to prevent the release of mercury and U-POPs suitable also for small enterprises carried out.	Key persons: involve in all cooperation activities as seminars, workshops, take part into all activities of Design and implementation of modern Air Pollution Control Systems. Participants be consulted during process of Design and implementation of modern Air Pollution Control Systems. At least one communication and training activity about Air Pollution Control Systems be held in which parrticipants consult and support to, NGOs and Enterprises, direct exposure community including women participate in.

Project component	Step & Action to consultation and inclusive participation	Key indicators and targets
2.2. Closure of the gap between recyclers and industry to sustain circular economy and to prevent the contamination of recyclable materials.	2.2.1 Interaction, technical exchange and commercial agreement between recyclers and industry promoted to identify and implement solutions for the horizontal and safe recycling and of materials and the segregation and safe disposal of POPs contaminated materials.	Key persons: involve in all cooperation activities as seminars, workshops, take part into all activities of identify and implement solutions for the horizontal and safe recycling and of materials and the segregation and safe disposal of POPs contaminated materials. Participants be consulted during process of identify and implement solutions for the horizontal and safe recycling and of materials and the segregation and safe disposal of POPs contaminated materials. At least one communication and training activity about solutions for the horizontal and safe recycling and of materials and the segregation and safe disposal of POPs contaminated materials be held in which parrticipants consult and support to, NGOs and Enterprises, recycling community, direct exposure community including women participate in.
Project Component 3	Mercury: lifecycle management of mercury containing products	
3.1 Replacement of mercury products with non-mercury products promoted and sustained by EPR schemes and EOL management.	Output 3.1.1. Risk management, technical guidance and training materials developed for the sound management of mercury stockpiles and obsolete mercury-containing equipment, with specific reference to mercury lamps and medical devices	Key persons: involve in all cooperation activities as seminars, workshops, take part into all activities of Risk management, technical guidance and training materials developed for the sound management of mercury stockpiles and obsolete mercury-containing equipment, with specific reference to mercury lamps and medical devices . Participants be consulted during process of technical guidance and training materials development. At least one communication and training activity about the management of mercury stockpiles and obsolete mercury-containing equipment be held in which parrticipants consult and support to, NGOs and Enterprises, direct exposure community including women participate in.

Project component	Step & Action to consultation and inclusive participation	Key indicators and targets
	3.1.2. . Capacity and institutions are strengthened to eliminate use of mercury containing products (eg. Mercury lamps, thermometers and cosmetics); road map and plan for using of mercury-free devices developed and implemented.	Key persons: involve in all cooperation activities as seminars, workshops, take part into all activities ofCapacity and institutions strengthening to eliminate use of mercury containing products; road map and plan for using of mercury-free devices developed and implemented. Participants be consulted during process of Capacity and institutions strengthening and road map and plan for using of mercury-free devices develoment and implementation. At least one communication and training activity about elimination use of mercury containing products; road map and plan for using of mercury-free devices development and implementation be held in which parrticipants consult and support to, NGOs and Enterprises, direct exposure community including women participate in.
Project component 4	**Monitoring, learning, adaptive feedback, outreach and evaluation.**	

APPENDIX

MEETING REPORT
Kick-off Meeting

Institution consulted	MONRE	Date and venue	Novotel Suites Ha Noi Hotel, No.5 Duy Tan street, Dich Vong Hau ward, Cau Giay district, Ha Noi. 16th Dec. 2020
List of participants	Participants: UNDP: Mr. Dao Xuan Lai, Head of Climate Change and Environment Unit; Mr. Hoang Thanh Vinh, Programme Analyst ? Chemicals & Waste. VEA (Department of Environmental Quality Management): Mr. Le Hoai Nam, Director; Officals: Ms. Dang Thuy Linh, Ms. Phan Thi To Uyen, Mr. Nguyen Hoang Duc. International consultant: Mr Carlo Lupi. National guest expert: Ms. Pham Thi Bich Ngoc, Project ?Vietnam POPs and Sound Harmful Chemicals Management? National consultants: Mr. Do Thanh Bai; Mr Nghiem Trung Dzung, Ms Le Hoang Lan, Ms Pham Quynh Huong, Ms Le Thu Hoa Ministries: Ministry of Industry and Trade, Ministry of Health, Ministry of Construction, etc. Associations, Institutes, Universities: Association for Building Materials, VIFOTEC fund, Institute for Agriculture Environment, Hanoi University of Science and Technology, Hanoi University of Natural resources and Environment, VNU University of Science (Research Centre for Environmental Technology and Sustainable Development - CETASD), enterprises, etc.		
Main topic of the meeting	The inception workshop represents the first stakeholder engagement activity in the course of Project Preparation Grant activities.		
Meeting minute	Presentation of PIF. Presentation of the main outcome relating to POP, PTS and Mercury of Project ?Vietnam POPS and Sound Harmful Chemicals Management? ? GEF5/UNDP, including: - Legislation and policy framework, National Technical regulation and National Standard - Baseline data on POP, PTS and Mercury Presentation of the contents relating to Project document development, including: ? Current status of use, production, and emissions of POP, PTS, Mercury and products containing POP, PTS and Mercury in Vietnam ? Overview of some industries, sectors and discharge POP and Mercury ? Eco-label and green financial mechanism in Vietnam ? The information on Stakeholders and Gender analysis ? The environment and social issues ? Incentive mechanisms and Green labelling ? Environmental and Social Issues ? The outline of Project document - Propose the next activities		

Ministry of Natural Resources and Environment

1. Vietnam Environmental Protection Fund

Institution consulted	Vietnam Environmental Protection Fund (VEPF)	Date and venue	8.45 am ? 10.15 am 3rd June 2021 via online Meeting

List of participants	UNDP: Mr. Hoang Thanh Vinh, VEPF: Mr. Nguyen Duc Thuan, Director, Ms. Duong Thi Phuong Anh, VEPF Vice Director, Mr. Tran Thanh Nam, Mr. Le Quang Linh, VEA: Mr. Le Hoai Nam, Director of Department of Environmental Quality Management, Ms. Dang Thuy Linh, Ms. Phan Thi To Uyen International consult: Mr. Carlo Lupi, National consult: Ms. Le Hoang Lan,
Main topic of the meeting	Learn about VEPF activities. Find out the possibility of VEPF getting involved in this project.
Meeting minute	VEPF has experiences in risk assessment and Appraisal, ensuring the non-performing loans ratio < 3% - The lowest lending rate is 2.6% per year for guaranteed projects (the highest is 3.6% per year). - VEPF ensures 3 principles: Right object (List of projects eligible for loan comply with current regulations in Appendix III of Decree No. 40/2019/ND-CP); Right purpose; and ensuring the return of capital. In cases the subjects are not included in Appendix III of Decree No. 40/2019/ND-CP but on the list of projects that Vietnam commits internationally, they are still eligible for loans. - VEPF has participated in many international funding projects, providing financial support to projects on the regulatory list and raising awareness for enterprises to access preferential loans to transform technology and products in an environmentally friendly manner. - Within the scope of Project, VEPF expect the project will support to develope the Circulars, technical guidelines, manuals on credit and lending for the project's beneficiaries and other lenders. - VEPF is willing to contribute to the draft project documents and participate in activities of reducing emissions and impact of POP-Mercury Project. The Vietnam Environment Administration will send documents to VEPF on participating the project and co-financing commitment for the project.

2. Institute of Strategy and Policy on Natural Resources and Environment

Institution consulted	Institute of strategy and policy on natural resources and environment (ISPONRE)	Date and venue	10.30 am - 11.30 am 3rd June 2021 via online Meeting
List of participants	UNDP: Mr. Hoang Thanh Vinh, ISPONRE: Ms. Anh, representative of ISPONRE; Mr. Binh, Resource and Environment Economy Division, ISPONRE; Mr. Anh, Environment Division, ISPONRE Department of Environmental Quality Management - VEA: Ms. Dang Thuy Linh, Ms. Phan Thi To Uyen, National consult: Ms. Le Hoang Lan,		
Main topic of the meeting	Learn about Green credit, Green projects. Find out the possibility of ISPONRE participating in this project.		

Meeting minute	ISPONRE consultants and staff discussed and clarified some related issues: Criteria for determining projects eligible for granting green credit and issuing green bonds: consider to amend regulations on investment projects in the form of production, business and services that are likely to cause environment pollution will not be granted green credit or issued green bonds. Classification of green projects: Currently, ISPONRE is developing a list of 124 green projects that are eligible for incentives to access green credit or mobilize green bonds, in 13 sectors and divided into 6 target groups (including the goal of transforming technology towards environmental friendliness; and the goal of waste management and treatment). + This list is based on 82 EU category in Climate Bond Initiative-CBI program. ISPONRE will share this draft list of 124 projects (after approving by ISPONRE Leaders). + The list of green projects will be planned to issue in the form of a Decision of the Prime Minister (due to difficulties in integrating, specifying in the draft Decree guiding the Law) and will be constantly updated (including projects from green to greener, or from brown to green). - Regarding the preferential policy mechanism for projects meeting the criteria for granting green credit: comply with laws (Law on credit?), the State Bank's policy on interest rates and incentives in credit extension. - Regarding the overlap of the list of 124 projects mentioned above with other contents in the draft Decree guiding the Law on Environmental Protection in 2020, specifically: + For Appendix 77 on the list of environmental protection activities eligible for incentives and support (chaired by the Department of Policy, Legal and Inspection - Vietnam Environment Administration) in the draft Decree dated June 1, 2021 : This list of 124 projects will follow the list in Appendix 77 (this list is simpler). + For Appendix 9 on Types of production, business and services that are at risk of causing environmental pollution (chaired by the Environmental Impact Assessment and Appraisal Department - Vietnam Environment Administration) in the draft Decree dated June 1, 2021: The list in Appendix 9 could be included in List of 124 projects. + For Appendix III on List of environmental protection activities eligible for incentives and supports of Decree No. 40/2019/ND-CP dated May 13, 2019 of the Government that amending and supplementing some articles of decrees detailing and guiding implementation of the Law on Environmental Protection: ISPONRE discussed and worked with the Environmental Protection Fund on this content. - ISPONRE is willing to contribute comments to draft project documents and participate in the activities to reduce emission and impact of POP-Mercury. - UNDP: It is necessary to consider preferential policies to borrow capital from funds such as the Environmental Protection Fund for a polluting, high-risk project, especially this project.

Ministry of Industry and Trade (MOIT)

3. Vinachemia

Institution consulted	Vietnam Chemical Agency (Vinachemia)	Date and venue	7th Apr. 2021
List of participants	VEA (Department of Environmental Quality Management): Mr. Le Hoai Nam - Director, Mr. Nguyen Hoang Duc, Ms. Phan To Uyen, Ms. Dang Thuy Linh Vinachemia: Mr. Luu Hoang Ngoc ? Deputy Director General, Ms. Ha, Ms. Le Phuong Thuy, Mr. Thuan, Mr. Kien International consultant: Mr Carlo Lupi. National consultants: Mr. Do Thanh Bai, Mr. Nghiem Trung Dung, Ms. Le Hoang Lan Hoang Kim Company: Mr. Tran Nhu Duc Hau		
Main topic of the meeting	Discuss the management of the Chemical Department for the import, production, trading, and use of chemicals by enterprises.		

Meeting minute	Mr. Nam shared information about the General Department of Customs, which is building a database to display on the website on the management of enterprises importing goods and chemicals, and plans to share it with relevant agencies. Mr. Ngoc informed that the management of enterprises that produce, use and trade chemicals is managed in two forms: the Department of Industry and Trade reports on paper and enterprises report electronically and in paper. It is expected to amend the Law on Chemicals (2021), which is expected to be fine if enterprises do not declare fully. Currently, a limited chemical import license is granted but for an indefinite period. The Department of Chemicals has not received from Customs on import data related to chemicals. The Department of Chemicals manages in the form of post-inspection. Every year, post-inspection is carried out, but not yet sanctioned. Customs has not strictly regulated the import of restricted chemicals. Businesses only need to declare that they have chemicals to get customs clearance. HS codes, and CAS codes are sometimes still not the same. Current regulations only manage import and business units, production units, and units used for production are not controlled. Importing units for use only have to declare chemicals and do not have to conduct post-inspection. Request: + Should stipulate that there is a document component in the customs declaration (about the declaration of imported chemicals...). + Should stipulate that the grant of permits must have a definite time and deduct the volume of import registration (done electronically or via excel). + It is possible to arrange a meeting of 3 parties: General Department of Environment, Department of Chemicals, General Department of Customs to exchange and clarify relevant issues.

Institution consulted	Vietnam Chemical Agency (Vinachemia)	Date and venue	11 June 2021, 9:30 am-10:30 am
List of participants	UNDP: Mr. Hoang Thanh Vinh VINACHEMIA: Mr. L?u Hoang Ngoc - Deputy Director General, Ms. Le Phuong Thuy and Mr. Le Viet Thang VEA ((Department of Environmental Quality Management): Ms. Dang Thuy Linh and Ms. Phan Thi To Uyen Consultants: Ms. Le Hoang Lan, Mr. Nghiem Trung Dzung, and Mr. Do Thanh Bai		
Main topic of the meeting	Sharing information dealing with project and the roles of Vinachemia in the project document development process and implementation. Expectation from Vinachemia and MoNRE from the components of the project and also the project outputs		

Meeting minute	Mr. Vinh chaired the meeting and requested all consultants informing the meeting attendees about project document and detail explanation of each project components as well as to response to questions from Vinachemia. Mr. Bai introduced briefly on component 2 of the project: Mr. Bai thanks the valuable supports from Vinachemical in POPs importation data sharing. General Objective and Targets of the project (lifecycle management of POPs and PTS). 02 main outcomes of the project. Series of activities to get the outcomes. Mr. Bai recommended the strongly needed inputs from cooperation and willingness from industries as well as from other stakeholders, especially from MOIT. Mr. Bai also answered the questions from Mr. Ngoc (Vinachemia) on how Vinachemia project of Green Chemistry and some others could be integrated in this project. Mr. Dung (NC3) introduced briefly on component 3 of the projec. Mr. Dung also thank Vinachemia on good cooperation and data sharing about Hg. The outputs of the project on mercury reduction is addressed and needed activities for Hg reduction from different sectors are also discussed. The mercury sources are identified in the project document, but for controlling personal and household tools containing Hg is a big challenge. 03 main outputs of the project. Availability of lamp producing companies for the compliance with QCVN 02:2020/BCT (National technical regulation on mercury content in fluorescent lamp) of Ministry of Industry and Trade (Issued by Circular 45/2020/TT-BCT, dated 21-12-2020, of Ministry of Industry and Trade) was confirmed by Mr. Ngoc. Mrs. Le Hoang Lan (NC1) Cooperation between MONRE and MOIT in developing new policies, regulation and standards for strictly regulating POP and mercury contents in industrial products of Vietnam should be considered by both ministries. Mrs. Dang Thuy Linh (MONRE) The final cooperation mechanism among the stakeholders (MONRE, MOIT and MOF/CUSTOM) will be documented and should be an open discussion for the issues of information sharing, standards development and mechanism of POP and mercury reduction management will be a government instrument to support sustainable development of Vietnam Mr. Ngoc (MOIT) Hope to cooperate and participate in the project. Some preliminary contents, including An overall assessment is required to complete the legal documents. Research to develop more technical regulations related to mercury and other fields (go with QCVN 02:2020/BCT - National technical regulation on mercury in fluorescent lamps.). The draft Decree guiding the implementation of the Minamata Convention is currently being developed and will be consulted, so more time is needed. More time is needed to find out information if pilot models at enterprises will be implemented (for scale, desire to participate...). The Green Chemistry Project showed a large amount of imported POPs, including SCCP, the Department plans to develop a Project focusing on SCCP. Could contribute to content of project in Hg management and eco-label. Mr. Vinh gave conclusion Hope the final project document will be completed soon and that will be shared to Vinachemia because many components need to have MOIT involvement UNDP will consider other project ideas in order to support Vietnam more and reducing POP chemicals that now is imported with quite high quantity for different development activities in Vietnam Experience in Green Financing mechanism and Eco Label tool implementation should be shared among projects in order to reach highest efficiency of external supports.

4. Energy Efficiency and Sustainable Development Department

Institution consulted	Energy Efficiency and Sustainable Development Department (EESDD) , Ministry of Industry and Trade	Date and venue	10.30 am - 11.30 am June 11,2021 via online Meeting
List of participants	UNDP: Mr. Hoang Thanh Vinh, EESDD: Mr. Bach, Mrs. Bui Thi Hien, VEA (Department of Environmental Quality Management): Ms. Phan Thi To Uyen, Ms. Dang Thuy Linh, National consult: Ms. Le Hoang Lan		
Main topic of the meeting	Learn about EESDD's management practices for Sustainable production and consumption, Green Financial. Find out EESDD's interest in this project.		
Meeting minute	Consultants and EESD staffs discussed to clarified some related contents: Sustainable production and consumption: +EESD proposes to support policy framework development. + Directly support for enterprises to implement sustainable production and consumption -> build pilot models -> develop technical guidelines for scaling up: * Cleaner Production: EESD has developed around 20 technical guidelines for different industries (including plastics). * Current approach is lifecycle management to reduce consumption of materials and use resources efficiently (sustainable design, eco-design, design to recycle, reuse and production, distribution, consumption...). In the 2021 ? 2030 period, focussing on priority for the fields: packaging, beverages, garment, and household furniture. Technical guidance on fisheries and beverages is currently being developed (can be developed for each stage of life cycle management). The national action program on sustainable production and consumption for the 2021 - 2030 period has not yet implemented activities to promote green public procurement practices. However, through the Center for Industrial Promotion and Industrial Development Consulting, we are currently piloting a model of eco-labelling (mainly energy-saving labeling) at some typical enterprises to build a technical guidance. Within scope of this project, priority can be given to the following fields: Basic chemicals; Thermal power ash, steel, cement... - Green Financial: The Ministry of Industry and Trade has participated in the project of ADB in coordinated with the State Bank of Vietnam to pilot green finance for renewable energy projects; projects for seeking preferential loans for projects of using energy efficiently of the World Bank, UNDP - Capacity Building: Training and capacity building activities in National Action Program on Sustainable Production and Conservation were carried out with the participation of the Center for Industrial Promotion and Industry Development Consulting in 63 provinces in the whole country. Therefore, the proposal of ?improving the capacity of centers, experts and enterprises to use local resources to consult and promote sustainable production and consumption and developing lectures for lecturers on sustainable production and consumption? should be considered. - EESD is willing to contribute the comments to the draft documents of project document and participate in activities to reduce emission and impact of POP-Mercury.		

Ministry of Health

5. Medical Equipment and contruction Department

Institution consulted	Medical Equipment and contruction Department (MECD), Ministry of Health (MOH)	Date and venue	138A Giang Vo, Hanoi, 13th April, 2021

List of participants	MOH (MECD): Mr. H?ng, Mr. Hai, Mr. Toan VEA (Department of Environmental Quality Management): Ms. Phan Thi To Uyen, Ms. Dang Thuy Linh National consultants: Mr. Nghiem Trung Dzung, Mr. Tran Nhu Duc Hau ? Hoang Kim Company
Main topic of the meeting	Learn about the management activities of the Ministry of Health for the import and use of medical equipment containing Mercury such as mercury thermometers, mercury manometers
Meeting minute	The Ministry of Health has an electronic portal that provides information on regulatory documents on classification and management of medical equipment, and a list of units eligible for classification of medical equipment. . The medical equipment containing mercury in Vietnam is almost imported, not produced domestically. Class A devices only need to be declared once, and are valid forever. These claims may also be withdrawn, based on the results of post-inspection by regulatory authorities, or by self-recalls by establishments when their products are found to be substandard. The BYT has no control over the quantity of imports. The licensing and control of the equipment classification units, the units that are qualified to carry out the classification are granted a one-time operation certificate, with no term; the staff performing the classification must be retrained every 3 years. The classification of medical devices is based on the level of risk. There are many types, so it is only classified according to the provisions of the Circular without a specific list. MOH does not manage the quantity of imported mercury-containing medical equipment, nor does it coordinate with Customs to manage the quantity. Regarding the inspection and examination of the use of medical equipment containing mercury, the management agencies only carry out post-checks when the quantity used is high or when there is an incident. The management of damaged equipment, the disposal of equipment containing mercury and POP compounds is the responsibility of the Department of Health Environmental Management. Regarding the use of thermometers and mercury manometers, For large hospitals (under the Central Government), every year the Ministry of Health only manages the plans for using medical equipment of hospitals, not actual amount used. For local affiliated hospitals (province, city) managed by Departments of Health. There are no periodic reports of this use. According to regulations, there are 49 types of equipment managed by MOH that require a license. Others are imported as normal products (including manometers and mercury thermometers). The electronic management system has been in place since 2017. Before 2017, there was no information on the import and use of these products because no management was required. Medical equipment is managed by many units, but the output waste does not have specific management regulations.

6. Health Environment Management Agency

Institution consulted	Health environment management agency (HEMA), MOH	Date and venue	14:30 PM ? 16h00 PM, June 3, 2021. Online Meeting (via Zoom meeting)
List of participants	UNDP: Mr. Hoang Thanh Vinh, MOH (HEMA): Ms. Nguyen Thi Lien Huong, Director ofHEMA; Mr. Nguyen Anh Dzung, Head of division of environmental health and chemical management, HEMA VEA: Ms. Phan Thi To Uyen, Ms. Dang Thuy Linh, National consult: Ms. Le Hoang Lan, Mr. Nguyen Trung Dzung		

Main topic of the meeting	Learn about the management activities of the Ministry of Health for devices containing Hg, such as temperature measurement. Difficulties in management, and proposed solutions.
Meeting minute	Mr. Nguyen Anh Dzung - Hema: - Regarding state management, there is a large content that has not been included, that is Hg households thermometers (because used in medical facilities are considered as medical devices), so these Hg thermometers have not been managed, controlled, recovered... Currently, Vietnam's population is mainly in rural areas (70%), so these subjects are difficult to manage, and their awareness is not high, while according to current rules, only the licenses of pharmacies are managed, not the sale of drugs and devices. Therefore, it is necessary to develop a policy framework on managing the import of medical devices. - Due to lack of resources (budget...) Health environment management agency has not carried out many professional activities. In the future, expectedly: + Develop a clear and complete legal policy framework on Hg management in particular and medical waste management in general (Joint Circular No. 58/2015/TTLT-BYT-BTNMT has not yet regulated the safety collection and treatment of medical wastes). + It is necessary to strengthen communication to households and pharmacies about the safe use and replacement of medical devices. Ms. L? Ho?ng Lan: - The Ministry of Health does not manage the quantity of imported medical devices containing Hg. So what difficulties does the Department have, what suggestions do you have in replacing thermometers and sphygmomanometers containing Hg or in green procurement? Mrs. Nguy?n Th? Li?n H??ng: - Training for 100 health facilities to replace Hg is only temporary and does not completely solve the current situation. - Proposing to carry out investigation and survey on the use of thermometers, Hg sphygmomanometers and Hg removal in this project. - According to current regulations, Hg thermometers have not been banned, so it is not possible to assess the difficulty or replacement of this product. Regarding green procurement, UNDP (Mr. T?ng) coordinated with the Financial Planning Department of the Ministry of Health about the procurement of medical equipment. Currently, the Ministry of Industry and Trade is developing a draft Decree to implement the Minamata Convention, so there is no basis for implementation. Mr. Hoang Thanh Vinh: - Regarding the Minamata Convention, will discuss further with the Ministry of Industry and Trade. - The investigation and survey on the use of Hg thermometers and sphygmomanometers and Hg removal will be carried out during the implementation phase of project. - Request the data on the current status and use of Hg-containing medical equipment (Pilot project to recover Hg from medical waste), management orientation in near future; propose contents for implementation. Ms. Dang Thuy Linh: - The Vietnam Environment Administration will send Official document and to the Department on invitation to participate the project implementation.

Ministry of Finance

7. General Department of Vietnam Customs

Institution consulted	General Department of Vietnam Customs (GDVC)	Date and venue	9D D??ng Dinh Nghe, Hanoi, 30th March, 2021

List of participants	MOF (GDVC): Mr. Ho Anh Tuan, and other staffs VEA: Mr. Le Hoai Nam, Ms. Dang Thuy Linh, Ms. Phan Thi To Uyen National consultants: Mr. Do Thanh Bai, Ms. Le Hoang Lan, Mr. Nghiem Trung Dung, Ms. Pham Quynh Huong, Ms. Le Thu Hoa
Main topic of the meeting	Learn about the management activities of the General Department of Vietnam Customs for the import of chemicals, products containing chemicals related to POP, new POP, and Mercury
Meeting minute	There is no specific HS code for POP, so it is difficult to separate exact information about materials and products containing POPs imported into Vietnam. Mercury-relevant information can be provided more specifically and clearly. Currently, the chemical declaration is implemented through the one-door mechanism at MOIT (according to Decree 113/2017/ND-CP), then goods with the import permits of MOIT will be cleared. Customs Department only manages the total amount imported. Requests: It is necessary to agree on the regulations on the list of chemicals prohibited or/and restricted from import that is specified in the Decision 1598/2017/TTg and the Decree 113/2017/ND-CP. Goods with chemical content exceeding the limit regulated the list of chemicals prohibited from import, must be applyed the import banning mechanism at the border gate, but not the post-inspection mechanism, because it will cause complications and difficults in management.

Ministry of Public Security

8. Police Department of Fire Prevention, Fighting and Rescue

Institution consulted	Police Department of Fire Prevention and Fighting and Rescue (PDFPFR)	Date and venue	#1, Vu Huu, Hanoi, 30th March, 2021
List of participants	PDFPFR: Ms. Nguyen Thi Mua, Mr. Tran Trung Thanh, Mr. Nguyen Trung Son, Mr. Tran Hoang Thao, Ms. Nguyn Do Quyen. VEA: Mr. Le Hoai Nam, Ms. Dang Thuy Linh, Ms. Phan Thi To Uyen National consultants: Mr. Do Thanh Bai, Ms. Le Hoang Lan, Mr. Nghiem Trung Dzung, Ms. Pham Quynh Huong, International consultant: Mr. Carlo		
Main topic of the meeting	Learn about the management of the Police Department of Fire Prevention and Fighting and Rescue for the import, production and use of chemicals used in fire prevention and fighting activities.		

Meeting minute	Their testing function is in accordance with Decree 136/2020/ND-CP. For fire fighthing chemicals, the testing focuses on mechanical properties and fire fighting efficiency, but not on chemical composition beacause of having not regulations related. All flame retardant chemicals use in Vietnam must be certified by the Fire fighting Police Department. The foaming agents used to extinguish the fuel fire is AFF foarm, imported from India, Germany and Vinafoam (being Vietnam enterprise operated since 2018). In the last 3 years, the Firefighting Police Department have imported more than 200,000 liters of AFFF 3% and 6% from Vinaform. All imported flame retardant chemicals have the catalog from manufacturer, but not the MSDS accompanied. The Firefighting Police Department has the close coordination with the Chemical Safety Department in managing businesses that use chemicals. Requests: The Firefighting Police Department will consider and provide the AFFF sample for POP-Mercury project to test and share information on the composition and content of POP in the foaming flame retardant agents used in Vietnam.

Enterprise

9. Vinafoam Vietnam Co.,Ltd

Institution consulted	Vinafoam Vietnam Co.,Ltd	Date and venue	Cam Dien ? Luong Dien Industrial zone, Cam Dien Commune, Cam Giang District, Hai Duong Province. 6th April, 2021
List of participants	Vinafoam: Mr. Ngo Hong Tien, Mr. Tuan, Mr. Thinh VEA: Ms. Dang Thuy Linh, Ms. Phan Thi To Uyen, National consultants: Mr. Do Thanh Bai, Environment Analysing and Technique JSC (Mr. Minh, Mr. Thien), Hoang Kim Company (Mr. Tran Nhu Duc Hau, Ms. Nguyen Nhu Cam Tien)		
Main topic of the meeting	Learn about the current status of using fire fighting foam in Vietnam. Production situation of fire fighting products of the Company. The use of raw materials, origin of raw materials, control of ingredients, mixing ratio of ingredients, product structure of the Company. The Company's market share in the field of manufacturing and supplying fire fighting foam and fire fighting products.		

Meeting minute	Most of the fire fighting products in Vietnam are imported from India (about 80%) and China; The information on imported fire-fighting foam components is mainly based on the parameters provided by the manufacturer. Imported fire fighting products are licensed by the Police Department of Fire Prevention and Fighting and Rescue. These products are only tested for the effectiveness of fire extinguishing (expansion, other fire prevention and fighting criteria...) without controlling the risks affecting the environment. On the Vietnamese market, about 90% of fire fighting products contain fluorine; As required, all petroleum and chemical warehouses in Vietnam must have fire-fighting foam storage tanks (used in class B fire fighting) to respond to fire and explosion incidents. Duc Giang petroleum depot is storing about 10,000 liters of fire-fighting foam. Most of these fire fighting products have been imported since the 2000s from Russia, Singapore... so the ingredients contain high fluorine. When China joined the Stockholm Convention, residual fluorine-containing foam products (about 20,000 tons containing PFOS, PFAS) could be exported to other countries, including Vietnam (the company has no information.). Vinafoam Vietnam Co., Ltd. is the first company licensed by the Ministry of Planning and Investment specializing in research and production of firefighting foam from imported foam concentrates with Spanish technology lines. In 2020, Vinafoam Company sold about 200 tons of foam concentrate (accounting for about 10% market share). Currently, the Company is building a project to manufacture fire extinguishers (with fire extinguishing powder as the raw material), expected to be completed by the end of 2021. The company will expand the production of fire extinguishing powder, the main ingredient is ammonium phosphate. and inorganic salts. The Company's input materials are controlled according to specifications, ingredients and are mainly imported from Europe and America. The company has 02 main product lines: Concentrated foam concentrate containing fluorine (AFFF 0.5%, AFFF 1%, AFFF 3%, AFFF 6%): The company uses concentrated foam with carbon chain C8 or higher. up but only fluorinated to C6 (easily decomposed in the environment, reducing the impact on humans but still ensuring fire fighting performance). Environmentally friendly fluorine-free concentrated foaming agent (FFF - Free fluorine): The foam is mainly composed of cleaning chemicals, carbon-chain surfactants C12 - C14. The composition of the foam concentrate consists of 90% water and 1% concentrate, the rest are surfactants. The 1% concentrate itself contains up to 70% water. The company aims to replace fluorine-containing materials with plant-based products such as palm oil, coconut oil... with good biodegradability. The company just sent the product to Germany to check the fire-fighting efficiency (expansion ...) and analyzed the decomposition level in water samples in Hai Duong. The results of the BOD5, COD study showed that: + For products with fluorine: Decompose within 14 days, the result is 0.99. + For products without Fluorine: Decompose within 5 days, result is 0.65. Requests: The Company's fluorine-containing foam concentrates have a carbon chain of C8 or higher, but only fluorine to C6, that is, have a lower fluorine content than older products. However, in the long term, control measures must still be taken to avoid affecting future generations. The determination of the ratio of BOD5, COD does not show the full ability of self-degradation of fluorine-containing carbon chains. For the production of foam for class B fires (fires at chemical and petrochemical companies, aircraft, ships, etc.), it is very difficult to replace fluorine in firefighting products. The company wishes to know the composition of POP in fire fighting products; want to know what kind of fire extinguishing products are banned in the world (more analysis is needed for carbon chain C6 and above and carbon chain C6 and below). There are technology solutions for FFF products. Training and training on this content for officers and employees, especially for fire fighters; support businesses to replace non-POP products such as tax incentives... The experts asked the Company to provide the MSDS of the raw materials and the HS code of the Company's products.

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 detailed Stakeholder Engagement Plan is included in Annex 8 of the project document and provides strategic guidance on the mechanisms for stakeholder engagement during project implementation, which may be further revised and enhanced during project implementation. The Stakeholder Engagement Plan is designed to ensure inclusive, effective, and efficient engagement of the key stakeholders throughout the lifecycle of this GEF-financed, UNDP-supported project. The project will work with the following category of stakeholders:

Table 4: Summary of Key Stakeholder Analysis

Stakeholder	Institutional Role & Functions	Role in the project
Ministry of Natural Resources and Environment (MONRE)	MONRE is a government entity of the national administration structure performing state management functions in the areas of land, water resources; mineral resources, geology; environment; hydrometeorology; climate change; surveying and mapping; management of the islands and the sea. MONRE is the focal point for the Stockholm Convention on POPs and in charge of issuing waste release and emission standards and regulations for industry sectors as well as monitoring the level of hazardous chemicals release to environment by industrial production and manufacturing.	MONRE will be accountable for the Government of Viet Nam for ensuring (1) the successful execution of the Project; (2) mobilization of all resources including the needed co-financing for project implementation; and (3) the coordination among all related ministries, agencies, provinces (if necessary) and stakeholders involved in project execution. MONRE is the focal point for the Stockholm Convention in Vietnam. MONRE is the main co-financing partner of the project.

Ministry of Industry and Trade (MOIT)	MOIT is the government entity of the national administration structure performing the function of state management on industry and commerce. With regard to Chemical Management, MOIT/VINACHEMIA is responsible for defining government policies, proposing legislative frameworks for management and use of chemicals in industrial production and manufacture as well as imported chemicals. MOIT/SDO is responsible for coordinate and monitor Green Growth Action Plan in Industrial Sectors and Sustainable Consumption and Production Action Plan, which is guiding nation direction for Green Chemistry application in industrial production and manufacture.	MOIT will be a member of Project Steering Committee (PSC). MOIT will be a Responsible Partner in charge of all the issues related to the registration and authorization of industrial chemicals. MOIT has specific roles concerning the implementation of project sections relevant to mercury, with the exception of the issues related to mercury in medical devices which is under the responsibility of MOH. MOIT is a key financing partner of the project.
Ministry of Health (MOH)	MOH is the government entity of the national administration structure responsible for the State management of healthcare sector, including household chemicals, insecticides and disinfectant for domestic and medical use, cosmetics including their safety use; State management of food safety in food production facilities, business, etc. including food additives, etc.; Environmental protection in healthcare sector including medical waste. The Ministry of Health is also in charge of the response against the COVID-19 pandemic and therefore it establishes the guidelines and plans concerning the monitoring, prevention and vaccination of the COVID-19.	MOH is a member of the project committee. MOH will supervise the activity related to the replacement of mercury devices (thermometers, sphygmomanometers) as well as the compliance of project activities with the COVID-19 prevention rules in place. MOH will also be involved in identifying actions aimed at ensuring compliance with COVID-19 rules in the involved manufacturing facilities, and suggest investment aimed at ensuring the best protection of worker?s health in the workplace. MOH is one of the key co-financing partner of the project.
Ministry of Science and Technology (MOST)	MOST is the government entity of the national administration structure responsible for state administration of science and technology activities, including technology transfer and import of new technology; development of science and technology potentials; intellectual property; quality control of national standards.	The ministry has 2 functions: one concerning the support on quality control for waste release standards, and the second concerning introduction of new technology/solution for the project (where required)
Ministry of Labor Invalids and Social Affairs (MOLISA)	MOLISA is the government entity of the national administration structure responsible for state administration on employment, occupational safety, social insurances and vocational training; social protection and prevention of social evils; childcare and gender equality.	The ministry will be in charge of collaboration, provision of policy advices and monitoring activities related to the improvement of environment quality at workplace and mainstreaming of gender issue.

Viet Nam Environment Protection Fund (VEPF), managed by MONRE	VEPF is a state-owned financial institution under the MONRE responsible for financial support through soft loans provision for the implementation of programmes, projects, activities in environmental protection, natural resources and biodiversity conservation, and reduction of pollution and reduction of environmental risks.	**V**EPF is a member of Project Steering Committee (PSC). VEPF will be one of the financial entity supporting the Green Financing Mechanism for the enterprises applying solutions aimed at eliminating POPs and mercury from their processes and product and will be in charge of assessing enterprise application to the fund based on VEPF criteria established in the course of project implementation. VEPF is one of the main co-financing partner of the project
Local Government Agencies at provinces (DOIT, DONRE and DOLISA)	These are the respective provincial level departments of MOIT, MONRE and MOLISA.	Local ministry departments will be involved in the activities conducted at provincial level (*when relevant*).
Sector Associations (Plastic Industry Association, VICORRA) and enterprises (VINAFOAM VIETNAM CO. LTD)	All the industrial associations aim at protecting rights and legal benefits of their members in compliance with the relevant Vietnamese legislation. The associations also examine and propose to the Government regarding issuances of policies and strategies for the development of their industrial sector.	The Associations will be key partners in facilitating the activities to be conducted in the respective industrial sector such as collating sectorial information, disseminating information related to the project, providing support to the assessment and implementing awareness raising activities, specially to trainings to enterprises in each sector, CSR initiatives by enterprises, Infor Tech exhibition, etc. They are also co-financing partner for the project.
Other private enterprises relevant to the sectors of EPS/XPS manufacturing and import, flame retardant additives.	Several companies have been consulted in the course of project preparation, including the ones which have already implemented Green Chemistry and POP reduction initiative in the previous Green Chemistry project. These are listed in Annex 9 and in Annex 8.	Role of private enterprises will be to participate in project activities including piloting of POPs and mercury reduction activities, U-POPs and mercury reduction, participation in training and survey, participation as stakeholders in the workshops related to the establishment of new legislation on POPs and mercury.
NGOs and CSOs (tentative list included in Annex 8)	All these organization have taken an active role in awareness raising and carrying out activities related to environmental aspects, waste management, circular economy, recycling, etc.	NGOs will be consulted during all the key step of project implementation; some NGOs will be selected to carry out specific project activity, especially the ones requiring communication and awareness raising with potential project beneficiaries, and / or related to gender mainstreaming.

As required, the detailed Stakeholder Engagement Plan is reported as a separate attachment. The project will work with the following category of stakeholders:

1) Governmental stakeholders. These will include the two Ministries and regulators in charge of project execution (MONRE and MOIT) as well as other ministries which role will be crucial for the implementation of specific project component and establishment of regulation and norms relevant to the restriction of the use and import of POPs in manufacturing processes.

2) Public and private financial institutions involved in supporting the Green Financing Framework;

3) Private entities with interest in the environmental certifications.

4) Enterprises and association of enterprises which may be affected by the restriction on the use and import of industrial POPs;

5) NGOs operating in the multiple dimensions of environment, communication, people mobilisation, gender mainstreaming.

The project will engage the relevant stakeholders in different ways:

? The stakeholders who are eligible to take active part in the project (like enterprises and NGO) will be kept informed through direct contacts in workshops, awareness raising events and publication of information in the project website.

? The stakeholders who may have interest in project activity and which need to be informed because of potential positive or negative impact that the project will exert on them, will be mainly kept informed through communication tool aimed at reaching large audience, including TV broadcasting and newspapers.

? The stakeholders who have direct interest in understanding the project achievement and results, including regulatory, technological, scientific and methodological aspects, will be kept informed through regular publication of technical document and project report on the project website.

? A mapping of the project engagement methodologies by target audience are reported in tabular format 3 below:

Table 5: Mapping of stakeholders? engagement methodology by objective and target audience.

Project engagement methodologies, including communication Objectives and targeted audiences	Project website	Training and AR events, Workshops, online meetings	UNDP Website	Government websites	News papers	TV broad Casting

Project management office and consultants (upload/download of project documents; project monitoring and management)	Dedicated access based on user role	Dedicated training and workshop on project management				Movies on project implementation at factories and POPs
Communication with governmental institution (Meeting - minutes, milestones, relevant regulations, position papers etc.)	Dedicated section for project document upload/download, with access policies	Training for decision makers, customs, regulators, researchers	Project summary. Key project reports, news and events.	Project summary. National news and events, relevant regulations Links to project website	Interviews with gov. Officials, UNDP experts, national experts, industry leaders, NGOs	Interviews with gov. Officials, UNDP experts, national experts, industry leaders, NGOs
Communication with interested bidders (links to national and international bidding events)	Links to the tender section and jobs		Links to the tender section and jobs	Links to the tender section and jobs		
The general public	Public section in the project website, communication on POPs, environment, industrial processes		The UNDP website is open to the public	Project summary. National news and events, relevant regulations Links to project website	Selected news on CE, POPs, industrials sectors and project event	
Industrial partners	Training materials	Dedicated training and workshops	News related to industry and POPs			
NGOs	All the above except project management section	Dedicated training and workshops	The UNDP website is open to the public			
International expert and gov. from other projects, and other countries	All the above except project management section	Dedicate online and in presence events for experience sharing and lesson learning	The UNDP website is open to the public	Access to the section of the gov. Website translated in English		

It should be mentioned that the project has established already at PPG stage proper coordination with UNDP Philippines and the Vietnam EMB / DENR (Environment Management Bureau and Department of Environment and Natural Resources) 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, etc.

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.

It is acknowledged that attention ought to be given to the connections between gender concerns and chemicals. Women, men and children differ in their physiological susceptibility to the effects of exposure to toxic chemicals. Furthermore, women are particularly vulnerable to the adverse impact of hazardous chemicals due to the structure of their reproductive systems. POPs, including PBDEs and U-POPs (dioxins), are particularly harmful due to their capacity to accumulate in body fats and in breast milk, thereby posing a significant risk for women and infants.

Usually, risk-based environmental standards and risk-based corrective actions, following a precautionary approach, are designed taking into account the highest risk for the most sensitive and exposed population categories; therefore, environmental and toxicological limits take into account the specific issue of women and infants. Nevertheless, specific awareness-raising initiatives will be adopted to further reduce the risk of exposure of women and infants given their specific sensitivity.

A detailed gender analysis specific for the situation of Vietnam has been carried out during the project preparation stage. The main outcomes of the gender analysis are as listed below.

? There has been much progress on gender equality during the 10 years of implementation of the Law on Gender Equality. However, there are still many gender gaps for women, especially in terms of

job opportunities and wages. According to the MOLISA report in 2020, female workers account for nearly half of the national labor force, but employment is not stable and unsustainable.

? According to the General Statistics Office, women account for 49.65% of the labor force, of which three sectors have a high concentration of female workers and are closely related to POPs and mercury such as Textile 75%; Leather and footwear 85%; Seafood processing 85%;)***[1]***.

? In 2018, the Gender Inequality Index scored 0.314, making Vietnam the 68th out of 189 countries***[2]***

? Women are entering the workforce increasingly and largely in non-standard work sectors, including those related to POPs and mercury. For example, areas related to the production and use of plastics, polymers, metal plating, paint/solvents. The fact is that women participate in all these activities. However, the current regulations on pollution prevention and reduction are not strict. Policies on hazardous waste management in Vietnam are still incomplete.

Based on the above points, a Gender Action Plan has been developed and fully integrated in the project budget and in the project result framework (Annex 9). The Gender action plan includes:

? Availability of gender-specific training and awareness-raising initiatives.

? Initiatives and rules to ensure equal access to the job opportunities generated by the project.

? Equal access to the information generated by the project.

? Assessment of gender-specific chemical risk associated with POPs and PTS used and/or released by industrial activities and in consumer products.

? Specific health and safety rules for female employees in the waste collection and recycling industries.

? Gender mainstreaming in policy documents during review, amendment of existing, or creation of new legislation related to POPs and new POPs in key sectors

During project implementation, UN policies on equal opportunities will be considered with the purpose to ensure that the project supports women's capabilities and their enjoyment of rights, and women's equal and meaningful participation as actors, leaders and decision makers.

The budget for the GM action plan represents around 4.7% of the overall GEF grant budget for this project.

Table 6: Barriers to Gender Mainstreaming and Project Activities to address them

Barrier type	Barrier description	Female group affected	Project activity designed to address the barrier	Objective of the project activity
Gender mainstreaming in policy and regulatory documents	Gender mainstreaming entry point is missing in policy documents during review, amendment of existing, or creation of new legislation related to mercury, POPs and new POPs in key sectors	General population, workers exposed to POPs	1.1.1.5 Development of gender specific sections related to risk management of POPs and mercury to be included in the relevant legal documents.	A gender specific section for risk management of POPs and Mercury included in the relevant environmental regulation. At least one gender expert and women?s union involved in the consultation process of legal document development.
		General population, workers exposed to mercury waste	1.2.1.5 Development of the gender mainstreaming section in the mercury roadmap, through consultation of female workers and gender experts	The mercury phase-out roadmap includes one section concerning specific risk-management for women and job opportunities. At least one gender expert is involved in the drafting of the roadmap.
		workers exposed to mercury waste	1.2.2.5 Development of specific personal protective measures against mercury identified for women at workplace in the relevant legal documents, through consultation with women workers,	specific personal protective measures against mercury identified for women at workplace in the relevant legal documents

Equal access to the job opportunities generated by the project.	Vietnamese women are mainly employed in low-income or vulnerable occupations, are more likely to be victims of underemployment or unemployment and have more precarious employment conditions.	Women entrepreneurs	1.3.1.6 Development of a specific section of the Green Financing dedicated to the facilitation of women entrepreneurships. Gender experts are consulted during the design, financing and implementation of the Green Financial Mechan ism	Green financing includes facilitated access to loans to women entrepreneurs. 30% trainees are women in Green Financial training
		Women entrepreneurs	1.3.2.9 Development of Green procurement criteria which include facilitation for women entrepreneurs. Gender experts consulted during the design of the Green Procurement Plan	Specific Green procurement criteria including facilitations for women entrepreneurs.
Availability of gender-specific chemical risk assessment associated with POPs and PTS used and/or released by industrial activities and in consumer products.	Although risk assessment and management procedures are an inclusive approach based on the establishment of standards for the most sensitive population, when risk management in the workplace is not properly enforced, women are the most exposed to risk due to their intrinsic physiological characteristics.	Workers in the manufacturing sector	2.1.1.6 Review of the existing literature on new POPs to identify gender-specific issues related to risk-management in the enterprises and specific risk for female resulting from the exposure of POPs. Sex-disaggregated data on accident at workplace in the manufacturing industry with focus to exposure to chemicals.	One report on the identification gender-specific issues related to risk-management in the enterprises and specific risk for female resulting from the exposure of POPs. One report related to Sex-disaggregated data on accident at workplace in the manufacturing industry, with focus to exposure to chemicals.

		Workers in the manufacturing sector	2.1.2.6 Consultation female workers and gender experts from consumer association in the design of substitute products.	Consultation of female workers and gender expert carried out
Equal access to the information generated by the project. Availability of gender-specific training and awareness-raising initiatives. Availability specific health and safety rules for female employees in the waste collection and recycling industries.	Awareness of the differential effect of air pollution on women, children and men is virtually absent. Moreover, usually, the knowledge on the available technology and related costs related to air pollution prevention, including training, is managed by men workers.	General population	2.1.3.6 Gender-disaggregated assessment and awareness raising of the effect of air pollution on the population. Equal access to training ensured.	A report on the gender-disaggregated effect of industrial air pollution on the general population, with recommendation, carried out. At least 30% trainees on modern Air Pollution Control system are women
	Although women are very often involved in recycling activity, they have less opportunities to receive information related to the risk associated with waste recycling.	Workers in the waste management sector, including informal workers	2.2.1.5 Consultation of female workers and gender experts in the development process Interactions, technical exchanges and commercial agreements between recyclers and industry.	Consultation report on the gender issues in the recycling sector.

Availability of gender-specific training and awareness-raising initiatives.	Nurses are the ones at highest risk of getting in contact with mercury released by broken thermometers at hospitals however they have few opportunities to receive information related to the risk associated with the safe management of mercury waste.	Nurses and doctors	3.1.1.4. Development of specific materials of the risk management, technical guidance on personal protective measures for nurses and doctors at hospital facilities and the safe management of replaced mercury devices, including emergency response.	Training materials and technical guidance for personal protection for nurses and doctor to properly handle EOL mercury devices and mercury spillage.
	Training on technical matters are always mostly attended by men. This trend has been observed also in previously implemented project in Vietnam.	Nurses and doctors	3.1.2.5 Participation of female trainers and trainees in training event related to the elimination of mercury containing products.	At least 60% of the healthcare facility staff trained are female. At least 30% of the office personnel trained are female. At least 30% of the office personnel trained are female.
Equal access to the information generated by the project. Equal access to the job opportunities generated by the project.	The staff of projects implemented by UNDP in Vietnam has usually saw high women participation. Is therefore advisable to continue with this standard	Project staff	Indicator 18: Number of project staff appointed (F/M)	At least 50% staffs of the Project management institutions are women.
		Project staff. Project beneficiaries.	Target: Project management institutions established with an equal F/M ratio. Indicator 19: 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.

[1]https://moh.gov.vn/web/phong-chong-benh-nghe-nghiep/thong-tin-hoat-dong/-/asset_publisher/xjpQsFUZRw4q/content/cham-soc-suc-khoe-nu-cong-nhan-tai-cac-khu-cong-nghiep?inheritRedirect=false

[2] United Nations Development Programme. Human Development Indices. http://data.un.org/DocumentData.aspx?id=415

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 Yes

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.

Partnership with enterprises and Industrial Associations has been actively sought in the course of project preparation, and will continue during project implementation. Enterprises are the key actors that will ensure the shifting toward Green Chemistry implementation and POPs-free manufacturing, and will co-finance the associated intervention to their plants, including the installation of APCSs (Air Pollution Control Systems). From its side, the project will ensure funding of new equipment, technical assistance to implement Green Chemistry and POPs-free technologies, and will facilitate their participation in the law-making process related to POPs. A trustful and open relationship with manufacturing enterprise is key for the success of this project.

The project has already established a partnership with the following industrial associations: Vietnam Plastics Association (VPA); Vietnam Corrosion Association (VICORRA). These partners have already committed for project co-financing.

Moreover, the project has selected a number of industrial sites which, although there is not yet a formal agreement for project implementation in place, have been prioritised for site-visit and demonstration of project activities (see Annex 18 to the project document ?Preliminary list of industries for the survey?, and Annex 19 ?Tentative list of hospitals for the demonstration of non-mercury thermometers?

More details concerning the engagement of the private sector are provided in the ?Stakeholder Engagement Plan? attached as Annex 9 of the attached project document.

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):

The overall risk categorization for this project is determined to be Substantial. Therefore, a series of Risk Mitigation/Avoidance Mechanisms are being proposed in line with the UNDP SES Policy that will be either addressed by project design or through scoped Environmental and Social Management Plan (ESMP) / targeted Plans. These Plans will be completed during the first year of implementation and before undertaking any activity for which a specific risk has been identified.

Table 7 Risk assessment and mitigation measures

Risk Description	***Significance (Low, Moderate Substantial, High)***	***Mitigation measures***

Risk Description	*Significance (Low, Moderate Substantial, High)*	*Mitigation measures*
Risk 1: Duty-bearers, and other relevant stakeholders do not have the capacity to meet their obligations in the project	**Moderate**	**This risk is being addressed/mitigated by Project Design. (Components 1 and 4)** (a) The project will deploy training to ensure that the relevant Governmental Officials are assisted. The training will focus on the improvement of knowledge, capacities and practical actions to enforce the enhanced regulatory framework related to green supply chains of chemicals industries, Ecolabel and environmentally sound management principles of Mercury and Mercury/POPs emissions control. The training will also allow the Officials to understand their new extended responsibilities arising from the improved institutional and regulatory frameworks being developed by the project in terms of new legislation, guidelines and mandatory standards. (b) & (c) Consultation meetings with Banks and financial institutions will held during the development of the project document to engage their participation. Training, capacity building, communication will be carried out. The project will support these stakeholders to develop the eligibility criteria for the application to the Green Financing mechanism and demonstration activities under Components 2 and 3 will provide practical experinces in the application of the Financing Mechanism. (d) During design phase, initial agreement has been already achieved with the Vietnam Environmental Protection Fund (VEPF) and the Banks BIDV, SacomBank for applications of resources to the Green Financing Mechanism. GEF grant will provide seed funding in the form of micro-grants to faciliate scale up and the Co-finance Letters will be attached to the Project submission and the realizaiton of the co-finance will be monitored under the Component 4 in several strages of the Prioject cycle (including, but not limited to: Annual PIRs, Mid-term review and Terminal Evaluation).

Risk Description	*Significance (Low, Moderate Substantial, High)*	*Mitigation measures*
Risk 2: Adverse impacts on workers in the recycling sector who could not be included in the project activities	**Moderate**	**This risk is being addressed/mitigated:** - Partially by Project design (Components 2 and 4) - Partially through scoped ESMP - Partially by the Stakeholders Engagement Plan developed Waste Recycling Industries were pre-screened during design phase. While final selection and engagement (including due diligence and contractual arrangements) will be carried out during implementation phase, it is confirmed that no indigenous people work in the pre-selected industries, therefore Standard 6 is not triggered. Nevertheless, a **scoped Environmental and Social Management Plans (ESMP)** will be prepared to mitigate and monitor any potential risk related to continue to monitor any risk related to potential use of indigenous work force by the industries engaged through the Project. The component 2 of the project will support the work of Recycling Industries by establishing a network and marketplace with manufacturers that may use recycled materials. Promote interaction, technical exchange and commercial agreement between recyclers and industry will bring new opportunities to recyclers to improve and increase their wastes? collection/recycling/processing/treatment capacities. With improved capacities at Industry level, is likely the job opportunities may be created, which will benefit workers with increased job creation and sources of income (Outcome 2.2). Compliance with SES and National/International Rules and Standards on worker?s safety was part of the risk mitigation strategy #6, specially: (a) Workers? rights and engagement in the project will be assured through their participation in the marketplace roundtables to prevent that the opportunities generated by the project will translate in the consolidation of existing situations of inequality, discrimination or unlawfulness. The Project Board will also assure the participation of the worker?s representative in the form of the Project Beneficiaries. Grievances/redress mechanism will also serve to address any issue that could be raised by the target stakeholders. (b) A scoped Environmental and Social Management Plans (ESMP) will be prepared to avoid and monitor any potential risk related to perception of (external) individual or cooperated stakeholders that work in the Municipal Solid Waste Management (MSWM) (not subject or in the area of influence the Project activities) so to avoid the perception of ?loss of income? due to the work in the Hazardous Waste Management area. Strong awareness and communication strategies will be put in place under Component 4 so to address to the MSWM workers in this regard.

Risk Description	*Significance (Low, Moderate Substantial, High)*	*Mitigation measures*
Risk 3: Adverse economic impacts to small and medium sized industries and their workers due to banning of imports or restricting the use of certain chemicals used as baseline raw materials.	**Moderate**	**This risk is being mitigated by Project Design. (Components 1 and 2)** ? Under the Component 1, the Green Financial Mechanism aims to mitigate the financial impact of the Convention?s implementation by mitigating the financial burden for the enterprises compared to the baseline. - A roadmap for banning of imports or restricting the use of certain chemicals will be introduced through a clearly identified timeline, which is agreed by stakeholders. ? Under the Component 2 (Outcome 2.1). The project will engage all stakeholders to identify win-win design or engineering solutions aimed at reducing the need for chemicals whose uses will be restricted and finding affordable and effective alternatives for chemicals that will be banned; - A specific category of ?eco-labelled products? will be identified so the design, manufacturing and placing on the market of products fulfilling the labelling requirements will be eligible under the green-financing mechanism that will be developed under the project. - The Project will also engage with the government and seek additional support or conversion financing can be made available to such companies. ? During project implementation, Risk Assessment will be undertaken for the pollution control technologies application and the new production BAT/BEP used taking into consideration their impacts on workers. The industries will consult with trade unions or other workplace representatives to avoid or reduce redundancies, the method of selection and mitigating the effects, integrating outcomes into the final restructuring plan. This includes potentially training qualified existing staff on other roles or skills that may be needed at the industry. Where no viable alternatives are identified, a Restructuring Plan will be developed to reduce and mitigate adverse impacts of retrenchment on workers, including the following: - Ensuring that any collective dismissals are carried out in accordance with the provisions of national law and applicable collective agreements. - Ensuring that the criteria for selection for redundancy are objective, fair and transparent and aim to be gender-neutral; and implement a procedure which provides individuals with the right to challenge their selection. - Ensuring that all outstanding back pay, social security benefits and pension contributions and benefits are paid to those affected by retrenchment in a timely manner. - In the case of large-scale redundancies, provide UNDP with a copy of the restructuring plan, ahead of any dismissals.

Risk Description	*Significance (Low, Moderate Substantial, High)*	*Mitigation measures*
Risk 4: Inadequate participation of women in consultations, policy decision making and design of modalities for capacity building in uptake of BAT/BEP in the targeted industries	**Moderate**	**This risk is being managed by a Targeted Plan developed and attached to the Project Document.** The Gender Action Plan (GAP) is addressing potential risks and included measures to mainstream gender in all project components, with specific focus on encouraging women representation in the following: ? In line with the Risk Mitigation Strategy associated in Risk #2, women will be encouraged in the engagement with the project through their participation in the marketplace roundtables to prevent that the opportunities generated by the project will translate in the consolidation of existing situations of inequality, discrimination or unlawfulness. ? Adequate inclusion of women employees in the project decision making process and the BAT/BEP selection processes; ? Training and supporting more women employees to management positions including being middle and senior managers; ? Supporting all the women and men who could potentially lose their jobs to be appropriately relocated; ? Making sure the project results dissemination materials be gender sensitive; ? The project publicity targets proportionally toward relevant women and girls; and ? Collection of sex-disaggregated data wherever relevant.

Risk Description	*Significance (Low, Moderate Substantial, High)*	*Mitigation measures*
Risk 5: Risk of accidental release of hazardous substances during handling, treatment, transport between facilities, storage, disposal or testing of substances and wastes contained-chemicals.	**Moderate**	**This risk is being addressed/mitigated:** - Partially by Project design - Partially by ESMP and additional Target Plans <u>For the Project Contractors/Service providers</u>: the project will engage a number of service providers/contractors to support the operationalization of several activities. These will be engaged using procurement (tendering) processes against clear Terms of Reference and Technical Specifications as approved in the Procurement Plan. a) Under Outcome 3.1, the project will ensure that qualified waste management companies will be recruited through public tendering process. Clear criteria will be set to ensure strong track records and compliance with relevant National and International regulations and standards for handling, treatment and disposal of hazardous waste. b) The Contractors in charge of transportation, storage and handling of hazardous chemical must comply with Environmental Protection Law and Circular 36/2015/TT-BTNMT on hazardous waste management (applying for Environmental License and Workers certification and training). c) Targeted Spill Prevention and Management Plan will be developed and implemented at sites for safe handling and disposal of chemicals and mercury-containing obsolete devices and safely cleanup of accidental mercury releases. <u>For the Industries that will participate in BAT/BEP Demonstration Activities</u>: The project will provide technical assistance and oversee the deployment of technologies for the recycling of mercury containing equipment with segregation and storage of mercury. The Industries/Companies will implement such technologies through using their co-finance (not part of Project Budget. d) Eligible Industries and Enterprises were pre-screened during design phase. While final selection and engagement (including due diligence and contractual arrangements) will be carried out during implementation phase, it is confirmed that all eligible companies are located in industrial (legal) areas with <u>no Heritage/Cultural Sites in these areas, therefore, Standard 4 is not triggered</u>. e) Environmental and Social Impact Assessment (ESIA) for each selected Industry/Company will be developed so to assess the potential social and environmental impacts in their area of influence. A scoped Environmental and Social Management Plans (ESMP) will be prepared to avoid and monitor any potential risk related to the demonstration activities co-financed by the Companies and that will be subject of oversight by the Project. f) Targeted Spill Prevention and Management Plan will be developed and implemented at demonstration sites for safe handling and disposal of chemicals and mercury-containing obsolete devices and safely clean up of accidental mercury releases.

Risk Description	*Significance (Low, Moderate Substantial, High)*	*Mitigation measures*
Risk 6: Risk of flooding at mercury treatment and storage facilities	**Moderate**	**This risk is being addressed/mitigated:** - Partially by Project design - Partially by Target Plan Eligible Location and Company were pre-screened during design phase. While final selection and engagement (including due diligence and contractual arrangements) will be carried out during implementation phase, it is confirmed that the company is located in industrial (legal) area with no Heritage/Cultural Sites in these areas, therefore, Standard 4 is not triggered. An **Environmental and Social Impact Assessment (ESIA)** for the selected Industry/Company will be developed so to assess the potential social and environmental impacts in their area of influence. A **scoped Environmental and Social Management Plans (ESMP)** will be prepared to avoid and monitor any potential risk related to the interim storage location sponsored by the Project. No new land will be availed for this project, existing baseline structured will be used. Therefore, Standard 5 is not triggered. The **ESIA** will also ensure that the interim storage facilities (Output 2.1.1, Output 3.1.1, Output 3.1.3) are referring to the Minamata Convention?s Guidelineson the environmentally sound interim storage of mercury by confirming the following: - Site is appropriate and abides by local zoning requirements, Climate Risk assessment of the location will be carried out to consider the risk of flooding, and also incorporating flooding mitigation measures. - Facility is designed to facilitate the safe handling of containers. - Indoor air is vented outside, and where levels of mercury call for venting via activated carbon or other mercury capture systems, system is installed and operational. - Site is equipped with a fire protection system. - Emergency response plan in place and local fire department, where available, is sufficiently informed, trained, equipped and otherwise prepared to safely handle any fires at the facility. - Facility is constructed of non-combustible materials and non-combustible materials should be used for pallets, storage racks and other interior furnishings. - A drainage and collection system for discharged water exists enabling mercury monitoring from the site. - Floors of storage facilities are covered with mercury-resistant materials and have no cracks. - The facility is clearly marked with warning signs and secured to avoid theft and unauthorized access. Should any of these requirements not be met, then Project will support their introduction, including retrofitting of the storage facility.

Risk Description	*Significance (Low, Moderate Substantial, High)*	*Mitigation measures*
Risk 7: Health and safety risk for the workers involved in the activities of handling, treatment, transport between facilities, storage, recycling, disposal or testing of substances and wastes contained-chemicals.	**Moderate**	**This risk is being addressed/mitigated by Project Design. (Components 2, 3 and 4)** **This risk will be mitigated by additional ESIA/ESMP.** Additional avoidance measures in the engagement activities with the stakeholders under the Outcome 2.1 and 3.1 will be managed through the **ESMP.** The project will only engage with formally established and licensed enterprises, and will not carry out new construction. Prior to engage with any Company (Service Provider, Contract and/or Co-financier) the project will carry the appropriate **ESIAs** and prepare the **ESMP** in line with Risk Mitigation Strategies 2, 5 and 6 which will also consider that occupational health and safety measures are applied (through an **Occupational Risk Assessment**) For activities related to handling, treatment, transport between facilities, storage, disposal or testing of wastes a) Implement modern Air Pollution Control Systems to prevent the release of mercury and U-POPs suitable also for small enterprises; (Output 2.1.3) b) Implement Relevant international guidelines and BEP on operational safety procedures for hazardous chemicals waste handling, transport, storage and disposal in accordance with international practice will be adopted during the first and second year of implementation (Output 3.1.1); c) Develop and deploy training program involves provision of the necessary operational and safeguards exercise to the staff that are to be directly involved in the work on the treatment and storage area, and will be delivered in advance of starting actual site work and be updated throughout the period of work on the site as required. The scope of the training would cover overall hazardous waste and contaminated site management with specific emphasis on the packaging, physical handling procedures, inventory control and record keeping, site monitoring, emergency response and overall safeguards?related EHS practices and procedures. The curriculum for the training will utilize the various international guidance materials available (Outputs 3.1.1, 3.1.2 and 3.1.3).; d) Monitoring and evaluation will be conducted to ensure that enterprises and workers are conducting their work under safe conditions (Outcome 4.2, , and also technical supervision activities carried out under Output 2.1.2 ? activities. 2.1.2.3 and 2.1.2.4 and 2.1.3 ? activities. 2.1.3.3 and 2.1.3.4) For activities related to handling and recycling wastes e) The project will include awareness raising initiatives and training specifically tailored to inform and equip recycling workers with the appropriated PPE as well as Best Practices in handling of waste. Risk Management Measures will be adopted when dealing with such kind of waste, including the identification of waste material potentially contaminated by POPs, the properly use of PPE, norms related to the management of non-recyclable material to prevent open burning of waste which may generate U-POPs (dioxins). To avoid risk of engaging with minors in the targeted industries. f) The project will only engage with companies or legal/afrmal

Risk Description	*Significance (Low, Moderate Substantial, High)*	*Mitigation measures*
Risk 8: Increased GHG emissions or consumption of raw materials, energy, water?	**Low**	**This risk is being addressed/mitigated by Project Design. (Components 2 and 3)** Based on experience on previous GEF project in Vietnam, energy and water consumption in production processes of chemicals companies were reduced. Therefore, POP reduction is usually accompanied by the savings of energy and resources. When selecting the processes and technologies for the transition of industries, the level of GHG emissions and use of raw materials of the considered alternatives will be assessed as the criteria to be evaluated for best environmental practice. The ESMP (under Risks 5 and 6) will also incorporate the relative aspects of Standards 8 triggered and incorporate SES requirements where applicable.
Risk 9: The COVID-19 Pandemic may inhibit the smooth implementation of this project, especially the sharing of the foreign experiences	**Low**	Vietnam Government at different levels has taken measures to prevent COVID-19, including recent widespread vaccination in the country. The last wave of COVID-19 during July ? September 2021 provided lots of experience to the Vietnam Government and counterparts in coping with difficult situation, improving its resilience and agility to adapt to different context. The project plans to carry out continuous monitoring and assessment of the impact of COVID-19 on the progress of project implementation and undertake appropriate adaptive management. Project management and implementation supervision can be undertaken through various means such as online and telephone interactions, international experiences may be shared through web seminars.
Risk 10: Organizational structure changed at the Project Owner (Vietnam Environment Administration)	**Low**	The new Vietnam Prime Minister introduce a new directive, in which the government is planning to reduce the number of government entities in ministries. This can result in the change of organizational structure in some ministries, agencies including Vietnam Environment Administration. Such any re-arrangement of structure could lead to delay in project implementation. UNDP will keep monitoring the process closely and share this risk to Project Steering Committee led by the Vice Minister of MONRE, to ensure the smooth continuation of the project if the organizational structure changed happens.

Climate Screening and Climate Risk Assessment

Vietnam has both a tropical climate zone and a temperate climate zone, with all the country experiencing the effects of the annual monsoon. Rainy seasons correspond to monsoon circulations, which bring heavy

rainfall in the north and south from May to October, and in the central regions from September to January. In the northern regions, average temperatures range from 22?C?27.5?C in summer to 15?C?20?C in winter, while the southern areas have a narrower range of 28?C?29?C in summer to 26?C?27?C in winter. Vietnam?s climate is also impacted by the El Ni?o Southern Oscillation (ENSO), which influences monsoonal circulation, and drives complex shifts in rainfall and temperature patterns which vary spatially at a sub-national level. El Ni?o has also been shown to influence sea-level, drought incidence and even disease incidence.[1]

Vietnam is a country prone to climate change effects, sea level rise, and extreme weather events. The country has issued and implemented a National Strategy and National Action Plan to Respond to Climate Change. Vietnam demonstrates dedication to combating climate change through a range of national policies and concrete adaptation measures. In 2011, the National Climate Change Strategy was issued, outlining the objectives for 2016?2050. In 2012, the National Green Growth Strategy was approved, which includes mitigation targets and measures. In 2013, the Law on Natural Disaster Prevention and Control was enacted, aiming to address diverse natural hazards that affect the country, which are primarily climate related. Additionally, the 2014 Law on Environment includes a full chapter on climate change. Vietnam ratified the Paris Agreement on November 3, 2016 and the associated Nationally Determined Contribution (World Bank, 2019).

The surveys carried during the Project Design Phase (PPG) identified that Mercury treatment and storage facilities are mostly located in the suburban areas of big cities such as Hanoi, Ho Chi Minh city, and delta areas far from the sea, where the potential impacts of sea level rise and other extreme weather events are expected to be not as severe as in other parts of the country and many climate change adaptation solutions have been implemented. This will help reduce the risk of flooding of mercury treatment and storage facilities. As mitigation measures, flood risks will be considered when locating and designing the mercury treatment and storage facilities to minimize the risk of inundation; new mercury treatment and storage facilities will be designed to withstand the most intense and violent storms, heavier flooding, etc., and rigorous guidance for climate-related risk management for such facilities will be developed. Emergency drills to be ready with extreme flooding and storm incidents will also be undertaken by the project.

No new land allocation and construction of new infrastructures will be pursued/promoted by the Project. The project will mainly work by promoting POPs-free technologies, processes, and materials, and by improving the environmental performance of existing baseline plants. The resilience of these plants to possible effects of the climate change will be considered as selection criteria during the first year of the project implementation. For instance, the project would not invest in area prone to flooding. Nevertheless, extreme weather conditions are more frequent in the last year and may potentially affect any place in Vietnam. Technology and materials developed under the project to replace POPs and minimize the use or generation of POPs will also be assessed in terms of potential increase or decrease of energy consumption and release of GHGs throughout their entire lifecycle.

Energy Consumption and GHG emission and increase use of raw materials: As the project intends to replace 20,000 compact or tube fluorescent lamps with LED lamps, it will also directly reduce the energy consumption as LED are from 33% to 40% more efficient than CFL[2]. Each replaced lamp (considering an average luminosity of 1200 lumen) will allow for a saving of around 7.5W/hr, which, considering a lifespan of not less than 50,000 hrs, means a total energy saving of around 7.5W x 50,000 hrs = 375 KW hr or 1350 MJ for each lamp installed over its entire lifespan. This will be reflected in the reduction of

GHG emission, based on the carbon intensity of the electricity consumption in Vietnam, in which GHG emissions reduction data will be collected during the project implementation.

[1] Country Climate Risk Profile, The World Bank (2019)

[2] https://www.viribright.com/lumen-output-comparing-led-vs-cfl-vs-incandescent-wattage/

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.

The project will be implemented following UNDP?s National Implementation Modality (Full NIM), according to the Standard Basic Assistance Agreement between UNDP and the Government of Vietnam, the Vietnam Government?s regulations for ODA project/program management (Decree 56/2020/N?-CP), and the Joint Harmonized Project/Program Management Guidelines of the UN and Government of Vietnam.

Implementing Partner (IP): The Implementing Partner for this project is the **Ministry of Natural Resource and Environment (MONRE) of Vietnam.**

The Implementing Partner (IP) 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 IP is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources.

The MONRE is also acting as the Governing Body of the project, as regulated by the Decree 56/2020/ND-CP. The Governing Body will:

(i) decide the organizational structure of the project management apparatus, including the Project Steering Committee, Project Owner, Project Management Unit;
(ii) formulate and approve the 5-year plan for implementation of the project;
(iii) approve the overall plan for project implementation; compile and approve annual plans for project execution;
(iv) conduct the procurement process;
(v) organize the supervision and assessment of the project progress, ensure punctuality, quality, and achievement of set targets;
(vi) bear the additional costs incurred because of human errors, wastefulness, corruption, and misconducts in management and use of ODA under its management in accordance with regulations of law on public investment; and
(vii) perform other duties and entitlements in accordance with law, specific international treaty or agreement on ODA.

The Project Steering Committee (PSC) will be established and its composition must include the following roles:

? 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;
? 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;

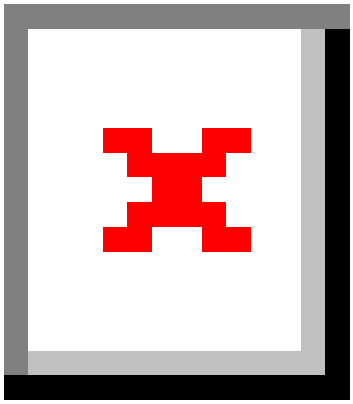
? Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;

? Address project-level grievances;

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

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

PSC decisions should be made in accordance with standards that shall ensure management for development results, best value for money, fairness, integrity, transparency, and effective international competition. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager.



The composition of the Project Board must include the following roles:

a. Project Executive: Is an individual who represents ownership of the project and chairs the Project Board. The Executive is normally the national counterpart for nationally implemented projects. The Project Executive is the Vice-Minister of MONRE.

b. Beneficiary Representative(s): Institutions, Individuals or Groups representing the interests of those who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. The Beneficiary representatives are: Ministry of Industry and Trade (MOIT), Ministry of Health (MOH), Ministry of Planning and Investment (MPI), Ministry of Finance (MOF), representatives from targeted industrial sectors as key beneficiaries and representatives from NGOs.

c. Development Partner(s): Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the project. The Development Partner(s) is/UNDP. In case consensus cannot be reached within the Committee, the UNDP Resident Representative (or the members designate) will mediate to find consensus and, if this cannot be found, the UNDP Resident Representative will take the final decision to ensure project implementation is not unduly delayed

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, and conflict of interest issues are monitored and addressed.

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 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 from project execution.

Project Management Unit (PMU): The PMU established by the IP consists of core members including the National Project Director and the Chief Accountant in charge, being a leader and official of Vietnam Environment Administration (VEA), which is a body supporting MONRE directly for environmental area.. Also (a) National Project Deputy Director(s), and a National Project Coordinator can be nominated by the IP, and other members from key agencies will be involved in the PMU. A National Project Team consisting of a National Project Manager (NPM), Project Accountant, and Project Assistant-cum-Interpreter is recruited to provide assistance to the PMU on daily implementation and monitoring of the project interventions. The PMU shall perform the tasks:

a) formulate and submit overall plan and annual plans for the project implementation;

b) prepare and carry out the actual project implementation;

c) carry out activities related to bidding, contract management;

d) budget management, perform financial and asset management of the project;

e) monitor and assess the implementation of the project activities;

f) prepare the acceptance and transfer of the results of the project after completion, finish audit works, transfer assets of the project, prepare the terminal report and financial statement of the project, follow regulations on project close-out as per UNDP-GEF procedures;

g) perform other tasks given by the Project Owner within the framework of the project.

The PMU will be responsible for mobilization of human resources, co-financing, planning, and execution of project activities while providing mechanisms and technical inputs necessary to integrate the results of various activities, will ensure satisfactory performance of the project members and contractors, and will provide official reports to the PSC as needed.

Positions under PMU are as follow (Detailed TORs for all key positions and committees is provided in Annex 7):

a) The National Project Director (NPD) is accountable to MONRE and UNDP for the use of project resources and to deliver on outcomes, responsible for overall management and implementation of the

project interventions. He/she will head the PMU and will be accountable to MONRE for the use of project resources and to deliver on outcomes. The NPD will manage the implementation of all project activities and will work closely with all partner institutions to link the project with complementary national programs and initiatives. The NPD is accountable to MONRE and the PSC for the quality, timeliness, and effectiveness of the project intervention implementation, as well as for the use of resources. The NPD will be technically supported by contracted national and international consultants and service providers. Recruitment of specialist services for the project will be done by the NPD, in consultation with UNDP and MONRE. The NPD will not be paid by the project but will represent a government in kind contribution to the project.

b) National Project Deputy Directors (NPDDs): NPDDs will be assigned responsibility to support the NPD in technical aspects of the project, provide direct guidance to project management unit to achieve project results/targets. The NPDDs will not be paid by the project but will represent a government in-kind contribution to the project.

c) National Project Coordinators (NPCs): NPCs will be assigned to be in-charge to support PMU to supervise NPO, ensure the project implementation in accordance with government regulations. The NPC will not be paid by the project but will represent a government in-kind contribution to the project.

d) National Project Team: will assist the PMU in the project execution and monitoring on a day-to-day basis. The NPT will function until the finalization of the Terminal Evaluation and corresponding financial completion of the project. The National Project Team consists of:

a. One National Project Manager (NPM),

b. One Project Assistant-cum-Interpreter, and

c. One Project Accountant will be recruited by the NPD. These three main positions will be covered by the Project.

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 in excess of the CO?s Agency fee specified in the DOA during the extension period must be covered by non-GEF resources.

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 MONRE/VEA logo and 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 48 and the GEF policy on public involvement.

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.

The project is consistent with the mandate of MONRE, MOIT, and MOH. It should be noticed that Vietnam Environmental Protection Fund (VEPF) is under the MONRE and as such, it is a permanent institution with the main role to facilitate investment in the environmental field, through technical assistance and competitive loans on eligible environmental projects.

The Government of Vietnam (GOV) signed the Stockholm Convention on May 23, 2001 and ratified the Convention on July 22, 2002. After the first National Implementation Plan (NIP) submitted in 2007[1], the reviewed and updated 2017 NIP, which addresses all the COP amendment including COP8, has been submitted to the Secretariat of the Stockholm Convention on September 26, 2018[2].

The project should be considered as a fundamental and necessary step towards the implementation of activities aimed at addressing the key priorities identified by the NIP updated in 2017, as listed below.

? Priority 1: Developing, supplementing, and enhancing the effectiveness of regulations, policies, and institutions to meet the new requirements of the Stockholm Convention.

? Priority 7: Reduction of use of materials, articles containing POP-BDEs, HBCDD, and PFOS in Vietnam and selection of sustainable alternatives.

? Priority 8: Pollution control and treatment of materials and wastes containing POP-BDEs, PFOS, HBB, HBCDD, HCBD, PCP.

? Priority 10: Conduct education, communication, awareness raising, and enhancing the involvement of individuals, organizations and community on risk related to exposure of POPs and other hazardous chemicals.

? Priority 12: Sound management of chemicals, materials, equipment, and wastes related to POPs and mercury generated from the health-care sector.

The project is still relevant for continuing to address the priorities identified in the NIP completed in 2007 as NIP update in 2017, with specific reference to:

? Priority 1: Development and Finalization of Policies, Legislation, and Institutions for POP Management.

? Priority 8: Assessment, Study, Promotion, Assistance, and Management on Application of Best Available Techniques and Best Environmental Practices to Reduce and Finally Eliminate the Unintentional Production of POPs from Production and Living Activities.

? Priority 12: Strengthening Capacity for Managing and Controlling the Production, Import?Export, Use and Transport of Prohibited Chemicals including POPs in Vietnam.

? Priority 13: Study and Development of Emission and Technological Standards Associated with POPs in Line with Development and Integration Needs.

? Priority 15: Assessment of POPs Management in the Whole Country.

Furthermore, the project is fully in line with the national strategies and plans, such as the ones listed below.

1) National Strategy on Environment Protection (NSEP) to 2020, with Vision to 2030
2) Vietnam Sustainable Development Resolution to 2030
3) Vietnam Green Growth Strategy (VGGS)
4) National Action Plan for the Implementation of the 2030 Sustainable Development Agenda
5) National Action Plan on Sustainable Production and Consumption (2021?2030)
6) National Action Plan on Implementation of Stockholm Convention to 2025, Vision to 2030
7) The project ? in its components and outcomes related to the phasing out of mercury products, the improvement of the regulation on mercury emissions, and the improvement of air pollution control systems to reduce mercury emissions ? is obviously in line with the Minamata Convention on Mercury, which has been signed by the Government on October 11, 2013.

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[1] Decision No. 184/2006/QD-TTg dated August 10, 2006 of the Prime Minister.

[2] Decision No. 1598/2017/QD-TTg dated October 17, 2017 of the Prime Minister.

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.

Knowledge management of the project is ensured under Component 4 ?Knowledge Management and M&E?, Outcome 4.1 ?Outcome 4.1 Project management team established, lesson learnt and knowledge generated by the project properly shared and communicated.?, Output 4.1.3 , ?Knowledge management system including project website established? (see pages 35-26 of the attached project document).

Output 4.1.3 Knowledge management system including project website established

The prompt circulation of information generated by the project will ensure that project beneficiaries will achieve the maximum benefits from the project activities so that the project impact can be maximized. The project is expected generate the following information materials and tools:

a. Information on POPs-free or less chemically intensive products and material. Will be shared through training workshops and awareness-raising events, within a network of project partners (industries, certification bodies) and consumers through websites and apps with differentiated access.

b. Information on the eligibility to financing programs established under the program: Will be shared during training events to be organized at VEPF, within the project website and the VEPF website, with differentiated access.

c. Information on mercury-free fluorescent lamps: Will be shared during workshops and awareness-raising events on mercury, and within manufacturer product websites, the project website, mobile apps, and leaflets of retailer shops.

d. Information and guideline on mercury thermometers, and disposal procedures for mercury thermometers: Will be shared during training for trainers events, and to be summarized on panels and posters to be placed at health-care facilities, and in health-care facility websites where available. To be communicated with patients when admitted to the hospitals.

e. Management of project documents and reports. Under the project, a number of technical reports, 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 Facebook page, maintained by a dedicated person, will have the main function to collect information and initiatives generated by similar projects worldwide and to connect people from various projects, which will facilitate exchange of information.

f. Findings, lessons Learnt, and strategies: Will be shared among the stakeholders and will also collaborate with the GEF ID 10523. These two projects have quite different objectives ? the 10523 project would be exclusively dealing with the textile sector, while this Project will cover a number of industrial sectors except textile. However, as both the projects will be implemented by the MONRE and MOIT, the exchange of information between the two projects, with specific reference to the development of new regulations and standards, and the assistance to enterprises concerning the access to environmental funds, will be greatly facilitated. This also include their KM components, sharing of best practices and knowledge gained in the country to ensure a wider dissemination than any of the individual agencies would achieve.

The following activities will be carried out under output 4.1.3:

? Activity 4.1.3.1 Establish a Knowledge Management Unit

? Activity 4.1.3.2. Create the Project website, social media pages and maintain these.

? Activity 4.1.3.3. Project documentation (internet pages, movies, leaflets, technical documentation) developed, collated, and made available

? Activity 4.1.3.4. Develop and implement awareness raising and communication strategies

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 are not yet available, they will be collected during the first year of project implementation. The Monitoring Plan 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, 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. This will include the exact role of project target groups and other stakeholders in project M&E activities including the GEF Operational Focal Point (OFP) and national/regional institutes assigned to undertake project monitoring. The GEF OFP will strive to ensure consistency in the approach taken to the GEF specific M&E requirements (notably the GEF Tracking Tools) across all GEF-financed projects in the country. This could be achieved, for example, by using one national institute to complete the GEF Tracking Tools for all GEF-financed projects in the country, including projects supported by other GEF agencies.

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 Steering Committee 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 PSC. The quality rating of the previous year?s PIR will be used to inform the preparation of the subsequent PIR.

GEF Core Indicators:

The GEF Core indicators included as Annex 12 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 July 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 May 2026. 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 PSC 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].

Table 9: Monitoring and Evaluation Plan and Budget

Monitoring and Evaluation Plan and Budget: 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.

GEF M&E requirements	Indicative costs (US$)	Time frame
Inception Workshop	10,000	Within 60 days of CEO endorsement of this project.
Inception Report	None[4]	Within 90 days of CEO endorsement of this project.
M&E of GEF core indicators and project results framework	43,530	Annually and at mid-point and closure.
GEF Project Implementation Report (PIR)	None[5]	Annually typically between June and August
Monitoring of Gender Action Plan	18,000	Ongoing.
Supervision missions	None	Annually
Independent Mid-term Review (MTR)	39,726	By July 2024
Independent Terminal Evaluation (TE)	48,554	By May 2026
Total indicative Cost	**159,810**	

[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] The cost is included in the cost for the Project manager as this will be done by he/she

[5] The cost is included in the cost for the Project manager as this will be done by he/she

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 and of the Minamata convention on mercury, with the phasing out or elimination of POPs and U-POPs, currently used in the manufacturing sectors or released as a result of industrial processes, and with the phasing out of mercury added products (MAP) and the disposal of mercury containing equipment ad their end of life.

This objective will reduce the overall impact for the environment and the human health, which is a key social benefit for the Vietnamese population 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: Promote sustainable production - consumption in key sectors through Eco-labeling, Green Financing, and Procurement, and other elements to support a long-term Innovation Ecosystem for greening the value and supply chain across sectors.

? Component 2: Lifecycle management of POPs and PTS containing products

•Component 3: Mercury: lifecycle management of mercury-containing products:

Notwithstanding the above, it is very clear that the elimination of industrial POPs from a number of industrial processes, the reduction of atmospheric emissions of U-POPs and mercury, as well as the replacement of mercury containing devices with non-mercury ones, and the disposal of mercury containing waste, is a process that would entail significant investment. It is also clear that the GEF financing can only contribute to the initial, catalytic step of this process.

For this reason, one of the pillar of this project is to consolidate and widen the existing Green Financing Mechanismin Vietnam, to ensure that the investment needed for POPs and mercury elimination are eligible under such financing scheme and that can be sustained beyond project life, through the enhancement of the existing green incentive policy and the development of Green Procurement schemes to be initially implemented in ministries offices and healthcare facilities.

The main social and economic benefit for the project is therefore the enhancement of the financial sustainability of project activities related to POPs and mercury 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 extension of the current financing scheme (VEPF and private institutions) already existing in Vietnam.

The project however will also bring additional social and economical benefit for Vietnam, through:

1) 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;

2) 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)

3) Widespread training on non-mercury devices, especially in hospital facilities, to facilitate the diffusion and adoption of these devices (Component 3, Outcome 3.1, mercury)

4) A dedicated activity aimed at reducing the gap between the recyclers of materials and the manufacturing industry toward the adoption of common standards, to ensure that the resource constituted by wasted material is effectively exploited without harming the environment (Component 2, Outcome 2.2)

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
	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	
1. Project Title	Reduce the impact and release of mercury and POPs in Vietnam through lifecycle approach and Ecolabel
2. Project Number (i.e. Atlas project ID, PIMS+)	UNDP PIMS ID 6491 GEF ID 10519
3. Location (Global/Region/Country)	Vietnam
4. Project stage (Design or Implementation)	Design (PPG)
5. Date	20 September 2021

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
Based on Article 25, of the UN Human Right Declaration ?*Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family*?. A healthy environment should be considered as a pre-condition for the full enjoyment of human right. Thus, this project aims at reducing the risk for the environment and human health through the prevention of the use and release of very toxic substances (persistent organic pollutants). The centrality of human rights underlies the Project goals and objectives towards environmental sustainability and in the safeguarding of human health and the environment globally as well as locally, through reducing the impact and release of mercury and POPs and addressing associated issues within a life cycle management approach. All Project activities are focused directly to reducing the impact and release of mercury and POPs, the environmentally sound management of mercury and POPs. Adequate mercury and POPs management in Vietnam is a necessary condition for the well-being of its people in general, but especially for those whose daily activities require being exposed to these substances. This includes waste collectors and recyclers, and people working in formal recycling industries. The human rights?based approach as the key engagement principle in pursuing development outcomes, particularly environmental rights in terms of living in healthy environment, is mainstreamed by meaningful, effective and informed participation of the project stakeholders and communities in the formulation/ design, implementation, monitoring and evaluation of Project?s outputs and impact.

The design of this project involved a wide range of stakeholders. Consultation workshops/ meetings have been conducted with a wide range of key stakeholders to evaluate ministries, cities/ provinces, communities and enterprises to explore their engagement during project implementation. Such consultations, cooperation and coordination efforts generated stakeholder engagement for the project implementation phase. Such consultations will also assure the interest of potentially marginalized individuals and groups are considered in the process of revision of legislations and enforcement.

The streamline of the human rights based-approach will continue to be priority in the project implementation phase, as the project will be targeting awareness and consultation initiatives at the local level in particular to workers/ communities where real or perceived potential impacts may be felt, particularly among those who may have direct exposure to mercury and POPs containing or contaminated areas and that consultation with them on measures being implemented to protect them be emphasized.

Furthermore, the project will also work in designing/improving policies, capacity building for management and public awareness, with great potentials to further reduction of the targeted chemicals releases. The project will develop some specific law, regulations, and technical standards, for guiding and regulating targeted industries to reduce the risks of human and environmental exposure to POPs and Mercury in the daily life, as well as promote the environmentally sound management of stocks and end-of-life contaminated products in a way that the project manages all risks related to disposal.

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

Vietnam has a gender mainstreaming policy vision and framework in place, with the country having developed several Gender Policy Concept Papers (such as Law on Gender Equality, Labour Law, Vocational Education Law) and a National Strategy to achieve gender equality. Therefore, no structural or cultural obstacle are expected to hinder the gender mainstreaming related project policies and activities. The national development benefits, equal for men and women, will be elimination of a major national priority mercury and POPs related environmental problem, development of national institutional and technical capability related to the management of hazardous waste (HW), contaminated areas and perhaps most significantly the use of the project to stimulate the development of a national HW management capacity.

By reducing the Mercury and POPs release in waste processing and the environmentally sound destruction of mercury and POPs containing products in this project, health risks for workers, particularly the female workers and their children will be reduced from exposure of mercury and POPs, leading to ameliorated health situation for them. Reducing the impact and release of mercury and POPs from the Project?s subject site will work as an important positive externality for women?s reproductive health.

Gender mainstreaming targets will be considered as core project targets. A detailed Gender Mainstreaming Plan (GMP), with budget and indicators, has been developed and integrated in the project for implementation. The gender mainstreaming work plan includes issues such as: initiatives of gender-specific training and awareness raising; initiatives and rules to ensure equal access to the job opportunities generated by the project; equal access to the information generated by the project; assessment of gender-specific chemical risk associated with mercury and POPs generated by recycling activities; specific health and safety rules for female employees in the waste collection and recycling industries. Women?s civil society organizations, Environmental NGOs, and advocacy groups actively participated in the design of the project.

During implementation, the project will address the priority concerns of vulnerable groups including female workers, Ethnic Minorities (EM) people, and the poor to assess and strengthen capacity to reduce mercury and POPs impact and release sensitive streams. The project will ensure female participation in the related activities of training and capacity building. In addition, there will be overarching interventions ? awareness rising and multi-stakeholder?s participation ? that will contribute to ensuring the successful implementation of gender mainstreaming.

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

The project is designed to respond to the requirements of the Stockholm Convention (to reduce the risks of POPs) and the Minamata Convention (to eliminate the use of Mercury) for the benefit of human health and the environment. The project also aims to ensure the implementation of Best Available Techniques and Best Environmental Practices (BAT/BEP) in selected demonstration enterprises. The social and environmental impacts of this project are the basic pillars to ensure future sustainability and resilience. With this respect, the following is considered as integral part of the Project:

1) **Component 1 ?Promote sustainable production - consumption in key sectors through Ecolabeling, Green Financing and Procurement, and other elements to support a long-term Innovation Ecosystem for greening the value and supply chain across sectors.?** This component entails the setting and enforcement of rules to restrict the import, use and placing on the market of POPs. This will result in reduced transport, handling and exposure levels of workers and consumers to POPs at all stages. Under this component, the regulatory tool to reduce the circulation and release of POPs at any stage will be established. Therefore, this will result in a net decrease of environmental risk, or, in the worst case (project failure), zero change compared to the baseline. For mercury, the project is going to establish a roadmap aiming at banning the import and placing on the market mercury containing products, and to establish rules for the proper waste management of mercury. Vietnam has ratified both the Stockholm Convention and the Minamata Convention ? therefore the restrictions aimed at banning import manufacturing and use of POPs and mercury must be implemented. Role of the project is therefore to ensure that such regulation will be properly implemented and enforced, and that the enterprises and communities will be provided with the needed technical and financial support. Finally. a Green Financing mechanism, aimed at supporting initiatives to phasing out POPs and mercury, will be established with the support of public and private financial institutions, assuring scale up and long term sustainability of the project?s initiatives.

2) **Component 2 ?Roadmap on POPs and mercury established will be supported, implemented and demonstrated.** Technical and financial support to sustainable manufacturing and design of products to prevent the use and release of POP, including the installation of Air Pollution Control Systems (APCS) to reduce U-POPs and mercury emission will be promoted; The networking between recyclers and manufacturers, to ensure that, from one side, recyclers can access an higher quality market, by taking part in take-back or collection schemes aimed at ensure that the quality of the recycled material fulfil the needs of the industry; and manufacturers could have access to recyclable resources to replace virgin materials will be carried out.

3) **Component 3 ?Replacement of mercury equipment (thermometers and sphygmomanometers), mercury lamps, their safe collection, measures to prevent or address mercury spillage, and management and disposal of mercury waste**. The project will deploy measures to reduce the risk for health and environment associated with mercury disposal activities that are already occurring in Vietnam by strengthening regulatory framework and deploying BEP to reduce/avoid the risks concerning the collection and disposal of wastes by reducing the level of indoor exposure of the general population to mercury, supporting the establishment of procedures or equipment for the reduction of mercury emission from industrial facilities, properly disposing mercury containing equipment with either segregation and recovery of mercury from the non-hazardous waste, or through long-term immobilization as per international standards, and in compliance with the national rules.

The projects activities will become integral part of an effective sound chemicals management scheme with institutional, financial and environmental long-term sustainability; 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 or mercury. The project will address chemical waste at the end of life, chemicals that are used or emitted from processes or products, and waste management; The project aims to mainstream environmental sustainability by reducing the impact and release of mercury and POPs, to protect human and environmental health. Thus, the project contributes to the prevention of waste/ products containing POPs from entering material recovery supply chains, elimination of the use of mercury and POPS in products 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 UPOPs and mercury from major source categories included in both the Stockholm and Minamata Convention;

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

? The project envisages five approaches at all stages of the project cycle: (1) Sharing of Information; (2) Consultations (including surveys); (3) Participation; (4) Feedback; and (5) Learning and Adaptation (including from monitoring and evaluation).

? Despite of the restrictions associated with the COVID-19 pandemic and social distancing, many consultation meetings (offline and online) were held with project stakeholders during the design phase.

? Stakeholders involved in the project include ministries and regulatory agencies in the areas of management of substances containing POPs, and Mercury; financial institutions involved in supporting the Green Finance Frame; businesses interested in financial support from the project and environmental certifications. NGOs working in the field of the environment, which is their area of interest, have experience in communication and in mobilizing people to participate.

? During these stakeholder consultation meetings, stakeholders and beneficiaries as well as partner organisations were introduced to relevant information on issues related to: the proposed project (objectives, approaches, budget, staffing and contact details), what they should expect from project and UNDP (in terms of information, participation, respect etc.), and how to lodge a complaint with project and UNDP. Stakeholders are consulted on matters that directly affect them, especially in relation to the project. The consultations followed the principle of obtaining free, prior and informed consent (FPIC) from communities and men and women as stated in UNDP policy.

? Consulting stakeholders also enables the project to gain a greater understanding from stakeholders of their views, capabilities, needs and concerns. After consultations and surveys are conducted, follow up activities are concerned with feedback sessions to share the results and discuss the findings.

? The Stakeholder Analysis and Engagement Plan was built based on UNDP and GEF Guidelines. The stakeholder analysis provides a further opportunity to develop project team?s ideas around who are the rights-holders and other stakeholders, what their interests are, whether the impact will be positive or negative, and how to engage them. The Stakeholder Engagement Plan be publicly available in a form and language appropriate to the relevant stakeholders and disseminated proactively to them.

? The project also includes awareness-raising activities to encourage stakeholders to participate in the project, and appropriate forms of participation.

? Component 4 of the project, Monitoring and Evaluation, will establish indicators to facilitate successful project implementation and sound impact assessment. Project and its activities will be monitored and evaluated on a periodic basis in line with GEF, UNDP and government requirements. The project will try to encourage the participation of stakeholders in the monitoring and evaluation process if possible, in order to improve the independence and accuracy of monitoring information.

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 5*			**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: Duty-bearers, and other relevant stakeholders do not have the capacity to meet their obligations in the project **Related to risks:** - Human Rights: P2, P5	I = 4 L = 2	**Moderate**	(a) The project will develop and/or propose updated regulatory framework in Component 1, thus Officials, responsible for enforcing legislation, may lack capacities to acknowledge and enforce these. (b) Banks and financial institutions may not have adequate competence in establishing green financial mechanisms for mercury and POPs reduction activities. (c) Banks and financial institutions may lack understanding on concept of green financial criterion towards chemicals industries. (d) Banks and financial institutions, may not have ample capital to fulfill their commitments to provide financial support to businesses.	**This risk is being addressed/mitigated by Project Design.** **(Components 1 and 4)** (a) The project will deploy training to ensure that the relevant Governmental Officials are assisted. The training will focus on the improvement of knowledge, capacities and practical actions to enforce the enhanced regulatory framework related to green supply chains of chemicals industries, Ecolabel and environmentally sound management principles of Mercury and Mercury/POPs emissions control. The training will also allow the Officials to understand their new extended responsibilities arising from the improved institutional and regulatory frameworks being developed by the project in terms of new legislation, guidelines and mandatory standards. (b) & (c) Consultation meetings with Banks and financial institutions will held during the development of the project document to engage their participation. Training, capacity building, communication will be carried out. The project will support these stakeholders to develop the eligibility criteria for the application to the Green Financing mechanism and demonstration activities under Components 2 and 3 will provide practical experinces in the application of the Financing Mechanism. (d) During design phase, initial agreement was achieve with the Commitment has been already achieved with *the Vietnam Environmental Protection Fund (VEPF) and the Banks BIDV, SacomBank* for applications of resources to the Green Financing Mechanism. GEF grant will provide seed funding in the form of micro-grants to faciliate scale up and the Co-finance Letters will be attached to the Project submission and the realizaiton of the co-finance will be monitored under the Component 4 in several strages of the Prioject cycle (including, but not limited to: Annual PIRs, Mid-term review and Terminal Evaluation).

Risk 2: Adverse impacts on workers in the recycling sector who could not be included in the project activities **Related to risks:** - Human Rights: P5 - Accountability: P13, P14 - Standard 7: Labour and Working Conditions: 7.5	I = 4 L = 2	**Moderate**	Per Local Regulations, hazardous wastes must be specially managed, so engagement of natural persons or waste-pickers cooperatives (used to work in municipal solid waste streams) is not accepted by the Project. Recycling and treatment activities of hazardous (chemicals/mercury contained) wastes can only be carried out by Formal Companies licensed by the Ministry of Natural Resources and Environment to comply with strict regulations. Therefore: (a) Workers employed by the Recycling Companies, and with major risk of exposure, may feel excluded from participating in project decision processes. (b) Individuals (or cooperative) recyclers may feel marginalized by the project and may feel losing opportunities to increase their income as hazardous (chemicals and mercury-contained) waste are not included in their solid waste collection streams.	**This risk is being addressed/mitigated:** **Partially by Project design (Components 2 and 4)** **Partially through scoped ESMP** **Partially by the Stakeholders Engagement Plan developed** Waste Recycling Industries were pre-screened during design phase. While final selection and engagement (including due diligence and contractual arrangements) will be carried out during implementation phase, it is confirmed that no indigenous people work in the pre-selected industries, therefore Standard 6 is not triggered. Nevertheless, a **scoped Environmental and Social Management Plans (ESMP)** will be prepared to mitigate and monitor any potential risk related to continue to monitor any risk related to potential use of indigenous work force by the industries engaged through the Project. The component 2 of the project will support the work of Recycling Industries by establishing a network and marketplace with manufacturers that may use recycled materials. Promote interaction, technical exchange and commercial agreement between recyclers and industry will bring new opportunities to recyclers to improve and increase their wastes? collection/recycling/processing/treatment capacities. With improved capacities at Industry level, is likely the job opportunities may be created, which will benefit workers with increased job creation and sources of income (Outcome 2.2). Compliance with SES and National/International Rules and Standards on worker?s safety was part of the risk mitigation strategy #6, specially: (a) Workers? rights and engagement in the project will be assured

Risk 3: Adverse economic impacts to small and medium sized industries and their workers due to banning of imports or restricting the use of certain chemicals used as baseline raw materials. **Related to risks:** - Accountability: P13, P14 - Standard 5; 5.2. - Standard 8: Pollution Prevention and Resource Efficiency: 8.1; 8.2; and 8.3	I = 3 L = 2	**Moderate**	The Stockholm Convention and the Minamata Convention impose restrictions on the use and import of POP Chemicals and Mercury. In the baseline, through Viet Nam is Party to the above, some Chemicals not yet regulated (PFOS and SCCP) will be integrated in the Regulatory Framework of Component 1. Therefore, is expected that industries may experience technical and economic challenges in finding affordable alternatives, and hence have income/revenue affected. Experience from similar projects in other Countries (supported by the GEF) shows that such initial disruption and revenue loss tends to be of a temporary nature, since the supply chain in other countries also need to comply with the same Convention. However, is acknowledge that SMEs require special support to strengthen their competitive positioning in the medium term.	**This risk is being mitigated by Project Design. (Components 1 and 2)** ? Under the Component 1, the Green Financial Mechanism aims to mitigate the financial impact of the Convention?s implementation by mitigating the financial burden for the enterprises compared to the baseline. - A roadmap for banning of imports or restricting the use of certain chemicals will be introduced through a clearly identified timeline, which is agreed by stakeholders. ? Under the Component 2 (Outcome 2.1). The project will engage all stakeholders to identify win-win design or engineering solutions aimed at reducing the need for chemicals whose uses will be restricted and finding affordable and effective alternatives for chemicals that will be banned; A specific category of ?eco-labelled products? will be identified so the design, manufacturing and placing on the market of products fulfilling the labelling requirements will be eligible under the green-financing mechanism that will be developed under the project. The Project will also engage with the government and seek additional support or conversion financing can be made available to such companies. ? During project implementation, Risk Assessment will be undertaken for the pollution control technologies application and the new production BAT/BEP used taking into consideration their impacts on workers. The industries will consult with trade unions or other workplace representatives to avoid or reduce redundancies, the method of selection and mitigating the effects, integrating outcomes into the final restructuring plan. This includes potentially training qualified existing staff on other

Risk 4: Inadequate participation of women in consultations, policy decision making and design of modalities for capacity building in uptake of BAT/BEP in the targeted industries **Related to:** - Gender Equality and Women?s Empowerment; P.10	I= 3 L= 2	**Moderate**	In general, the recycling industry require high level of physical work, which by sex-driven perception is seen as a ?work for men?. This perception also exists in other industries that utilize controlled chemicals in their production process, as mostly are seen as ?heavy industries?. In addition, for the recycling sector, women are mainly engaged in initial separation phases of the products and this may be directly exposed to some harmful substances that are released in this process. For the production industries, women workforce may be inserted in several stages of the process, including at managerial areas and in areas that require specialized skill (such as Laboratory Technicians).	**This risk is being managed by a Targeted Plan developed and attached to the Project Document.** The Gender Action Plan (GAP) is addressing potential risks and included measures to mainstream gender in all project components, with specific focus on encouraging women representation in the following: ? In line with the Risk Mitigation Strategy associated in Risk #2, women will be encouraged in the engagement with the project through their participation in the marketplace roundtables to prevent that the opportunities generated by the project will translate in the consolidation of existing situations of inequality, discrimination or unlawfulness. ? Adequate inclusion of women employees in the project decision making process and the BAT/BEP selection processes; ? Training and supporting more women employees to management positions including being middle and senior managers; ? Supporting all the women and men who could potentially lose their jobs to be appropriately relocated; ? Making sure the project results dissemination materials be gender sensitive; ? The project publicity targets proportionally toward relevant women and girls; and ? Collection of sex-disaggregated data wherever relevant.

Risk 5: Risk of accidental release of hazardous substances during handling, treatment, transport between facilities, storage, disposal or testing of substances and wastes contained-chemicals. **Related to risks:** - Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management; 1.1, 1.7, 1.14 - Standard 3: Community Health, Safety and Security: 3.1, 3.4, 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 = 2	**Moderate**	Transport, storage and disposal operations for mercury thermometers, phased-out fluorescent lamps, amalgams and APC filters may pose potential human and ecosystem health risks, whether to workers or the wider community or to the local environment due to accidental release or spills. Packing, transporting, storage and disposal of such waste stream must follow international Standards which are usually paired with National Regulation, and include packing individually, so the amount of mercury which can be released in case of accident will be minimal (milligrams in case of mercury lamps and fraction of grams in case of thermometers), so the impact is also limited. The very core objective of the project is to reduce the social, health and environmental risks in transport, storage, use and release of POPs and mercury containing equipment. So the project will	**This risk is being addressed/mitigated:** **Partially by Project design** **Partially by ESMP and additional Target Plans** <u>For the Project Contractors/Service providers</u>: the project will engage a number of service providers/contractors to support the operationalization of several activities. These will be engaged using procurement (tendering) processes against clear Terms of Reference and Technical Specifications as approved in the Procurement Plan. Under Outcome 3.1, the project will ensure that qualified waste management companies will be recruited through public tendering process. Clear criteria will be set to ensure strong track records and compliance with relevant National and International regulations and standards for handling, treatment and disposal of hazardous waste. The Contractors in charge of transportation, storage and handling of hazardous chemical must comply with Environmental Protection Law and Circular 36/2015/TT-BTNMT on hazardous waste management (applying for Environmental License and Workers certification and training). Targeted **Spill Prevention and Management Plan** will be developed and implemented at sites for safe handling and disposal of chemicals and mercury-containing obsolete devices and safely cleanup of accidental mercury releases. <u>For the Industries that will participate in BAT/BEP Demonstration Activities</u>: The project will provide technical assistance and oversee the deployment of technologies for the recycling of mercury containing equipment with segregation and storage of mercury. The Industries/Companies will implement such technologies through using their co-finance (not part of Project Budget. Eligible Industries and Enterprises were pre-screened during design phase. While final selection and engagement (including due diligence and contractual

Risk 6: Risk of flooding at mercury treatment and storage facilities **Related to risks:** - Standard 2: Climate Change and Disaster Risks, 2.2	I = 4 L = 2	**Moderate**	Increased weather events due to climate change may increase the risk of flooding which, in turn, may impact the mercury treatment and storage facilities. Mercury treatment and storage facilities are mostly located in industrial zones, where the impact of climate change, sea level rise and other extreme weather events are usually taken into consideration in their planning, and where mitigation activities were already developed. Vietnam is a country that is likely to be greatly affected by climate change, sea level rise and extreme weather events. The country has issued and implemented a National Strategy and National Action Plan to Respond to Climate Change.	**This risk is being addressed/mitigated:** **Partially by Project design** **Partially by Target Plan** Eligible Location and Company were pre-screened during design phase. While final selection and engagement (including due diligence and contractual arrangements) will be carried out during implementation phase, it is confirmed that the company is located in industrial (legal) area with no Heritage/Cultural Sites in these areas, therefore, Standard 4 is not triggered. An **Environmental and Social Impact Assessment (ESIA)** for the selected Industry/Company will be developed so to assess the potential social and environmental impacts in their area of influence. A **scoped Environmental and Social Management Plans (ESMP)** will be prepared to avoid and monitor any potential risk related to the interim storage location sponsored by the Project. No new land will be availed for this project, existing baseline structured will be used. Therefore, Standard 5 is not triggered. The **ESIA** will also ensure that the interim storage facilities (Output 2.1.1, Output 3.1.1, Output 3.1.3) are referring to the Minamata Convention?s Guidelineson the environmentally sound interim storage of mercury by confirming the following: - Site is appropriate and abides by local zoning requirements, Climate Risk assessment of the location will be carried out to consider the risk of flooding, and also incorporating flooding mitigation measures. - Facility is designed to facilitate the safe handling of containers. - Indoor air is vented outside, and

Risk 7: Health and safety risk for the workers involved in the activities of handling, treatment, transport between facilities, storage, recycling, disposal or testing of substances and wastes contained-chemicals. **Related to risks:** - Standard 3: Community Health, Safety and Security: 3.2 and 3.5 - Standard 7: Labour and Working Conditions, 7.1, 7.2, 7.5, 7.6	I = 4 L = 2	**Moderate**	This risk related to the potential practices and behaviours of workers that do not abide by a safety protocol and use the essential personal protective equipment (PPE) appropriate for the work they perform. In addition, health and safety of workers may be impacted during establishment of the treatment facility, if proper measures are not implemented including wearing PPE. It is noted that regulations on health and working environment are strictly implemented in formal urban environment companies in industrial zones in the suburban areas of big cities like Hanoi and Ho Chi Minh City. There have been no incidents affecting the health of workers reported so far. If the project fails, the workers employed by recycling industries who participate in the project may continue to be at risk of exposure to POPs.	**This risk is being addressed/mitigated by Project Design.** **(Components 2, 3 and 4)** **This risk will ne mitigated by additional ESIA/ESMP.** The project will only engage with formally established and licensed enterprises, and will not carry out new construction. Prior to engage with any Company (Service Provider, Contract and/or Co-financier) the project will carry the appropriate **ESIAs** and prepare the **ESMP** in line with Risk Mitigation Strategies 2, 5 and 6 which will also consider that occupational health and safety measures are applied (through an **Occupational Risk Assessment**) <u>For activities related to handling, treatment, transport between facilities, storage, disposal or testing of wastes</u> (a) Implement modern Air Pollution Control Systems to prevent the release of mercury and U-POPs suitable also for small enterprises; (Output 2.1.3) (b) Implement Relevant international guidelines and BEP on operational safety procedures for hazardous chemicals waste handling, transport, storage and disposal in accordance with international practice will be adopted during the first and second year of implementation (Output 3.1.1); (c) Develop and deploy training program involves provision of the necessary operational and safeguards exercise to the staff that are to be directly involved in the work on the treatment and storage area, and will be delivered in advance of starting actual site work and be updated throughout the period of work on the site as required. The scope of the training would cover overall hazardous waste and contaminated site management with specific emphasis on the packaging, physical handling procedures, inventory control and record keeping, site monitoring, emergency response and overall safeguards?related EHS practices and procedures. The curriculum for the

Risk 8: Increased GHG emissions or consumption of raw materials, energy, water? **Related to risks:** - Standard 2: Climate Change and Disaster Risks: 2.4 - Standard 8: Pollution Prevention and Resource Efficiency: 8.1, 8.2 and 8.3	I = 2 L = 2	**Low**	Usually, new technologies and controls result in reduction of use in raw materials as well as improved energy efficiency. If the project fails, the baseline technologies will continued to be used, therefore baseline emission and raw materials use will continue. Thus, this risk is duly considered, though rated ?LOW?.	**This risk is being addressed/mitigated by Project Design.** **(Components 2, and 33)** Based on experience on previous GEF project in Vietnam, energy and water consumption in production processes of chemicals companies were reduced. Therefore, POP reduction is usually accompanied by the savings of energy and resources. When selecting the processes and technologies for the transition of industries, the level of GHG emissions and use of raw materials of the considered alternatives will be assessed as the criteria to be evaluated for best environmental practice. The ESMP (under Risks 5 and 6) will also incorporate the relative aspects of Standards 8 triggered and incorporate SES requirements where applicable.

	QUESTION 4: What is the overall project risk categorization?		
	Low Risk	**?**	
	Moderate Risk	**?**	

	Substantial Risk	**X**	The screening has identified 8 risks related to this project, one categorized as Low (Risk 8) and seven categorized as Moderate (1 to 7). Considering that funds are made available after CEO Endorsement, conditions during the PPG phase were not conducive to finalize selection of demonstration enterprises, as no formal engagement is possible. **Hence, as a precautionary measure, the overall risk categorization for this project is determined to be Substantial.** Therefore, a series of Risk Mitigation/Avoidance Mechanism are being proposed in line with the SES Policy: Preparation of ESIAs to assess potential social and environmental impacts of a proposed project demonstration activities under Components 2 and 3 (Risks 5, 6 and 7) Prior to the CEO Endorsement (and Project Document signature) to develop scoped ESMP to mitigate and monitor any potential interconnections of Risks 2, 4, 5, 6, 7 and 8 (mostly related to the formalization of the selection of demonstration companies pre-screened during PPG phase. Spill Prevention and Management Plan for Risks 5 and 6. Occupational Health and Safety Assessment for Risk 7. Risk Management Strategy sound management of mercury stockpiles and obsolete mercury-containing equipment (Risk 5) (Jobs Retrenchment) Restructuring Plan, under Risk 2, **If** retrenchment is found to be unavoidable for certain industries, a will be developed and implemented. Some of the risks have also been addressed through the project?s design: including a Stakeholder Engagement Plan

	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) *Occupational Risk Assessment*	Planned
			?	ESIA (Environmental and Social Impact Assessment)	Planned
			?	SESA (Strategic Environmental and Social Assessment)	
	Are management plans required? (check if ?yes)	**?**			

	If yes, indicate overall type		**?**	Targeted management plans *Gender Action Plan* *Stakeholder Engagement Plan* *Risk Management Strategy (Mercury Waste)* *Spill Prevention and Mgt. Plan* *Restructuring (Jobs) Plan*	Completed Completed Planned Planned If needed
			?	ESMP (Environmental and Social Management Plan which may include range of targeted plans)	Planned
			?	ESMF (Environmental and Social Management Framework)	
	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 **Human Rights**	**Answer (Yes/No)**
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?	*No*
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? [2]	*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?	*No*
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?	*No*
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*	*Yes*
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?	*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?[3]	*No*
1.13 utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)[4]	*No*
1.14 adverse transboundary or global environmental concerns?	*Yes*
Standard 2: Climate Change and Disaster Risks	
Would the project potentially involve or lead to:	
2.1 areas subject to hazards such as earthquakes, floods, landslides, severe winds, storm surges, tsunami or volcanic eruptions?	*No*
2.2 outputs and outcomes sensitive or vulnerable to potential impacts of climate change or disasters? *For example, through increased precipitation, drought, temperature, salinity, extreme events, earthquakes*	*Yes*
2.3 increases in vulnerability to climate change impacts or disaster risks now or in the future (also known as maladaptive or negative coping 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 project 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)?	*Yes*
3.6 adverse impacts on ecosystems and ecosystem services relevant to communities? health (e.g. food, surface water purification, natural buffers from flooding)?	*No*
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?	*No*
Standard 4: Cultural Heritage	
Would the project potentially involve or lead to:	
4.1 activities adjacent to or within a Cultural Heritage site?	*No*
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)	*No*
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)?	*Yes*
5.3 risk of forced evictions?[5]	*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)?	*No*
6.2 activities located on lands and territories claimed by indigenous peoples?	*No*

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)?	*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 and/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?	*No*
7.4 use of forced labour?	*No*
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, and/or use of hazardous materials and/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*	*No*
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, and/or water?	*Yes*

[1] *The completed template, which constitutes the Social and Environmental Screening Report, must be included as an annex to the Project Document at the design stage. Note: this template will be converted into an online tool. The online version will guide users through the process and will embed relevant guidance.*

[2] 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.

[3] See the Convention on Biological Diversity and its Cartagena Protocol on Biosafety.

[4] See the Convention on Biological Diversity and its Nagoya Protocol on access and benefit sharing from use of genetic resources.

[5] 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.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted

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 Sustainable Development Goal (s): SDG 3(Good Health and Wellbeing); SDG5 (Gender Equality); SDG9 (Industry, Innovation and Infrastructure); SDG12 (Responsible Production and Consumption); SDG13 (Climate Action)				
This project will contribute to the following country outcome (UNDAF/CPD, RPD, GPD): One Plan Focus Area 2**: ensuring climate resilience and environmental sustainability** Outcome 2.2: Sustainable management of natural resources and the environment. By 2021, Viet Nam has enhanced sustainable management of natural capital, biodiversity and ecosystem services and improved the quality of the environment, while contributing to the implementation of multilateral environmental agreements.				
	Objective and Outcome Indicators (no more than a total of 21 indicators)	Baseline[1]	Mid-term Target[2]	End of Project Target
Project Objective: The objective of the project is to protect human health, environment and promote sustainable production and consumption through the reduction of the use of POPs, new POPs and mercury and the release of POPs, U-POPs and mercury throughout the entire lifecycle in key industrial sectors supported by Ecolabel system, Green Financing and Procurement mechanisms	**Mandatory** Indicator 1 (GEF Core Indicator 11): # direct project beneficiaries disaggregated by gender (individual people) Number of people (F/M) participating in training and awareness raising activities, benefitting from green financial incentives, or from project-related job opportunities. Target: 2,000/1,500	0	600/400	2,000/1,500
	Mandatory Indicator 2 (GEF Core Indicator 11): # indirect project beneficiaries disaggregated by gender (individual people) Number of people (F/M) benefitting from reduced exposure to mercury, POPs or U-POPs. Target: 800,000/800,000	0	0/0	800,000/800,000

	Mandatory Indicator 3 (GEF Core Indicator 9)**:** Direct or indirect reduction of new POPs: target 35 tons	2.74 tons of PFOS and SCCP reduced through Green Chemistry Project[3].	New POPs reduced: 10	New POPs reduced: 35 t
	Mandatory Indicator 4 (GEF Core Indicator 9)**:** Mercury release reduced. Target: 648 kg of mercury emission avoided, 10,000 thermometers and 20,000 mercury lamps replaced	Mercury release reduced:0	Mercury release reduced: 2500 Th and 5000 mercury lamps. 162 kg Hg avoided.	Mercury release reduced: 10000 Th and 20,000 mercury lamps. 648 kg of mercury emission avoided.
	Mandatory Indicator 5 (GEF Core Indicator 9): U-POPs releases reduced. Target: 2 g Teq/yr	U-POPs release reduced: 0	U-POPs releases reduced: 0	U-POPs releases reduced: 2 g Teq/yr
Project component 1	**Promote sustainable production - consumption in key sectors through Ecolabeling, Green Financing and Procurement, and other elements to support a long-term Innovation Ecosystem for greening the value and supply chain across sectors**			
Project Outcome[1] 1.1 Environmental regulation upgraded to include new POPs; Ecolabel and related policies on POPs and mercury lifecycle management developed and implemented. (Note: Outcome 1.1 and 1.2 merged together to fulfil UNDP template requirements)	**Indicator 6**: Number of environmental regulation upgraded/enacted. Target: one environmental regulation concerning new POPs drafted and enacted; One environmental regulation concerning ecolabel drafted and enacted	Environmental regulation related to new POPs are missing / incomplete. Environmental regulation related to the phasing out of mercury missing/incomplete. Environmental regulation on eco-labelling does not include POPs and mercury.	Environmental regulations on ecolabel drafted and enacted; environmental regulation on new POPs drafted.	One environmental regulation concerning new POPs drafted and enacted; One environmental regulation concerning ecolabel drafted and enacted.
	Indicator 7: Number of policies on POPs and mercury lifecycle drafted and enacted.	A policy on the lifecycle of POP-containing articles and on mercury-containing articles is currently missing.	One policy on the lifecycle of POP-containing products, and one policy on the lifecycle management of mercury-containing products drafted.	One policy on the lifecycle of POP-containing products, and one policy on the lifecycle management of mercury-containing products enacted.

Outputs to achieve Outcome 1.1	1.1.1 Review, amendment of existing, or creation of new legislation related to POPs and new POPs in key sectors (e.g., plastic and polymers,, metal plating, paint/solvents, etc.), including ensuring inclusion of provisions to support, *inter alia*, prohibition of import for new POPs; concentration limits for POP brominated flame retardants, HBCDD, SCCP and other POPs/PTS in products and waste; development of Eco-labelling schemes; New EPR schemes supported. 1.1.2 Roadmap and sectorial plans for replacement of mercury thermometers and mercury-containing lamps established. 1.1.3. Review of the existing legislation related to mercury in products and mercury emission carried out, to help develop, strengthen, and ultimately enforce regulations concerning technical standards for mercury waste management.			
Outcome 1.2 Development of a Green Financing Mechanism, to sustain the shifting of enterprises towards a non-POP and a non-mercury manufacturing 2 indicators maximum	**Indicator 8***:* Green financing mechanism is in place Target: a green financing mechanism with a fund size of 5,000,000 USD fully subscribed	A green financing mechanism is in place however, it doesn't include POPs or mercury	Green financing mechanism designed, approved and subscribed for at least 1 million US dollar.	Green financing mechanism fully subscribed (5million US dollars)
	Indicator 9*:* Eco-label system and green procurement are in place Target: Eco-label system including requirements for POPs and mercury content developed and approved for at least 10 product categories, with at least 5 industries certified. Green procurement policy developed, approved and implemented with at least 100,000 USD of green products purchased.	Eco-label systems do exist in several sectors; however, they do not include requirements on mercury or POPs concentration. A green procurement system is missing	Eco-label system including requirements for POPs and mercury content developed for at least 10 product categories. Green procurement policy developed, approved.	Eco-label system including requirements for POPs and mercury content developed and approved for at least 10 product categories, with at least 5 industries certified. Green procurement policy developed, approved and implemented with at least 100,000 USD of green products purchased.
Outputs to achieve Outcome 1.2	1.2.1 Green Financing Mechanism designed, funded and implemented to support private sector on getting incentives policy (e.g., tax, fee, credit fund, investment equity). Eco-label improved, funded and properly communicated, building on national and other finance institutions (e.g., the Viet Nam Environment Protection Fund (VEPF)) 1.2.2 Green Procurement scheme designed and implemented for MONRE, some DONREs and health-care facilities (MOH)			

Project component 2	**Life cycle management of POPs and PTS containing products**			
Outcome 2.1 Sustainable manufacture and design of plastic, polymers, polymers, paint, metal finishing and other products improved to prevent the use of POP and the release of POP and mercury in the environment. 2 indicators maximum	**Indicator 10**. Number of key sectors where alternative product design is demonstrated Target: A knowledge network established among manufacturing sectors with at least 2 sectors to be selected based on the result of the survey.	Alternative design finalized at the reduction of POPs or mercury has been first demonstrated in electroplating and paint companies under Green Chemistry Project.	Key sectors selected	Alternative product design demonstrated in at least 2 industrial sectors of the network
	Indicator 11: Number of air pollution control systems designed and installed at industrial facilities. Target: air pollution control systems designed and installed for an overall amount of 1?10$_6$ Nm$_3$/h of flue gas treated.	In most cases SMEs and small-mid scale incinerators make use of simple air pollution treatment systems not suitable for the reduction of POPs	Air pollution control systems designed and financed by private industry with support of Green Financing for an overall amount of 1?10$_6$ Nm$_3$/h of flue gas treated	Air pollution control systems procured and installed for an overall amount of 1?10$_6$ Nm$_3$/h of flue gas treated
Outputs to achieve Outcome 2.1	2.1.1 Analysis of the manufacturing sectors for which the use of new POPs has been recently confirmed but not yet included in the NIP carried out, in order to strengthen baseline and select optimum sectors and enterprises for pilot activity to improve POPs management in the value chain. 2.1.2 Alternative product design to prevent the use of hazardous chemicals additives in general and consequently the use of POPs (e.g., BFR, PBDE, HBCD, PFOS/PFOAs, SCCP) in key sectors demonstrated. 2.1.3 Design and implementation of modern Air Pollution Control Systems to prevent the release of mercury and U-POPs suitable also for small enterprises carried out			

Outcome 2.2 Closure of the gap between recyclers and industry to sustain circular economy and to prevent the contamination of recyclable materials. 2 indicators maximum	**Indicator 12**: Number of demonstrations of reuse, up-cycling, recycling or waste-to-energy established Target: at least one demonstration carried out for reuse, upcycling, recycling or waste to energy of products and materials.	Although the recycling of some materials is common in Vietnam, the recycling operations are often not environmentally sound. The concept of upcycling is basically unknown in Vietnam.	At least one demonstration designed for the reuse, upcycling, recycling or waste to energy of products and materials.	At least one demonstration carried out for the reuse, upcycling, recycling or waste to energy of products and materials.
	Indicator 13: Number of take-back schemes designed and piloted for product or product components. Target: at least one take-back scheme demonstrated entailing prevention of POPs or mercury in the manufacturing chain or their release in the environment	In Vietnam, except for the case of water bottle, take-back scheme is uncommon.	At least one take-back scheme designed entailing the phase out or the release prevention of POPs and mercury in the environment	At least one take-back scheme piloted entailing the phase out or the release prevention of POPs and mercury in the environment
Outputs to achieve Outcome 2.2	2.2.1 Interaction, technical exchange and commercial agreements between recyclers and industry promoted to identify and implement solutions for the horizontal and safe recycling of materials and for the segregation and safe disposal of POP-contaminated materials.			
Project component 3	**Lifecycle management of mercury-containing products**			
Outcome 3.1 Replacement of mercury products with non-mercury products promoted and sustained by EPR schemes and EOL management. 2 indicators maximum	**Indicator 14**: Number of medical devices containing mercury replaced with non-mercury devices Target: at least 10,000 mercury-containing thermometers replaced with non-mercury thermometers	Although the number of mercury thermometers replaced in hospitals is increasing, these equipment are still very common in many hospitals in Vietnam.	At least 5000 mercury-containing thermometers replaced with non-mercury thermometers	At least 10,000 mercury-containing thermometers replaced with non- mercury thermometers

	Indicator 15: Number of mercury-containing lamps replaced with mercury-free lamps Target: at least 20,000 mercury-containing lamps replaced with mercury-free lamps	Fluorescent lamps are being replaced by LED lamps in Vietnam but the replacement rate is still low and faces market constraints.	At least 10,000 mercury-containing lamps replaced with non- mercury lamps	At least 20,000 mercury-containing lamps replaced with non-mercury lamps
Outputs to achieve Outcome 3.1	3.1.1. Risk management, technical guidance and training materials developed for the sound management of mercury stockpiles, mercury waste and obsolete mercury-containing equipment, with specific reference to lamps and medical devices containing mercury. 3.1.2. Capacity and institutions are strengthened to eliminate use of mercury containing products (eg. Mercury lamps, thermometers and cosmetics); road map and plan for using of mercury-free devices developed and implemented. 3.1.3 Technologies for the recycling of mercury containing equipment with segregation and storage of mercury established.			
Outcome 3.1 Environmentally sound management of End-of-Life mercury-containing products established	**Indicator 16**: Number of technical guidance made available and training on mercury performed. Target: at least 1 set of technical guidance and 10 training packages delivered in Training of Trainers events for health-care facilities.	Limited training on mercury devices carried out in the course of previous GEF projects.	Training needs assessed Technical guidance compliant with WHO guidelines and training package prepared At least 4 training carried out	The remaining 6 training carried out for a total of 10.
	Indicator 17: Number of facilities for the recycling and disposal of mercury-containing devices and waste established Target: at least one facility for the storage and disposal of mercury-containing devices established	A dedicated facility for the safe storage and management of EOL mercury-containing equipment and lamp is missing.	A site for the establishment of the facility is selected. Design of the facility, including technical specification and technical bidding carried out.	Equipment for mercury waste storage and treatment procured, tested and operational in one site.

Outputs to achieve Outcome 3.1	3.1.1. Risk Management Strategy, technical guidance and training materials developed for the sound management of mercury stockpiles and obsolete mercury-containing equipment, with specific reference to mercury lamps and medical devices. 3.1.2. Capacity and institutions are strengthened to eliminate use of mercury containing products (e.g., Mercury lamps, thermometers and cosmetics) in medical facilities; road map and plan for using of mercury-free devices developed and implemented (20,000 mercury thermometers replaced)			
Project component 4	**Knowledge management and M&E**			
Outcome 4.1 Project management team established, lesson learnt and knowledge generated by the project properly shared and communicated. 2 indicators maximum	**Indicator 18**: 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.	Additional project staff recruited if needed by the project, with a proportion F/M not smaller than 1.

	Indicator 19: Number of lessons learned and best practices 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 eco-labelling, green chemistry and green financing held where lessons 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 eco-labelling, green chemistry and green financing held where lesson learnt for each project component are shared and proposal for follow up activities discussed. 10 knowledge products or lessons learnt produced and published.
Outputs to achieve Outcome 4.1	4.1.1 Project inception and inception report carried out 4.1.2 Project steering committee and project management unit established 4.1.3 Knowledge management system including project website established			
Outcome 4.2 Project monitoring, evaluation and audit carried out in compliance with GEF, UNDP and GoV standards	**Indicator 20**: Number of evaluation and audit completed and properly reflected in project management. Target: one mid-term review, one terminal evaluation completed. One financial audit carried out yearly	Not applicable	Mid-term review completed and management responses elaborated and approved. Two financial audits completed	Terminal evaluation completed and management responses evaluated and approved. Further two financial audits completed (total of 4)

	Indicator 21: Number of management report approved. Target: at least one PIR per year drafted and approved. Annual and Quarterly Project reports drafted and approved; Annual Project Workplan drafted and approved; Final project report drafted and approved.	Not applicable	One inception report, Two PIRs Two Annual Project Workplan Eight quarterly project reports	Inception report Two additional PIRs (total of four) Two additional Annual Project Workplan (total of four) Eight additional quarterly project reports (total of 16) Final project report
Outputs to achieve Outcome 4.2	4.2.1. Project and its activities monitored and evaluated on a periodic basis in line with GEF, UNDP and government requirements. 4.2.2 Indicators established to facilitate successful project implementation and sound impact assessment.			

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[1] 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.

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[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] Green chemistry Project. GEF ID 9379, tittle ?Application of Green Chemistry in Viet Nam to support green growth and reduction in the use and release of POPs/harmful chemicals?

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).

	GEF Secretariat Comment	UNDP response
1	**2. Are the components in Table B and as described in the PIF sound, appropriate, and sufficiently clear to achieve the project/program objectives and the core indicators?** 03.29.2020: The components are mostly clear for this stage of project development. However, further clarifications is requested for EPR. In Table B, it is mentioned that this is to be developed; however, in the different section(s) of the PIF, it is stated that this already exists. Recommended action: Please clarify whether the above output is to be newly developed under the proposed project or is this to be improvement of the existing one. 04.08.2020: Cleared. Earlier comment(s) are appropriately addressed for the PIF stage.	Both. In the PIF, the only existing EPR scheme mentioned is the one concerning ELV, i.e. the one established under Decision N?16/2015 which regulates the collection after use of products like vehicles, tires, electronic devices, oil, and batteries. In addition to the development of new EPR schemes, the enforcement of this already existing EPR scheme will be also improved. The text has been revised to make this aspect clearer. (Page 1 of the PIF ? table B)

2	**3. Are the indicative expected amounts, sources and types of co-financing adequately documented and consistent with the requirements of the Co-Financing Policy and Guidelines, with a description on how the breakdown of co-financing was identified and meets the definition of investment mobilized?** 03.29.2020: While investment from the private sector ($19 mil.) is described, there are no description on how other five investment mobilized were identified. Recommended action: Please consider and elaborate on the above. 04.08.2020: While there are further elaboration on how the investment from the private sector (total $19 mil) was identified, PIF still lacks description on how other ?investment mobilized? from the Government was identified. Recommended action: Please consider and elaborate on the above. 04.13.2020: Cleared. Earlier comment(s) are appropriately addressed for the PIF stage.	A table with further details on the co-financing mechanism has been included. The industries will undertake direct investment in environmental technologies compliant with project objectives for an overall amount of 14 million USD and will, at the same time, subscribe Green Financing Loans at a discounted interest rate for 5 million USD. The Green Financing Loan will be designed in detail at PPG. To explain better the financial strategy underpinning this project we would like to mention some concrete facts: **Co-finance from Government sectors** (a narrative part has been added in "Describe how any 'Investment Mobilized' was identified" but this could not be highlighted, as the GEF Portal doesn't allow to do so): The project envisages mobilization of capital for an amount of around 2,925,000 USD from MONRE (VEA+VEPF), recurrent expenditure from VEA up to 2,225,000 USD, plus a more limited amount coming from MOIT and MOH (300,000 USD each). As indicated in the PIF, Vietnam is quite keen on investment on POP management. The PM approval of National Target Program (NTP) in 2018 at Decision No. 807/QD-TTg allocates 20 million USD cash for cleanup of POP contaminated sites. Investment on monitoring is significantly increasing. Vietnam Chemicals Agency (Vinachemia) under MOIT is now implementing activities for reduction and phasing out of Mercury used products and manufacturing process. Vinachemia is planning to develop a draft Decree for implementation of Minamata Convention in Vietnam. Similarly in MOH, Health Environment Management

3	**4. Is the proposed GEF financing in Table D (including the Agency fee) in line with GEF policies and guidelines? Are they within the resources available from (mark all that apply):** 04.15.2020: 1. While Table E has a beak up between POPS and Mercury, Table D does not. Please provide break-up or justification for consolidated figure in Table D. 2. Also regarding project information, please fill in submission date.	The Table D has been revised accordingly, marked yellow. Submission date is also set.

4	**Core indicators** **6. Are the identified core indicators in Table F calculated using the methodology included in the correspondent Guidelines? (GEF/C.54/11/Rev.01)** - 03.29.2020: Indicator 9.1: The PIF seems to state that the project will be targeting POPs other than PFOS (e.g. HBCD and PFOA) which is indicated in Indicator 9.1. If so, please provide an estimate for these chemicals. Indicator 10: PIF seems to state that the project will be eliminating u-POPs emissions in Figure 1. If so, please include this target as Indicator 10. Indicator 11: Total of direct beneficiaries (1,000) is exceptionally low given the requested GEF finance. Recommended action: Please address the above point(s). - 04.08.2020: Cleared. Earlier comment(s) are appropriately addressed for the PIF stage. -	Indicator 9.1: Preliminary amounts for each POP chemicals have been provided under indicator 9.1. As the experience from other projects demonstrated, the estimate at PIF stage are preliminary and will need to be confirmed at PPG (Ref. Core Indicator). Concerning the U-POPs amount, the quantity (2 gTEq/yr) is reported under the indicator 9. Indicator 10 is legislation and technologies/practices implemented (Ref. Core Indicator) Indicator 11: The direct beneficiaries previously reported in the PIF were limited to workers impacted by the measures and beneficiaries of training courses / awareness raising initiatives. However, including consumers and users of non-POP equipment among the direct beneficiaries (10,000 thermometers, 20,000 non mercury lamps, and 500 tons of non-POPs equipment, the direct beneficiaries can be estimated as following: For non-mercury equipment: 2 beneficiaries for each thermometer and 4 beneficiaries for each non-mercury lamps; For non-POPs equipment. Assuming conservatively that one kg of non-POP products would directly benefit one beneficiary, 500 tons of POPs containing products would impact 500,000 persons. As far as U-POPs and mercury releases, considering that factories in Vietnam are often located in highly populated area, the decrease of mercury and U-POPs emission can potentially impact positively millions of beneficiaries. Therefore, an estimate of 1,600,000 direct beneficiaries can be considered a reasonable

5	**3. Does the proposed alternative scenario describe the expected outcomes and components of the project/program?** 03.29.2020: The project seeks to protect human health, environment and promote sustainable production and consumption through the reduction of the use of POPs, new POPs and mercury and the release of POPs, U-POPs and mercury throughout the entire lifecycle in key industrial sectors supported by EcoLabel system, Green Financing and Procurement mechanisms. The project is structured around four Components: - Component 1: Promote sustainable production - consumption in key sectors through Ecolabeling, Green Financing and Procurement etc. - Component 2: Life cycle management of POPs and PTS containing products. - Component 3: Mercury lifecycle management of mercury containing products. - Component 4: Monitoring and Evaluation However, clarification is requested for below for Output 1.3.1: 1) The PIF states 'the co-financing entity will fund the project for an overall budget of USD 5 mil.' It is unclear which co-finance indicated in Table C is associated with this USD 5 mil. 2) Please provide basis for USD 14 mil. direct investment. It is unclear how this was calculated. 3) PIF states 'green-financing scheme could mobilize USD 19 mil. cash against a GEF financing of USD 1.5 mil.' However, the proposed GEF financing for Component 1 which addresses green-financing scheme is USD 0.9 mil. Recommended action: Please address the above point(s). 04.08.2020: Cleared. Earlier comment(s) are appropriately addressed for the PIF stage.	A table explaining the above has been included in the PIF document. Kindly note that the GEF financing associated to the green financing scheme is not under component 1 (this is only design of the scheme), but in equal parts under components 2 and 3 (Green Financing implementation). Table C has been amendment to show where the 5 million of Green Financing fund subscriptions will go. The amount of 14 million USD is not the result of a calculation, but instead derives from consultations with VEPF and industrial associations which anticipates that this is the amount of investment that could be mobilized in areas related to project intervention, and that could be eligible for Green Financing loan. The commitment is currently preliminary and will be ratified at PPG through commitment letters.
6	**6. Are the project?s/program?s indicative targeted contributions to global environmental benefits (measured through core indicators) reasonable and achievable? Or for adaptation benefits?** 03.29.2020: Please refer to earlier comments provided for Core Indicator section. 04.08.2020: Cleared. Earlier comment(s) are appropriately addressed for the PIF stage.	Kindly refer to the answer provided to earlier comments.

7	**Is the articulation of gender context and indicative information on the importance and need to promote gender equality and the empowerment of women, adequate?** 03.29.2020: PIF states: 'Assessment of gender-specific chemical risk associated with POPs and PTS generated by E-Waste and ELV recycling activities'. Please provide clarification on why this gender-specific assessment seem to be limited to e-waste and ELV recycling activities. Recommended action: Please address the above point(s). 04.08.2020: Cleared.	This is the result of a typo deriving from a previous version of the PIF. That section has been currently amended as follows: ?Assessment of gender-specific chemical risk associated with POPs and PTS used and/or released by industrial activities and in consumer products.?
8	**Risks** **Does the project/program consider potential major risks, including the consequences of climate change, that might prevent the project objectives from being achieved or may be resulting from project/program implementation, and propose measures that address these risks to be further developed during the project design?** 03.29.2020: PIF lacks Environmental and Social Safeguards policy. Recommended action: Please address the above point(s). 04.08.2020: Cleared.	The Social and Environmental Safeguard Policy has been attached to the portal.

9	**Coordination** **Is the institutional arrangement for project/program coordination including management, monitoring and evaluation outlined? Is there a description of possible coordination with relevant GEF-financed projects/programs and other bilateral/multilateral initiatives in the project/program area?** 03.29.2020: Please further provide details regarding coordination with potential UNEP project in Vietnam (GEFID: 10523) addressing related issues. Recommended action: Please address the above point(s). 04.08.2020: Cleared. Earlier comment(s) are appropriately addressed for the PIF stage.	Coordination will be also sought with the UNEP project GEFID 10523. Indeed, the two projects are different in their objectives, as the UNEP project would be exclusively dealing with the Textile sector, whilst the UNDP cover a number of industrial sectors except textile. However, coordination and synergy can be established. The UNDP is concretely establishing a funding line for several POP-related sectors by extending permanently the eligibility criteria for application to the VEPF fund, whilst the UNEP will identify priority actions under a roadmap existing financial mechanism and assist SMEs in preparing applications. Further synergies can be identified in the part related to the drafting of improvement of current regulations and standards to include industrial products. This project will coordinate with the UNEP regional project on textiles via their respective KM components. UNDP and UNEP can share best practices and knowledge gained in the country to ensure a wider dissemination than any of the individual agencies would achieve.
10	**Knowledge Management** **Is the proposed ?knowledge management (KM) approach? in line with GEF requirements to foster learning and sharing from relevant projects/programs, initiatives and evaluations; and contribute to the project?s/program?s overall impact and sustainability?** 03.29.2020: Please provide knowledge management strategy on how this project will share findings and learn each other with the potential UNEP project in Vietnam (GEFID: 10523) addressing very similar issues. Recommended action: Please address the above point Secretariat Comment at PIF/Work Program Inclusion 04.08.2020: Cleared.	indings, lessons and strategies will be shared among the two projects. However, kindly note that the two projects are not addressing similar issues, as the UNEP project would be exclusively dealing with the textile sector, whilst the UNDP will cover a number of industrial sectors except textile. As both the projects will be implemented by the MONRE and Vietnam Environment Administration (VEA) is the project owner, the exchange of information among the two projects, with specific reference to the development of new regulations and standards, and the assistance to enterprises concerning the access to environmental funds, will be greatly facilitated. This project will coordinate with the UNEP regional project on textiles via their respective KM components. UNDP and UNEP can share best practices and knowledge gained in the country to ensure a wider dissemination than any of the individual agencies would achieve.

	STAP comment	UNDP response
1	The proposal presents useful baseline information, including on relevant regulations in Vietnam; the current status of POPs in plastic production and recycling in the country; as well as on the inventory of mercury and POPs in the country. This information is foundational to a successful project, and STAP recommends that it should be built upon as the project moves to the PPG stage.	Thank you for your comments and appreciation, we will ensure that the project document will duly reflect this information and any update that would be made available at PPG stage.
2	The project presents a theory of change on page 26. It highlights mainly the issues, baselines, barriers, interventions, and expected outcomes. Essential components of a functional theory of change, including the underlying or key assumptions and causal and alternative pathways, are, however, missing. STAP recommends that this should be improved. Please see STAP's theory of change primer for further guidance on theory of change preparation (https://stapgef.org/sites/default/files/publications/STAP%20ToC%20Primer_webposting.pdf).	Thank you for the guidance provided. In the PPG we will redraft the TOC taking into account the recommended STAP guideline.

3	It was recognized in the PIF that most plastic recyclers or manufacturers do not have a clear understanding of the various chemical additives used in their processes. The PIF also states that "the informal recycling chain (mostly based on craft villages) do not follow quality standards." This is one of the significant reasons for POPs and other chemical use and pollution in the country. Given this situation, it is crucial to come up with a strategy for engaging these sectors to catalyze change. How this will be achieved is not very clear in the current PIF. Suggested activities may include targeted capacity building and awareness-raising within these sectors. However, most of the capacity building and awareness-raising interventions in the current PIF are mainly aimed at the elimination of mercury and not POPs.	Thank you for this important comment. Please consider that a strategy to address the quality gap between informal recyclers and large industry is described in output 2.2 ?Closure of the gap between recyclers and industry to sustain circular economy and to prevent the contamination of recyclable materials.?. The basic concept underpinning this activity is that there is a need to Interaction, technical exchange and commercial agreement between recyclers and industry promoted to identify and implement solutions for the horizontal and safe recycling and of materials and the segregation and safe disposal of POPs contaminated materials. Furthermore, there will be listing and classification of craft villages based on its environmental performance and therefore promote the gradual move

4	The project will "design and implement modern air pollution control systems to prevent the release of mercury and U-POPs suitable also for small enterprises." Given the interrelationship between most air pollution mitigation systems and climate change abatement technologies, it is vital that the design and selection of pollution control systems are optimized to deliver air pollution, mercury reduction, as well as climate mitigation benefits. The possible synergies and trade-offs should be considered in the design and implementation.	Thank you, we agree, and BAT/BEP will be considered in the design of APCS, with great care not only to their environmental performance, but also to the consumption of energy or reduced efficiency of the downstream process associated to these systems. This will be duly considered in the course of project implementation and reflected in the project document.
5	It is noted that the quantification of the amount of avoided mercury and POPs releases from the proposed activities will be further assessed in detail at the PPG stage. STAP welcome this further review of GEBs at the PPG stage and recommends that the potential climate benefits (for example, through air pollution system ? see above comment) should be considered in the improved estimates.	Thank you, we agree. Estimation of potential climate benefits will be further assessed at PPG and reflected in the project document.

6	Innovative, sustainability, and potential for scaling-up: This section focuses more on innovative approaches that are embedded in the project. However, green financing and procurement (which are essential for project sustainability) are not discussed. Furthermore, the scaling up aspect is missing. The project proponent may consider reviewing the GIZ paper on "scaling up in development cooperation - practical guidelines (https://www.shareweb.ch/site/Learning-and- Networking/sdc_km_tools/Documents/GIZ-Scaling-up-in-development-cooperation.pdf)" for further guidance.	Thank you for this comment. We do agree that scaling up is an important aspect that need to be further strengthened in the project document, and this will be addressed during PPG stage. Scaling up is indeed already partially ensured by the ongoing reform of the VEPF, which is planning to expand its operations and financial capability to support green industry and is undertaking a more important role as from the ongoing revision of the Law of Environmental protection. Beside VEPF as main target financial institution, the Project will be looking at other institutions such as Vietnam Fund for Supporting Technological Creations (VIFOTECH), National Foundation for Science and Technology Development, (NAFOSTED).

7	Stakeholder engagement: the roles of all stakeholders need to be elaborated.	In the PPG stage several face to face meetings with stakeholders, as well as two workshops (inception and validation) will be held. This will be duly reflected in the project document. The PPG team including one specialist on stakeholders engagement with support from UNDP and the government will proactively seek engagement of all potential stakeholders including NGO.

8	Coordination: It is shown in the PIF that the project will be implemented by MONRE (VEA) as the main implementing partner but in partnership with MOIT (VINACHEMIA) and MOH (HEPA). However, under sections 2 and 4, the PIF commits to work with other stakeholders, including the private sector. The diagram provided in section 6 does not contain any information on how this coordination will be done.	Thank you, we agree. Private stakeholders are key for the success of this project, as they are going to submit a number of initiatives to be supported with loans under the Green Financing Mechanism. They will be the subscribers of these loans and will practically implement their initiatives. Considering the number and diversity of private industries, a coordination mechanism with them will require a specific effort and will be duly designed at PPG stage.

9	Climate change impact and risks: it was indicated that the project would be intrinsically neutral or positive in terms of generation of GHG or energy consumption. Alternative processes/materials in terms of energy consumption and the release of GHG will be assessed in the selection of interventions. STAP encourages that this should be rigorously carried out and note that the lifecycle approach, which the project intends to implement if adequately done, can help achieve this goal. On the risk of projected climate change, the intention to include the resilience of manufacturing plants to climate impacts as one of the plant selection criteria is welcomed, and STAP recommends that a detailed climate risk assessment should be carried as the project is developed further.	Thank you for this important comment. We agree. As explained in the PIF, climate change impact will be considered as one of the main eligibility criteria for industries applying under the project. Whenever possible, a lifecycle analysis of the products being manufactured by the applicants carried out will also look at climate risk. At the PPG stage, the methodology for the assessment of the climate change impact including LCA tools will be further detailed.

Minamata Convention Secretariat Comments		Response
1	The Minamata Convention Secretariat appreciates the approach taken in this project to leverage POPs and broader chemicals activities as well as build on previous projects to advance mercury objectives. The strong components that leverage private sector engagement and investment are very well elaborated.	We would like to thank the Minamata Convention Secretary for their valuable recommendations and suggestions. We want to assure the Secretariat that these indications and suggestions will guide the development of the full project document during PPG activities. We look forward to further exchange with the Secretariat during the PPG stage to ensure that the project will be fully compliant with the Convention?s policies.

2	We note that the project seems to take a life-cycle approach to the focus products. The project would benefit from an improved elaboration of how the activities relate to Vietnam?s obligations to phase out manufacturing, import and export of mercury-containing products listed in Annex A of the Convention.	We will take this recommendation into consideration during the PPG. UNDP, in its PPG initiation plan, has already planned to recruit an international expert on Mercury and the Minamata Convention to ensure that this aspect will be thoroughly addressed.

3	The proposal appears to focus on phasing down mercury use in lighting and health care sectors, but does not give a clear indication of whether those activities build upon governmental initiatives to eliminate in 2020, rather than phase down, the manufacturing, import and export of listed products. The listed products include specific health care products and only a subset of lighting products which use high levels of mercury. Not all mercury-containing lighting products are listed.	It is correct that the PIF does not list all the lighting products containing high levels of mercury. The following information, gathered as a result of survey carried out under the project ?Vietnam POPs and sound harmful chemicals management project (GEF 5067)? were not included in the PIF for the sake of brevity, but will be duly updated and reported in the project document: - By the end of 2018, the two main manufacturers of fluorescent lamp in Vietnam (Rang Dong Light Source and Vacuum Flask Joint Stock Company) have already ceased the production of compact fluorescent lamps; by the same year, the two companies reduced the output of linear fluorescent lamps from 8.5 million pieces/year to 5 million pieces/year; - By the year 2020 they will stop producing fluorescent lamps. The production and marketing of mercury free LED lights in Vietnam is growing very fast. Currently, the LED production of the Dien Quang Lamp Joint Stock Company and Rang Dong Light Source and Vacuum Flask Joint Stock Company are 6.88 million units/year and 33 million units/year respectively. Although one of the actions will be the replacement of a significant number of fluorescent lamps with LED lights, one of the main challenges for the country will be the proper disposal of the large number of phased out fluorescent lamps envisaged for the coming years. For this reason the project intends to provide knowledge and demonstrate technologies for the safe disposal of mercury-containing lamps. In the healthcare sector, although mercury sphygmomanometers are substantially out of the market, mercury thermometers are still considered by the general public and in many healthcare facilities as inexpensive and reliable, therefore until the year 2019 the use and marketing of mercury thermometers was still widespread. The COVID-19 epidemic acted as a powerful demonstrator of non-mercury thermometers due to the need to quickly measure the temperature of a large number of people entering public places. It is likely that even hospitals which were more recalcitrant in replacing mercury devices with mercury free, will now consider the effectiveness of these devices. Even in the preparation of the project document, this experience will be duly taken into account.

4	The project notes ongoing work to phase out of mercury0-using products and manufacturing process and that Vinachemia is planning to develop a draft Decree for implementation of Minamata Convention. The Secretariat would be happy to work with Vietnam and project partners to clarify these outputs.	As explained in the PIF, Vinachemia is planning to develop a draft Decree for implementation of Minamata Convention; therefore, through the project, a coordination platform among the Minamata Convention Secretariat and the relevant Ministries, already at the PPG stage, can be established. In this sense we are welcoming further coordination with the Minamata Convention Secretariat.
5	The green procurement activities in Component 3, as well as other activities addressing manufacturing and import of Annex A products, should take place as soon as possible, given the 2020 deadline.	We also acknowledge the suggestion to prioritize, at project implementation, green procurement activities envisaged in Component 3, as well as other activities addressing manufacturing and import of Annex A products. This will be duly reflected in the workplans to be developed as part of the project document.
6	The Component 2 activity on design of air pollution control systems is unclear vis a vis the sectors to be addressed. GEF support for mercury air pollution control technologies should be only directed to the sectors listed in Annex D of the Convention, and should be carried out through use of the agreed BAT/BEP Guidance under the Convention.	We appreciate this clarification. Indeed the PIF does mention at least three of the sectors listed in Annex D (Incinerators, non-ferrous metal and cement kilns) as potential sectors eligible for the support of APCS to reduce PCDD/F and mercury emissions, and it is clear that only BAT/BEP compliant interventions will receive support. As eligibility criteria have to be developed for access to the Green Financing Mechanism established under the project, the observations provided by the Secretariat will be obviously duly integrated in the eligibility criteria to be developed. We look forward to further exchanges and coordination with the Secretariat on this at the PPG stage as well.

Comment from Council Member: Japan	**UNDP response**

1	Project should be based on developing alternative scenarios that focus on sustainable recycling and waste treatment practices, taking into account pandemic risks arising from the COVID-19 outbreaks, to achieve the Global environmental benefits envisioned in the PIF. We recommend that programs in this focal area build stronger partnerships with various relevant stakeholders to address such root causes under the COVID-19 outbreak.	Thank you for pointing out the important issue of COVID-19 outbreak and the possible relationship with recycling and waste treatment. The Government of Vietnam has deployed COVID-19 avoidance/mitigation measures to reduce the risk of infection, and is noted that the recycling of waste treatment industries/sector were never suspended, but only a limited increase of the consumption of PPE (and associated disposal) was observed. One of the purposes of the project is to promote interaction between recyclers and industries in order to increase recycling rate as well as to enhance working environment of recyclers which are mostly informal sectors located at craft villages (outcome 2.2). Furthermore, the Project also aims to replace mercury products with non-mercury products in selected medical facilities (Outcome 3.1). These outcomes present a large potential opportunity for inclusion of activities related to COVID-19 response in terms of medical waste handling.
2	**On project 10519** (Reduce the impact and release of mercury and POPs in Vietnam through lifecycle approach and Ecolabel), Project 10523 (Reducing uses and releases of chemicals of concern, including POPs, in the textiles sector), and Project 10543 (Promotion of circular economy in the textile and garment sector through the sustainable management of chemicals and waste in Lesotho, Madagascar and South Africa) These indicate extremely low targets in Core Indicator 9 and 10, compared to the GEF-7 target (Indicator 9: 100,000 metric tons of POPs reduction, Indicator 10: 1,300 gTEQ of reduction of u-POPs), **i.e., ID:10519: 35.01 tons (Indicator 9),** ID: 10523: 25 tons (Indicator 9), 2.30 gTEQ (Indicator 10), ID:10543: 5.5 tons (Indicator 9), 11.50gTEQ (Indicator 10): These values are significantly less than the other GEF-7 CW projects whose PIF have already been approved..	The Vietnam project (ID 10519) aims at preventing the direct use of industrial POPs (not including the disposal of PCBs pesticide stockpiles) or in industrial processes through alternative designs or alternative processes, or their indirect avoidance through quality criteria in recycling. The project is not a stockpile disposal project for which a substantial amount of POPs can be easily identified. The 100,000 metric tons of POPs reduction include PCBs, pesticide stockpiles and HBCDD; which makes the bulk of this amount. Concerning the specific indicator please consider that: Indicator 9 for the Vietnam project is 500 tons of waste / materials containing POPs disposed or prevented; 35 ton of industrial POPs prevented or disposed; 2gTEq/yr PCDD/F avoided through implementation of APCS. On top of that, the project envisaged the replacement and disposal of 20,000 mercury containing lamps, 10,000 mercury containing thermometers, and the avoidance of 648 kg of mercury emission per year through APCS in industrial facilities.

Comment from Council Member: Germany	UNDP response

1	Germany approves the following PIFs in the work program but asks that the following comments are taken into account: <u>Suggestions for improvement to be made during the drafting of the final project proposal:</u> Component 1, Indicator 1.1: Following the polluters pays principle, industries importing or manufacturing products containing hazardous chemicals, difficult to be recycled, or generating large amount of waste, should be obliged through EPR systems or direct fees to take over responsibility for the appropriate management of these substances and materials at their end of use. In the final project proposal, the strategy for establishing and enforcing such elements and for safeguarding the effective use of funds to be generated should be elaborated in detail.	Thank you for the comment. Viet Nam has just issued the Law of Environmental Protection 2020 which includes EPR provisions for enterprises precisely with the purpose listed in the comment. Below are reported the articles in the LEP dealing with EPR: *Article 54. Responsibility of producers and importers for recycling* *1. Producers and importers of recyclable products and packages must recycle them according to the mandatory recycling rate and specifications, except for products and packages exported/temporarily imported or produced/imported for research, learning or testing purposes.* *2. The producers and importers specified in Clause 1 of this Article are entitled to recycle products and packages adopting one of the following methods:* *a) Organize recycling of products and packages;* *b) Make a financial contribution to the Vietnam Environment Protection Fund to support recycling of products and packages.* *3. The producers and importers specified in Clause 1 of this Article shall register their recycling plans and submit annual reports on recycling results to the Ministry of Natural Resources and Environment, except for the case in Point b Clause 2 of this Article.* *4. The financial contribution and use of financial assistance in recycling of products and packages specified in Point b Clause 2 of this Article shall adhere to the following principles:* *a) The financial contributions and financial assistance in recycling are determined according to the quantity or unit of products/packages;* *b) Financial contributions are used to support the recycling of products and packages specified in Clause 1 of this Article;* *c) The receipt and use of financial contributions must be carried out in a public and transparent manner and for intended purposes in accordance with law.* *5. The Government shall elaborate and introduce a roadmap for implementation of this Article.* *Article 55. Responsibility of producers and importers for waste collection and treatment* *1. The producers and importers of products and packages which contain toxic substances, are difficult to recycle or cause a difficulty in collection and treatment must make a financial contribution to support the activities mentioned in Clause 3 of this Article, except for products exported/temporarily imported or*

2	Component 1, Indicator 1.2: The existing legislation in Viet Nam still does not envisage the phasing out of such devices as foreseen under the Minamata Convention. The final project proposal should therefore explain more explicitly, how the policy level will be addressed for creating the necessary legal framework conditions for the necessary phase out of mercury.	Thank you for this comment. Vietnam is a signatory to Minamata Convention; therefore it has to comply with regulations under the Convention. While the country may need to request some extension, the policy has been gradually formulated in a way that pushes the reduction and phase out of mercury in products and devices. E.g. Circular 45/2020/TT-BCT of Ministry of Industry and Trade regulating permitted level of mercury in florescent lamps. The Project will also address and strengthen this point through the development of a roadmap for phasing out of mercury devices in the country. Kindly refer to project section ?Result?, Output 1.1.2.
3	Component 3, Indicator 3.1: As part of mercury lifecycle management, the current scope of the project covers collection, segregation and storage with reference to mercury containing lamps and medical devices. From a safeguards? perspective, a) the scope of the project should be broadened: Especially for medical devices containing liquid mercury, the scope of the project should foresee the conversion of mercury into mercury sulfide for safe disposal, preventing different kinds of possible leakages. In the case of fluorescent lamps, the concentration of mercury is much lower. Nevertheless, the project in order to achieve the necessary environmental standards should b) consider best available technologies for decentralized treatment, comprising an obligatory thermal treatment after crushing to bind the vaporous mercury through activated carbon as well.	Thank you for this comment. This is fully integrated in the scope of the project, and ? with respect to the safeguards? perspective ? has been fully detailed into the SESP and ESMF developed as part as PPG activities. Kindly refer to project section ?Results?, ?Output 3.1.3. Technologies for the recycling of mercury-containing equipment with segregation and storage of mercury established?. The project, as per UNDP, GEF and Viet Nam procurement rules, will develop technical specifications for the technologies to be procured / demonstrated as part of the bidding documents and Term of References, which will include the technological solutions proposed in your comment, and other BAT/BEP solutions which will become available during project life.
Comment from Council Member: Norway		**UNDP response**
1	The project is highly relevant for Vietnam. It aligns with Vietnamese priorities in green growth addresses an important gap in Vietnam, i.e. the mercury emission. The project needs to work closely with other ministries, business associations and partners in addition to MONRE and MOH.	Thank you for this key reminder. The project has carried out a detailed Stakeholder Engagement Plan which will ensure that proper coordination and collaboration with governmental, private, and non-governmental stakeholders is achieved and monitored throughout the entire project life. Kindly refer to Annex ?Stakeholder Engagement Plan?

2	Cooperation/synergies with other projects in Vietnam, including earlier GEF projects, particularly the lessons learnt from the earlier GEF project ?Vietnam POPS and sound harmful chemicals management project (PIMS5154)? and the UNDP Norway supported on-going project ?Scaling-Up a Socialised Model of Waste Management in Five Cities in Viet Nam? (DWP5C) should be taken into account	Thank you for this important comment. In addition to considering the lessons learnt from the projects mentioned, as detailed in the project document the project, it will coordinate and build on the successful experience gathered by the previous projects: GEF ID9379 ?Application of Green Chemistry in Viet Nam to Support Green Growth and Reduction in the Use and Release of POPs/Harmful Chemicals ?. That project is the first project supported by the GEF which has achieved reduction of POPs in manufacturing processes through the implementation of Green Chemistry principles. The Project also will be collaborating with the DWP5C when it also look at plastic sector and promoting closure of the gap between manufacturers and recyclers.
3	We note with interest the approach to support the work through an EcoLabel system. There is usually quite a leap from implementation of the Stockholm Convention to what is normally required in order to comply with ecolabel certification. We would therefore be very interested in the lessons learned from this project.	Thank you for this encouraging comment. As detailed in the project document (see Baseline section), a number of eco-label initiatives do exist in Viet Nam, but the regulatory framework and the mechanism for incentivising enterprises to adopt such ecolabeling systems is still weak. The project intends to promote existing and new ecolabeling schemes ? that will include rules for POPs and mercury prevention as from the SC and MC, providing technical support for the development and implementation of those schemes, and making them eligible for financial incentives under the Green Financing mechanism established under the project.
Comment from Council Member: USA		**UNDP response**

1	We are supportive of this well-prepared project. However, we do note periodic inappropriate characterizations of a circular economy approach throughout the document, as one that excludes safe disposal of hazardous waste. For example, there is references to the contamination by mercury and POPs as ?hindering a full development of circular economy in Vietnam due to the fact that material potentially contaminated by POPs and mercury is unsafe for reuse or recycling into new products?. This is unfortunate, as the environmentally safe disposal of mercury, including those activities covered by the Minamata Convention on Mercury, in no way ?hinders? progress towards more sustainable consumption and production models.	We took note of this important comment. We further clarify that the information in the PIF is in line with this comment. The PIF intention was not to leave for interpretation that ?the Minamata Convention hinders progress toward circular economy?. The explanation in PIF meant that, in the absence of proper treatment and segregation, mercury contaminated equipment at their end of life cannot be recycled and, furthermore, if MAPs at their end of life are improperly mixed with non-hazardous waste, they can hinder the recycling of those waste. Therefore is concluded the PIF is not in conflict with the Minamata Convention or the general principles of the circular economy, but it seek to remove these barriers encountered so the realize the full capacities of the Convention in allowing this circularity to happen. Please also note that Viet Nam has embedded circular economy principles into its Law of Environmental Protection (article 142 of the LEP), and one of the pillars of this policy is exactly to prevent the contamination of non hazardous waste by hazardous chemicals, by ensuring proper treatment and segregation of hazardous waste or waste containing hazardous chemicals, including POPs and mercury.

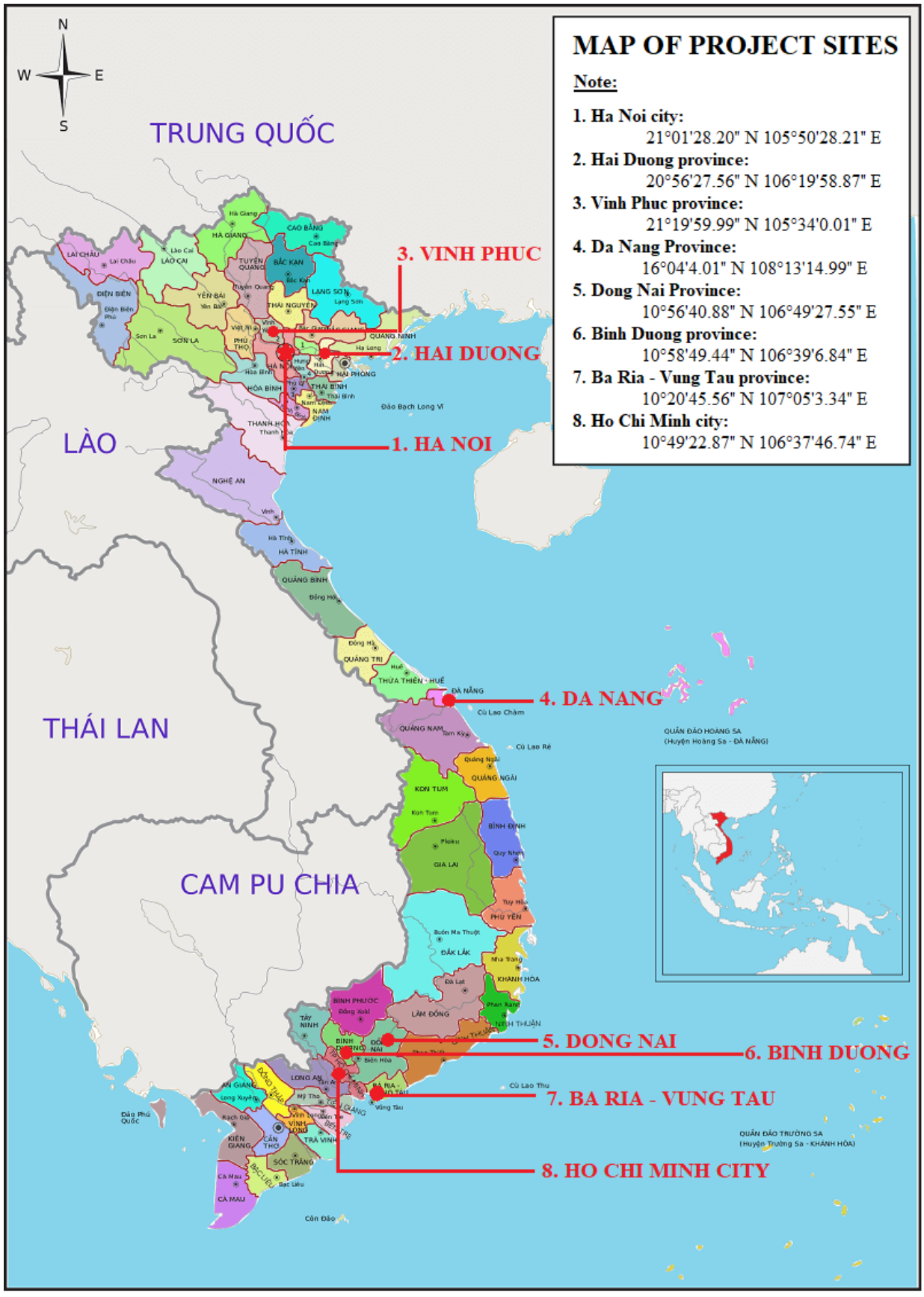
ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: **150,000**			
Project Preparation Activities Implemented	**GETF/LDCF/SCCF Amount ($)**		
	Budgeted Amount	**Amount Spent Todate**	**Amount Committed**
Component A: Preparatory Technical Studies & Reviews	120,000	39,665	80,335

Component B: Formulation of the UNDP-GEF Project Document, CEO Endorsement Request, and Mandatory and Project Specific Annexes	25,000	19,709	5,291
Component C: Validation Workshop and Report	5,000	0	5,000
Total	150,000	59,374	90,626

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.


MAP OF PROJECT SITES
Note:
1. Ha Noi city:
21°01'28.20" N 105°50'28.21" E
2. Hai Duong province:
20°56'27.56" N 106°19'58.87" E
3. Vinh Phuc province:
21°19'59.99" N 105°34'0.01" E
4. Da Nang Province:
16°04'4.01" N 108°13'14.99" E
5. Dong Nai Province:
10°56'40.88" N 106°49'27.55" E
6. Binh Duong province:
10°58'49.44" N 106°39'6.84" E
7. Ba Ria - Vung Tau province:
10°20'45.56" N 107°05'3.34" E
8. Ho Chi Minh city:
10°49'22.87" N 106°37'46.74" E
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TRUNG QUỐC
LÀO
THÁI LAN
CAM PU CHIA
3. VINH PHUC
2. HAI DUONG
1. HA NOI
4. DA NANG
5. DONG NAI
6. BINH DUONG
7. BA RIA - VUNG TAU
8. HO CHI MINH CITY
QUẦN ĐẢO HOÀNG SA
(Huyện Hoàng Sa - ĐÀ NẴNG)
QUẦN ĐẢO TRƯỜNG SA
(Huyện Trường Sa - KHÁNH HÒA)

ANNEX E: Project Budget Table

Please attach a project budget table.

Expenditure Category	Detailed Description	Component (USDeq.)							Total (US Deq.)	Responsible Entity (Executing Entity receiving funds from the GEF Agency)[1]
		Component 1	*Component 2*	*Component 3*	*Component 4*	*Sub-Total*	*M&E*	*PMC*		
		Sub-component 1.1	*Sub-component 2.1*	*Sub-component 3.1*	*Sub-component 4.1*					
Furniture/Equipment	Consisting of 3 sets of office equipment and Annual facilities and operating cost (7,500 USD)					-		7,500	7,500	MONRE

Contractual Services-Companies	Provision of contractual services for below list (86,000 USD) - Preparing draft regulations related to POPs and Eco-labelling scheme; review and develop the national technical regulation on thresholds for POPs and Eco-labelling criteria for articles and products for an overall amount of 16,800 USD - Developing and implementation provision for exemption register of POPs as substance or mixtures to be revised to ensure elimination or restriction of POPs once exemption period expire for an overall amount of 11,200 USD - Working on POP and eco-labeling for an overall amount of 10,000 USD - Drafting of secondary law/regulations related to mercury concentration limits in articles and products for an overall amount of 10,000 USD - Updating secondary law related to the treatment and disposal of waste to include provisions on	86,000				86,000			86,000	MONRE	

Contractual Services-Companies	Provision of contractual services (1,183,580 USD): - Analytical laboratory to carry out POP analysis in products for overall amount of $50,000 - To supply and install industrial equipment and provide technical assistance on the change of manufacturing process for an overall amount of $527,510 - To supply and install air pollution control systems for an overall amount of $606,070		1,183,580			1,183,580			1,183,580	MONRE

Contractual Services-Companies	Services-companies (1,010,000 USD) ? to arrange and carry out 4 training events for trainers for representatives of 100 healthcare facilities for an overall amount of 40,000 USD. ? to arrange and carry out 4 training for trainers for representatives of 200 offices for an overall amount of 40,000 USD. ? to Replace 20,000 fluorescent lamp with LED and package replaced lamp pending disposal for an overall amount of 300,000 USD ? to Replace 10,000 mercury thermometer with electronic thermometer and package the replaced thermometers pending disposal for an overall amount of 250,000 USD ? to supply, install and demonstrate an equipment for the treatment of mercury containing waste and one to package and transport mercury waste to the disposal facility for an overall amount of 380,000 USD			1,010,000		1,010,000			1,010,000	MONRE	

Contractual Services-Companies	A firm to establish a project website, project database, publication and broadcasting of project materials to establish and maintain for an overall amount of 25,890 USD				25,890	25,890			25,890	MONRE
Contractual services-Individual	Contractual Services - Imp Partner to assist on the implementation of green procurement in ministries. (24,000USD)	24,000				24,000			24,000	MONRE
Contractual services-Individual	Contractual Services - Imp Partner to provide technical assistance and expertise on Review of the existing literature on new POPs to identify gender-specific issues related to risk-management in the enterprises and specific risk for female resulting from the exposure of POPs (12,000 USD)		12,000			12,000			12,000	MONRE

Contractual services-Individual	Contractual Services - Imp Partner providing technical assistance and expertise on the review of the status of mercury equipment in Vietnam (23,800 USD)			23,800		23,800			23,800	MONRE
Contractual services-Individual	Salary cost (191,952 USD) for - Project Management staff for 4 years (1,909 USD a month for 48 months, total cost 91,632 USD) - Project accountant for 4 years (1,110 USD a month for 48 months, total cost 53,280 USD) - Project Assistant/procurement for 4 years (980 USD a month for 48 months, total cost 47,040 USD)					-		191,952	191,952	MONRE

International Consultants	International consultants providing technical assistance and expertise on the following topics: (Total: 217,100 USD = 334 days at rate $650/day ? approximately) Regulation and POPs, POP and eco-labeling, POP and EPR, gender specific risk management of POPs and mercury included in the relevant environmental regulation, mercury in healthcare equipment mercury in lighting equipment, mercury disposal technologies, regulation and industrial emission limits, regulation and mercury, POP and mercury waste disposal, green financing, POP and mercury, green financing mechanism in public and private institutions, new POPs in manufacturing and industrial emissions, green financing implementation in public and private institutions, on lending programs for women enterprises, green	217,100				217,100			217,100	MONRE

International Consultants	International consultants to work on activities related to Component 2 such as: (Total: 372,450 USD = 573 days at the estimated daily rate 650 USD/day) - technical assistance and sharing knowledge on use of SCCP in industrial processes, POP BFR in industrial processes, PFOS and PFOAs in industrial processes - international experience on sex-disaggregated data on accident at workplace in the manufacturing industry, with focus to exposure to chemicals. - etc.		372,450			372,450			372,450	MONRE

International Consultants	International consultants providing technical assistance and expertise on the following topics: (133 days at 650 USD a day, total cost 86,450 USD) - To assist enterprises on the design of their APCS to reduce POP and mercury - To assist in the selection of enterprises to be awarded for APCS piloting and assist on the implementation of their projects - To provide training on analysis of POP in laboratory and with portable equipment			86,450		86,450			86,450	MON RE

International Consultants	International consultants providing technical assistance, sharing knowledge and holding training and presentation on the following topics: - knowledge and preparing materials on POP and mercury related topic to be shared on the website - preparing material and holding presentations on green financing, POP and mercury (20 days at 650 USD a day, total cost 13,000 USD)				13,000	13,000			13,000	MONRE

International Consultants	The International consultant for independent Mid-term review and terminal evaluation will conduct the external MTR and terminal evaluation of the project and contribute to the project final report (total - 80 days at rate 650USD/days, total cost 52,000 USD) - undertaking mid term review (40 days) - undertaking terminal evaluation (40 days)					-	52,000		52,000	UNDP
International Consultants	International consultants providing technical assistance, sharing knowledge on project indicator development, project detailed WP ? (19 days at 650 USD a day, total cost 12,350 USD)						12,350		12,350	MONRE

Local Consultants	Local Consultants providing technical assistance and expertise or undertaking the following topic: (Total: 272,200 USD = 1361 days at rate $200/day ? approximately) Regulation and POPs; POP and eco-labeling; POP limits and relevant obligation in EPR; a gender specific section for risk management of POPs and Mercury included in the relevant environmental regulation; mercury in healthcare facilities; alternative to mercury lamps; mercury disposal technologies; alternative to mercury in products; environmental law; waste regulation, disposal technologies and mercury; green financing, POPs and mercury in products; implementation of incentive mechanisms; technical aspects of POPs, mercury and procurement; management of environmental incentives; the criteria for facilitating	272,200				272,200			272,200	MONRE	

Local Consultants	Local consultants providing technical assistance and expertise (Total: 313,000 USD = 1565 days at the estimated daily rate 200 USD/day)		313,000			313,000			313,000	MONRE
Local Consultants	Local consultants providing technical assistance and expertise (Total: 150,000 USD = 750 days at the estimated daily rate 200 USD/day)			150,000		150,000			150,000	MONRE
Local Consultants	Local consultants providing technical assistance and expertise (195 days at rate 200 USD/day, total cost 39,000 USD) - working on development and creation and implementation of the Knowledge Sharing Platform - sharing knowledge and preparing materials on POP and mercury related topic to be shared on the website preparing and holding presentations on green financing, POP and mercury				39,000	39,000			39,000	MONRE

Local Consultants	National consultant for MTR and terminal evaluation will support and contribute to the external MTR and terminal evaluation of the project. (120 days at rate 200USD/days, total cost 24,000 USD) - undertaking mid term review (60 days) - undertaking terminal evaluation (60 days)						24,000		24,000	UNDP

Local Consultants	Local consultants providing technical assistance and expertise (177.5 days at rate 200 USD/day, total cost 35,500 USD): - providing national knowledge and assistance for Indicators establishment to facilitate successful project implementation and sound impact assessment - preparation of detailed project workplan and Result Framework established coordination and supervision of Gender Mainstreaming related activities in project implementation						35,500		35,500	MONRE

Trainings, Workshops, Meetings	Provision of consultancy services (52,050 USD) for the organization of 7 workshops as bellow list: ? One small workshop on the draft law on new POPs for an overall amount of 1,800 USD. ? One international workshop on the achievements related to regulation on new POPs and EPR for an overall amount of 14,950 USD ? Two consultation workshops on gender specific personal protection and risk management measures against exposure to mercury for an overall amount of 3,600 USD. ? One international workshop on the launching of the Green Financing mechanism in Vietnam for an overall amount of 14,950 USD ? One national level workshop on to introduce the achievement of the piloting related to Green procurement for an overall amount of 14,950 USD. ? One consultation workshop on green	52,050				52,050			52,050	MON RE	

Trainings, Workshops, Meetings	Provision of consultancy services (35,300 USD) for the organization of 5 workshops: ? An international kick-off event on the launching of financial mechanism on POPs and mercury free design to enterprises, including design and implementation of APCS (output 2.1.3) for an overall amount of 14,950 USD. ? An international event on the selection of industries awarded under the GF or their project on POPs avoidance or release reduction for an overall amount of 14,950 USD ? Two consultation workshops on gender specific aspects related to POPs in manufacturing processes and products for an overall amount of 3,600 USD ? One consultation workshop among female workers and gender experts in the gap closure between recyclers and manufacturing industry for an overall amount of 1,800 USD.		35,300			35,300			35,300	MON RE

Trainings, Workshops, Meetings	Training, Workshops and Conferences (22,150 USD) ? Two training events on gender specific aspects related to risk prevention in waste management enterprises for an overall amount of 3,600 USD. ? Two consultation workshops on gender specific aspects related to the elimination of POPs equipment and products in healthcare facilities and offices. for an overall amount of 3,600 USD. ? An international workshop on to summarize work, achievement and lesson learnt on the mercury component of the project for an overall amount of 14,950 USD.			22,150		22,150			22,150	MON RE

Trainings, Workshops, Meetings	Training, Workshops and Conferences (22,000 USD) ? Inception workshop on the project with participation of other countries representatives involved in Green Chemistry for an overall amount of 10,000 USD ? Meetings of the steering committee for an overall amount of USD 12,000 (3,000 per year)					-	22,000		22,000	MONRE
Trainings, Workshops, Meetings						-			-	MONRE

Travel	Travel costs (73,480 USD) in relation to implementation, monitoring and supervision undertaken by consultant, project management and technical staff to communes for facilitating of project activities. Costs include tickets and DSA- 74 National Travels estimated each as one round flight at 200 usd plus one day accommodation at 220 USD/day. (31,080 USD)- 8 International Travels estimated as one round flight at 2000 usd plus 15 days with a DSA of 220 USD/day for each travel package. (42,400 USD)	73,480				73,480			73,480	MON RE

Travel	Travel costs (74,740 USD) in relation to implementation, monitoring and supervision undertaken by consultant, project management and technical staff to communes for facilitating of project activities. Costs include tickets and DSA - 77 National Travels estimated each as one round flight at 200 usd plus one day accommodation at 220 USD/day. (32,340 USD) - 8 International Travels estimated as one round flight at 2000 usd plus 15 days with a DSA of 220 USD/day for each travel package. (42,400 USD)		74,740			74,740			74,740	MONRE

Travel	Travel costs in relation to implementation, monitoring and supervision undertaken by Consultant, project management and technical staff to communes for facilitating of project activities. Costs include tickets and DSA for 34 National Travels estimated each as one round flight at 200 usd plus one day accommodation at 220 USD/day (14,280 USD)			14,280		14,280			14,280	MONRE

Travel	Travel costs (10,340 USD) in relation to Knowledge management system, Awareness raising and communication events - 12 National Travels estimated each as one round flight at 200 usd plus one day accommodation at 220 USD/day. (5,040 USD) - 01 International Travels estimated as one round flight at 2000 usd plus 15 days with a DSA of 220 USD/day for each travel package (5,300 USD)				10,340	10,340			10,340	MONRE

Travel	Travel costs (12,280 USD) in relation to Monitoring and Evaluation undertaken by Individual Consultant: - 4 National Travels estimated each as one round flight at 200 usd plus one day accommodation at 220 USD/day. (1,680 USD) - 2 International Travels estimated as one round flight at 2000 usd plus 15 days with a DSA of 220 USD/day for each travel package (10,600 USD)					-	12,280		12,280	UNDP
Travel	4 National Travels in relation to Monitoring and Evaluation undertaken by Individual Consultant (estimated each as one round flight at 200 USD plus one day accommodation at 220 USD/day. (1,680 USD)						1,680		1,680	MONRE

Office Supplies	Office supplies, annual facilities and operating cost for project office which includes: stationeries, office supplies, utilities and other running costs (7,578 USD)					-		7,578	7,578	MONRE
Other Operating Costs	Translation services (20,400 USD)	20,400				20,400			20,400	MONRE
Other Operating Costs	Translation services (**78,000 USD**)		78,000			78,000			78,000	MONRE
Other Operating Costs	Translation services (**12,000 USD**)			12,000		12,000			12,000	MONRE
Other Operating Costs	Professional services to carry out financial audit /Assurance activities of the project (8,000 USD)							8,000	8,000	UNDP
Other Operating Costs	Misc cost related to stationery, sundry, et. **(4,000 USD)**							4,000	4,000	MONRE
Grand Total		745,230	2,069,070	1,318,680	88,230	4,221,210	159,810	219,030	4,600,050	

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).